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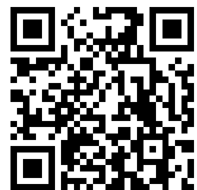

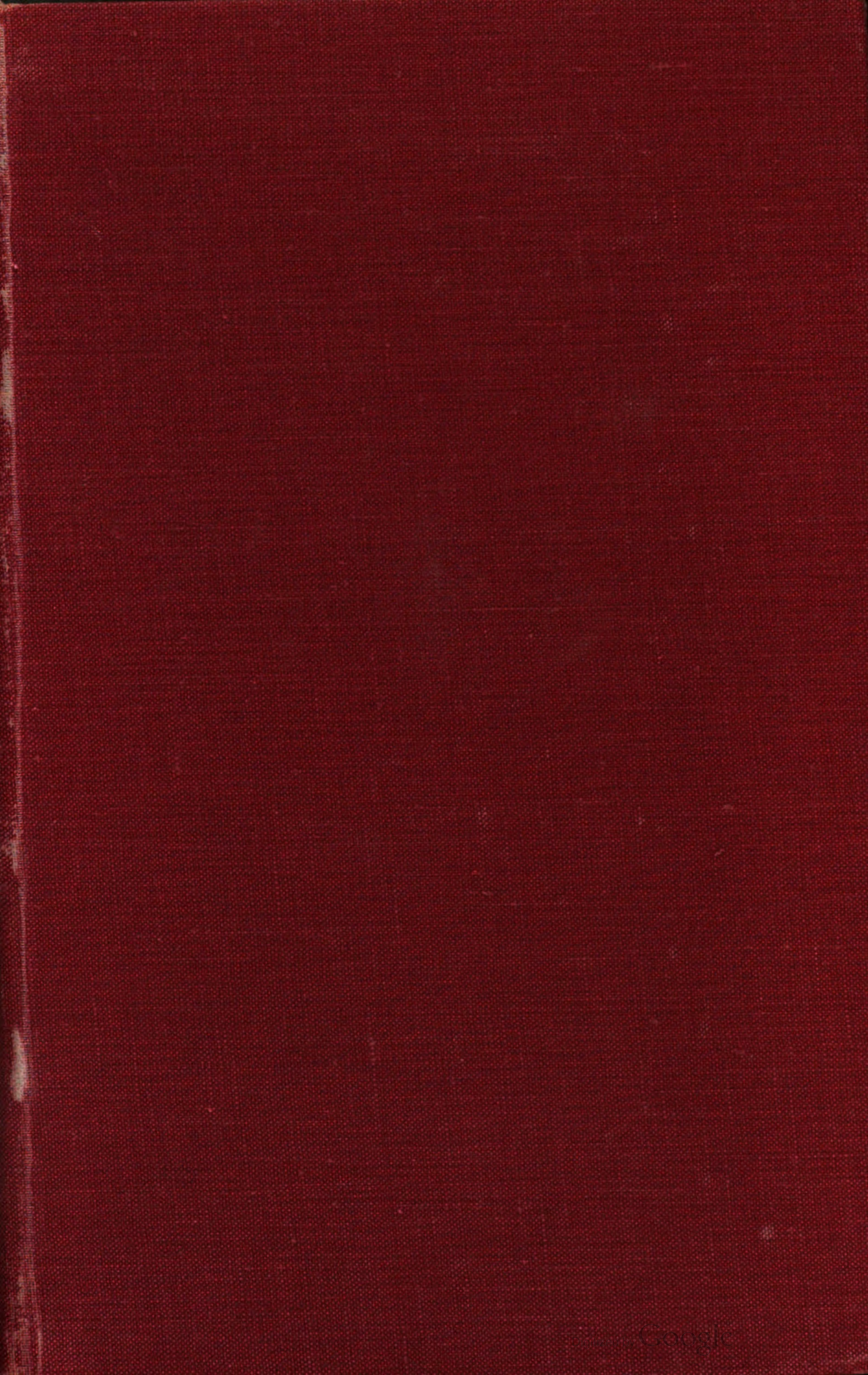

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HISTORY OF THE SECOND WORLD WAR

UNITED KINGDOM MEDICAL SERIES

Editor-in-Chief

SIR ARTHUR S. MACNALTY, K.C.B., M.D., F.R.C.P., F.R.C.S.

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THE ARMY MEDICAL SERVICES

BY

F. A. E. CREW, F.R.S.

Administration

VOLUME I

LONDON

HER MAJESTY'S STATIONERY OFFICE

1953

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PREFATORY NOTE

BY THE EDITOR-IN-CHIEF

As wars increase in extent and magnitude, the provision for the care of the sick and wounded has to be on a correspondingly increased scale. This adds to the difficulties of administration. There are besides countless other matters to consider, of which the strides made in modern treatment and the invention of deadlier weapons of warfare are salient examples.

This volume of the Official Medical History of the Second World War by Professor F. A. E. Crew, D.Sc., M.D., F.R.S., treats of the administration of the Army Medical Services during the war. Other volumes edited by him, now in preparation, will deal with further aspects of administration and with the medical problems of the campaigns.

I should like to take the opportunity here of acknowledging the great help that has been rendered to this Medical History by two former Directors-General of the Army Medical Services, Lt. General Sir William MacArthur, K.C.B., D.S.O., O.B.E., M.D., F.R.C.P., and Lt. General Sir Alexander Hood, G.B.E., K.C.B., M.D., F.R.C.P. During the war they found time among their many responsible duties to give whole-hearted co-operation and advice in order to ensure the collection of the necessary data for the Army Medical Histories and their preparation. My thanks are also due to Sir Neil Cantlie, K.B.E., C.B., M.C., M.B., F.R.C.S., K.H.S., the present Director-General, who contributes a foreword to this volume, and to Professor Crew and his colleagues, who have kept the Editorial Board and myself constantly acquainted with the preparation and progress of the work. The military clinical experience of the war is recorded in the Medical and Surgical Volumes of this History.

This volume of the Official Medical History of the War has been prepared under the direction of the Editorial Board appointed by H.M. Government; but the author alone is responsible for the method of presentation of the facts and the opinions expressed.

March, 1952. ARTHUR S. MACNALTY

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FOREWORD

BY THE DIRECTOR-GENERAL, ARMY MEDICAL SERVICES

THE importance of military medical history cannot be emphasised too strongly and it is my privilege as Director-General of the Army Medical Services at the time of the submission for publication of the first volume of the Army medical history of the Second World War to write a foreword to this great and important work which has been undertaken by Professor F. A. E. Crew, T.D., F.R.S., Professor of Public Health and Social Medicine in the University of Edinburgh, assisted by Lt. General Sir Treffry Thompson, K.C.S.I., C.B., C.B.E., late R.A.M.C. My thanks are due to them for the able way they have performed their task and also to Major R. N. Hunter and Mr. R. B. J. Scott, who were occupied with the preliminary work in connexion with the study of the War Diaries and other documents.

In these volumes readers will be able to trace the growth of the tremendous tasks which beset the Army Medical Services in undertaking the medical care of the British armies in all theatres. From the small nucleus of the pre-war Regular and Territorial R.A.M.C., R.A.D.C., and Q.A.I.M.N.S., grew the largest and unequivocally the most efficient medical service which this country has ever seen.

The creation of this service has many varied facets which will be revealed as the history unfolds. The organisations which went to forge this vast body of non-combatants devoted to the alleviation of suffering and to the prevention of disease were many. Apart from the regular R.A.M.C., R.A.D.C. and Q.A.I.M.N.S., there were the territorial R.A.M.C. and R.A.D.C., the Q.A.I.M.N.S. Reserve and the Territorial Army Nursing Service ; the St. John Ambulance Brigade ; the British Red Cross Society ; the St. Andrew's Ambulance Association, and the great number of doctors, dentists and nurses from civil life who donned a uniform for the first time and were moulded into shape as members of this great team.

I am glad here, too, to express my appreciation for the invaluable assistance rendered by the Medical Research Council and by the Royal Colleges.

The task of the regular medical services in peace-time was to help create an Army which was fit physically and mentally, which was well clothed, well fed and of high morale. It is a fair statement to say that they accomplished this task successfully. On these sure foundations were built the Armies which were victorious.

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To provide a true perspective of the state of the Army Medical Services on the outbreak of war, Professor Crew has described the problems of the inter-war years, their successes and their failures. These events and their inter-relationships provide an understanding of the developing ideas which produced changes within the Army Medical Services, changes directed to the fullest application of advancing medical knowledge to the greatest advantage of the Army.

The outbreak of war found the medical services in certain theatres unprepared both in men and in medical equipment to provide adequate medical care, and this is not an uncommon occurrence amongst a peace-loving people. But under the hammer blows of war the wastage of man-power from wounds and sickness drained our resources and called for remedy ; the provision of men and material became unstinted, and the medical services developed into an instrument of victory. In Field Marshal Montgomery's words—'A contribution to victory which has been beyond all calculation'. Such high praise has never before been the reward of the medical services, and I will quote further the same commander's remarks on the end of the campaign in North West Europe in 1945—'No account of this campaign would be complete without some mention of the truly remarkable success of the medical organisation. But it must be remembered that there were two factors which contributed greatly to the results achieved ; probably no group of doctors has ever worked on better material, and secondly, they were caring for the men of a winning army. The men of 21 Army Group were fully immunised and fully trained ; their morale was at its highest ; they were well clothed and well fed ; hygiene, both personal and unit, was exceptionally good ; welfare services were well organised. The exhilarating effect of success also played its part in reducing the rates of sickness. Commanders in the field must realise that the medical state of an Army is not dependent on the doctors alone'.

In other theatres of war too, the medical services had their share of commendation. In the Far Eastern theatre our armies were finally victorious because they conquered disease by the enforcement of health discipline. The medical services here provided the tools, and the commanders in the field did the job. The Supreme Commander in the Far East, Vice Admiral The Earl Mountbatten of Burma wrote in these words—'The results are a gratifying record of the work of the medical services, without which it might well have been impossible to carry the campaign in such terrain and climate to a victorious end'.

This foreword gives me the opportunity, an opportunity which I greatly welcome, of paying a well-deserved tribute to the co-operation which the British Army Medical Services received from the medical services of the Commonwealth and our Allies. In the heat of the battle bonds of comradeship were firmly forged with the army medical

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services from Canada, Australia, South Africa and New Zealand, with the Indian Medical Service and the Indian Army Medical Corps, and with other colonial medical contingents.

We were closely associated in many campaigns with our colleagues of the United States Medical Corps, and we especially remember and are grateful to those Americans who served with the British Armies, the American Field Service and the pilots of the light aeroplanes which evacuated our casualties.

In addition there were the medical services of the armies of our allies, many of whose medical units were trained and equipped in the United Kingdom, Free French, Polish, Norwegian, Belgian, Dutch and others.

Behind these fine achievements of the medical services lies much imaginative thinking, much devoted service, much sound organisation, much stern training. Into the forging of this great machine had gone all the wisdom gleaned from the vast and varied experience of the Army Medical Services since their inception so long ago.

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ABBREVIATIONS

A.A.	Anti-aircraft
A.A.S.F.	Advanced Air Striking Force
A.C.I.	Army Council Instruction
A.D.Corps	The Army Dental Corps (now The Royal A.D. Corps)
A.D.D.S.	Assistant Director, Army Dental Service
A.D.G., A.M.S.	Assistant Director-General, Army Medical Services
A.D.H.	Assistant Director of Hygiene (now Health)
A.D.M.S.	Assistant Director of Army Medical Services
A.D.P.	Assistant Director of Pathology
A.D.S.	The Army Dental Service or Advanced Dressing Station of a Field Ambulance
Adv. Surg. Centre	Advanced Surgical Centre
A.E.C.	The Army Education Corps
A.F.	Army Form
A.F.V.	Armoured Fighting Vehicle
A.G.	The Adjutant General
A/G	Anti-Gas
A.L.F. Norway	Allied Land Forces, Norway
A.L.F.S.E.A.	Allied Land Forces, South East Asia
Amb. Car Coy. R.A.S.C.	Ambulance Car Company, R.A.S.C.
Amb. Train	Ambulance Train
A.M.D.	The Army Medical Directorate, War Office
A.M.P.C.	The Auxiliary Military Pioneer Corps
A.O.	An Army Order, issued by the Army Council
A.P.T.C.	The Army Physical Training Corps
A.T.S.	The Auxiliary Territorial Service
B.A.O.R.	The British Army of the Rhine
B.E.F.	The British Expeditionary Force, France, 1939–40
B.G.H.	A British General Hospital
B.L.A.	The British Liberation Army
B.M.A.	The British Medical Association
B.R.C.S.	The British Red Cross Society
C.C.P.	Casualty Clearing Post of a Field Ambulance
C.C.S.	Casualty Clearing Station
C.D.	Coast Defence
C.E.C.	The Central Emergency Committee of the British Medical Association or Corps Exhaustion Centre
C.M.B.	Civilian Medical Board
C.M.F.	Central Mediterranean Force
C.M.P.	Civil Medical Practitioner or The Corps of Military Police
C.M.W.C.	Central Medical War Committee of the British Medical Association
Con. Depot	Convalescent Depot
Coy.	Company
C.P.W.C.	The Central Pharmaceutical War Committee of the British Pharmaceutical Society
C.R.A.	Commanding Royal Artillery

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C.R.E. . . .	Commanding Royal Engineers
C.R.S. . . .	Camp Reception Station
D.A.D.D.S. . .	Deputy Assistant Director of Dental Services
D.A.D.G.. . .	Deputy Assistant Director-General (of Army Medical Services)
D.A.D.H.. . .	Deputy Assistant Director of Hygiene
D.A.D.M.S. . .	Deputy Assistant Director of Medical Services
D.A.D.S. . .	Director of Army Dental Services or The Directorate of Army Dental Services (A.M.D.6)
D.D.G.A.M.S. or D.D.G. . .	Deputy Director-General, Army Medical Services
D.D.M.S. . .	Deputy Director of Medical Services
D.G.A.M.S. or D.G..	Director-General Army Medical Services
D.M.S. . . .	Director of Medical Services
D. of H. . .	Director of Hygiene
D. of P. . . .	Director of Pathology
D.P.H. . .	Diploma in Public Health
E.M.S. . . .	The Emergency Medical Services of the Ministry of Health and the Department of Health for Scotland
F.A.N.Y. . . .	The First Aid and Nursing Yeomanry
Fd. Amb. . .	Field Ambulance
F.D.S. . . .	Field Dressing Station
F.R.C.S. . . .	The Fellowship of the Royal College of Surgeons
F.S.U. . . .	Field Surgical Unit
F.T.U. . . .	Field Transfusion Unit
G.D.O. . . .	General Duty Medical Officer or General Duty Orderly
Gen. Hosp. . .	General Hospital, (Military)
G.H.Q. . . .	General Headquarters
G.S.C. . . .	The General Service Corps
H.H.R. . . .	The Home Hospital Reserve of the St. John Ambulance Association and the St. Andrew's Ambulance Association
Hosp. Ship or Carrier	Hospital Ship; Hospital Carrier
H.Q. . . .	Headquarters
I.M.S. . . .	Indian Medical Service
L.F. . . .	Land Forces
L. of C. . . .	Lines of Communication
M.A.C. . . .	Motor Ambulance Convoy
M.D.S. . . .	Main Dressing Station of a Field Ambulance
M.E.C. . . .	Medical Examination Centre
M.E.F. . . .	Middle East Force
M.E.H.D.H.Q. .	Medical Embarkation and Hospital Distribution Headquarters

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M.F.T.U.	Malaria Forward Treatment Unit
M.H.R.	The Military Hospitals Reserve of the St. John Ambulance Association and the St. Andrew's Ambulance Association
M.I. Room	Medical Inspection Room
M.N.O.	Mental Nursing Orderly, R.A.M.C.
M.O.	Medical Officer
Mob. Bact. Lab.	Mobile Bacteriological Laboratory
Mob. Hyg. Lab.	Mobile Hygiene Laboratory
M.O.H.	Medical Officer of Health
M.P.P.C.	Medical Personnel (Priority) Committee
M.R.C.P.	Membership of the Royal College of Physicians
M.T.	Mechanical Transport
M.W.F.	Medical Women's Federation
N.C.O.	Non-commissioned officer
N.O.	Nursing orderly, R.A.M.C.
O.C.	Officer Commanding
O.C.T.U.	Officer Cadet Training Unit
O.Rs.	Other Ranks
O.R.A.	Operating Room Assistant, R.A.M.C.
P.D.C.	Primary Development Centre
P.o.W.	Prisoners-of-War
P.R.I.	President of the Regimental Institutes
P.T.C.	Physical Training Centre
Q.A.I.M.N.S.	Queen Alexandra's Imperial Military Nursing Service
R.A.	The Royal Artillery
R.A.C.	The Royal Armoured Corps
R.A.F.	The Royal Air Force
R.A.M.C.	The Royal Army Medical Corps
R.A.M. College	The Royal Army Medical College
R.A.M.C., T.A.	The Royal Army Medical Corps, Territorial Army
R.A.O.C.	The Royal Army Ordnance Corps
R.A.P.	Regimental Aid Post
R.A.P.C.	The Royal Army Pay Corps
R.A.R.	The Regular Army Reserve
R.A.R.O.	The Regular Army Reserve of Officers
R.A.S.C.	The Royal Army Service Corps
R.A.V.C.	The Royal Army Veterinary Corps
R.E.	The Royal Corps of Engineers
R.H.O.	Regional Hospital Officer of the Ministry of Health or Department of Health for Scotland
R.M.O.	Regimental Medical Officer
R.M.P.	Regimental Medical Post (A.A. Command)
R.N.	The Royal Navy
R.S.	Reception Station
S.E.A.C.	South-East Asia Command
S.M.O.	Senior Medical Officer

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S.R. . . .	The Supplementary Reserve
S.T.O. . . .	Special Treatment Orderly, R.A.M.C.
Staff/sergt. . .	Staff sergeant
Sergt. . . .	Sergeant
T.A. . . .	The Territorial Army
T.A.B. . . .	Typhoid Vaccine
T.A.R. . . .	The Territorial Army Reserve
T.J.F.F. . . .	The Transjordan Frontier Force
T.O. . . .	Training Officer, R.A.M.C., or Anti-Gas or A.D. Corps or Transfusion Officer of the Army Transfusion Service
U.K. . . .	United Kingdom
U.S.	
U.S.A. . . .	United States of America
V.A.D. . . .	Voluntary Aid Detachment of the British Red Cross Society, St. John Ambulance Association and St. Andrew's Ambulance Association
V.D. . . .	Venereal Diseases
W.A. . . .	West Africa
W.E. . . .	War Establishment
W.M.A. . . .	Woman Medical Adviser
W.O. . . .	The War Office or Warrant Officer
W.W.C.P. . .	Walking Wounded Collecting Post

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PREFACE

MEDICINE (and in the present context this term is used to include all those interests and activities that were gathered within the Army Medical Directorate) is an ever expanding corpus of special knowledge and a constantly increasing constellation of particular skills. It has a social function, that of protecting, conserving and augmenting the health of the community it serves and of restoring to the greatest possible degree of health in the minimum of time such members of this community as fall sick or are injured.

These were the tasks of the Army Medical Services and the community they served was that semi-closed community, the Army itself. This record attempts to show how the Army Medical Services became enlarged and organised for the undertaking of these tasks during the war years and to provide the factual information by reference to which an assessment of the degree of success achieved by them in the performance of their work can be made.

The intense urgencies and peculiar opportunities of war speed the application and exploitation of all existing knowledge and skill which can make their contributions to military affairs. Medicine differs from most fields of knowledge in that even during war its activities are beneficent. Its social function expands rapidly, for to it are given opportunities that, as things are, only the threat of imminent calamity can create.

In the Army, health in the individual and the group is a prerequisite to military efficiency. Health is prized above all else and in times of war no cost is reckoned too high if it can be preserved. When man-power is limited every encouragement is given to a service that can promise the reduction of wastage through preventable disease. When each day is filled with the prospect of fear and pain the knowledge that there exists a service that is ever ready to comfort and to heal is a factor of acknowledged importance in the maintenance of morale.

The practice of medicine in the Army in war yields much satisfaction, both intellectual and emotional, to the great majority of those who serve, greater than that which usually comes from the practice of medicine in a civilian population in times of peace. Its practitioners enjoy the sense of contributing notably to a worth-while achievement; they are permitted to know that what they do is important, that it has considerable social value; their work allows them to feel that in doing what they do they tender homage to those of their fellowmen whose lives are filled with great danger and who claim their admiration and respect. Moreover, because the Army is a community in which there is authority and discipline, benevolent action is greatly facilitated. Medicine thereby is able to render greater service.

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The creation of the war-time Army Medical Services was indeed a remarkable feat. It bears witness to the vision and outstanding ability of the Army Medical Directorate and of the Director-General at its head; it reflects the essential soundness of the foundation—the small nucleus of regular Royal Army Medical Corps, Army Dental Corps and Queen Alexandra's Imperial Military Nursing Service personnel—upon which they were built; it testifies to the capacity of the various organisations that represented the different professional groups concerned and it discloses also and especially the high quality of the rank and file of these professional groups who in their thousands willingly gave of their best. The wisdom of an administration cannot in itself create a medical service; it can only bring into being the circumstances in which such can fashion itself. If the Army Medical Services in war were efficient then this was mainly because the raw material out of which they were built was possessed of those attributes that make of medicine a learned profession and a beneficent instrument of social policy.

This history is an account of the affairs of the medical services that were fashioned to satisfy the peculiar needs of a particular community under exceptional circumstances. Nevertheless, in it there surely must be much of value to those who find themselves concerned with the shaping of medicine and its allied professions to the needs of a civilian community in times of peace.

The history is to be presented in a number of volumes which will be grouped into 'Administration' and 'Campaigns'. Of the first group there are two volumes of which this is the first. In these an attempt is made to trace the development of the Army Medical Services as this was made necessary and was moulded by their expanding functions and mounting responsibilities under the threat of war and under the impact of war. In this first volume matters affecting these services as a whole are considered. In the second, the affairs of certain of the directorates within the Army Medical Directorate and of certain of the specialist services within the Army Medical Services are discussed in greater detail.

In these two volumes, as well as in those which present the narratives of the different campaigns, very full use is made of the subject-matter of the *Monthly Health Bulletins* which, during the later years of the war, were issued by the Directorate of Medical Research and which provided the foundation material of the *Statistical Report on the Health of the Army*, 1943–45, published by H.M.S.O. in 1948. In these volumes the actual statistical data are not given. They should be sought in the statistical volume of the Official Medical History.

To the preparation of this first volume, Major R. Hunter, R.A.M.C., made very considerable and notable contributions. During the later years of the war he was borne on the staff of the official historian, within the Directorate of Medical Research.

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The pleasures of authorship would have been greatly diminished had it not been possible, during the preparation of this volume for publication, to lean heavily upon the willingly given and skilful help of Lt. Colonel C. L. Dunn and Mr. W. Franklin Mellor, members of the staff of the Editor-in-Chief.

Edinburgh, 1951. F. A. E. CREW

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PART I

A Survey of the Inter-War Years and an Account of the Events which determined the Size, Composition and Efficiency of the Army Medical Services at the Outbreak of the 1939–1945 War

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CHAPTER 1

INTRODUCTION

THE story of the Army Medical Services during the 1939–45 War and of the part they played in that vast military undertaking has its beginning in the proclamation of the armistice in 1918. No clear appreciation of what was attempted, nor of what was achieved, after the outbreak of war in 1939 is possible without an understanding of the events that befell during the preceding twenty years and of their impact upon the Army generally and, from the aspect of this narrative, more particularly upon its medical services. For in 1939, just as in 1914, the Royal Army Medical Corps (R.A.M.C.) the numbers and constitution of which had been determined primarily, if not solely, by the peace-time requirements of a small regular army, became, by force of circumstances rather than by design, the nucleus of a huge and complex organisation shaped by the military needs of a nation in arms. The fact that so small a body should have been capable of providing so firm a foundation for the superstructure it was subsequently called upon to maintain, merits some description of its nature and development. To that end it is proposed to offer a brief account of the vicissitudes through which the Army Medical Services passed during the inter-war years and to trace the main features of their evolution from the point at which they were left by the medical volumes of the Official History of the 1914–18 War.

The interval between the wars can, for convenience, be divided broadly into two distinct and very different phases. In the first the political and social atmosphere was heavily tinged with optimism and valiant attempts at social reconstruction were made in spite of the prevailing financial stringency. There was a general reaction from, and dislike of, all things associated with war. The second phase witnessed a progressive deterioration in the relations between nations, a growing fear that prospects of permanent peace were illusory and, finally, rearmament and preparation for the apparently inevitable cataclysm. By both these phases the Army Medical Services were profoundly influenced. The first all but brought about their extinction as a vital military force ; the second, while demanding their reconstitution, was so tardy and sparing in the provision of the means, that war had in fact arrived before the process had been completed.

THE RETURN TO PEACE

No sooner did the 1914–18 War end than there came insistent demands for retrenchment in the armed forces. The military administration was pressed by Parliament to effect a reduction in the cost of

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the Army to a level not higher than that obtaining before the war. A return to these financial standards could but impose corresponding limitations in size and function, and implied that the Army should be restricted as before to a force intended primarily for the defence of India and of the colonial empire and in no respect capable of playing more than a minor part in the initial stages of a European conflict.

This policy was but a reflection of the public mind which at that time sincerely believed, even if the belief had its roots in hope rather than in conviction, that the war had indeed been a war to end war, that its lessons had been learned and that never again would mankind tolerate so futile a return to barbarism, mass-destruction and self-extermination. Moreover, it was hopefully assumed that in the newly created Covenant of the League of Nations there had been fashioned an adequate safeguard against any who in future might have recourse to arms. Even those of less sanguine temperament held to the view that war between the European Powers was unlikely to occur during the succeeding ten years, and that for the immediate future such as remained of the national wealth might with safety, as well as with advantage, be devoted to social and economic reconstruction.

Inevitably official attention was focused on the fact that the ratio of medical personnel to the Army as a whole was much higher than in 1914 and so, it was alleged, out of all proportion to the total strength of troops still engaged. It was not appreciated that many military liabilities remained to be liquidated and that relatively large forces had still to be employed. Small scattered garrisons, unhealthy climates, the prevalence of epidemic disease as the aftermath of war, the necessity for assistance to civil administrations as yet imperfectly equipped for the medical care of their own populations, were all circumstances adding to the calls made on the military medical organisation, and demanding personnel in relatively greater numbers than those sufficient for the purely military needs of armies operating in larger formations.

The vexed question of the size and cost of the medical services was influenced by a consideration of far deeper significance than that of the mere strength of the Army they were designed to serve. The 1914–18 War had given powerful impetus to scientific research in certain fields and active encouragement to inventive genius. Through the opportunity thus provided and the time and money lavished, technical performance had risen to an unprecedented level. In common with other arts and sciences, medical and, even more, surgical skills had advanced to a degree which rendered pre-war standards largely obsolete. New and improved forms of treatment had been discovered, new and more intricate methods of diagnosis evolved; more complicated appliances were in general use, and more highly trained and specialised staff required to employ them. The field of preventive medicine had been

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widely extended, and the application of modern hygienic principles to the environmental conditions of the soldier demanded an expanded medical organisation. All these developments involved additional costs, and the medical services of the Army in common with the Army itself, could not but become increasingly expensive.

Nevertheless, it was not long before popular desire and the depleted state of the national exchequer compelled drastic retrenchment in the fighting services, including reduction of the personnel of the medical services to less than their pre-war numbers. This in itself was sufficient to produce a difficult administrative situation, but the position was made infinitely more serious and perplexing by the addition of what proved to be one of the most anxious and intractable problems with which the Army Medical Directorate (A.M.D.) was faced throughout the years between the two wars. It had become impossible to maintain the strength of the R.A.M.C. at numbers approaching those authorised. Candidates of the type suitable for commissions in the medical services were not forthcoming in numbers sufficient to fill establishments. Many and diverse were the reasons, social, professional and financial, advanced in explanation. It is probable that the cause lay in no one of them but rather in a combination of them all. Be that as it may, the fact remains that the R.A.M.C. had become unpopular and that young medical men looked elsewhere for a career.

In the absence of new entrants, the work normally performed by junior officers devolved to an increasing extent upon their seniors who in consequence suffered inconvenience and even hardship from which their rank and length of service would otherwise have rendered them immune. These disabilities when added to those arising from the then slow rate of promotion, a legacy of the war, fostered a feeling of discontent which found expression in voluntary resignation. Thus was a vicious circle established; for the fewer the new entrants, the greater the dissatisfaction in the service, while knowledge that all was not well within the service dissuaded others from entering it. In fact, circumstances were such that of those suitable for service in the R.A.M.C., few would serve; of those already serving, many would serve no longer. The same was true of the Army Dental Corps (A.D.Corps).

The situation was no less unhappy in the case of the Queen Alexandra's Imperial Military Nursing Service (Q.A.I.M.N.S.) and of other ranks (O.Rs.) R.A.M.C. and A.D.Corps. For these also it was impossible to obtain entrants in the numbers necessary or to ensure that those forthcoming were of the quality required. In all sections of the medical services total strength remained consistently below authorised establishment. Essential services could be maintained and commitments met only by the extensive employment of temporarily commissioned officers, civilian medical practitioners (C.M.Ps.) and civilian hospital

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attendants. Reduction in establishments had prejudiced the efficiency of the medical services; further depletion in strength jeopardised their very existence.

Thus during the ten or more years immediately following 1918, the Army Medical Directorate was engaged in a continuous struggle to preserve an efficient medical service in the face of a succession of obstacles, mainly but not entirely financial, which from time to time became almost insurmountable. When reviewing the policy which was followed during these fateful years it has to be remembered that, at the time, the Army was very widely regarded as an incubus. The knife of economy, therefore, was but the instrument of public opinion and, moreover, an instrument which the taxpayer, ever mindful of his pocket, wished to see freely used.

The medical, dental and the nursing services were still in a slough of depression when in 1931 there occurred a financial catastrophe so universal and profound as to reduce the greater part of the world to a condition of economic chaos. Under the threat of national bankruptcy and its resultant evils, the people of Britain had little time to spare for external affairs, men's minds being concentrated upon the more personal and even more urgent question of securing a livelihood. Events taking place in the Far East and indicating that the exercise of armed force was still to be reckoned with as a form of international argument passed almost unheeded while thought and energy were directed to the repair of the country's finances rather than its defences.

THE APPROACH OF WAR

Nevertheless, within the space of a few years the question of defence was forced upon the consciousness of the nation by developments on the continent of Europe. The comity of nations had fallen into abeyance; militancy was once again ascendant. With the outlook in international affairs so unpropitious, it became fantastic to rely upon any long continuance of peace, and attention was once more fixed, albeit slowly and reluctantly, upon the prospect of another war. No longer was it possible to justify a policy of inactivity or an attitude of indifference as to the ability of the Army to mobilise and, when mobilised, to undertake a major campaign.

It was in 1933 that the military members of the Army Council reviewed the position of the Army with regard to its mobilisation and its state of readiness for war. Up to that time it had been the accepted view that for the British Army the most likely theatre of war lay in the East. The scheme of future military operations had therefore been based upon what was known as the Defence of India Plan which provided for a process of mobilisation extending over six months, the despatch of a force of only two divisions within the first four months and small

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contingents subsequently dribbled into the field at somewhat lengthy intervals. The organisation and equipment of the Army, too, were designed for service in a terrain of the more undeveloped kind. In regard to Europe, military policy was still based on the assumption that a continental war was unlikely within the next ten years.

The military members recognised that in actual fact the position had entirely changed and, having regard to the country's commitments in relation to a deteriorating international situation, they considered that the existing military arrangements were no longer adequate and called for complete revision. A prolonged period of mobilisation and a slow rate of despatch for an expeditionary force were obviously unsuited to a campaign in Europe, for which a regular force, ready for service immediately after mobilisation, was essential. Acceleration in despatch and the higher rate of wastage in men and material to be expected in a European war necessitated substantial additions to peace establishments, to equipment and to reserves which must be held in peace. At the same time the need for completing the re-equipment of the Army with modern weapons and vehicles was rendered more urgent.

A new plan of military operations was thus clearly indicated and to effect it, a new scheme of preparation. As now devised, this provided for the mobilisation and despatch of an expeditionary force of four contingents. The first, consisting of four Regular divisions with a cavalry division and a tank brigade, was to be ready for despatch within one month. The remaining three contingents, each consisting of four Territorial divisions with cavalry, were to be due for despatch in succession within four to six, six to eight and eight to ten months respectively. Subsequent contingents would be provided from recruits raised after the date of mobilisation. Other features of this plan were the modernisation of coast defences, the completion of anti-aircraft (A.A.) defences at home and the reinforcement of fortified garrisons and naval bases abroad. So comprehensive a scheme of reorganisation required for its accomplishment considerable time and heavy expenditure, but it was urged that every endeavour should be made to secure completion within five years.

These recommendations, supported by the Army Council as a whole, were approved by the Committee of Imperial Defence early in 1934 and were incorporated in what became known as the Western Plan. In due course the Cabinet approved a special programme of expenditure to be devoted to making good the more serious deficiencies in the defence services. As affecting the Army, this programme provided a sum of £41,000,000 spread over a period of 5 years, beginning in the financial year 1935–6, to cover the cost of increases in personnel, ammunition and other material. Owing, however, to financial limitations, the programme was curtailed and, as finally approved in July 1934, allotted to the Army

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only £20,000,000 over the five years, leaving further expenditure up to a maximum of £22,000,000 for provision at some future time.

The money so allotted was to be spent primarily upon the needs of the field force in order to permit its dispatch immediately after mobilisation and its maintenance in a European theatre until reinforcements in men and material became available from sources organised after the outbreak of war. For this purpose it was necessary to supply deficiencies in men and equipment for the mobilisation of existing units, to raise and equip new units required for the completion of the field force on a modern basis, to provide a sufficiency of up-to-date weapons and transport and to build up reserves of material to a scale sufficient for the initial stages of a continental war.

In regard to personnel it was proposed to increase the peace establishments of the Regular Army and the Supplementary Reserve (S.R.) by additions made over a period of five years. These were to be of such numbers as, with the increase in regular reservists resulting from expanded establishments, would suffice to complete the first contingent of the field force in accordance with the new Western Plan. It was not possible finally to determine the requirements in personnel pending a decision as to the composition of the force, revision of war establishments and settlement of various details. To begin with, therefore, the programme was to be regarded as provisional and subject to adjustment as circumstances might demand; meanwhile the increases for the year 1935 were to consist of small instalments to meet deficiencies in mobilisation commitments already obvious.

THE NATURE AND MAGNITUDE OF THE TASKS CONFRONTING THE ARMY MEDICAL SERVICES

The Army Medical Services were deeply implicated in these decisions. At the time of the inception of these plans, they were quite incapable of taking their prescribed place in a field force, reduced as they were both in establishments and in strength to a level which made the discharge of their responsibilities a matter of anxiety even under the most favourable conditions in time of peace. Establishments had been fixed, as was officially admitted, without reference to the requirements of the Army when mobilised and engaged in active warfare. It had not been appreciated, or if appreciated the fact had not received practical recognition, that the medical services are above all an integral part of the fighting forces and exist primarily to supply personnel sufficient in numbers and adequate in knowledge and skill for the provision of that efficient medical organisation without which no army can successfully take the field.

It was not, however, entirely a question of establishments. It was one thing to obtain authority for an increase in establishments, but

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quite another to obtain the numbers required to complete them. Regular officers in the R.A.M.C. were at this time some 120 below the total authorised, deficiencies being met by the employment of retired officers and civilian medical practitioners. Similarly, the use of civilian hospital subordinates to replace other ranks of the Corps was general throughout military hospitals in the United Kingdom. Fortunately, the problem of obtaining medical men to take commissions as officers in the Corps appeared to have been brought to a satisfactory settlement after many years of discussion. As will be related, reorganisation of the medical services, advocated by Sir Warren Fisher's (1933) Committee on the Medical Branches of the Defence Services, had resulted in new entrants coming forward in numbers which would before long suffice to complete establishments. It was a disadvantage that, as a part of their scheme of reorganisation, this committee, in order to increase the proportionate number of higher ranks and to increase professional opportunity in the service, had found it necessary to reduce the number of permanent and pensionable officers and to complete the establishment to the total required with officers on short service commissions. It was from among the latter that officers were chosen for the permanent establishment, and again it was unfortunate that the annual intake to permanent commissions, being strictly limited by an actuarial calculation based on the estimated wastage in the higher ranks, permitted the retention of only about half the number of short service officers who wished to remain.

The Supplementary Reserve constituted in 1924 for the specific purpose of providing a reserve of officers and men already trained in their various occupations and available on mobilisation to assist in bringing the Army up to a war footing, had not been developed to any great extent as far as the R.A.M.C. was concerned, and in 1934 could supply not more than some 20 officers and 250 men.

In its application to the medical services, the 1934 programme for the expansion of the field force of the Army, or the Special Programme as it was termed, provided for additions to the regular establishment in the United Kingdom and to the establishment of the S.R. of 840 and 1,100 other ranks respectively during the period 1934–9 as follows:

Financial Year	*Regulars*	*Supplementary Reserve*
1935/36	120	200
1936/37	150	—
1937/38	180	500
1938/39	180	400
1939/40	210	—

In the middle of the year 1935 a review of the medical services in relation to its commitments showed that the first, or regular, contingent of the expeditionary force would require 650 medical officers (M.Os.)

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while a further 320 would be immediately necessary on mobilisation for service at home. Regular officers serving in the United Kingdom were some 300 in number, 220 were available in the Regular Army Reserve of Officers (R.A.R.O.) and approximately 40 more in the S.R. and Militia. Thus there was a deficit of more than 400. With the exception of the increase in regular establishment to be derived from the system of short service commissions already mentioned, this deficit would have to be met by recruitment of medical officers after mobilisation. Arrangements had already been made between the departments and bodies concerned, by which on the declaration of war the duty of obtaining medical officers both for the fighting services and for the civil departments, would be undertaken by the British Medical Association (B.M.A.) in conjunction with the Ministry of Health and the Department of Health for Scotland. It was confidently expected that the requisite number would be forthcoming without difficulty.

As regards other ranks, the number required for the first contingent was 6,345, for existing medical establishments at home 2,395, and for the initial expansion of hospitals at home a further 1,000, a total of 9,738. To meet these requirements there were 2,413 serving in the regular forces in the United Kingdom, 2,581 in the several sections of the Regular Army Reserve (R.A.R.), and 250 in the S.R. The Military Hospitals Reserve (M.H.R.), a body intended to replace regular personnel withdrawn from home medical units for service with the expeditionary force, was expected to supply about 1,700. There was therefore an estimated deficit of some 2,800. The progressive increases in the regular establishment and in the S.R. included in the Special Programme, together with the expansion in the R.A.R. that would follow, partly automatically and partly as the results of the re-engagement of Section-B reservists recently sanctioned, were expected to go a long way in reducing this deficit.

In so far as the other contingents of the expeditionary force were concerned, the original Western Plan intended that the second, third and fourth contingents should be derived from divisions of the Territorial Army (T.A.). Their medical services therefore would be supplied from the R.A.M.C., T.A., supplemented by personnel raised after mobilisation.

In 1936 amendments were made to the Special Programme following the decisions that the despatch of the first contingent of the field force after mobilisation should be accelerated and that every endeavour should be made to have the force in a state of readiness not later than the year 1939. Adhering to the figures for total increases in personnel previously fixed, it now became necessary to attune peace establishments so as to meet requirements by 1939 and so to add, in the next two years, the numbers previously intended to be spread over three. R.A.M.C.

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establishments during the years 1937–8 and 1938–9 were thus due to receive additions of 570 regulars and 900 supplementary reservists. Still further complications arose from the fact that as mobilisation might be ordered before the first contingent of the field force was complete in terms of the Western Plan, it was necessary to visualise the employment of a smaller force, or intermediate contingent, and to arrange for its constitution, organisation, etc., under what was known as the Intermediate Plan. Further, this Intermediate Plan was itself a series of plans required to deal with succeeding phases of development of the field force. In each of these the constitution of the force, the allotment of units and the number of personnel were different. Planning for the future and calculation of requirements became somewhat involved, enterprises made even more complicated by the fact that recruits were not forthcoming in numbers sufficient to provide the increases authorised so that the strength of the regular forces and S.R. remained substantially below establishments. Moreover the situation arising from the war in Abyssinia and the rebellion in Palestine had necessitated strong reinforcement of British troops, including the medical services, in the Middle East, reinforcements which were derived almost entirely from the United Kingdom. On several occasions much needed additions to the R.A.M.C. home establishment, granted on account of field force increases, were no sooner available for duty than they were lost by allocation to drafts proceeding overseas, involving once more the replacement of R.A.M.C. personnel by civilian employees in military hospitals etc. Very similar was the state of affairs in respect of officers; the demands of forces overseas continued to deplete home commands to such an extent that hospitals and other medical units in the United Kingdom became increasingly dependent for staff on retired officers and civilian medical practitioners. So acute did this shortage become that eventually steps were taken to augment the number of medical officers within the R.A.M.C. by offering temporary commissions under contracts of one or three years, the former for home service only, the latter carrying obligation for foreign service. This venture did not prove an unqualified success. The officers so obtained were few and for the most part of middle age and therefore unsuitable for employment in routine general duties requiring youth and energy rather than experience and professional acumen.

Meanwhile planning for the expeditionary force remained in a somewhat fluid state. The composition, function and equipment of the Army, bound up as ever with considerations of the national exchequer, were the subject of discussion by the Chiefs of Staffs Sub-Committee, by the Committee of Imperial Defence, by Ministers and by the Cabinet itself. In 1937 the last laid down the principles governing the rôle of the Army. This pronouncement on the part which the Army was intended to

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play in war was expressed in wide and comprehensive terms. It defined the objectives that were to be achieved but did not prescribe methods to be adopted for their attainment. In 1938, guided partly by the policy of the Government, in so far as a policy had been determined, and partly by their own estimate of what, in the event, the situation would demand and circumstances permit, the military members of the Army Council evolved a new hypothesis for the constitution and organisation of the field force to serve as the basis of future planning and as a guide for preparatory measures. It was considered that provision should be made for the following:

1. The despatch of the five divisions constituting the regular or first contingent of the expeditionary force in two echelons, the first echelon consisting of two divisions and one mobile division within twenty-one days and the second echelon consisting of the remaining two divisions within forty days of mobilisation.
2. Maintenance units for the Advanced Air Striking Force (A.A.S.F.)
3. The despatch of three divisions of the T.A., with their quota of corps troops within three months of mobilisation.
4. No further despatch of T.A. divisions during the first ten months of war.

To supply the first contingent with its appropriate medical services for operational troops, lines of communication, and base, a variety of field medical units was required. The schedule as prepared by the Army Medical Directorate in November 1938 may be summarised as follows:

Unit	*Number to be Mobilised*	
	1st Echelon	*2nd Echelon*
Medical Administrative Staffs for Headquarters of formations	17	4
Field Ambulances	10	7
Field Hygiene Sections	7	4
Casualty Clearing Stations	3	2
Motor Ambulance Convoys	3	1
General Hospitals (1,200 beds)	5	5
General Hospitals (600 beds)	4	3
Convalescent Depots	2	2
Ambulance Trains	4	—
Mobile Bacteriological Laboratory	1	1
Mobile Hygiene Laboratory	1	—
Advanced Depot Medical Stores	1	1
Base Depot Medical Stores	1	—
General Base Depot (R.A.M.C.Section)	1	—
Hospital Ships	4	2
	64	32

These units, including first reinforcements and initial wastage together with the medical officers allotted as regimental medical officers (R.M.Os.) to combatant units required 985 officers. The Advanced Air Striking Force required 11 more, bringing the number for the first contingent

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of the expeditionary force up to 996. Immediate reinforcements for garrisons abroad, the needs of training units in the United Kingdom and a nucleus for home medical services absorbed a further 238. Requirements in M.Os. on the outbreak of war were therefore placed at the total of 1,234. Against this number there were 301 officers on the regular establishment serving at home, 239 in the R.A.R.O. and 32 in the S.R., yielding a total of 572 available, or a deficit of 662 on requirements. Comparable calculations in respect of other ranks showed the schedule of medical units, with first reinforcements and initial wastage, to need 8,544 all told, and the Advanced Air Striking Force 128, thus making a total for the first contingent of 8,672. Reinforcements for garrisons overseas, staff for training units and a home nucleus added another 974. Initial war requirements in other ranks of the medical services therefore amounted to 9,646. Resources, as estimated,* included the personnel serving on regular establishment at home, less recruits and boys, to the number of 2,727, the strength of the R.A.R. put at 2,701 and that of the S.R. at 1,053 producing a total of 6,481. There was thus a deficit of 3,165.

It thus became necessary to fill, as far as possible, the gap between essential needs and available resources. Although there was no departure from the policy of relying for the supply of medical officers upon special machinery to be set up after mobilisation, steps were taken to draw the attention of the civil medical profession to the medical branch of the S.R. and the opportunity which it afforded to medical practitioners of volunteering for service in war without the obligation of training in peace, a consideration mutually advantageous to the Army and the individual in the case of the specialist. As a result, more than 100 additional medical officers were recruited during the succeeding six months. To make up the deficiency in other ranks it was proposed to obtain the required number by addition to the establishments of regulars and supplementary reservists spread over the following two years, 1939 and 1940. Early in 1939, increases of 722 in the regular establishment and of 1,062 in that of the S.R. were approved, provision for the remainder being left over until 1940. It is significant that sanction for increases of these unprecedented proportions was readily procured and that no difficulty was expected in obtaining so large a number of recruits.

A further review of the situation in February 1939, revealed that the state of affairs was less favourable than it had hitherto appeared. In the first place, more than half of the increases to regular establishments made earlier in the year had been diverted as reinforcements for

* Numbers given are "net" and make allowance for "unavailables" by deduction, from "gross" figures, of 5% for regulars and 10% for reservists and supplementary reservists.

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Egypt, Palestine and the Far East, while requirements in personnel had risen by reason of the inclusion of several more medical units in the field force. Examination of the position as regards numbers available, showed that previous estimates had been too high; it was now demonstrated, by calculations based on actual strengths rather than on authorised establishments, that total resources fell short by some 4,000 other ranks of full requirements of the first contingent of the expeditionary force. Some improvement followed during the next few months and in May the deficit had been reduced to some 3,500.

Meanwhile steps were being taken in other directions to improve the Army's state of preparedness. In March 1939, the restriction limiting the number of men permitted to extend their period of service with the colours was temporarily suspended. It was hoped thereby to encourage men to remain in the service, instead of passing to reserve, and thus obtain an increase in effective strength. It was also desired to call up reservists in sufficient numbers to make the four divisions of the first contingent complete to war establishment. To do so special machinery was required and it was decided to seek powers enabling the Secretary of State for War to issue an order calling reservists to the colours for the purpose of undergoing a period of training not exceeding three months. Thus it was intended to effect the dual purpose of raising the efficiency of the reservists and of increasing the number of troops immediately available in the event of an emergency. Legal sanction was obtained through the Reserves and Auxiliary Forces Act, 1939, passed in May of that year. Instructions were then issued for the calling up of reservists in bi-monthly batches, the first being required to report on June 15 and the second on August 15. The numbers of other ranks of the R.A.M.C. so called up were 550 and 700 respectively. On joining they were distributed throughout the various R.A.M.C. companies and hospitals for duty and training. In April 1939, the composition of the expeditionary force to be sent to France in the event of war was again changed. There now came into being a definite commitment to send four infantry divisions plus two mobile divisions and, in addition, there was a statement of intention, which, though it did not amount to a commitment, was definite enough for planning purposes, to send up to twenty-six Territorial divisions as these became available over a period of eighteen months.

At about the same time a further augmentation of the armed forces was provided in the shape of the newly constituted militia. The question of introducing conscription in some form, which had been under close examination for a considerable time, had now become a matter of such grave urgency that preparatory arrangements had been made within the Army in anticipation of parliamentary action. In May, the Military Training Act, 1939, became law, making provision for the immediate

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registration and subsequent military training of all males between the ages of 20 and 21.

Arrangements were made for approximately 16,000 militia men to join for duty in every alternate month beginning in July and to serve for a period of six months. The quota allotted to the R.A.M.C. was 400, to be received at the R.A.M.C. Depot, Aldershot, and retained there for two months while undergoing preliminary training; afterwards they were to be posted to various military hospitals for more technical instruction and to complete their period of military service. The first of these batches had been received and absorbed in this way and the second had just arrived when war was declared.

The strength of the regular and reserve forces comprising the Army Medical Services on August 31, 1939, was:

OFFICERS		
Regulars (including 265 in India)	883	
Regular Army Reserve of Officers	292	
Retired Officers re-employed	58	
Supplementary Reserve and Militia	162	
Officers temporarily commissioned	58	
TOTAL OFFICERS		1,453
OTHER RANKS		
Regulars, Home regimental	3,535	
" Home extra-regimental	212	
" Abroad (excluding India)	1,824	
" India and Burma	349	
		5,920
REGULAR ARMY RESERVE, Section A	137	
" B	1,123	
" D	705	
" E	32	
		1,997
SUPPLEMENTARY RESERVE, Category B	340	
" C	1,064	1,404
TOTAL OTHER RANKS		9,321

THE MACHINERY OF REINFORCEMENT—OFFICERS

For the supply of medical officers required in the early stages of the 1914–18 War the Army had depended entirely upon medical practitioners who voluntarily accepted temporary commissions in the R.A.M.C. At that time there was no organisation to adjust supply and demand, no control was exercised either at the centre or locally, and arrangements were made direct between the War Office and the individual concerned. Results were somewhat chaotic, for some districts and institutions in the country became unduly depleted of medical practitioners while in others there remained a surplus over minimum requirements. In 1915 numerous regional emergency committees of the British Medical Association sprang into existence with the object of

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advising and assisting in the supply of medical practitioners for the services, and of making arrangements for carrying on the civil practices of those who had joined the armed forces. In the course of a few months, Central Medical War Committees (C.M.W.Cs.) were established for England and Wales, for Scotland and for Ireland, and when the 'Derby Scheme' was introduced the recruiting of medical officers was handed over to these committees. Later, when compulsory military service came into force in January 1916, the War Office recognised these C.M.W.Cs. as bodies authorised to deal with the claims of medical practitioners in regard to exemption from military service and kindred matters. In December 1916, these committees decided to mobilise all members of the medical profession for such service as might be required of them, but there was some overlapping in the activities of the committees and the War Office in the issue of calling-up notices and considerable confusion resulted. Finally, in 1917, it was decided that the actual calling up of medical practitioners for military service should thenceforth be undertaken by the professional committees only; this procedure was followed throughout the remainder of the war.

During the post-war years it was agreed in a vague way that in the event of war some special machinery, probably provided by the British Medical Association, would be necessary to control the supply of medical officers to the fighting services. In 1935, when the question of disarmament had given place to rearmament and preparation for the eventuality of war, the Ministry of Health collaborated with the British Medical Association in framing measures for the organisation of the medical profession in war. In the scheme thus devised, the Central Emergency Committee of the Association figured as the official controlling body for the supply of medical officers to the forces on and after mobilisation. During the sitting of the sub-committee, appointed in 1936 by the Minister for Co-ordination of Defence, to consider the question of co-ordinating medical arrangements in time of war, the British Medical Association undertook to compile a register of medical practitioners who on the outbreak of war would be available for employment by the armed forces or civil authorities, and to set up, on mobilisation, an organisation to advise on the allotment of medical officers to the various services and departments. The Committee of Imperial Defence approved this step and the Central Committee of the British Medical Association thus became the officially authorised instrument for recruiting medical officers for the services in time of war. The Deputy Director-General, Army Medical Services (D.D.G.A.M.S.) was appointed as the representative of the Army Medical Directorate on this body. The committee carried out a general survey of the medical man-power of the country by circularising all medical practitioners and asking for details of their employment and commitments and the extent to which they would be

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prepared to undertake service on either a full-time or part-time basis with the fighting services or the civil defence services.

During the crisis of September 1938, the scheme was elaborated and various points of administrative detail settled. It was arranged that the War Office should forward its demands for medical officers to the Central Committee who would deal with all matters in relation to individual practitioners. Those who made application direct to the War Office would be referred to the committee. The committee was prepared to nominate the number of medical officers necessary when informed of the ages and qualifications required. On receipt of this information the committee would immediately communicate with the medical practitioners nominated and at the same time notify the War Office of their names, addresses and particulars. In the event of the introduction of compulsory service, names would be communicated to the War Office without reference to the practitioners concerned. The arrangements so made held good at the outbreak of war in September 1939.

THE MACHINERY OF REINFORCEMENT—OTHER RANKS

A problem of the same kind and even more difficult of solution was represented by deficiencies in the other ranks of the R.A.M.C. Attempts had been made to increase the size of the regular reserve by altering the terms of enlistment in such a way as to provide a shorter period of service with the colours and a longer period in the reserve. Even so, the total numbers to be derived from serving personnel available at home stations, augmented by the whole of the regular reserve, were not sufficient for the needs of the first contingent. Here again, therefore, it was essential to depend, in part at least, for initial requirements on resources outside the Regular Army. For many years past the Army had relied upon certain auxiliary forces and upon various voluntary bodies to undertake the organisation and training in peace-time of these auxiliaries who, on the outbreak of war, became incorporated within the medical services and could replace the personnel withdrawn for active service.

One such auxiliary force was the Home Hospital Reserve (H.H.R.) raised under the auspices of the St. John Ambulance Association and the St. Andrew's Ambulance Association. It was composed of men proficient in first aid, nursing and other trades applicable in employment in the R.A.M.C. On the outbreak of the 1914–18 War, the Home Hospital Reserve very largely replaced the rank and file of the Corps mobilised for service with the expeditionary force proceeding to France. After the war this body was abolished, but it appeared in due course that some such organisation would again be required under similar circumstances. It was therefore desired to establish a new reserve on much the same basis as before, but differing in two important respects. The first of

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these was the inclusion of liability for general service at home or abroad. Personnel of the H.H.R. had been liable for service at home only, and until compulsory military service was introduced they could not be despatched abroad unless they voluntarily entered into a new undertaking in that respect. The second was the necessity for ensuring a more satisfactory system of training in peace-time, for in 1914 it had been found that the standard of training exhibited was, for the most part, far below that considered essential for personnel employed in hospital wards and in similar duties; while skill in first aid was generally adequate, the more extensive and deeper knowledge required of a nursing orderly was almost entirely lacking.

In 1924 proposals were made for the formation of an auxiliary body to be known as the Military Hospitals Reserve. It was intended that it should be raised, as before, through the St. John and St. Andrew's Ambulance Associations and that a total of 2,000 men should be enrolled, trained and maintained in peace-time by these Associations. The age of enrolment was fixed between the limits of 18 and 40 or, in the case of certain trades, 45. In addition to the preliminary training given by the parent Association, members were to be attached to military hospitals for eight days' training in alternate years of their service ; originally a period of fourteen days had been suggested but the Associations considered it probable that few men would be able to spare so long a time away from their work. While under training, members of the Military Hospitals Reserve would receive the pay and allowances of the corresponding ranks and trades of the R.A.M.C. ; on satisfactorily completing their biennial course of training they were to receive bounties at half the rates payable to the same ranks of the Supplementary Reserve. The only expenses to be met by the Army, other than those occasioned by annual training, would be the costs of travelling and small administrative grants to the Associations concerned. The total expenditure in a normal year was estimated at £6,500.

On enrolment, personnel of the M.H.R. were to be required to sign an agreement binding them, in the event of mobilisation of the Army, to enlist in the medical services and to serve for the duration of the war either at home or abroad. On mobilisation they would immediately join the military hospitals to which they had been assigned in peace-time and so replace regular personnel withdrawn for service with the expeditionary force. In their turn the M.H.R. would be replaced as soon as post-mobilisation recruits were trained sufficiently to relieve them, and they would then be available for service overseas either in new units or as reinforcements.

These proposals were discussed informally with the Chief Commissioner of the St. John Ambulance Association and afterwards officially between the War Office and the two Associations. General agreement

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was reached and the scheme was submitted for sanction of its financial provisions. The proposals for the biennial training of warrant officers (W.Os.) and non-commissioned officers (N.C.Os.) were approved, but those relating to the rank and file were opposed. It was agreed that a working knowledge of the general organisation of military hospitals on the part of the personnel of the M.H.R. would be of undoubted value, and that a case had been made for a period of training at such a hospital during the first year of service. But the argument that attempted to show that there was need for the frequent repetition of this training was found to be unconvincing.

The Director-General, Army Medical Services (D.G.A.M.S.) advised against the acceptance of this restriction in training on the grounds that the scheme depended for its success on adequate provision in this respect. The Treasury was again approached and their attention called to the fact that the M.H.R. was intended to function forthwith on mobilisation and without supplementary training; moreover, it was expected to replace fully trained nursing orderlies and other special technical staff of the R.A.M.C. without causing interruption in the work of the hospitals or detriment to patients. In the absence of facilities for thorough training, the Military Hospitals Reserve would lose its appeal and members would not enrol in the numbers required. Further, reliance on an adequate and efficient M.H.R. had made possible a reduction of three months in the period of training prescribed for post-mobilisation recruits, and, in consequence, a potential saving, amounting to several hundreds, in the strength of the S.R. Failure to approve the scheme as originally submitted would necessitate reconsideration of mobilisation requirements and increases in the establishment of the S.R. and in the peace-establishments of the regular R.A.M.C.

In the light of these considerations the Treasury, now being satisfied, sanctioned the proposal to provide biennial training for all personnel irrespective of rank. The formation of the M.H.R. was promulgated by Army Order (A.O.) in February 1926. Arrangements were completed with the two Associations for the preparation of regulations as to enrolment, conditions of service, training, pay, etc., and notification was given of the trades and numbers of tradesmen required. Army commands were informed of the appointments, duties and ranks, in medical units, to be allotted to personnel of the M.H.R. on mobilisation, details which were amended or revised from time to time in accordance with plans for mobilisation of the Army and the requirements of the expeditionary force.

VOLUNTARY AID DETACHMENTS (V.A.DS.)

Just as the Home Hospital Reserve and its successor, the Military Hospitals Reserve, were intended to supplement the medical services

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of the Regular Army, so the V.A.Ds. were designed as auxiliaries to the medical services of the Territorial Army.

Under the original scheme of 1909 V.A.Ds. undertook to serve with the medical services on embodiment of the T.A. but their obligation was for home service only. During the 1914–18 War, V.A.D. members were extensively employed instead of R.A.M.C. personnel. Nursing members replaced nursing orderlies, and general service members replaced clerks, storekeepers, cooks, dispensers, and general duty men.

In 1922 the scheme for V.A.Ds. was revised and the scope of the organisation widened. The scheme was confirmed and brought into effect by Army Order in 1929. As reorganised, the voluntary aid detachments were intended to support the medical services of the armed forces of the Crown, naval, military and air, on general mobilisation and in any part of the world. With this change the restriction of liability to home service only disappeared.

Under the new constitution a Central Joint V.A.D. Council was established with executive powers in regard to the formation and training of detachments in peace and in war, and with responsibility for making arrangements necessary to provide the numbers required by the three fighting services on, and after, mobilisation. The council included representatives of the Admiralty, War Office, Air Ministry, T.A. Associations, Order of St. John of Jerusalem, British Red Cross Society (B.R.C.S.) and St. Andrew's Ambulance Association. The council appointed an executive committee to conduct its administrative affairs, and a mobilisation committee to supervise the welfare and training of personnel in peace and their mobilisation in war. T.A. Associations working in conjunction with local committees of the Ambulance Associations and B.R.C.S., were made responsible for the enrolment of members and for the organisation and efficiency of detachments, and were required to appoint county controllers as chief executive officers to act on their behalf. Recruitment and training of members was placed in the hands of the St. John and the St. Andrew's Ambulance Associations and the B.R.C.S. Financial control was exercised through the T.A. Associations.

Detachments consisted of personnel of one sex only, there being men's detachments and women's detachments. All members were required to complete a form of enrolment and sign an agreement to serve in the class or category in which he or she enrolled, on the occasion of embodiment of the Territorial Army. Members were divided into two classes, mobile and immobile. In the event of war, mobile male members were to enlist for general service in the R.A.M.C.; mobile female members were to undertake service with the medical services either at home or abroad; immobile members were to be employed within reach of their homes.

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Men were categorised as dispensers, clerks, radiographers, nursing orderlies, laboratory assistants, masseurs and sanitary assistants. All were to be trained as stretcher bearers. Nursing orderlies and clerks were required to be in possession of a first-aid certificate on enrolment and to obtain the home nursing certificate within the subsequent twelve months. Women were categorised as nursing members, dispensers, radiographers, hospital cooks, cooks, clerks, masseuses, laboratory assistants and opticians. Nursing members and clerks were required to take the certificates in first aid and in home nursing. The qualifying certificates recognised were those issued by the St. John Ambulance Association, the B.R.C.S., the St. Andrew's Ambulance Association, the National Fire Brigade Union and the London County Council.

Mobile members were called upon to make twelve attendances with their detachments each year, to pass an annual test in first aid and nursing, and to be present at the annual inspection of the detachment by the deputy director of medical services (D.D.M.S.) or assistant director of medical services (A.D.M.S.) of the Army command or area in which the detachment was situated. They were encouraged to pass progressively higher examinations year by year and to attend lectures and courses of instruction in hygiene, tropical hygiene, air raid precautions and other subjects of military significance. Attendance at a military hospital for a week once in every three years was required, and additional work in civil hospitals and attendances at an annual training camp was also recommended.

By September 1938, the V.A.D. Council had enrolled 8,123 mobile members, i.e. 1,480 men and 6,643 women, and a very large number of immobile members. In January 1939, the recruiting of immobile nursing members was suspended and the establishment of women members fixed at 9,000 mobile and 2,000 immobile. Authority was given for the release from their V.A.D. obligations of 50 per cent. of the strength of all immobile female members in order to free them for employment in the Civil Nursing Reserve or in the civil casualty services.

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CHAPTER 2

THE VICISSITUDES OF THE TERRITORIAL ARMY IN THE INTER-WAR YEARS

In these plans and projects, the Territorial Army was heavily implicated. Yet it was even less prepared for participation in them than was the Regular Army itself. Since the Armistice in 1918 it had endured a series of misfortunes so disruptive that as an effective force it simply did not exist at the time when its enlargement had become imperative.

In 1919 the Territorial Force was almost entirely disembodied in order to clear the way for its reconstitution which took place in the following year, recruiting being opened in February 1920. The name Territorial Army was substituted for the old term, Territorial Force, in 1921.

In constitution the new T.A. closely resembled that of pre-war days and consisted of fourteen divisions, with a cavalry division less one brigade, army troops and coast defence units. It was intended to raise the full war establishment (W.E.) of officers and 60 per cent. of that of other ranks; the provisional peace establishment was fixed at 10,525 officers and 202,165 other ranks and by December 31, 1920, the actual strength had reached 5,531 officers and 71,463 other ranks. Units of the R.A.M.C., T.A. were as follows:

Field Ambulances	45
Casualty Clearing Stations	15
General Hospitals	23
Sanitary Companies	4
Schools of Instruction	14

in all, 101 units with a total establishment of 1,310 officers and 9,653 other ranks.

In conformity with the policy of retrenchment adopted in 1921, the Secretary of State for War was required to effect a saving of £1,500,000 in the cost of the Territorial Army. D.G.A.M.S. was accordingly instructed to submit proposals for decreasing expenditure in respect of the medical branch. Sir John Goodwin, then D.G.A.M.S., advised that there were three methods by which costs might be lowered: first, by reduction in the administrative staff at divisional headquarters, secondly, by reduction in the establishment of the various units, and thirdly by reduction in the total number of units. Neither the first nor the second of these was to be recommended. Headquarters (H.Q.) were fully engaged not only in administrative duties, but also in the technical

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training of personnel and in the obtaining of recruits. Any attempt to diminish the strength of units below the 60 per cent. of establishment permitted, would seriously interfere with their efficiency. He therefore proposed that the number of field ambulances in a division be restricted to two instead of three as formerly, that is to say from a total of forty-five to thirty, and that general hospitals be decreased from twenty-three to ten. No change was advocated in the number of casualty clearing stations or sanitary companies. Disbandment of the units specified involved a loss in personnel of 585 officers and 3,078 men.

When later he was informed that his proposals did not go far enough and that further decreases were required, D.G.A.M.S. restated and further elaborated his considered views. He stated that the reductions he had proposed were the utmost that could be carried out with any hope of retaining a medical service having even the semblance of efficiency. If, in addition, general hospitals were to be reduced to three, field ambulances to one per division, and headquarter staffs also reduced, it would mean that in the event of fourteen divisions being mobilised, there would be three general hospitals instead of twenty-three, and fourteen field ambulances instead of forty-two. Under such circumstances he considered a calamitous medical breakdown inevitable. Should instructions be given for these additional reductions, they must of course be carried out, but he wished it to be clearly understood that he disclaimed all responsibility for the consequences which would, in his opinion, be disastrous to the Territorial Army if mobilisation were ordered. He added that much time and training were required to make these medical units even moderately efficient and he could not, without the direst misgivings, contemplate the results that would follow if divisions were sent on active service with untrained medical units.

Shortly afterwards, in September of the same year, the Secretary of State for War appointed a committee under the chairmanship of the Parliamentary Under-Secretary of State, to examine and report upon the question of decrease in cost of the Territorial Army in general. In a memorandum submitted by the General Staff the view was expressed that the Territorial Army existed only for a great national emergency, that it had no part to play in a small war, nor even in one employing a force up to ten or twelve divisions in strength, and that in any case units of the T.A. would not be required to embark until at least six months after mobilisation. It was held that the units reaping the greatest benefit from training in time of peace were the fighting units, and that every effort ought to be made to retain them if it were possible to effect the necessary economies in other directions. The Territorial Army contained various administrative and technical units not necessary for the administration or training of combatants during peace-time, and not themselves requiring a great amount of military training to fit them for

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active service. Moreover, in many cases the personnel of such units were, in their civil occupations, already engaged in work closely resembling that which they would undertake in war, and it was therefore felt that savings in expenditure should, in the first place, be effected by abolishing these units and raising them only on mobilisation.

The force of these arguments apparently appealed to the committee in so far as the medical services were concerned, for their findings included drastic reduction of medical units. They recommended that field ambulances be reduced from a total of forty-five to fifteen; that all fifteen casualty clearing stations be disbanded; that the number of general hospitals be three instead of twenty-three; and that one of the schools of instruction also be closed. In all, no less than sixty-six units were to be abolished involving 1,061 officers and 7,362 other ranks and representing a saving in expenditure of rather more than £200,000.

D.G.A.M.S. reiterated his conviction that these reductions would be disastrous and, in an endeavour to find a satisfactory solution, submitted an alternative scheme. He now proposed to adopt the expedient previously rejected, of a general decrease in personnel. By this means it would be possible to produce financial savings almost to the required amount and, by reduction in establishments as well as in the number of units, to ensure the retention of sufficient units, in cadre strength, to provide for the necessary expansion on mobilisation. These proposals included the reduction of field ambulances to fifteen as recommended by the committee, but provided for the retention of eight casualty clearing stations and ten general hospitals. D.G.A.M.S. was particularly anxious in regard to the general hospitals, for he considered the suggested number of three quite inadequate to meet the needs of the Territorial Army. The scheme received the careful attention of the Army Council by whom it was eventually decided that while eight casualty clearing stations should remain, the committee's recommendations in regard to general hospitals must stand.

In March of the following year the Secretary of State called a conference of presidents and chairmen of Territorial Army Associations, at which he explained the necessity for a decrease in Army estimates affecting alike the Regular Army and the Territorial Army, and gave details of the economies proposed for the latter. The conference while regretting the necessity for retrenchment, agreed to support the proposals and to give every assistance possible in carrying them out. However, when later the intention of making sweeping reductions in medical units became known, protests arose from the rank and file of the Associations, from university authorities and from the medical profession. Numerous representations were received from these bodies but the Army Council stated their inability to reconsider the matter

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and accordingly in April 1922, orders were issued giving effect to their decisions.

By retaining seven units unaltered, by amalgamating twenty-one others to form eight and by disbanding the remaining seventeen, the number of field ambulances was reduced to fifteen, i.e. one only for each division. Seven casualty clearing stations were disbanded, leaving eight, and general hospitals, by abolishing twenty of them, were reduced to three. Reduction in the number of units was accompanied by a decreased establishment of personnel for those remaining, and the result of the changes was therefore to diminish the total establishment of the R.A.M.C., T.A., to some 3,500 all ranks, i.e. to one-third of its former number.

The process of disintegration having begun, further reductions followed, the most noteworthy being the disbandment, in 1927, of the remaining eight casualty clearing stations. New establishments for the Territorial Army were published during the same year; they included only the following medical units:

Medical Services for Headquarters of Divisions	14
Field Ambulances	14
Cavalry Field Ambulances	1
General Hospitals	3
Hygiene Companies	4

The personnel of these units, with the addition of officers attached as R.M.Os. to units of other arms of the Territorial Army amounted to a total of 768 officers and 2,136 men. At this level in respect both of units and of personnel, the medical services of the T.A. were destined to remain throughout the next ten years.

On mobilisation, each of the field ambulances was required to expand into three separate field ambulances carrying an establishment of 10 officers and 158 other ranks apiece, a metamorphosis manifestly difficult to achieve with any degree of efficiency or dispatch at such a time. Sir James Hartigan, then D.G.A.M.S., in a report dated June 1935, contended that this expedient, however attractive in theory, was nevertheless unworkable, and he urged a return to the previous organisation of three field ambulances to the division, in peace as in war, even if only with a reduced establishment.

His proposal received general support. Delay in reaching a decision was caused by the necessity for cross-reference to committees dealing with the various aspects of the organisation of, and with mobilisation arrangements for, the Territorial Army matters. Much discussion took place on the question of whether the scale of three field ambulances to the division should apply to all divisions or only to those constituting the second contingent. For one reason or another it was not until July 1936, that the Army Council approved the principle that subject to

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departmental examination of details as to the establishment of personnel necessary, there should be three field ambulances in each infantry division. Further time was occupied in argument on this subject. The establishment proposed by the Army Medical Directorate included, in the normal manner, a commanding officer in the rank of lieut. colonel, and a quartermaster for each unit. To this objections were raised on the grounds of economy, and it was suggested that one commanding officer and one quartermaster were sufficient to administer all three field ambulances of a division in peace-time. On the other hand D.G.A.M.S. maintained that it was not for peace-time conditions that the scheme was designed, but rather to assist the process of mobilisation in which these units were required to expand to war establishment immediately on the embodiment of the Territorial Army. The suggestion that had been made, if accepted, would result in there being available only one commanding officer and one quartermaster, to be shared among three units, just at the time when each unit would be in most urgent need of its own; moreover, quartermasters were not to be found at a moment's notice and for that reason alone the idea was impracticable.

Eventually, this view was accepted and, in December 1936, official sanction was obtained to increase field ambulances in each of the infantry divisions to three in number and for this purpose to raise twenty-two new units with an establishment of 5 officers and 67 other ranks in peace, expanding to 10 officers and 158 other ranks in war. At the same time the establishment of those field ambulances already in existence was to be reduced to the same numbers. It is to be noted that only twenty-two new field ambulances were required, the reason being that of the original fourteen infantry divisions, two had in the meantime been converted into anti-aircraft divisions, for which this type of medical unit was not necessary. Thus only twelve infantry divisions remained to be supplied, each with two additional field ambulances, a total of twenty-four, of which two were already available by transfer from the anti-aircraft divisions no longer requiring them. The cavalry division was not included in the reorganisation and so continued, as before, with one field ambulance only.

Preliminary arrangements were then made for the raising of these new units. Suitable localities were to be chosen by commands in consultation with the divisions and T.A. Associations concerned. It was also necessary to provide the means by which personnel, rendered surplus in the existing field ambulances by the reduction of their peace establishment, could be absorbed into the new units. The issue of the necessary instructions proved to be a lengthy procedure and was followed by a prolonged correspondence between the War Office on the one hand, and commands and associations on the other, concerning the locations to be chosen. It was not found possible to publish the Army Order

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formally authorising the formation of these units until November 1937, and even then further obstacles were to be encountered. The main complication arose in the matter of recruitment. In 1938 the Territorial Army was in process of reorganisation and various plans for alteration and augmentation in several of its arms were under consideration. At that time the raising of anti-aircraft regiments and coast defence units was claiming priority and it was considered that recruiting for these might be prejudiced if, simultaneously, attempts were made to raise new field ambulances in the same districts. Authority to proceed with recruiting for the latter was therefore withheld temporarily, although it was urged that anti-aircraft regiments and medical units were so essentially dissimilar and recruited from such different sections of the population that they were unlikely to be competitive. T.A. Associations also were anxious to proceed because they were required to reduce the peace establishment of the existing field ambulances to the new scale, although they had no opportunity of absorbing the surplus personnel into the new units until recruiting for the latter was permitted.

At the beginning of March 1938, authority to open recruiting had been given for only three of the new units. During that month, similar instructions were given in respect of a further seven, and in the following September, of eight more. Action was taken in regard to the remainder shortly afterwards; thus it was not until almost the end of 1938 that all twenty-two of these field ambulances were actively in process of formation.

About the same time, reorganisation of the field force of the Territorial Army made necessary some alteration in the allocation of its field ambulances. As newly constituted, the force comprised nine infantry divisions containing three brigades each, three motorised divisions of two brigades each, a mobile division of three brigades, two brigades of yeomanry and certain corps and army troops. The nine infantry divisions retained their three field ambulances as before, but the three divisions converted into motorised divisions, having now only two brigades instead of three, required only two field ambulances, each of which was supplied with additional transport to make it fully mobile. Three field ambulances, one from each motorised division, thus became surplus; these were converted into cavalry field ambulances and transferred to the mobile division, while the existing cavalry field ambulance was allotted to one of the yeomanry brigades. Later, in 1939, another field ambulance was raised for duty with corps troops and finally, it was decided to maintain, during peace, one field ambulance in each division, a total of thirteen, complete to war establishment in personnel, medical and ordnance equipment and vehicles.

At the outbreak of war, therefore, the Territorial Army contained in the medical services of its field force thirty-eight field ambulances

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including four cavalry field ambulances, of which total thirteen were already on war establishment.

When the necessity for more field ambulances was accepted, recommendations were also made in respect of increases to other medical units of the Territorial Army. At that time there were but three general hospitals in existence, those remaining after the wholesale reductions made in 1922. These hospitals situated in London, Edinburgh and Manchester, were little more than nominal, being deficient in staff and having no medical equipment, although intended in the event of war to accompany the first part of the Territorial Army to proceed overseas, i.e. the second contingent of the expeditionary force. Suggestions were made for a return to the policy adopted before the 1914–18 War and for the re-establishment of T.A. general hospitals on a comparable scale.

A War Office committee under D.G.A.M.S. was appointed to consider this proposal in conjunction with the wider subject of obtaining adequate hospital accommodation for the Army in the United Kingdom. The proceedings of this committee and its results will be discussed later in connexion with the general question at issue, but suffice it here to say that their report included the recommendation that a further twenty-nine general hospitals should be established at once to supplement the existing three. It was proposed that each should be given a peace establishment of 3 officers and 40 other ranks as administrative staff, trained in peace-time, whose function it would be to open the hospital immediately on mobilisation. In order that adequate medical staff should be readily available, it was proposed that these hospitals should be placed in or near large towns containing medical schools, but at the same time avoiding, as far as practicable, important industrial centres and large ports. No difficulty was contemplated in obtaining trained nurses and other personnel including members of voluntary aid detachments. From the nature of these proposals and the organisation suggested, it is clear that the intention was to set up static hospitals for employment at home rather than to furnish field units for service with the expeditionary force.

The recommendations of the committee were approved by the Army Council and received Treasury sanction in May 1936. T.A. Associations were then informed of the intention to raise these hospitals and of the localities tentatively suggested for them. They were asked to discuss matters with the commands concerned and to forward their proposals for carrying the scheme into effect. In order to obtain agreement in the allocation of buildings suitable for hospitals, they were required to confer with local authorities and with representatives of the Home Office and the Ministry of Health. By the beginning of the following year considerable progress had been made, although it had not yet been found possible to settle the final location in every case.

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Associations were then informed of the establishment that had been approved and were requested to investigate the question of unit headquarters for peace-time cadres and the possibility of accommodating them in the same headquarters as those used by field ambulances already formed, or in the process of forming. They were also required to appoint hospital sub-committees whose duty it would be to nominate officers for appointment to the staffs of the hospitals, to advise on alterations or additions necessary in the buildings selected, and to assist in the provision of equipment. Instructions were issued that these sub-committees should include, wherever possible, the administrative superintendent or secretary of the local civil hospital.

By June 1937, the question of location had been decided and T.A. Associations were instructed to proceed with the raising of peace-time cadres which, as approved, included a commanding officer, a registrar, a quartermaster and 24 other ranks all of whom were required to come up for fourteen days' annual training at a military hospital. In August the creation of twenty-nine new general hospitals for the T.A. was officially promulgated by Army Order. They were designed to open on mobilisation each with accommodation for 600 patients and to be capable of expansion when necessary to a maximum of 2,000 beds; they were intended for the reception of casualties from the field force and from troops stationed in the United Kingdom. The distribution in commands was as follows: Eastern Command: 7, including 4 in London and 1 each in Norwich, Cambridge and Brighton; Southern Command: 7, in Oxford, Reading, Bristol, Bath, Bournemouth, Exeter and Torquay; Northern Command: 5, in Newcastle-on-Tyne, Leeds (2), Darlington, and Leicester; Western Command: 5, in Liverpool (3), Manchester and Cardiff; and Scottish Command: 5, in Edinburgh, Glasgow (2), Dundee and Aberdeen.*

Arrangements for the formation of the hospitals, for the provision of peace-time cadres and the appointment of medical staff to join them on mobilisation, were proceeding satisfactorily and the scheme was well on the way to completion when circumstances attending the threat of war in September 1938, led to a reversal of policy in regard to hospital arrangements for military casualties. As a result of the Cabinet's decision in the matter, the Army Council was required to relinquish twenty-five of these twenty-nine hospitals retaining four only, namely those forming at the Mental Hospital, Shenley; the Royal United Hospital, Bath; the Park Hospital, Davyhulme, Manchester; and the Princess Louise Scottish Hospital, Glasgow. The total number of Territorial Army general hospitals thus became seven, the original three with a nominal capacity of 1,200 beds for service with the field force

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* See Emergency Medical Services, Volume I, Chapter 1.

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of the T.A., viz. 4th London, Chelsea; 2nd Western, Manchester; and 2nd Scottish, Edinburgh; and the newly raised four of 600 beds, intended for home service, viz. 2nd London, Shenley; 4th Southern, Bath; 5th Western, Manchester; and 4th Scottish, Glasgow.*

Matters were not allowed to rest thus, for D.G.A.M.S., now Sir William MacArthur, was not prepared to abandon efforts to improve the position in regard to hospitals for the Army, a position which was still considered highly unsatisfactory. The decision to relinquish the scheme for increase in general hospitals was in the nature of an emergency decision and therefore dictated by circumstances existing at the time, but with the passing of the crisis an interval had been given for reconsideration of the position and an opportunity provided for improvement in plans for mobilisation. His reluctance to agree to the final abandonment of the project was based primarily on administrative objections to depending upon civil hospitals for military casualties, but there was another consideration of a different nature and of the greatest importance to the Territorial Army. Much had already been accomplished towards the raising of these general hospitals, including the appointment of officers and the enlistment of personnel, that could not be discarded without causing resentment and a sense of injustice among those affected. This, with the impression of vacillation on the part of higher authority already engendered by their reversal of policy, was not calculated to stimulate recruiting for the medical branch of the Territorial Army, nor to assist in co-operation with the medical profession in time of war.

An alternative was to be found in the replacement, in part at least, of the lost hospitals by medical units of a different category which, while obviating any objection from the civil departments, would fulfil the needs of the Army. It was therefore proposed to raise within the T.A. nine hospitals of 600 beds on the normal establishment, and six casualty clearing stations (C.C.Ss.) similar in function to those that had existed before disbandment in 1922, each to accommodate 200 patients. All these units were intended for service overseas with contingents of the Territorial Army but, between the time of embodiment and dispatch abroad, they would be available for employment as tented hospitals at home, and so help to meet the need for military hospital accommodation in the United Kingdom during the first phase of war. It was the intention to recruit for the new units in the same areas as those chosen for the hospitals that had been disbanded; thus personnel could be obtained largely by transfer, provided they accepted the obligation of foreign service, and a means provided for the absorption of officers and other ranks who had been deprived of their units.

* See Emergency Medical Services, Volume I, Chapter 1.

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The Committee of Imperial Defence, in January 1939, approved the scheme in principle but reduced the number of units proposed to eight general hospitals of 600 beds, and four C.C.Ss. On the other hand it was decided that all of them should be raised complete to war establishment instead of on normal peace establishment, that is to say, 19 Officers and 140 other ranks in the case of the general hospital and 9 officers and 81 other ranks for the casualty clearing station, the total personnel amounting to 188 officers and 1,444 other ranks. Commands and T.A. Associations were then notified of the decision for the immediate raising of these units and of the places where it was intended to raise them. Instructions were given in regard to recruiting, accommodation, equipment for training, etc., and the importance of proceeding with the utmost dispatch strongly emphasised. Arrangements were made for the absorption into the new units of officers and men who had been rendered surplus by the disbandment of the twenty-five hospitals raised in 1937.

With the addition of these new units the position as regards general hospitals and casualty clearing stations in 1939 was as shown below. The designations of units and the location of headquarters are those as originally determined :

General Hospitals:

(*a*) 600–1,200 beds for field service.

Raised in 1920 and remaining after reduction of hospitals from 23 to 3 in 1922.

4th London	Chelsea
2nd Western	Manchester
2nd Scottish	Edinburgh

(*b*) 600 beds for home service.

Raised in 1937–8 among 29 new hospitals and remaining after relinquishment of the other 25 in 1938.

2nd London	Shenley
4th Southern	Bath
5th Western	Manchester
4th Scottish	Glasgow

(*c*) 600 beds for field service.

Raised in 1939.

1st London	Chelsea
1st Eastern	Cambridge
2nd Eastern	Eastbourne
1st Southern	Oxford
2nd Southern	Birmingham
1st Northern	Leeds
1st Western	Liverpool
1st Scottish	Aberdeen

Casualty Clearing Stations:

Raised in 1939.

1st London	Chelsea
1st Southern	Torquay
1st Northern	Durham
2nd Northern	Leicester

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Other changes which may be mentioned were the raising, in 1939, of two motor ambulance convoys for field service, No. 11 at Blackburn, Western Command and No. 12 at Didcot, Southern Command; the reorganisation of hygiene companies, formerly termed sanitary companies, into sections (field hygiene sections) capable of independent action ; and the renumbering of various units.

Midway through the year 1939, alteration in the composition of the field force of the Territorial Army involved certain changes in the number and category of medical units required. Conversion of certain units, e.g. surplus field ambulances, to make good deficiencies in units of another kind was necessary and arrangements for this purpose were in hand but had not been completed at the time war was declared.

At the outbreak of war medical units of the Territorial Army totalled:

Field Ambulances	34
Cavalry Field Ambulances	4
Hygiene Companies (comprising 15 field hygiene sections)	4
Motor Ambulance Convoys	2
Casualty Clearing Stations	4
General Hospitals	15

THE CREATION OF THE MEDICAL SERVICES OF THE ANTI-AIRCRAFT COMMAND

The evolution of a special arm for the air defence of Great Britain against enemy attack implied the creation of a special branch of the medical services entirely different in constitution and scope from any previously conceived. Although the medical needs of the forces engaged in an anti-aircraft capacity were the same as those under active service conditions elsewhere, that is to say, the collection and evacuation of battle casualties, the disposal of the sick and the maintenance of the health of the troops, yet a medical service sufficient for this purpose did not entail the complicated chain of medical units associated with the operational areas, lines of communication and bases of an army in the field. Rather was it necessary to design an organisation whereby the essential functions of collection and evacuation of casualties from the front line, as it were, could be related, not to field units such as field ambulances and casualty clearing stations but direct to the normal static hospital service already in existence.

As the task of air defence was entrusted to the Territorial Army, the formation of the required medical organisation devolved upon the R.A.M.C., T.A. The medical services of the Anti-Aircraft (A.A.) Command had their origin when an assistant director of medical services was appointed to that division of the T.A. which was the first to be reorganised and converted to an anti-aircraft function, and which became known as the 1st A.A. Division. This took place early in 1936.

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At first, the medical services consisted only of the regimental medical officers attached to the units of which the division was composed. In December 1936, a second anti-aircraft division was formed, and an A.D.M.S. appointed to it. It now became necessary to provide a more comprehensive medical service and, in April 1937, a conference was held at the War Office to formulate a scheme for the necessary organisation. At this conference, and at a subsequent meeting of the Committee on the Organisation of Air-Defence Formations, representatives of the administrative and medical staffs of the A.A. divisions were present, and matters of principle and detail in regard to the raising and administration of the proposed services were fully examined. It was decided that medical arrangements must be placed on a divisional basis and be largely independent of Army commands because, geographically, anti-aircraft divisions were not coincident with commands and, operationally, were unrelated. There was some discussion as to the necessity for the appointment of a regular officer as deputy assistant director of medical services (D.A.D.M.S.) to these divisions. Eventually it was agreed that it was not to be expected that any officer of the Territorial Army could find time to carry out the large volume of work devolving upon an A.D.M.S. unless provided with such assistance, especially in view of the large area covered by A.A. divisions. In the matter of personnel, it was agreed that recruiting should be made as far as possible a local matter, and no difficulty in this respect was contemplated. It was considered that full use should be made of hospitals and reception stations already existing in divisional areas, and that no special provision in this respect was necessary except in isolated districts at a great distance from hospital facilities.

In December 1937, the scheme, with appropriate establishments, was approved by the Army Council and received Treasury sanction. Commands were then notified and instructed to make the necessary administrative arrangements. The medical services thus brought into being for each of the two anti-aircraft divisions comprised: (*a*) a H.Q. staff consisting of an A.D.M.S. and a D.A.D.M.S., the first a colonel, late R.A.M.C., T.A. and the second a major R.A.M.C., with clerical staff and transport; (*b*) R.M.Os., R.A.M.C., T.A., on the scale of one, later amended to two, for each A.A. brigade R.A., and two for each A.A. battalion R.E., each M.O. to be provided, in war, with a one-ton van capable of carrying one or two stretchers, while in peace-time the medical officer was to use his own car ; (*c*) the formation of an A.A. divisional company, R.A.M.C., T.A. containing for each A.A. group in the division, a section composed of one officer, a major, and a H.Q., consisting of one staff-sergeant (s/sergt.), one sergeant (sergt.) (dispenser), one corporal (clerk) and eight nursing orderlies, and, in addition to the foregoing, extra personnel on the scale of one corporal and four

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nursing orderlies for attachment to each A.A. brigade R.A. and each A.A. battalion R.E. in the group. In war, the function of this unit was to be the collection of casualties and their evacuation to existing military or civil hospitals within or near the areas in which the division was operating, and to set up and maintain special reception stations where hospitals were inadequate or too far distant. A permanent staff instructor was supplied for each divisional company, and where the whole of the company could not be concentrated in one H.Q., other instructors were to be provided. Two motor ambulances were allotted for each A.A. brigade R.A. and each A.A. battalion R.E., and were to be maintained in peace-time as well as in war.

Commands were required to submit their proposals for the location of divisional companies and motor ambulances in peace-time, for the establishment of reception stations where considered necessary, and for the scales of medical and ordnance equipment to be adopted for A.A. medical units. They were also invited to make recommendations generally in regard to administrative questions relating to the inauguration of the new service. Among these recommendations was one to the effect that subordinate medical personnel should be derived from V.A.Ds. While in this suggestion there were advantages to be gained in the direction of economy in money and in man-power, there were strong objections from the administrative point of view. The isolated position of many A.A. units in war, and the primitive accommodation which they would of necessity be required to occupy in the initial stages after mobilisation, were then regarded as incompatible with the employment of women in these units. The proposal was therefore vetoed, but not before discussion had occasioned delay in recruiting to an extent which moved D.G.A.M.S. to vigorous protest.

In August 1938, it was decided to increase the number of anti-aircraft units concerned with the defence of Britain and to reorganise them into a corps of five divisions comprising twenty-two groups. This was brought into force in the following October, and A.Ds.M.S. were appointed to the H.Q. of the new divisions. This increase in A.A. units involved a corresponding increase in medical personnel, and the chief task of the new A.Ds.M.S. was that of raising the required number of recruits and finding the necessary accommodation for the new A.A. divisional companies R.A.M.C. Efforts were made, successfully as it proved, to accomplish this within six months.

Meanwhile, the threatened outbreak of war in September 1938, had occasioned the partial deployment of anti-aircraft units and therefore a period of trial during which the adequacy and convenience of the medical services could be accurately gauged. As a result, certain shortcomings in medical arrangements had come to light. To rectify matters, basic changes in organisation, and revision of establishments were

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necessary, and some months elapsed before these were completed. In January 1939, the necessary amending instructions were issued. No alteration was made in the staff at divisional headquarters, both the A.D.M.S. and D.A.D.M.S. being retained. In regard to R.M.Os., while the number of two allotted to an A.A. regiment R.A. and a light A.A. regiment R.A. (formerly A.A. brigades R.A.) remained unaltered, three were now assigned to each searchlight regiment (formerly A.A. battalion R.E.). Furthermore, it was provided that all these M.Os. should attend camp for annual training. Most important of all, however, was a new principle governing the disposal of sick. It had been found that the existing arrangements were unsatisfactory, there being no means of dealing with trivial cases of sickness save by removal to hospital, a procedure wasteful in man-power and in hospital accommodation of which such cases were not in need. In order to have some means by which personnel suffering from trivial injury or transient sickness could be retained with their units under suitable conditions, it was decided to provide all A.A. (artillery) regiments with two regimental medical posts (R.M.Ps.) of three beds each, and all searchlight regiments with two R.M.Ps. of five beds each. The name, 'regimental medical post' was adopted because it was required to indicate a unit quite distinct in composition and function from any medical unit in existence, and in order to distinguish it from the regimental aid post which had a different significance and was restricted to units of the field force. R.M.Ps. were so designed as to be capable of acting either as separate 3-bed and 5-bed units or combined 6-bed and 10-bed units respectively, according to circumstances. The staff of a 3-bed R.M.P. was 1 medical officer, 1 corporal and 3 nursing orderlies.

This personnel was in substitution for that already described as being included in each section of the divisional company, R.A.M.C., for attachment to units. At the same time the personnel of the H.Q. of each section of the divisional company was reduced by six privates. This change involved a total increase of establishment, for all five A.A. divisions, of 45 privates and the upgrading of 56 privates to the rank of corporal.

In February 1939, a D.D.M.S. was appointed to the 1st Anti-Aircraft Corps and when, in the following March, this Corps was re-designated A.A. Command, provision was made for the inclusion of a D.D.M.S. within the H.Q. staff of that formation. About the same time came a demand for the appointment of a senior medical officer (S.M.O.) to each A.A. brigade on the grounds that the units of a division were so scattered and covered such a wide area that distance alone made it impossible for the A.D.M.S. and D.A.D.M.S. to exercise the requisite supervision of medical arrangements. The request was not granted, but it was suggested that, as an alternative, certain administrative and

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supervisory duties be delegated to the section commanders borne on the strength of the divisional companies, and that an increase in establishment for this purpose would be considered. However nothing came of this suggestion and no further action was taken in the matter until after the outbreak of war.

By the summer of 1939 the international situation in Europe had so deteriorated that the outbreak of war at any moment seemed possible. As a precautionary measure, partial deployment of the anti-aircraft forces was ordered. By this arrangement divisions were mobilised on a basis of a quarter of their strength and were maintained on this footing continuously from June 1939, until the declaration of war. Despite the fact that five of the seven A.A. divisions had been formed little more than six months before, recruiting of personnel had proved so successful that the medical services were well up to strength when deployment was ordered, and were therefore in a position to make adequate provision for the needs of all anti-aircraft formations. This period of deployment was useful also in serving as a further practical test of the arrangements which had been made, and in providing an opportunity for perfecting the organisation and preparing it for the more exacting conditions of active operations.

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CHAPTER 3

DEVELOPMENTS WITHIN THE ARMY MEDICAL DIRECTORATE IN THE INTER-WAR YEARS

UNTIL the year 1904, the Army was administered jointly by the Commander-in-Chief, the Army Board and the War Office Council. The War Office Council consisted of the Secretary of State for War, the Under Secretaries of State and the heads of the military departments of the War Office, including the Director-General, Army Medical Department. In 1904 a committee, with Lord Esher as chairman, was appointed to investigate and report upon the organisation of the War Office and the administration of the Army. The recommendations of this committee were accepted and a complete change in the existing system followed. The appointment of Commander-in-Chief, the Army Board and the War Office Council were all abolished, and administrative responsibility was placed in the hands of a newly constituted body, the Army Council consisting of three civil members: the Secretary of State, the Parliamentary Under Secretary of State and the Financial Secretary; and four military members: the Chief of the Imperial General Staff, the Adjutant General, the Quarter-Master General, and the Master-General of the Ordnance; with the Permanent Under Secretary as Secretary of the Council. Administrative duties within the War Office were distributed among the members of the Army Council and to their departments the various branches and directorates were allocated.

D.G.A.M.S. AND THE ARMY COUNCIL

Thus the Army Medical Department as an independent department of the War Office disappeared, and the control of the medical services was vested in a new directorate, the Army Medical Directorate formed within, and as a part of, the Department of the Adjutant General. D.G.A.M.S., as he now became, was not included among the members of the Army Council and so ceased to be one of the central controlling body responsible for military policy and organisation. Similarly in subordinate commands the medical services became a part of the Adjutant General's branch of the staff and the senior representative of the Army Medical Directorate had official access to the general officer commanding only through that channel.

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At the time this innovation was severely criticised. Both within and outside the Army it was regarded by many as a retrograde step likely to diminish the weight attached to considerations of a medical nature in the formulation of military policy and to hinder the medical services in the adoption of up-to-date methods in the care of the sick and in the prevention of disease. It was also thought that in application to the Army in the field, this change would hamper the administrative medical officer responsible for dealing with battle casualties, involving as it did intermediary channels and loss of direct touch between himself and the source of information as to the military situation and the intentions of the commander.

These views, however, were not generally accepted as correctly representing the situation and it was held by those presumably in the best position to judge the merits and demerits of the new system that the former outweighed the latter and would therefore make for greater efficiency. However that may have been, experience during the 1914–18 War did nothing to allay the objections voiced by the medical profession and when, after the war, the medical services failed to maintain the position they had previously occupied in so far as their professional attractions were concerned, the subordinate position of the Army Medical Directorate was cited as one of the direct causative factors. To some it seemed that this contention savoured of special pleading, in that a would-be entrant to the R.A.M.C. was not likely to be deterred merely by the fact, assuming he was aware of it, that D.G.A.M.S. was not a member of the Army Council. On the other hand the argument was not perhaps as specious as might at first appear, for there was no doubt, and it was widely known, that reforms in the medical services were long overdue. That they had not progressed beyond the stage of discussion was, rightly or wrongly, very generally attributed to the inability of the Army Medical Directorate to carry sufficient weight in the counsels of the military hierarchy.

The British Medical Association was insistent in urging that a seat on the Army Council for the Director-General was essential not only in the interests of the efficiency of the medical services, but for the well-being of the Army generally. Sir Warren Fisher's committee, sitting in 1926 to consider proposals for the improvement of the medical branches of the fighting services, heard this argument in evidence given by representatives of the Association. The committee, however, declined to express an opinion and went so far as to deprecate the fact that the question had been raised. In their judgment the constitution of a body such as the Army Council rested on considerations of departmental efficiency and convenience and was therefore a matter of public policy and outside their terms of reference. Nevertheless, the matter was brought to the notice of the Secretary of State for War, who decided

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that it would be unwise to adopt the suggestion. Members of the Army Council were required to accept responsibility for decisions of a general military nature and, if a member of the Council, D.G.A.M.S. would be required to share this responsibility which could be fulfilled only by spending much time in mastering questions of an unfamiliar character, time better devoted to medical affairs. He did, however, place it on record that the Director-General was recognised as the adviser in medical matters to the Secretary of State and the Army Council, and that no decision which might affect the health of the troops was to be taken without his advice being sought on the medical aspect. He reaffirmed the D.G's right of direct access to the Secretary of State whenever he so desired, and his duty to proffer advice in regard to anything which did, or might, adversely affect the health of the Army. Similar functions were held to apply to the Director-General's representatives in commands and other formations in relation to the local commander.

No public announcement of this decision was made at the time, and it seems that the British Medical Association was not informed of what was a most important official statement of policy. In any case, a reiteration of the necessity for alteration in the relation between the Army Council and the head of the Army Medical Directorate was included in succeeding representations put forward by the Association to the War Office throughout the subsequent years of controversy on the subject of reform in the medical services. The second committee under Sir Warren Fisher, which sat in 1933 to make recommendations concerning the shortage of medical officers for the services, was invited to consider this matter as coming within the scope of their deliberations, but again the invitation was declined and the subject held to be outside the province of this committee.

Some few months before the publication of this report, the War Office had received from the British Medical Association a memorandum which, among other matters, raised this perennial question. In commenting on this particular point, the Director-General, then Sir James Hartigan, referred to the ruling of the Secretary of State already mentioned, and added that a public announcement on the subject at the time would probably have saved much misunderstanding. He took the opportunity of stressing a matter which he regarded as of first importance. This concerned the routine method by which his views as adviser to the Army Council on matters involving medical considerations should be placed before the Council. He considered it essential that this should be done in the normal way by minutes on the relative files, so that his views should be available for the information of other members of the Army Council. While matters affecting the administration of the medical services were properly dealt with by direct communication between the A.G. and himself, this method was not appropriate to the discharge of

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his functions as adviser to the Army Council. It was important to differentiate between the two totally distinct functions exercised by the Director-General. For while he was on the same footing as the directors of other branches of the A.G's. Department when dealing with questions relating to the administration of the medical services, yet his position was entirely different when acting in the capacity of adviser to the Secretary of State and the Army Council on the medical aspects of their policy. In these circumstances his remarks and recommendations ought to be regarded and dealt with in the same way as those of the members of the Council.

This contention was upheld and shortly afterwards the Secretary of State went further. He laid it down formally that when any question affecting, or likely to affect, the medical services or the health of the Army was to be discussed by the Army Council, D.G.A.M.S. should be invited to attend the meeting. He also formally recorded the right on the part of the Director-General of direct access to the Secretary of State as occasion arose.

This decision was conveyed to the British Medical Association, which in consideration of the new terms and conditions of service introduced into the medical services on the recommendations of the Warren Fisher Committee, had promised full co-operation with the War Office in obtaining entrants for the R.A.M.C. The Association did not therefore further press their point that D.G.A.M.S. should be appointed a member of the Army Council. Although for a time little more was heard of the matter from the Association or elsewhere, official silence did not imply general acquiescence. A considerable body of opinion, unimpressed by the action of the Secretary of State, maintained that little had been gained towards establishing the Army Medical Directorate in a position to exert that degree of influence in policy which was warranted by the importance of medicine in modern military science. True it was that D.G.A.M.S. was to be invited to attend meetings of the Army Council at which matters affecting the health of the Army were to be discussed, nevertheless his presence there would be not by right of office, but by invitation and, moreover, invitation extended by a body whose capacity to judge what had, and what had not, medical significance, was open to question.

It is certainly the case that the more discerning sections of the medical profession, both civil and military, remained unshaken in their conviction and emphatic in their support of a reform which they regarded as essential to the efficiency alike of the medical services and of the Army as a whole.

THE ORGANISATION OF THE ARMY MEDICAL DIRECTORATE

During the 1914–18 War the administrative control of all medical services of the Army, including those for dental treatment and for

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nursing, was centred in the Army Medical Directorate. At the head of the Directorate was D.G.A.M.S. with his staff including the Deputy Director-General (D.D.G.), the Assistant Directors-General (A.Ds.G.) and the Deputy Assistant Directors-General (D.A.Ds.G.) in charge of branches of the Directorate, the Inspector of Medical Services and the Matron-in-Chief. D.G.A.M.S. was also assisted by numerous consultants and committees appointed to advise him on special subjects included within the sphere of his administration. In addition to the foregoing there was also the Army Medical Advisory Board consisting of D.G.A.M.S., as president, and eminent members of the civil medical profession. The terms of reference of the board were to advise the Secretary of State for War on any question of policy, in connexion with the Army Medical Services, on which he wished to consult them.

As the medical services grew and ramified, so the Directorate expanded and in the course of the war underwent development in various directions while alterations were made from time to time in its organisation and constitution to conform to the needs of changing circumstances. At the time of the armistice in 1918 the Directorate was organised in four branches each containing several sections; the first of these branches dealt with the personnel of the medical services, their recruitment, training and posting, with the mobilisation of medical units and their preparation for active service ; the second was concerned with the medical and surgical treatment of the sick and wounded, with hospital organisation and accommodation, with statistics, with hygiene, sanitation and like matters; the third was responsible for all questions of medical supplies and for medical boards; and the fourth administered the nursing services. Each of the first three was headed by an A.D.G. or D.A.D.G., and the fourth was in charge of the Matron-in-Chief.

On the conclusion of hostilities, it became possible to review the organisation of the Army Medical Directorate and to carry out reorganisation where this appeared desirable and practicable in the light of what had been learned during the war years. First among the consequent administrative changes, were those effected in connexion with the subjects of hygiene and pathology. Before the war central administration in these matters was undertaken by the second of the branches previously enumerated. Although the officer in charge of this branch, at that time a D.A.D.G., was specially selected on account of his knowledge and experience in hygiene and the allied subjects, yet even so he was always a comparatively junior officer. While D.G.A.M.S. had at hand to advise him senior officers who were experts in hygiene and in pathology and who had the right of direct access to him as required, nevertheless they were in no sense a part of the Directorate and so were unable to take administrative or executive action, a duty which devolved

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upon the officer in charge of the branch mentioned. This arrangement was continued in principle throughout the war, although not without serious overloading of the branch concerned, in spite of augmented staff and the appointment of a specialist officer for administration in regard to sanitation.

After the war, the need for reorganisation was appreciated partly on account of the administrative difficulties described, but more because as a result of experience during the war, the importance of hygiene and pathology in military medical administration had been forcibly impressed not only upon the Army Medical Services but upon the Army in general; it was everywhere realised that the preventive aspects of medicine would play an ever-increasing part in military as in civil medical affairs and that adequate provision must therefore be made to meet the demands of the future in that respect.

Accordingly in June 1919, Directorates of Hygiene and Pathology were established within the Army Medical Directorate. The intention in setting up these directorates was to concentrate and co-ordinate efforts designed to bring about a general improvement in the standard of health in the Army and a consequent saving in wastage from disease and physical inefficiency. It was sought to achieve this object first, by linking in one comprehensive organisation those employed in duties within the spheres of hygiene and pathology respectively; secondly, by training a body of specialists and technicians in these subjects so as to ensure that the training and the environment of the soldier should be subject to expert supervision; and thirdly, by systematic research into questions concerning the health of troops and therefore the military efficiency of a fighting force.

In constitution these directorates comprised a central and a local administration; centrally, at the War Office, was the director (D of H.; D. of P.) and his staff, while in commands and in certain districts and areas, A.Ds.H., A.Ds.P., or D.A.Ds.H., D.A.Ds.P., were appointed as technical advisers to the administrative medical officers of the formation, i.e. D.Ds.M.S. or A.Ds.M.S. Through their subordinate officers in commands and elsewhere, D. of H. and D. of P. were able to obtain a more intimate knowledge of conditions and circumstances pertaining to the Army at home and abroad and were therefore in a more favourable position to initiate and control measures necessary to safeguard the health of the soldier. Equally, the presence in commands and districts of specialists in hygiene and pathology, with executive as well as administrative functions, ensured the more faithful fulfilment of the health policy laid down by the Army Medical Directorate. At a later date in some commands at home and abroad it was found expedient, on the grounds of economy, to combine in one officer the duties of A.D.H. and A.D.P. This arrangement was found satisfactory where

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the amount of work permitted its adoption; it certainly had the advantage of assisting close collaboration between the two directorates.

In connexion with these new directorates two standing committees were appointed, termed respectively the Army Hygiene Advisory Committee, in replacement of the old Army Sanitary Committee, and the Army Pathology Advisory Committee. The function of these committees, which met periodically under the chairmanship of the director concerned, was to discuss and consider the problems with which the directorate was engaged, to tender advice and suggestions for the guidance of the director and generally to assist in the collection of scientific information and in the initiation of research. Their members included both civil and military experts in these subjects and also representatives of other departments of the War Office closely concerned. The high professional standing of these committees commanded attention in the deliberations of those responsible for the administration of the Army, and it is evident, from the record of subsequent events, that they were in this respect of the greatest assistance to the Army Medical Directorate, not only in their routine activities, but also in their efforts to pursue a policy of progress and scientific achievement. Of no less importance was the opportunity provided by these committees for the exchange of ideas and the maintenance of closer relations between the military and civil branches of the medical profession, each of which had something to learn from the other, while both could be of mutual assistance in the field of research and in the application of the knowledge gained in the variety of their experience.

By the establishment of these new directorates, A.M.D. was enlarged to comprise six branches in place of the four only that had existed at the close of the 1914–18 War. In the two new branches officers were appointed as A.Ds.H. and A.Ds.P. respectively, appointments comparable in status with those of the A.Ds.G. in the older branches.

The Army Medical Directorate was further reinforced in the year 1922 by the appointments of Consulting Physician to the Army and Consulting Surgeon to the Army. At the time they were made and during the next ten years these appointments were whole-time War Office appointments and the officers holding them were included in the staff of the Army Medical Directorate.

In 1928, the Army Medical Advisory Board was reconstituted to consist of D.G.A.M.S., four civilian members of the medical profession and the President of the Medical Board of the India Office, with a staff officer of the Army Medical Directorate as secretary. It was laid down that in the absence of D.G.A.M.S., the meetings of the board were to be presided over by a chairman appointed by the Secretary of State from among the civilian members after nomination by their colleagues

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in consultation with the Director-General. The terms of reference were, as formerly, to advise the Secretary of State on matters of medical policy. The board was required to meet not less than three times a year and to send their conclusions through D.G.A.M.S. to the Secretary of State to whom they had right of access when they so desired. In the same year the Army Medical Directorate Consultative Committee was appointed. This committee, of which D.G.A.M.S. was chairman and the D.D.G.A.M.S. vice-chairman, included six civilian members of the medical profession and one civilian member of the Chemical Warfare Committee. The terms of reference of the committee, which was to meet twice yearly, were to advise the Director-General as to the supply of candidates for commissions in the R.A.M.C. and its reserves, on the subject of professional courses of instruction for officers of the Corps, and on any administrative or professional question that might be put before them.

The organisation of the Army Medical Directorate remained as described for some ten years until, in 1932, certain alterations were made affecting not only the staff at the War Office but also that of the Royal Army Medical College. In that year the D. of P., the Consulting Physician and the Consulting Surgeon to the Army were transferred from the War Office to the College where their functions were combined with, and their appointments merged in, those of the professors of pathology, tropical medicine and military surgery respectively. The removal of the D. of P. from the War Office, besides being inconvenient, was undoubtedly prejudicial to the maintenance of close co-operation between himself and other branches of the Army Medical Directorate. An even more serious feature of the change was the fact that it involved the abolition of the Directorate of Pathology, its organisation and staff. It was foreseen that should war occur it would be necessary to re-establish this directorate within the War Office, and for this purpose to provide accommodation, new staff and new organisation. Under such circumstances hasty improvisation would be inevitable with consequential confusion and delay at a time when smooth and efficient administration were greatly to be desired. Representations to this effect were unproductive; future events, in the shape of the outbreak of war in September 1939, were to provide ample proof as to the accuracy of this forecast.

One other change was made in the Army Medical Directorate coincident with the reorganisation of the staff of the Royal Army Medical College. As a part of that reorganisation, the appointment of commandant was raised to carry the rank of major general. At the same time the appointment of D.D.G.A.M.S., at the War Office up to that time held by a major general, became a colonel's appointment.

The last important addition to the administrative structure of the Army Medical Directorate made before the outbreak of the 1939–45

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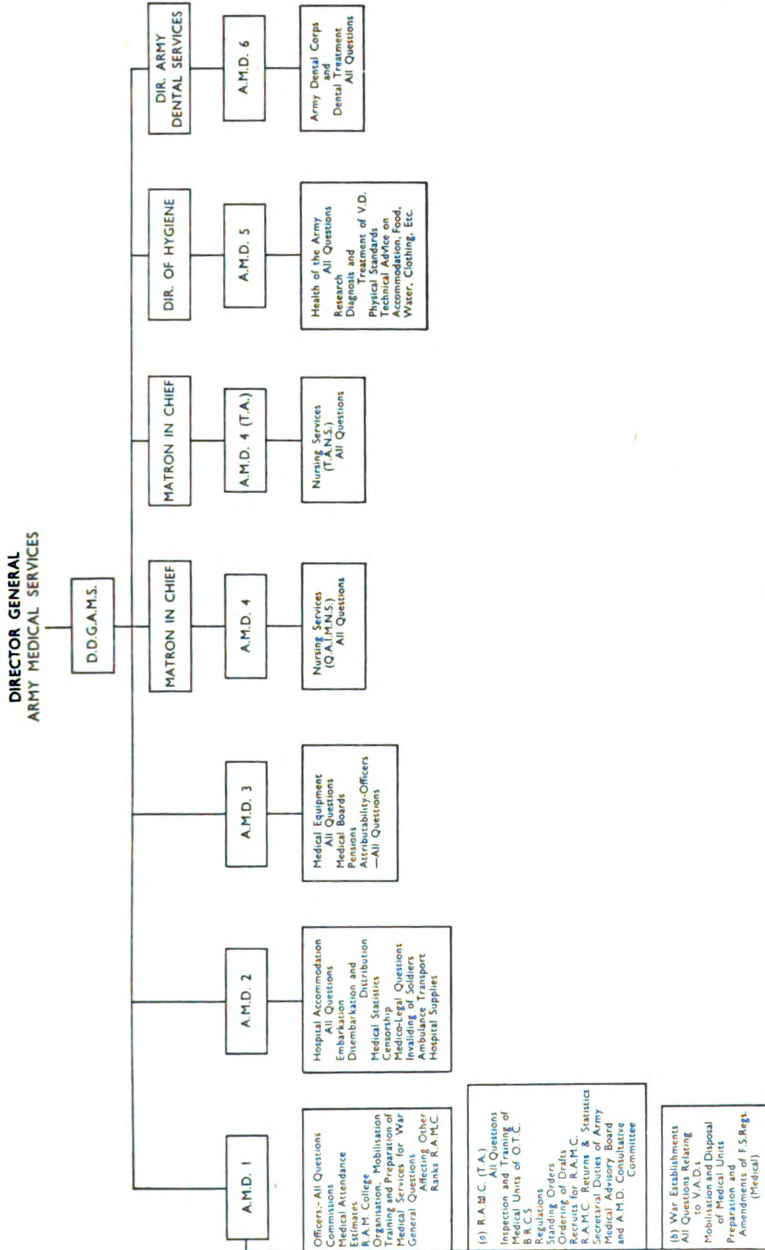

FIG. 1. Organisation of A.M.D. September 1939.

War was the establishment of a directorate of dental services. This took place in 1936 and the officer previously holding the appointment of A.D.G. for Dental Services became the first Director of the Army Dental Service (D.A.D.S.)

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The organisation of the Army Medical Directorate as in September 1939, and the distribution of functions within it are shown in Figure 1.

THE ORGANISATION OF THE MEDICAL SERVICES IN COMMANDS

Outside the War Office little change was made in the system whereby medical administrative officers were appointed to each command, at home and abroad, and were responsible to the Director-General for local medical arrangements, and at the same time were advisers to the general officers commanding in matters relating to the health of the troops. In the case of all commands at home, and the larger commands abroad, e.g. Malta and Egypt, this officer was a D.D.M.S.; in smaller commands, such as China and Malaya, medical administration was undertaken by an A.D.M.S.; and in the smallest, e.g. Ceylon and West Indies, by a senior medical officer. In this connexion it may be mentioned that following political changes in Ireland the Irish Command disappeared and the Northern Ireland District came into being. Where commands were divided into, or included, administrative areas, the areas were under the charge of an A.D.M.S., subordinate to the D.D.M.S. of the command concerned. The medical staff at headquarters of commands included officers of the grade of A.D.M.S. or D.A.D.M.S. for routine administrative duties and, following the establishment of directorates for hygiene and pathology, officers of those directorates were added to the headquarters of all the larger commands and of most districts and areas to advise the medical and administrative staff concerning the prevention of disease.

All administrative medical officers were appointed directly by D.G.A.M.S. who also nominated officers for the command of the more important hospitals and those to fill specialist appointments. With these exceptions, the posting of officers within commands and other matters concerned with their administration remained in the hands of D.Ds.M.S. of commands. Other ranks of the R.A.M.C., both at home and abroad, were organised into R.A.M.C. companies based upon, and having their headquarters in, the larger military hospitals. These companies were the administrative units for the other ranks of the Corps stationed within the command and dealt with all local questions in regard to their posting, pay, clothing, equipment, training, etc.

The medical services of the British Army in India continued administratively to be independent of the War Office, although they were supplied largely by the personnel of the R.A.M.C., the more so, following the introduction of a new system by which other ranks of the Corps replaced the regimental orderlies previously employed in hospital duties in India. This system was open to the objection that it depleted the fighting strength of the troops and was no less objectionable from the point of view of the hospital patient. Total establishments for

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officers and for other ranks of the Corps each included an "Indian Establishment" distinct from, and not interchangeable with, the "British Establishment". Beyond providing the requisite number of officers and other ranks to supply the needs of British personnel, the Army Medical Directorate had no responsibility for, nor authority over, medical arrangements for troops in India. The medical care of the British garrison as well as that of Indian troops devolved upon the Director of Medical Services (D.M.S.) in India who also controlled the organisation and training of medical units and their mobilisation in war.

No changes were made in the provisional arrangements for the medical administration of the field force. The scheme for any expeditionary force of the future closely followed the methods adopted during the 1914–18 War, when the Army Medical Directorate was represented by a D.M.S. appointed to the headquarters of an army, a D.D.M.S. to a corps, and an A.D.M.S. to a division; while in districts on lines of communication (L. of C.) and in base areas and base sub-areas the senior administrative medical officer was a D.D.M.S. or A.D.M.S. according to the degree of responsibility involved. In each case the director, deputy director or assistant director was provided with a staff including officers for general administration, for hygiene and, in the case of higher formations, specialists in the various branches of medicine.

The functions of these officers were, as in the case of deputy directors or assistant directors at commands and districts in peace-time, administrative in regard to medical arrangements and the control of medical units in their formations and advisory to the commanders of their formations in regard to the health of personnel and measures intended for the prevention of disease.

THE RELATION OF THE SENIOR ADMINISTRATIVE MEDICAL OFFICER TO DIVISIONAL HEADQUARTERS IN THE FIELD

It is recorded as a matter of interest that at one time a change of a fundamental nature was suggested in regard to the medical administration of a division on active service. The report of Major General Bird's Committee on the Organisation of the Field Army (1919) contained the statement that in the course of their inquiries into the organisation of the administrative services of a division, they observed that in most cases the representatives of directorates and departments, while borne on the strength of headquarters apparently for the purpose of advising on technical matters and controlling arrangements in connexion with them, were also charged with executive functions. The committee were of the opinion that although the presence of technical officers, in the capacity of advisers, was necessary at the headquarters of higher formations, this was not so in the case of a division where most of the work of the heads of administrative services was of an executive kind

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and should therefore, in the interests of efficiency, be confided to executive officers who could also represent their directorates as necessary. The committee accordingly recommended that the officer at the head of each service or department with a division, should be an executive officer and that he should be given a separate headquarters. In these circumstances his position would resemble that of the officer commanding an infantry brigade, or the artillery or engineers of a division, and he would therefore have access to the staff as and when necessary; at the same time he would enjoy more complete freedom in the exercise of his executive powers than when retained on divisional headquarters.

The medical services were included within the application of this recommendation which was later considered by the Committee on Reorganisation of the Medical Services under Sir William Babtie and Major General Guise-Moores (1919–1921). This committee favoured the change on the grounds that it was, as they put it, both logical and right, and would enhance the official position of the senior administrative medical officer by placing him, as commander R.A.M.C., on the same footing as the commander of an infantry brigade, the C.R.A. or C.R.E., and would also permit him to communicate with any of the branches of the staff instead of with one only, the Adjutant General's branch, as was officially the correct procedure. The committee however insisted that the proposed arrangement was acceptable only if it could be assumed that the officer commanding R.A.M.C. remained as heretofore the representative of the Army Medical Directorate and the technical adviser to the divisional commander and also that his headquarters should be situated as close as possible to those of the division. It seems that this committee was endeavouring to find a way of securing the advantages of both systems while avoiding the disadvantages of either.

The alteration, as proposed by the first committee and supported by the second, was strongly opposed by D.G.A.M.S. He contended that for success in dealing with battle casualties it was essential for the officer directing the medical services in the field to establish and maintain the closest touch with the divisional commander and his general staff in order to obtain a clear and detailed appreciation of the actual situation and its probable developments. Only in this way could medical arrangements be co-ordinated and adjusted from hour to hour in accordance with the fluctuations of battle. In fact the efficiency of the medical organisation was directly proportional to the degree to which this co-operation was achieved. All other considerations, no matter how advantageous, must be sacrificed to this end; there was therefore no satisfactory alternative to retaining the A.D.M.S. as part of the divisional staff.

The Army Council, on consideration of the several aspects of the question, decided not to adopt the proposal but to adhere to the existing organisation which remained unchanged at the outbreak of war in 1939

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and continued in force thereafter. This system, even with the advantages mentioned, does not always provide that close inter-communication between general staff and medical services it was designed to secure and during the 1939–45 War, administrative medical officers complained frequently and bitterly that often in battle they were unable to obtain sufficient information to permit dispositions being made to the best advantage.

THE ROYAL ARMY MEDICAL COLLEGE

The R.A.M. College at Millbank, closed during the 1914–18 War, was re-opened soon after the conclusion of hostilities and resumed its normal activities. Primarily a teaching establishment, its main function was to undertake the postgraduate training of R.A.M.C. officers in those branches of medical science, such as military surgery, tropical medicine and parasitology, laboratory methods of diagnosis, and hygiene having special application to the medical services of an army serving largely in tropical climates. The college also undertook the teaching of other ranks of the Corps in some of the technical branches, e.g. radiographers and laboratory assistants for employment in hygiene and pathological laboratories at home and abroad. In addition to teaching, the departments of pathology and hygiene carried out consultative and routine work for the Army, particularly in respect of the commands near London, while an analytical chemist was retained on the staff for the purpose of examining specifications and samples of all foodstuffs, hospital supplies, disinfectants, water samples and other material lying within the province of a public analyst.

Teaching at the R.A.M. College was not restricted to R.A.M.C. personnel. Officers of the Indian Medical Service (I.M.S.) and of the medical services of the Dominions were included in the normal instructional courses, and arrangements were made by which officers at the School of Military Engineering, Chatham, and from the Staff College, Camberley, attended regularly at the college for demonstrations in hygiene specially prepared for them.

At the college, too, research was undertaken in connexion with a wide range of subjects having relation to the health and efficiency of the soldier, and in the vaccine department, a purely productive and not an educational activity, were prepared the large quantities of vaccines and sera of all kinds required by the Army in consequence of the world-wide distribution of its forces. The museum with its very comprehensive selection of exhibits illustrating subjects of medical and hygienic interest, including not only disease but also food, clothing, equipment and other matters of special military importance, attracted a large number of visitors, professional and lay, from outside the medical services.

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After the 1914–18 War the staff of the college included the following:—a commandant, who was also the director of studies; an assistant commandant; professors of tropical medicine, of military surgery, of pathology and hygiene; assistant professors of pathology and of hygiene; two demonstrators, and two officers for the vaccine department; and instructional, technical and clerical staff of non-commissioned rank. In all there were 12 officers and 29 other ranks with a few civilian employees e.g. librarian, photographer, etc. When in 1931 came a demand for decrease in establishments of all kinds, the R.A.M. College did not escape. At that time the number of officers entering the Corps was smaller than ever, the strength of the Corps far below establishment and the courses of instruction therefore fewer and smaller than normal. The staff was accordingly depleted of the assistant commandant, the two demonstrators and two sergeant instructors.

In 1932 when the staff of the college was reorganised in conjunction with alterations made in the Army Medical Directorate, the D. of P., the Consulting Physician and the Consulting Surgeon were transferred from the War Office to the college, and their appointments were merged with those of the professorships in those subjects. Two assistant professors were then appointed, one in tropical medicine and one in military surgery. At the same time the rank carried by the commandant was raised from colonel to major general.

With the introduction of the new conditions of service for the R.A.M.C. following the adoption of the Warren Fisher report, the number of officers joining the Corps was considerably increased. It was then found that the staff of the college, as reduced by the changes made in 1931, was no longer adequate to deal with the greater volume of instructional and administrative work. Application was therefore made in 1935 for the restoration of the appointments that had been abolished and after the opposition inevitably attending a demand for increase in personnel had waned, the additions were sanctioned and took effect in April 1936. But although sanction was given for the immediate replacement of the assistant commandant and one of the sergeant instructors, the appointments of the two demonstrators and the other sergeant instructor were to be held temporarily in abeyance, and so they remained until after the outbreak of war.

THE ARMY SCHOOL OF HYGIENE

This school was not intended to act merely as a training unit of the medical services. It formed part of a project conceived by the Army Medical Directorate for a healthier Army. It was appreciated that current research and advances in the practice of hygiene were of the greatest significance from the general military, as distinct from the purely medical, point of view, and were likely to play an increasingly

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important part in raising the efficiency of the Army both in time of peace and, even more, in the event of war. It was also realised that to be fully effective the practice of hygiene must be something more than a matter for the medical services, and that nothing less would suffice than that every individual soldier should be taught to observe the principles underlying a healthy existence and to live his life according to a regimen based on their application.

To achieve this it was necessary first to stimulate interest and increase knowledge in the subject among all ranks of the medical services and then to extend instruction on more elementary and practical but equally comprehensive lines to the personnel of the Army as a whole. To this end the hygiene department of the R.A.M. College was developed. The museum was enlarged and additional provision made for instruction by models, specimens and diagrams. In order to deal with the more practical side of the science of hygiene and its application to the Army as a community, the Army School of Hygiene was established at Aldershot in 1922. This school was formed by combining in one establishment the former R.A.M.C. Hygiene School at Blackpool, the Entomological Laboratory at Sandwich, and the Hygiene Laboratory at Aldershot. The Army School of Hygiene was originally situated in huts at Puckeridge Hill, Aldershot, and included laboratories and lecture rooms, but perhaps its most important feature was an extensive outdoor demonstration ground in which were displayed examples or scale models of buildings, water supplies, sanitary appliances, disinfectors, mosquito breeding grounds etc., illustrating the principles of environmental hygiene in relation to the Army in peace and in the field.

The increased facilities for instruction, thus represented, allowed more extensive training of both officers and men of the R.A.M.C. Attendance at the Army School of Hygiene formed part of the course of training which newly commissioned officers undertook when posted to the depot immediately on joining the Corps. The school was largely instrumental in providing the instruction necessary for officers qualifying as specialists in hygiene, and for the training of N.C.Os. and men for employment as sanitary assistants or for duties with field hygiene sections.

But special attention was also paid to courses of training in hygiene for personnel outside the medical services. The training of all regimental personnel detailed for water duties and sanitary duties with combatant units was undertaken by the school. Special courses were arranged for regimental officers, lectures being given in such subjects as the welfare of the soldier, dietetics, general hygiene, field sanitation, anti-malarial measures and other matters intimately concerned with military life. It was hoped in this way to familiarise the regimental officer with the medical aspects of military operations, to demonstrate the aims and

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objects of the medical organisation and so stimulate an attitude of co-operation in putting them into effect. Classes and demonstrations were also held from time to time during the summer for officers and other ranks of the T.A. The total number of officers and other ranks, of all arms, attending the school gradually increased until some 200 officers and nearly 2,000 other ranks passed through annually.

In addition to instruction, the Army School of Hygiene was engaged to a very considerable degree in research into the practical application of hygiene and the design of apparatus concerned therewith as for example, methods for the purification of water, vehicles for the sterilisation and carriage of water with troops in the field, disinfectors for work with garrisons and field armies, methods and apparatus for the disposal of waste products and mechanical means for the sterilisation of utensils and cutlery in cookhouses and canteens.

The school rapidly outgrew its accommodation, and in 1935 proposals were made for the construction of a new school in connexion with the new R.A.M.C. Depot to be built at Mytchett. Schedules of accommodation, plans for layout and other details were prepared and a building scheme approved. Construction was subsequently begun but the building had not been completed at the declaration of war. Nevertheless the school moved in on November 13, 1939.*

* See The Army Medical Services. Administration. Volume II, Chapter 2.

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CHAPTER 4

THE DIFFICULTIES THAT BESET THE ROYAL ARMY MEDICAL CORPS DURING THE INTER-WAR YEARS

PROBLEMS CREATED BY DEMOBILISATION

At the time of the armistice in 1918, the personnel of the medical services, which in 1914 had numbered 3,168 officers and 16,331 other ranks inclusive of the medical branch of the Territorial Force, had rcached the peak of 13,035 officers and 131,361 warrant officers, N.C.Os. and men, a total of 144,396 all ranks.

The process of demobilisation was begun immediately on the cessation of hostilities. Medical units conformed to the plans made for the gradual reduction of the Army in general; those selected for demobilisation were reduced to cadre establishment until disposal of their equipment could be arranged, while warrant officers, N.C.Os. and men thus rendered surplus were disposed of either by posting them as reinforcements to other units which were being retained or, alternatively, by dispatch to dispersal stations for demobilisation in accordance with arrangements applicable to all arms of the service.

In the early stages, demobilisation of these ranks of the medical services was unduly retarded. An unnecessarily large number of medical personnel was included in the military machinery of demobilisation and, at the outset, there was considerable delay in arranging for the closure of hospital beds in conformity with the diminishing hospital population. At the end of three months after the armistice, the number of military hospital patients in the United Kingdom had fallen by more than 100,000, yet the reduction in hospital beds was less than half that number. As personnel of the R.A.M.C. were at first retained on the basis of beds equipped, rather than beds occupied, it followed that the rate of release was not as rapid as might conveniently have been attained. Both these faults were eventually rectified, but not without some administrative difficulty.

The demobilisation of medical officers was effected by means of a special scheme put into operation in order to meet the needs of the civil population. Influenza of a particularly virulent type had made its appearance in the autumn of 1918 and rapidly gave rise to a widespread epidemic which was accompanied by a high mortality and which extended through the winter with a further and still more serious exacerbation in the early spring of 1919. A heavy strain was thus thrown

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upon civil medical resources already severely depleted by the calls of military service. Strong representations were therefore made for the release of medical officers from the Army, in order that they might be free to return to their civil practices where their services were urgently needed.

As a result of arrangements made to speed the demobilisation of medical personnel, some 6,000 medical officers and 59,000 other ranks had been released from military services by the end of April 1919. It was not, however, possible to maintain such rapid progress. The rate of demobilisation in other arms had by then become much slower, the decline in the hospital population more gradual until, within the next few months, a position had been reached in which medical officers and subordinate personnel had been reduced to the minimum necessary to fulfil military requirements.

In order to maintain the number of medical officers sufficient for the needs of the Army, and at the same time to permit the release of those whose age, length of service or special circumstances substantiated their claim to return to civil life, it became necessary to obtain additional officers by the offer of temporary commissions to medical men who had recently qualified or who for one reason or another desired to rejoin the R.A.M.C.

At the close of 1919 more than three-quarters of the total number serving in the Army at the time of the armistice had been demobilised, the Territorial Force was almost entirely disembodied and the personnel of the medical services reduced to some 5,000 officers and 25,000 men. Beds in military and auxiliary hospitals in the U.K. had diminished to 50,000 of which only 26,000 were occupied.

In 1920 the garrisons in occupied territories were further reduced in strength, and demobilisation of the Army continued. Arrangements were made to bring about the release of all non-regular officers by the end of April, and, in the month of March, Class Z of the R.A.R. was abolished and, with it, liability for compulsory military service. In 1921 troops were withdrawn from France and Flanders, and at the end of the year the Army, including the medical services, had been reduced to a strength only slightly greater than that of 1914.

POST-WAR PROPOSALS FOR THE REORGANISATION OF THE MEDICAL SERVICES

Even before the actual termination of hostilities, consideration was being given to the constitution and organisation of the post-war Army. The subject was reviewed in the light of past military experience and in regard to probable future commitments on the continent of Europe and elsewhere. Numerous committees were appointed to examine the several aspects of the question, reports were presented and schemes

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prepared to provide for various contingencies involving war either on a large or on a small scale. From the medical point of view, two of these reports are of special interest. The first, issued in 1919 by a committee constituted under the chairmanship of Major General Bird to consider the reorganisation of the field army, contained important recommendations as to the organisation of the medical services of a division and appears to have foreseen the feasibility of employing non-medical officers in the R.A.M.C. for work with the bearer sections of field ambulances. The second was that of a committee appointed in 1919 to consider the reorganisation of the medical services with special reference to their functions in war. This committee, whose chairman was first Sir William Babtie and afterwards Major General Guise-Moores, made an exhaustive examination of the subject, took evidence from a variety of sources and, in 1921, produced their final report which, based on the lessons of the war and on possible future developments, set out in comprehensive terms a scheme for the organisation and employment of the medical services in the field. The fate of these proposals was that which awaits the recommendations of most committees. Some were adopted at the time while others were held in abeyance, but it is noteworthy that of the latter, not a few were ultimately put into effect when, after twenty years, the experiences of yet another war vindicted the sound judgment and foresight of those who had advocated them.

THE DECLINE OF THE CORPS

In few of the many weighty matters then under consideration had finality been reached when the whole situation was overshadowed by the acute and world-wide financial depression that soon succeeded the somewhat artificial and transient trade boom experienced shortly after the end of the war. The Government of the day was thus forced to pursue a policy of retrenchment and reduction in national expenditure. In spite of the recommendations of the Hamilton Gordon Committee to the effect that if the country's foreign liabilities were to be met, there should be an army able to produce, on mobilisation, twenty first-line divisions each capable of throwing off a second line division shortly after mobilisation, further limitations were imposed as a result of the findings of other and various committees set up during the years 1921 and 1922 for the purpose of restricting to a minimum the costs of all departments of government, including the fighting services.

Whatever they may have accomplished in the direction of economy, one result of the findings of these committees, and of the action taken to carry out their recommendations, was to produce during these and the next few years a state of flux and uncertainty as to the future. Decisions on questions of vital military importance remained in abeyance pending further developments, and such matters as establishments were left

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undetermined. War establishments prepared by various reorganisation committees were held over or issued as provisional only, and no peace establishments were published until 1925.

These events were not without their effect on the medical services. As a result of the reductions imposed, it became a matter of anxiety to provide adequately for the armies of occupation overseas and for the normal peace-time garrisons in the United Kingdom, in India and in the Colonies. Meanwhile recruitment of medical officers to the R.A.M.C. was not assisted by the trend of affairs; the number of entrants was insufficient to replace wastage, and in 1922 the strength of medical officers was approximately 100 below establishment.

In September 1922, a committee of the Cabinet, appointed to revise estimates for the financial year 1923–1924, delegated to a sub-committee, under the chairmanship of Lord Weir, the duty of examining the establishments of the three fighting services with a view to effecting reductions wherever possible. This sub-committee in their report issued in May of the following year, recommended that D.G.A.M.S. should be instructed to carry out a comprehensive review of the medical services of the Army and submit a scheme that would result in an early reduction in the cost of those services by not less than 15 per cent. The reason for choosing this particular figure remains obscure. It would appear to have been entirely arbitrary.

In submitting the required report, the Director-General, Sir William Leishman, drew attention to the economies already made with the object of decreasing the costs of the medical services to the minimum compatible with efficiency. Expenditure was directed largely by commitments on the Rhine, in Turkey, Mesopotamia and elsewhere, and until these were substantially reduced, no great savings in respect of medical services would be practicable. The estimated cost of the medical services for the year 1923–24 was £2,614,150 or, deducting capital expenditure and non-effective pay, £1,902,000, so that a saving of 15 per cent. represented a decrease of £285,352. While, in the absence of active military operations, gradual reductions year by year were possible, the sudden and immediate withdrawal of so great a sum as that involved could not be made without causing dislocation of the medical services to an extent which would invite catastrophe. The sub-committee appeared to regard the medical services as existing only to treat the sick of the Army in peace-time. Little or no weight had been attached to the responsibilities of the medical services in preserving the health and physical efficiency of the soldier, or to the paramount importance of maintaining an establishment sufficient to meet the calls of active service should they arise.

The Director-General's proposals provided for a reduction in total establishments for the year 1924 of 33 officers and 307 other

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ranks i.e. officers from 1,015 to 982 and other ranks from 4,586 to 4,279. He regarded any further decreases as dangerous, for even those he had proposed would throw a heavy additional volume of work on officers and men already working at full pressure and deplete, almost to vanishing point, the margin necessary to provide for contingencies such as casualties, trooping duties, reliefs and leave. There was no possibility of lowering the cost of personnel because the financial prospects in the medical services of the Army, as compared with those in the civil medical profession, had already rendered the R.A.M.C. unattractive to candidates of the desired type. Substantial economies in the expenses of hospitals would accrue only with the proposed withdrawal of troops from former enemy territories, but in the meantime small savings were to be obtained by the closure of beds in certain stations at home and abroad. Here again, however, no reduction in maintenance charges could be expected, as the cost of feeding patients had been brought as low as 1s. 6d. a day, and the total daily cost of each occupied bed decreased from 18s. 4d. to 17s. 8d. Other small economies were forthcoming in respect of medical and surgical appliances, medical stores and so forth, and finally a total saving of £132,700 was achieved. It is to be noted that after these reductions had been brought about, the number of medical officers authorised for establishments at home and abroad, exclusive of India, was 85 less than in the year 1914.

This was not the end of the matter, for further reductions in personnel were yet to come. A War Office committee had been sitting since 1922 to consider the question of establishments for all branches of the Army; their final report issued towards the end of the year 1924 contained their recommendations for the medical services. Whereas in the year 1914, total peace establishments had numbered 1,062 officers and 3,887 other ranks, the total peace establishments now proposed by this committee were 945 officers and 4,214 other ranks and therefore involved a further reduction of 37 officers and 65 other ranks in the numbers already mentioned as having been determined during the previous year. British regimental establishments, i.e. regimental establishments at home and abroad, except in India, were fixed at 583 officers and 3,644 other ranks, that is to say, 96 officers and 116 other ranks less than the number before the war. As represented by the proposed establishments the proportion of medical officers excluding general officers, colonels and quartermasters, per 1,000 troops of all arms was 3·5, while that of other ranks was 24·4. In 1914 the proportions had been 3·6 and 22 respectively. There was thus, both at home and abroad, a reduction in the proportion of officers to troops but an increase in that of other ranks. The latter was due to various changes in the organisation of the medical services and to the fact that whereas in 1914 there were no other ranks of the R.A.M.C. stationed in India, there

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were in the year 1924 more than 400 so posted, involving an increase in the number of recruits under training, and in the staff of instructors and other personnel at the R.A.M.C. Depot.

A feature of the greatest significance in this question of peace establishments was a modification of the principle upon which they were based. Formerly peace establishments were related directly to war establishments and the needs of mobilisation. They had now come to be determined almost entirely by requirements during peace-time and with little regard to those of war. For example, it had been the accepted rule that the establishment of regular officers of the medical services should be sufficient to supply at least 55 per cent. of the number of medical officers required for the expeditionary force; in 1914 it was even higher, but the proportion had been gradually reduced until in 1924 it was less than 38 per cent. Moreover no provision was made for the formation or maintenance of field medical units in peace-time nor for practical field training. Peace establishments were also affected by certain changes in policy that had followed the 1914-18 War. Among them may be mentioned the concentration of seriously sick cases in the larger military hospitals, and a reduction in the number of beds provided in proportion to the total strength of the Army, this being fixed at a maximum of 5 per cent.; an increase in the provision of beds for officers; the introduction of special staff consequential on the newly established Directorates of Hygiene and Pathology; developments in basic training with a view to securing higher standards of technical efficiency in the various sections of the Corps; the introduction of a more systematic method of training by which, to a great extent, full-time instructional courses were organised in substitution for the training of men while with their units and performing routine duties; the institution of a school of dispensing; and the adoption of more advanced methods of diagnosis and treatment in all military hospitals. While all these considerations received some recognition it seems that they were not regarded as primary factors in determining the size of the medical services. The letter addressed to the Treasury by the War Office when requesting formal sanction of the establishments under discussion, contained the statement that establishments were kept under constant and systematic review in relation to the number of sick so that, if any change of conditions permitted, reductions might be effected.

ALTERATIONS IN FORMS OF ENLISTMENT

In order to assist in supplying the deficiencies on mobilisation which would inevitably result from a small regular establishment, it was sought to increase the size of the regular reserve. It was proposed to achieve this by providing that all enlistments in the R.A.M.C. should in future be on an engagement of three years with the colours and nine with

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the reserve, instead of seven years with the colours and five with the reserve as formerly. Although this change was bound ultimately to produce a considerably greater number of reservists and thus reduce the margin requiring to be made good by the supplementary reserve, yet the system involved a serious disadvantage. Three years' service with the colours was manifestly insufficient for R.A.M.C. personnel to obtain the thorough technical training they required. Men would thus pass to the reserve only partially trained in their duties, and as there were few opportunities of similar employment in civil life, would soon lose whatever knowledge they had gained. If recalled to the service in the event of war they would require supplementary training, and that at a time when it would be difficult or impossible to arrange. The proposal was therefore regarded with disfavour by the Army Medical Directorate.

Proposals of so portentous a nature as those put forward demanded close scrutiny. They were subject to examination and discussion which continued for many months, but eventually they received the approval of the Army Council and finally were sanctioned by the Treasury in their financial aspect, for inclusion in the estimates for the year 1926.

It was not long, however, before the Army Medical Directorate sought to obtain modification of these decisions in regard to the system of enlistment and total establishments. When the terms of engagement had been changed, it had been arranged that the number of men allowed to extend their service so as to complete seven years with the colours, should be limited to the number required to furnish drafts for garrisons overseas, while the number allowed to extend beyond seven years, with the right to re-engage, was restricted to the total establishment of warrant officers and sergeants, plus 15 per cent. of the rank and file. Increasing difficulty was being experienced in persuading men to extend their colour-service from three years to seven, thus it seemed probable that before long there would be not only a lack of sufficient men to meet the requirements of overseas drafts, but also a shortage of men with sufficient service to maintain the establishment of warrant officers and N.C.Os. In regard to training, experience had proved the truth of the contention that it was impossible for the average soldier to attain full efficiency as a first class tradesman within three years. Men were thus just beginning to be of value when their period of service expired. Moreover, to give personnel the opportunity of reaching the prescribed standards, an intensive form of training was necessary. In consequence, men had little leisure. On the other hand such training of successive batches of men was throwing an undue strain upon those instructing them and adversely affecting the efficiency of the hospitals while the paucity of trained men in the wards placed an extra burden on nursing sisters and prevented them from devoting the requisite time to the teaching of those still under instruction.

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It was considered that for the solution of these difficulties two things were required. A complete return to the seven and five-year terms of enlistment, although preferable, would diminish the strength of the reserve below the level of safety, but it was possible to compromise by arranging for two terms of engagement, one of seven and five years, the other of three and nine years, to run concurrently as was already the case in certain other arms of the service. The second remedy proposed, was an increase of 5 per cent. in the home establishment in order to allow a less intensive form of normal training, to admit of field training for which no provision existed and to produce a more efficient reserve.

Accordingly, towards the end of the year 1928, recommendations on these lines were put forward. As was but inevitable at this particular time they, and especially those relating to increases in establishments, encountered opposition on financial grounds. There can be little doubt that the memorandum submitted in support of the recommendations was unconvincing, if not in certain respects contradictory. In any case, while the suggestion for a change in enlistment was approved, it failed to gain the support of the Establishments Committee in regard to the request for a 5 per cent. increase in personnel, the question being referred for further examination and consideration in the following year.

In the course of a few months the subject was again brought forward and previous arguments elaborated. Mention was made of the overwork and strain falling on personnel as the direct result of attempts to carry out both routine and emergency duties, as well as peace-time training with an establishment designed for ordinary routine duties only. No provision was made for the additional calls occasioned by relief of detachments overseas, trooping duties and normal wastage; only with the greatest difficulty, therefore, could these multifarious demands be met from the resources available. It was, however, to the subject of field training that attention was primarily directed.

The medical services were peculiarly placed in regard to their field medical units. Field ambulances, casualty clearing stations, and general hospitals, albeit in an attenuated form, were included in the peace establishments of the Territorial Army, but in the Regular Army it was not so. These units being intrinsically a part of the medical services of a field force and designed solely for use under active service conditions, were formed only on mobilisation. They were not maintained in peace-time as they were unsuitable and uneconomical when used for any purpose other than that for which they were intended. Nevertheless it was essential that the R.A.M.C. personnel should be instructed in the organisation and use of these units and in field medical work generally. As there were in existence no field medical units at which

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this instruction could be given, an alternative method of systematic training was essential, for only by this means could officers and men be prepared for active service. It was imperative to put an end to the existing state of affairs by which hundreds of men were completing their service without having become proficient in this respect.

Before 1914 it had been the rule to hold two training camps annually during the summer months and it was considered necessary to revive this system so that every man should undergo some field training during his service in the Corps. With this object in view, the Army Medical Directorate had prepared a scheme to give fourteen days' training to some 1,060 men annually, that is to say, to nearly 50 per cent. of the home establishment. To put this scheme into effect a staff of 6 officers and 129 other ranks was required. No such number of personnel could be found for this purpose without an increase in the total establishment, and it was contended that the urgent need of the medical services for more comprehensive training was ample justification for the increase in personnel demanded. Further, it was explained that during that part of the year when the training camp was not in operation, this personnel would be distributed among those hospitals and R.A.M.C. companies whose establishments had been found consistently inadequate to meet the demands of overseas drafts and trooping duties, demands which were heaviest and most frequent in the winter months and therefore at the time when the number of patients in hospital was highest.

The proposals of the Army Medical Directorate were again fully considered by the Establishments Committee in July 1929, but as the country was experiencing the effects of a grave financial depression at the time, it is not surprising that any proposals for an increase of expenditure, however small, in any department of Government, were received with disfavour. These proposals were therefore not accepted. It was, however, considered that the need for field training in the case of men who had never seen a field medical unit was essential. The Committee, therefore, agreed that a case had been made out for an increase that would make field training possible, the actual numbers to be determined by departmental arrangement. Further discussion followed and finally an increase in establishments, although not as great as that requested, was included for consideration by the Estimates Committee. At the meeting of this committee, which included all members of the Army Council in January 1930, the proposal was rejected and a potential saving of £16,300 thereby made.

So perished yet another effort on the part of the Army Medical Directorate to rectify what had become a serious situation in regard to the spirit and efficiency of the medical services. Any further attempts in that direction were, for some years, precluded by the unprecedented financial crisis of 1931 which made it a matter of doubt as to whether

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it would be possible to retain even that which existed. At the time, therefore, when the reconstruction of the field force came under active consideration, only a small proportion of officers and men then serving in the Corps were in any way familiar with the organisation and work of field medical units; nor had they been afforded the opportunity of acquiring practical knowledge of the duties undertaken by the medical services when engaged in active operations, duties of a more complicated nature and carrying vastly greater responsibilities than the comparatively simple tasks attaching to attendance upon the sick or to administration of a military hospital in the quiet and ordered atmosphere of peace.

INCREASING DIFFICULTY AND MOUNTING DISCONTENT

Of all the problems which beset the Army Medical Services during the inter-war years none proved more difficult than the ever recurring question of how to obtain and retain medical men in the quantity, and of the quality, required to meet the needs of the Army. More than once, during this period of twenty years, the absence of an adequate number of suitable candidates for the commissioned ranks of the R.A.M.C., coupled with a steady stream of voluntary retirements from the middle ranks of the Corps, reduced the strength of medical officers to a level which was incompatible with military efficiency and indeed threatened a complete breakdown of the medical services. Attempts to find the correct solution of this thorny problem were always protracted, often abortive, and involved a dispute between the Government and the Army Council on the one hand and the British Medical Association on the other, that with minor intermissions extended over a period of no less than fifteen years and included a voluminous and sometimes acrimonious correspondence.

Something has already been said about the situation which arose immediately after the armistice and during the process of demobilisation; allusion has been made to the feeling of uncertainty as to the future of the post-war Army and it has been stated that, in order to maintain an adequate number of medical officers, it was necessary to offer temporary commissions in the R.A.M.C. to newly qualified and other medical men. In spite of the fact that a certain number of medical officers holding temporary commissions during the war, had been offered and had accepted permanent commissions in the Corps, there had been no regular entry of officers as in peace-time. There was therefore a preponderance of senior officers who, in the circumstances, were required to carry out duties normally performed by junior ranks. Moreover, a situation had arisen by which a serious block existed in the promotion of officers of from fifteen to twenty or more years' service. Lastly, economies and retrenchments had seriously curtailed the opportunities for advancement in their career to which normally, officers

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of the Corps would have looked forward with confidence. The situation generally was an unhappy one, and a feeling of discontent and dissatisfaction widespread. When to these factors was added a deep and growing distaste for all things military, engendered alike by the experiences of war and hopes for a lasting peace, there is small cause for wonder that the prospects of service in the R.A.M.C. had but little appeal for the young and recently qualified medical man.

It was in July 1921, that the British Medical Association approached the War Office, primarily with regard to the position in the Corps of majors of more than fifteen years' service, for whom there was no provision for increase of pay thereafter while in that rank. Owing to the slow rate of promotion then existing, these officers might remain indefinitely on a fixed rate of pay, and that moreover at a time when, if married, they were obliged to face increasing expenditure such as that involved in the education of their children. It was urged that revision in rates of pay was required to overcome this anomaly. Another point of a very different, if not incongruous, nature raised by the Association, was the pay of the D.G.A.M.S., who, drawing consolidated pay was at a disadvantage with other lieut. generals whose pay was higher and, being drawn partly in the form of allowances not subject to income tax, represented a much higher rate of remuneration. This also was considered to call for amendment. In reply the Army Council stated that the question of pay of the R.A.M.C. officers had received the fullest consideration and they were unable to hold out any hope of alteration. Before long the B.M.A. repeated their request pointing out that formerly majors were promoted automatically after twenty years' service, thereby receiving an increase in pay. When a fixed establishment of lieut. colonels was introduced, even though majors had frequently to wait twenty-three or more years before receiving promotion, yet on obtaining promotion they benefited from the fact that they immediately received the higher rate of pay applicable to lieut. colonels after twenty years' service. The Association expressed their opinion that the continued deprivation of both higher pay and promotion was causing intense dissatisfaction likely to result in premature resignations among serving officers and also to deter young medical men from entering the service. The British Medical Association also emphasised the difficulty in which they were placed, in the light of these facts, when dealing with those who sought advice as to the adoption of a career in the medical services of the Army. The Army Council reiterated their inability to take the action suggested, and the B.M.A. replied with an expression of regret and their decision to publish the correspondence in the *British Medical Journal.*

Early in 1923 this question was re-opened from another aspect and by a different body. In January of that year, when fifteen commissions in the R.A.M.C. had been offered, only four candidates had presented

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themselves. Accordingly the Army Medical Advisory Board sought an interview with the Secretary of State for War. At a meeting in the following February, the board expressed the view that, at the termination of the 1914–18 War, the R.A.M.C. had acquired a great reputation and was an attractive and flourishing service; but they were apprehensive as to the future, for there had arisen a feeling of doubt and uncertainty in regard to prospects in the service that was deterring young men of the right stamp from entering the Corps. The board felt strongly that every effort should be made to maintain the status, the professional and social standard and welfare of the R.A.M.C., for should it once become unpopular and deteriorate, its reformation would be a difficult matter. They mentioned several matters to which attention had been drawn in the medical press and which had been discussed extensively in the medical schools; all were matters needing adjustment if candidates were to be obtained for the service. Among them were the facts that when, in 1919, pay and pensions were increased throughout the Army, the increases were, in proportion, markedly less in the R.A.M.C. than in the combatant branches; that as young medical men had to undergo at private expense a costly curriculum of more than five years' duration before qualification, the pay and pensions of R.A.M.C. officers were poor in comparison with other branches of the Army; that the pay of the D.G.A.M.S., was some £200 per annum less than the lowest paid combatant officer of the same rank; and that reductions and economies effected in the medical services had reached a level below which it was dangerous to go.

Sir John Goodwin, then D.G., amplifying the views of the board, added the following causes of dissatisfaction; first, that senior majors serving at home had received no increase in emoluments during their past seven and a half years' service, owing to there being no provision for any rise in pay after completing fifteen years' service except by obtaining promotion to the rank of lieut. colonel, and secondly, that owing to reduction in establishments, R.A.M.C. officers were at a disadvantage with officers of other branches of the Army as regards leave and foreign service. The D.G. stated that in addition to a shortage of new entrants there had been no less than sixty-six voluntary retirements among majors and captains during the previous year, and a further fifteen applications to retire were then under consideration. He gave it as his opinion that the situation was serious. No immediate action was taken on these representations as it was the stated intention of the Government to set up a committee to investigate the question of remuneration for the fighting services and the civil service.

In the following July, despite steps taken by the Director-General in the nature of letters to, or interviews with, vice-chancellors of universities and deans of medical schools, only three candidates offered

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themselves for the examination in connexion with twenty commissions then being offered. It was significant that some forty persons had written asking for particulars as to conditions of service, but had pursued the matter no further. The examination was therefore cancelled and six candidates interviewed of whom only three were considered suitable for selection. Sir William Leishman, then Director-General, on being asked for his proposals to meet the situation, submitted a memorandum enumerating the factors which operated as deterrents to recruiting and indicating the improvements in conditions of service regarded as essential. These were, in most respects, similar to proposals already formulated. Again action in the matter was suspended, this time because the memorandum involved matters under consideration by a committee dealing with establishments.

At the instance of the British Medical Association, a conference between representatives of that body and the Director-General was held in the following November when the Association put forward certain suggestions which they considered would provide a satisfactory solution to the question. They stated their opinion that the existing difficulties lay not so much in terms of emoluments as in uncertainty of tenure in the medical services, and recommended the adoption of the following measures: retirement as soon as possible of all officers passed over for promotion, and arrangements by which colonels and lieut. colonels should not serve more than four years, but should go on half pay at the end of this time if not selected for promotion; reduction in length of the tour of foreign service and less frequent moves; increase in the pay of majors at some time between fifteen years' service and promotion to lieut. colonel; revision of retired pay, more especially in the case of majors; uniformity of specialist pay at 5s. a day; reversion of charge pay to pre-war rates; and a seat on the Army Council for the Director-General. The D.G. agreed with the Association as to the causes of discontent in the medical services and informed them that the Army Council was already examining proposals which were in most respects similar to those now put forward by the Association.

In January 1924, it was once more found necessary to cancel the entrance examination, only seven candidates coming forward to fill forty vacancies. The number of officers having fallen to seventy below establishment, the Director-General drew the attention of the Army Council to the seriousness of the position. He expressed the greatest apprehension in regard to the future, for the situation was rapidly deteriorating and before long would lead to a lower standard of health in the Army with increased cost to the State. He urged that the proposals already submitted be examined without awaiting discussion in connexion with the reports of various committees. At the same time the British Medical Association was pressing for a decision and, in June, having received on

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satisfactory assurances, addressed the Secretary of State direct, expressed the view that discontent was rampant in the R.A.M.C. and asked for a definite pronouncement to lay before their members at the annual meeting of the Association. In reply, the Army Council stated that they shared the Association's anxiety and that the proposals which had been put forward were being considered in common with questions of pay relative to other branches of the Army. In the meantime the Director-General had once more stressed the urgency of the position which had changed for the worse, for the flow of retirements was undiminished and it seemed likely that the attitude of passive resistance on the part of such bodies as the medical schools and the British Medical Association would with difficulty be prevented from becoming one of active hostility.

For some time past the recommendations made by the Director-General and the British Medical Association had been the subject of urgent consideration within the War Office. Conclusions had now been reached and proposals for revised pay and conditions of service were submitted for approval in August 1924. They included improved rates of pay for officers of the ranks of major, lieut. colonel and colonel and provided for the required increase of pay in respect of length of service in the absence of promotion, e.g. an additional sum of 2s. 6d. per day was payable to a major after eighteen years, and 5s. a day after twenty years' service. Increases were made in the gratuities payable on retirement, and the rates of specialist and additional pay were raised. The Treasury then referred these recommendations for the views of the Admiralty and the Air Ministry. Both of these departments held the view that in regard to recruiting, all three services were inter-dependent and suggested an inter-departmental conference at which the needs and proposals of all three services could be discussed and correlated. The Army Council objected to this course on the grounds that it involved delay in a matter already in urgent need of settlement and that the problems of the three services were different in nature and therefore in solution. They were, however, over-ruled and a series of somewhat protracted and indeterminate conferences, with proposals and counter-proposals, ensued.

In November, the British Medical Association expressed the dissatisfaction of their members at the long delay in providing the remedies suggested, and threatened more vigorous action on their part. The War Office did their utmost to expedite a decision on this matter which had now become one of grave urgency. The resources of the R.A.M.C. were becoming seriously depleted, for during the preceding two years only twenty entrants had been obtained for the R.A.M.C. and of these, four had resigned before confirmation of their commissions. They were, however, unable to secure a decision until the proposals of

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the Admiralty and Air Ministry had been received, for while it might not be possible to arrive at a common solution acceptable to all concerned, yet some measure of co-ordination was essential. Thus at the end of the year 1924, and after three and a half years of discussion and investigation, no finality had been reached.

In June 1925, it was apparent that owing to further retirements the deficiency of officers in the R.A.M.C. would shortly rise to a total of ninety. The Director-General then stated that if any further delay occurred in giving effect to the proposals submitted to the Treasury in August 1924, the state of the Corps would be such as to be incompatible with military efficiency. In the same month the Treasury informed the Army Council that, as the result of inquiries made, they had reached the conclusion that emoluments in the medical departments of the fighting services compared favourably with those obtainable in the civil medical profession. They considered that the difficulties experienced in obtaining medical officers for the services arose from causes other than those of a financial nature such as the shortage of medical men generally and the limited opportunities in the services for medical officers to exercise their profession, on account of excessive establishments in relation to peace-time requirements. They therefore considered that nothing was to be gained by increases in pay and they felt that vacancies could safely be left unfilled until the demands of the civil population had been met and the shortage of medical men relieved.

In the face of such conflicting evidence the Secretary of State arranged conferences with the Army Medical Advisory Board and with representatives of the British Medical Association at both of which it was agreed that the proposals submitted to the Treasury by the War Office would go a long way towards removing the existing unpopularity of the R.A.M.C. in the minds of young medical men. As a result of these conferences, the proposals already submitted were amplified to make the pre-1919 code of retired pay applicable to all majors in the Corps and to place all lieut. colonels passed over for promotion, on half-pay after four years in that rank; also to ante-date commissions, by a period not exceeding twelve months, in respect of resident appointments held at a civil hospital by the entrant prior to the granting of a commission.

After further discussion the whole question was referred to a Cabinet committee considering the question of pay for new entrants to the fighting services. This committee reported to the effect that the whole organisation of the Army Medical Services should be fully investigated before any decision was reached on the question of pay, and that the War Office should, if necessary, make temporary arrangements to tide over their immediate difficulties. No indication, however, was given as to the form which these temporary arrangements should take. The committee also recommended that the medical services of

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the Royal Navy and the Royal Air Force should be examined in a similar manner. About the same time the British Medical Association informed the War Office that while recognising that the Army Council was giving sympathetic consideration to the grievances of the R.A.M.C. and was making a real endeavour to improve that service, the Association felt they could no longer take any steps to encourage medical men in joining the corps, nor could they agree to publish the terms and conditions of service in the *British Medical Journal* until the Association was assured that the matters under negotiation had been satisfactorily settled.

THE WARREN FISHER COMMITTEES

At a meeting of the Cabinet held on August 7, 1925, it was decided that in view of the importance of an early settlement, an inter-departmental committee should be set up to examine forthwith the pay of officers and nurses of the medical services of the Navy, Army and Air Force and all matters ancillary thereto. Sir Warren Fisher was appointed chairman of the committee which included representatives of the Treasury, the Admiralty, the War Office, the Air Ministry and the India Office.

This committee generally known as the first Warren Fisher Committee reported in April 1926. After recapitulating the circumstances which led to their inception, the nature of the problem and the proposals already made in seeking its solution, the committee enumerated the chief causes of the shortage of medical officers in the fighting services. There was no doubt that the idea of government service was not as attractive as had formerly been the case and there was a general impression, gained during the war by temporarily commissioned medical men, that M.Os. of the regular forces were employed mainly in administrative rather than clinical work. Financially, prospects were less attractive than they had been owing to the general rise in emoluments obtainable in the civil branches of the medical profession, the increase in the scale of fees in private practice and the opportunity of a substantial income, at a comparatively early age, provided by the development of practice under the National Health Insurance Act. To these were added causes of a more professional nature such as the increase in the number of hospital appointments open to medical men, the extended opportunities for specialisation and the greater variety of posts under local authorities. Finally there was the counter-attraction of a rapidly expanding Colonial Medical Service which competed for the same type of recruit. On the other hand, the committee had evidence that it was becoming more difficult for newly qualified men to find the posts they desired, general practice was unattractive to many, while vacancies in the public health service were becoming fewer. In considering whether the medical student looked primarily for high remuneration or professional

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opportunity, the conclusion was reached that he would be attracted by a moderate scale of pay provided he was satisfied with general conditions and assured that opportunities for professional work were good.

On the subject of establishments, the committee was satisfied that there was not, as was sometimes alleged, a superabundance of medical officers in proportion to the work to be done, for while the ratio of medical officers to personnel was much greater than in civil life, the comparison left out of account duties of medical officers in matters other than the care of the sick, such as training of personnel, examination of recruits, preventive work and administration. Civilian members of the committee visited military hospitals and other units and were satisfied that much scientific work of a high order was being performed and that professional opportunities were wider than was generally the case in civil practice; moreover there did not appear to be any surplus in staff nor was there an undue amount of administrative work.

The committee did not recommend the adoption of the suggestion which had been made for the amalgamation of the three medical services, nor did they favour any scheme of common entry; they regarded the reservation of certain appointments in government departments for officers compulsorily retired as impracticable; they recommended retention of the system of entry by competitive examination and suggested that measures should be taken to disseminate, in the universities and medical schools, information as to the conditions existing in the medical services. The ante-dating of commissions in respect of hospital appointments held prior to entry was advocated as of value not only to the officer but also to the service.

In regard to pay, they had heard little criticism of the commencing rates, but rather of the rates payable at the age when a medical man might expect to marry. Opinions differed as to the degree to which financial considerations had been responsible for the shortage of recruits. Comparisons between emoluments of officers in the R.A.M.C. and civil practitioners were impossible, as they could not reflect the differing conditions, e.g. frequent change of station and foreign service to which officers in the R.A.M.C. were subject. It was clear that some discontent existed in the Corps particularly among the middle ranks in regard to the inadequacy of rates of pay and retired pay, slow promotion, the small number of junior officers, frequency and expense of moves and the increase in foreign service. Some of these grievances were directly related to the failure of recruiting and would be remedied by the re-establishment of the normal flow of recruits, therefore the necessity to remove them not only to prevent premature retirements, but also to attract recruits by the informal propaganda which emanates from a contented service. It was thought that a comparatively small increase in pay would have a considerable effect in removing dissatisfaction.

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The issues raised by the British Medical Association as regards a seat on the Army Council for the D.G., and on the subject of the distinctive features of uniform in the medical services, the committee considered outside their province and declined to offer any opinion.

The committee's recommendations were in substance those that had already been submitted and for which authority had been sought by the War Office and, on June 15, 1926, the Prime Minister announced in the House of Commons that the Government had decided to give effect to the committee's recommendations as from July 1, 1926.

The reforms introduced by the application of the Warren Fisher Committee's recommendations did not produce the results which had been hoped for and expected. Whatever they achieved in removing the grievances existing among serving officers, the effect was not sufficient to provide the required stimulus in the direction of recruiting new entrants. Although establishments were reduced, the actual strength diminished more rapidly still, until, in the year 1931, the total number of officers of the R.A.M.C. was more than a hundred below the number authorised. The medical branches of the other services were in much the same predicament and, as a result of requests from the Admiralty, the War Office and the Air Ministry, the Prime Minister, in May 1931, appointed a committee, again under the chairmanship of Sir Warren Fisher, to investigate the causes of shortage of officers and nurses in the medical and dental branches of the three defence services.

This second Warren Fisher Committee included the three Ds.G. of the medical services, distinguished members of the civil medical profession and representatives of the Treasury, the Admiralty, the War Office, the Air Ministry and the India Office. It was a strong committee and they made an exhaustive study of their subject, re-examined information previously submitted to other committees and to the departments concerned, and took fresh evidence from various government departments, the medical schools, the B.M.A. etc. In one direction the committee took an unusual but highly commendable step; it was considered desirable to consult those to whom recruiting appeals were actually addressed and they therefore took oral evidence from senior medical students. The committee recorded the fact that the evidence thus obtained was given with a directness and candour which is not always the good fortune of a committee to find in their witnesses, and they thereby gained a clear and lively picture of the views held in the medical schools on the possibilities of a career in the services.

Unfortunately, shortly after the appointment of the committee, there occurred the financial crisis which resulted in the United Kingdom abandoning the gold standard. The general uncertainty resulting from this step, lasted a considerable time and made it impossible to reach any final

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conclusions in regard to matters involving finance. The committee therefore suspended their sittings and the presentation of their report was delayed; in fact, it was not until July 1933, that they were able to submit it to the Treasury.

The causes for the shortage of recruits appeared to fall under three main headings, i.e. lack of professional opportunity, lack of economic attraction, and inadequate status. In respect of the first, there was obviously a widespread belief that much of the professional work of a military medical officer was of a trivial nature; that the personnel of the Army consisted almost entirely of young fit men who if ill of anything but the most trivial complaint, were immediately removed to hospital; that much of the work was administrative or military rather than medical, and as officers rose in the service they tended to become more and more absorbed in administrative functions and their professional knowledge correspondingly declined. It was also generally thought that the total work required was not sufficient to occupy the time of a medical officer who therefore spent much of his day waiting for a casualty, or in games and social amusements. These views were pressed with vigour by the junior representatives of the medical schools and were latent in the evidence taken from their more senior colleagues. Such a belief among medical students was obviously disastrous and it was of first importance to correct it where it was wrong and, in so far as it was proved correct, to remove the disabilities responsible. The civilian medical members of the committee made a special investigation of these points and reached the conclusion that a young graduate with ambitions to reach to the top of the tree in his profession would not choose the services, for although it was possible to attain a position of world-wide celebrity in the services, the opportunities of doing so were less than in civil life. Opportunities for the specialist, although intrinsically good, were severely restricted by limitations in the proportion of the career that could be devoted to special work, for only the exceptional man could expect to be so employed when promoted colonel or major general, and only then if his subject was medicine, surgery, hygiene or pathology. This militated against reaching a high professional standard. In the larger hospitals they found that both specialist and non-specialist officers had professional opportunities of a kind not ordinarily available to the general practitioner in civil life, but when appointed to smaller stations not having such a hospital, the opportunities were inferior and, in some cases, much inferior. This then indicated that, as regards certain important classes of employment in the services, the opinion prevailing among medical students was incorrect.

Lack of economic attraction was the essence of the case presented by the British Medical Association. It was contended that the general level of emoluments in the services was lower than that normally available

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to medical men in civil life; that the rate of promotion was too slow and the proportion of officers reaching moderately high rank too small; that compulsory retirement took place too early and that pensions were insufficient to ensure a reasonable standard of living and education of children; and that after retirement, civil employment was difficult or impossible to obtain. Steps were taken to obtain a comparison between the financial value of a career in the services and those elsewhere. The former was obtained by calculating the average emoluments drawn, at successive ages, by an officer following the normal course of progress during his service. These calculations were made on the basis that the normal career extended to the rank of lieut. colonel in the case of 50 per cent. of officers, and to colonel in the remainder; cash allowances and the value of quarters etc., were taken into consideration. As a result of their investigations, the committee found that the financial value of a career in the R.A.M.C. was not less than that in the Colonial Medical Service, where no difficulty had been found in obtaining an ample supply of good candidates, whereas it was somewhat higher than that offered by the London County Council and other local authorities. Comparison with the earnings of general practitioners was more difficult, but there appeared no reason to believe that their average yearly income after deduction of professional expenses, was higher than those of officers in the services; the general practitioner's income rose more rapidly and his career was longer, but on retirement his income ceased altogether and to provide an annuity equal in value to a service pension, necessitated the putting aside of substantial sums during the course of his professional life. The committee was of the opinion, however, that from the economic aspect, the medical services suffered certain disadvantages in that the career was too short, officers retired relatively early and had difficulty in educating their families on their pensions; they agreed with the contention that promotion was too slow and the proportion of officers reaching higher rank too small, and considered that overseas service and frequent moves were a burden to older married officers.

Inadequate status was also urged chiefly by the British Medical Association. The chief points raised were first, that a seat upon the Board of Admiralty, the Army Council and the Air Ministry, should be given to the respective heads of the medical services, and secondly, that the medical branches were in a position of inferiority as compared with the combatant branches, individual medical officers being treated as something less than equals by their combatant colleagues. As has been related, the committee considered the first point to be a matter to be decided in relation to the efficient organisation of the departments concerned, and expressed no opinion beyond deprecating any attempt to relate representation on controlling bodies with the particular interests

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of specific branches of the services; as to the question of inferiority, they were unable to find any evidence of important differentiation and stated, somewhat aptly, that while entitled to strict equality, treatment accorded to medical officers by their fellow officers depended substantially upon the personality of the individual.

The general conclusions reached were that improvements were required both in the professional opportunities and in the economic advantages of a career in the services. Both were equally important and inter-dependent; for without better professional opportunities, no economic advantages would attract the right type of recruit, while without greater economic advantages, professional improvements would not be sufficient to ensure recruitment on an adequate scale.

In framing their recommendations, the committee made it quite clear that they did not intend to advocate any additional charges upon the Exchequer, nor any increase in the cost of the medical services at the expense of the Army as a whole.

Nevertheless, it was considered that certain improvements in conditions, both professional and economic, were possible by re-organisation within the medical services themselves. Professional improvements were possible in three directions: firstly, the proportion of officers given the opportunity of specialisation could be increased and the period of their service spent in specialist work lengthened; secondly, the opportunity of continuing in professional, as distinct from administrative work, as officers rose to the higher ranks, could be extended; and, thirdly, appointments which provided insufficient professional work could be eliminated, with the result that the proportion of total service spent in professionally interesting posts, particularly those in hospitals, would be increased. These suggestions necessitated reduction in total establishments, because it was only in this way that the amount of professional work available to all officers could be increased. Reductions were both possible and desirable, for while establishments were of necessity decided by military requirements such as those on mobilisation, yet professional rather than non-professional considerations should be the determining factor in the allocation of medical officers. While due precautions should be taken in the matter of military convenience and insurance against accident, these were in many cases out of scale with real needs and the standard accepted as satisfactory in civil life, as for example, where a medical officer was required to be immediately available whenever firing took place on a range, even though accidents on these occasions were virtually unknown. In addition to the foregoing considerations, there was urgent need for the granting of facilities for post-graduate study by means of which officers could advance their professional knowledge beyond that derived from the day to day practice of their profession.

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The economic attractions of a service career could be improved by increasing the length of the career; by lowering the ages of promotion; by increasing the proportion of officers promoted to the higher ranks and thus the number retiring on higher rates of pension; and by easing the burden of overseas service. It was a necessary principle that once the number of posts of higher responsibility had been fixed, the entry into the services should be limited to such a number as would allow entrants suitable for higher responsibility, to reach these posts at an age when they were best suited to undertake it. In this respect the existing system failed to make the best use of the material available. Officers should not be compulsorily retired under the age of fifty-five ; most should serve until fifty-seven and a minority until sixty; all officers selected for permanent service should be suitable to fill the rank of lieut. colonel and a large majority that of colonel. It was proposed to ensure earlier promotion and that all officers should normally reach the rank of colonel, instead of only half as hitherto. These measures would enhance the value of the career during the period of service between the ages of thirty and fifty when financial burden was heaviest, and would raise the average of retired pay because a considerable larger proportion of officers would retire with colonel's pension.

All these proposals were based on the one essential principle already formulated, namely, that the number of officers granted permanent commissions must not be allowed to exceed the number that could be absorbed into the higher ranks. If the number of posts to be filled exceeded the number of permanent officers that the higher ranks demanded, it necessarily followed that establishment must provide some officers who would proceed to a life career in the service. The committee's considered opinion was that the best method of providing a margin of non-permanent officers would be to enter all officers initially for short service. Officers for permanent service would be chosen from those completing the term of short service engagement; officers not desiring, or not selected for, permanent retention, would be transferred to the reserve with a gratuity large enough to assist them materially in the purchase of a practice. Under such a scheme the services would be able to select officers best suited for their purpose, while, on the other hand, those who found they preferred private practice would be in a position to enter it under favourable financial conditions. The system by which officers not retained for permanent commissions were to be transferred to reserve would provide a solution to the problem of mobilisation. The contemplated reduction in total establishment would be more than made good by a reserve of officers already experienced in the work of the services. Moreover, this system of entry would ease the burden of overseas service, for nearly two-thirds of appointments overseas would be filled by officers in their earlier years

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of service, when the opportunity of going abroad was usually an attraction; the period of foreign service at a later age, when such service tended to be an embarrassment, would be correspondingly reduced.

To give effect to their recommendations the committee proposed reorganisation in several important respects. First was a decrease in total establishments by which the number of medical officers was reduced to approximately 750, i.e., by 12½ per cent. This was made possible by the elimination of certain posts which, owing to the limited number of troops at the station, did not provide an adequate amount of professional work and where arrangements could be made for the necessary medical attention to be given by civil practitioners or retired officers of the R.A.M.C. Alterations were made in establishments by which certain appointments held by majors and lieut. colonels were upgraded to carry the rank of lieut. colonel and colonel respectively. Thus the number of lieut. colonels was increased by one-quarter, and the number of colonels by three-quarters. Command of a large hospital was to carry colonel's, instead of lieut. colonel's rank, and many smaller hospitals that of lieut. colonel instead of major. Certain specialist appointments in the larger hospitals were to be upgraded to lieut. colonel's appointments and some lieut. colonel's posts of a specialist nature were to be filled by colonels. It was proposed to retain the system of promotion to captain and major by length of service, but to reduce the period of service for promotion by two years in each case; promotion to the ranks of lieut. colonel and colonel was to remain by selection within establishment, but to be designed on the basis of achieving promotion after an average of seventeen and twenty-five years service respectively. It was expected that selection would operate so that of the officers remaining in the service until the appropriate ages for promotion to lieut. colonel and colonel, all should be promoted to the former and about three-quarters to the latter. In order to ensure the expectation of promotion as laid down, limitation of the yearly entry into permanent commissions would need to be regulated in relation to the higher posts in establishments, therefore from time to time adjustment would be required according to the rate of wastage actually experienced. No changes were to be made in the existing ages of compulsory retirement, i.e. lieut. colonel, 55; colonel, 57; and major general, 60. Since, however, it was proposed that the great majority would reach the rank of colonel, the normal career would extend to the age of 57. The number of specialist appointments was to be increased from 113 to 155 and all were to carry specialist pay of 5s. a day; a standard rate of 5s. a day charge pay was recommended for all officers in charge of hospitals of 50 beds or more and for all officers in charge of medical and surgical divisions in large hospitals.

It was proposed that all officers should enter the service in the first instance for a period of five years. Officers required for permanent

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commissions would be chosen from among those short service officers who desired to remain. The remainder would be transferred to the R.A.R.O. on completion of their term of service. They would be eligible for a gratuity of £1,000 and they would be liable to recall on mobilisation at any time during the subsequent twelve years. In regard to the gratuity already paid to officers retiring voluntarily after completing seven, and before completing fifteen years' service, the committee recommended that the gratuity should be made payable to those granted permanent commissions and retiring at any time between five and fifteen years' service.

A highly important object of this reorganisation was to ensure that all permanent officers at, or about, the time of completing six years' service, should undergo a five months' course of advanced medical study. Those who desired to do so and were selected for the purpose, would be permitted to undertake an additional four months study in a special subject chosen by them with the object of qualifying as specialists. The revised establishment would allow all permanent officers to spend nine months in post-graduate professional training, and all specialist officers to devote the greater part of their service to specialist employment. From the point of view of general, as distinct from specialist work, the greater part of an officer's service below the rank of colonel, i.e. up to the age of fifty, would be spent in duties of a professional nature, while in the rank of colonel nearly half of the appointments were to be of this kind, more than twice as many as formerly. The committee was of the opinion that substantial improvements had also been made in the professional opportunities available to junior officers and that the new system recommended would be recognised as placing a career in the R.A.M.C. on a favourable basis in comparison with competing civil employment, both in the quality and amount of professional work offered. This fact, with the proposed economic improvements, was expected to place the R.A.M.C. in a strong position to attract recruits of an excellent quality.

The Warren Fisher Committee's report was submitted to the Treasury in July 1933; the Army Council expressed their agreement with its provisions and their intention to adopt its recommendations. Certain obstacles, however, remained to be overcome before this could be accomplished. The first was opposition on the part of the Government of India who, having experienced no difficulty in obtaining recruits for the Indian Medical Service, had not desired that service to be included in the scope of the committee, but now foresaw difficulties likely to arise through the application of the scheme to the R.A.M.C. in India. Their objections were partly financial and partly administrative. They held that while India would not benefit from savings resulting from reduction in establishment, higher costs would be incurred in

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respect of increases in pay and pensions and more frequent passages, for if the term of short service commission were to be five years, it would be necessary to reduce the tour in India from five years to four. Moreover, it was considered that the superior attractions formerly possessed by the I.M.S. would now disappear and unless the improvements proposed for the R.A.M.C. were extended to the I.M.S., discontent would arise in the latter. Protracted negotiations followed, the Government of India making various suggestions for postponement in the application of the proposals, suggestions which the War Office resisted on the grounds that they would seriously prejudice the whole scheme. Pressure was brought to bear by the India Office and finally, in April 1934, the committee's recommendations were accepted for application to the R.A.M.C. in India. Agreement having been reached in that quarter, formal sanction by the Treasury was obtained and the Army Council arranged that the new scheme should come into effect on May 1, 1934.

The publication of the report caused considerable interest in the civil medical profession where it received a decidedly unenthusiastic reception. A memorandum was submitted to the Secretary of State for War by the British Medical Association indicating that their attitude was in the main unfavourable. Unlike the Government of India who protested that the report went too far, the Association, on the other hand, considered that it did not go far enough. Regret was expressed that the committee had been misleading in their statements as to the cost of the medical services, that they had imposed upon themselves the condition that no increase in expenditure should be incurred and in consequence had found themselves unable to accept the Association's proposals in regard to acceleration of promotion and increase in pay and retired pay. The Association felt that the scheme produced would not materially assist serving officers, and mentioned specifically the question of promotion of major to lieut. colonel which they considered should be on a 'years of service' basis, or alternatively that a major of twenty years' service should receive the pay and retired pay of a lieut. colonel whether promoted or not. They expressed apprehension in regard to the proposed reductions in establishment which was already thought to be inadequate, and they were doubtful if the system of entry could be sufficiently controlled to ensure the financial value of the career as estimated by the committee. The short service commission was considered detrimental to efficiency, and objection was raised to the provision by which short service officers when transferred to reserve, were made liable to recall during the subsequent twelve years. In their opinion an additional course of study should be made available for officers later in their service, and the question of D.G.A.M.S. having a seat on the Army Council was raised once more.

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It was not possible to give any conclusive answer to these criticisms until the agreement of the Government of India had been obtained, when a reply was addressed to the Association explaining certain matters in which there appeared to be some misconception, as for example, the basis upon which the committee had calculated the cost of the medical services. Emphasis was laid upon certain safeguards provided, such as control of entry to ensure the efficient working of the scheme, and attention was drawn to the difficulty in altering such things as pensions in respect of the R.A.M.C. without reference to those payable in the Army as a whole. In conclusion it was stated that the Army Council were satisfied that the committee's proposals would prove a solution to the problem presented.

Although the scheme came into force on May 1, 1934, there was delay in the application of its provisions to the Indian establishment of the R.A.M.C. The B.M.A. raised the matter with the War Office and received the assurance, subsequently implemented, that although the application of the new terms and conditions in India had been delayed, nevertheless they would take effect from the date originally fixed.

Again, in January 1935, the War Office received representations from the British Medical Association in the form of a resolution passed at the Annual Representative Meeting of the Association. While recognising that the reorganisation of the R.A.M.C. on the lines of the Warren Fisher Committee's report would result in some improvement in terms and conditions of service, it was held that the proposals were too limited in their application to serving officers whose conditions of service still called for readjustment. The officers specifically mentioned were majors, of about twenty-two years' service, who were not gaining promotion under the new scheme, and it was suggested that as a temporary measure these officers should be promoted forthwith to the rank of lieut. colonel or granted pay and allowances of that rank. The Association again urged consideration of the views they had put forward on previous occasions, but suggested that the adoption of the emergency steps now proposed would remove the difficulties which lay in the way of their full co-operation with the War Office.

Sir James Hartigan, then Director-General, supported the contention of the Association in relation to serving officers, this in fact being the weak point in the scheme. There were some 270 senior majors affected in this way, of whom some would not reach the rank of lieut. colonel at all, others would be unable to complete the one year of service in that rank necessary to qualify for the appropriate pension, and only about half would be able to serve sufficiently long to reach the maximum pension. As there were not sufficient appointments available, it was not possible to recommend automatic promotion, but certain improvements in pay and pension were advocated for these officers on

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the grounds that they were the backbone of the service and if an appreciable number elected to retire in the near future, and there was little under existing conditions to encourage them to stay, a serious state of affairs would result. The other proposals and suggestions of the B.M.A. were not supported but the Director-General considered it desirable that the relationship between the Army Council and himself should be made clear. He also expressed the hope that it would be possible to re-establish the co-operation between the War Office and the Association essential for successful recruitment to the medical services.

There was some opposition to these proposals, chiefly based on financial considerations, but eventually, after discussion between the Director-General and the Medical Secretary of the Association, Treasury sanction was sought to obtain an increase of 3s. 6d. per day in the pay of majors after twenty-two years' service, and for the standard rate of pension payable to majors and lieut. colonels, compulsorily retired on account of age and having twenty-five years' service, to be raised to £525 per annum. It was emphasised that this was a temporary expedient designed to overcome conditions which would be automatically terminated in the course of some ten or twelve years when the full effect of the Warren Fisher scheme came to be felt. Approval was given by the Treasury in May 1935, and the Army Council wrote to the British Medical Association informing them of the steps which had been taken to adjust the grievances represented by them. Certain other matters raised by the Association were elucidated, such as the scheme for short service commissions, reduction in establishment of the medical services, the composition and functions of the Selection Board and the relationship of the Director-General to the Army Council.

In the following July, the Annual Representative Meeting of the British Medical Association resolved that the Association was prepared to co-operate to the fullest extent in the recruitment of medical officers for the R.A.M.C. A letter to this effect was addressed by them to the medical schools calling attention to the changed conditions and expressing the view that the Corps could be regarded as offering the opportunities of a first class career. Articles on the same lines appeared in the *British Medical Journal*. In acknowledgment, the Army Council expressed to the Association their cordial appreciation of the assistance thus given.

On obtaining approval for the introduction of the new scales of pay and retired pay described, the War Office arranged for their application to officers on home establishment with effect from June 1935. The Government of India was requested to extend to Indian establishment the same concessions and, in order to obtain uniformity, to make them applicable from the same date. As on a similar occasion previously, no immediate agreement was forthcoming. The War Office insisted that delay in settlement would prejudice the good relations that had at last

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been established between the military authorities and the civil medical profession, and urged the necessity for prompt action. Nevertheless, not until the following April was an assurance received from the India Office that the concessions had been approved and would be ante-dated to apply to the Indian establishment of the R.A.M.C. from June 1935.

As has been stated, the reorganisation proposed by the Warren Fisher Committee was not at first regarded with favour in civil medical circles. The medical press was critical, the British Medical Association more than critical and it was soon seen to be unpopular with the controlling bodies of many of the medical schools. Grave doubts were entertained as to whether the new conditions of service would be sufficiently attractive to ensure entrants of the kind and in the numbers required, while it was feared that the system of entry by short service commission would be an obstacle to recruiting. When as a result of the events related, a spirit of co-operation had once more been established between the War Office and the civil medical profession, every effort was made to obtain the assistance of the medical schools and professional bodies, by full discussion of the principles and details involved in the application of the proposals.

From the outset, the Warren Fisher scheme was unquestionably a success. With its introduction in May 1934, the situation rapidly improved. Forty-three short service commissions were granted during that year and an increasing number of candidates was subsequently forthcoming. The half yearly groups of entrants to the service were regarded as eminently satisfactory, in quality as well as in quantity; nearly all had held house appointments in civil hospitals after qualification. The fact that the great majority of them eventually applied for permanent commissions, was sufficient evidence that they, for their part, were satisfied with the conditions under which they served.

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CHAPTER 5

DEVELOPMENTS IN TRAINING IN THE INTER-WAR YEARS

COURSES OF INSTRUCTION: OFFICERS

PRIOR to the 1914–18 War and thereafter, immediately on joining the Corps, officers commissioned as lieutenants on probation underwent a junior course of instruction partly at the R.A.M. College at Millbank, and partly at the R.A.M.C. Depot at Aldershot. The object of the course at the college was to provide opportunity for further study and more advanced instruction in respect of various branches of medical science having special reference to the needs of the Army, for example, military surgery, tropical medicine and pathology, and hygiene. At the depot, officers were trained in the military side of their profession and received instruction in drill, field work, the organisation and administration of medical units and their personnel, the medical aspect of the care and management of the soldier, military law and procedure. Instruction in field hygiene and sanitation was given at the Army School of Hygiene nearby.

This course was held twice or thrice a year, according to the number of officers entering the Corps, and usually occupied six months, of which three were spent at the college and three at the depot. Later, owing to the shortage of candidates for commissions, the junior course was reduced in length. When the system of short service commissions was introduced it was found necessary to revise arrangements for this course. Beginning in 1935, four courses were held annually for officers of the R.A.M.C. and of the I.M.S. conjointly, each consisting of two months at the college and one month at the depot. In 1939 the length of the course was extended to three and a half months in order to include two weeks instruction at the Army Gas School in chemical warfare.

Before promotion to the rank of major, all officers were required to attend a senior or promotion course at the R.A.M. College. This was intended to provide medical officers with a means of refreshing and extending their professional knowledge and was therefore confined to professional rather than military subjects. It was in fact a post-graduate course of medical study. The examination held at the end of the course served to gauge not only fitness for promotion from the professional aspect, but also suitability for further training in one or other

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special subject with a view to subsequent employment as a specialist in that subject.

At the time of the outbreak of the 1914–18 War each senior course extended over nine months and was attended by some fifty or more officers. During the war the courses were suspended, and thus after the termination of hostilities there was an accumulation of more than a hundred officers of whom some had not had the opportunity of attending the course at the time of promotion, and others were due to attend in order to qualify for promotion. The shortage of officers in relation to the demands of the service at home and overseas made it impossible for so large a number to be spared for so long, and it seemed probable that a considerable time would elapse before the situation could be adjusted. It was therefore decided, as the only feasible alternative, to substitute an intensive shortened course until circumstances permitted a return to the normal procedure. Results were not satisfactory. It was found that the instruction was too condensed and so concentrated that it produced a degree of strain, both mental and physical, which had a harmful effect upon those concerned.

In the meantime other factors had become operative and influenced the decision to revise the system of advanced professional study in the Corps. During the war very much closer relations than those previously obtaining had been established between the medical service of the Army and the civil medical profession. It was desired by each to continue and extend the policy of co-operation demonstrably of advantage to both. In order to stimulate interest and increase knowledge in regard to matters of a scientific and professional nature among officers of the R.A.M.C., it was thought desirable to make accessible to them the mass of clinical material available in civil hospitals. The Army Medical Directorate therefore approached the medical schools of the voluntary hospitals in London to ascertain if permission would be given for officers to attend for clinical teaching in the wards. Deans of the medical schools were all anxious to help and as a result of their co-operation a scheme was evolved by which officers taking the promotion course of the R.A.M. College were distributed in groups among the various medical schools. The senior course was therefore reconstituted to occupy five months, two of which were spent at the college and the remainder in attendance at civil hospitals.

THE GROWTH OF SPECIALISATION

A feature of considerable significance in the development of the medical services after the 1914–18 War was the growth of specialisation. Indeed, during the war there had been a marked tendency towards specialist administration for special subjects. This principle was accepted

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as a part of the administrative machinery in subsequent years. The establishment at the War Office of special directorates in connexion with hygiene and pathology was the natural expression of this principle. The same applied to the innovation by which a consulting surgeon and consulting physician became part of the Army Medical Directorate. Directors and consultants exercised a dual function, for while on the one hand they acted as advisers in their special subjects to D.G.A.M.S. in matters of policy, on the other hand they were charged with the direct administrative control of the activities of their branches and of the specialists and other personnel who constituted their staff. They were thus responsible for the arrangements by which officers were trained as specialists and for the supervision of the work they performed when employed in their specialty.

The effect of these appointments, of the alteration in administration which they involved and of the change in outlook which they implied, was to stimulate interest in specialisation and to encourage medical officers to make a study of a particular branch of medical work with a view to devoting themselves, as far as possible, to professional employment in that field. These considerations, coupled with the ever-increasing demand for specialisation in all forms of medical practice that obsessed the minds not only of the medical profession but of the public generally, gradually gave rise to the idea that possession of a higher qualification in some speciality was essential to advancement in the service.

Other circumstances tended to attract in the same direction. Of these, mention may be made of the position in regard to the practice of surgery in the Army after the war. During the Boer War, the number of deaths from disease was much higher than that attributable to enemy action. This fact was accorded great prominence and fostered the belief that in future wars disease would prove of greater significance than battle casualties. Preventive and protective medicine therefore assumed greater importance and attracted more attention than military surgery. The 1914–18 War, as a result of the intense destructive effect developed by modern weapons, showed that surgery was after all of overwhelming importance in warfare. The special training of the regular officer of the R.A.M.C. in military duties necessitated his employment in an administrative capacity during the war, and only a very small number had the opportunity of surgical work during that time when surgery was largely in the hands of civilian surgeons serving temporarily in the Army Medical Services. On the return of peace-time conditions, therefore, the R.A.M.C. had few surgeons of experience; most of those who had been surgical specialists were now senior administrative officers. It was therefore necessary to train a new group of officers to carry on the surgery of the Army in peace-time and so prepare themselves for military surgery

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in war. There were thus opportunities for specialist employment of a kind which had a wide appeal.

In conformity with the extension of the specialist system, the senior or promotion course was developed in the direction of assisting in the choice and training of specialists. Officers who during this course showed outstanding ability and interest in any particular branch were selected for a further period of study in the subject they had chosen. This additional study occupied some four to six months according to the subject selected and was spent partly at the R.A.M. College and partly in attending, under special arrangements made for the purpose, the classes normally held at the medical schools of the teaching hospitals in connexion with examinations for higher medical and surgical qualifications. Indeed, the standard aimed at was that of the Membership of the Royal College of Physicians (M.R.C.P.) in the case of medicine and of the Fellowship of the Royal College of Surgeons (F.R.C.S.) in the case of surgery. Similar provision was made for the instruction of those specialising in ophthalmology, gynaecology, radiology and anaesthetics and for the taking of higher qualifications in these subjects. Where circumstances rendered it necessary special arrangements were made to suit individual requirements. For specialists in hygiene, a course of instruction was held in the hygiene department of the R.A.M. College and practical instructions given in the public health departments of neighbouring municipal authorities. The standard examination for these officers was the Diploma in Public Health (D.P.H.). Specialists in pathology also received their instruction at the college.

On satisfactorily completing the prescribed course, officers were appointed as specialists in the subjects they had studied and were entitled to draw specialist pay in respect of these appointments while so held. In the year 1923 there were eight medical specialists, of whom seven held the M.R.C.P., employed at home and in India. The Queen Alexandra Military Hospital, Millbank, the Royal Herbert Hospital, Woolwich, the Royal Victoria Hospital, Netley, and the Cambridge Hospital, Aldershot, each had a medical specialist. Surgical specialists were sufficient in number to permit of their employment in all but two of the headquarters hospitals in home commands, and a number had been posted to commands abroad. Within five or six years the number of medical and surgical specialists, the majority of whom were in possession of higher qualifications, was doubled, allowing a more generous allocation of specialist officers among the hospitals at home and abroad. By the time this scheme of specialisation had been in operation for ten years there were in all 115 specialist appointments in a total establishment of 862. The Warren Fisher Committee in 1933 laid great emphasis on the importance of increasing specialist appointments in the medical

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services both from the point of view of the efficiency of the service and from the aspect of attracting entrants of a high professional quality. They also stressed the necessity of providing adequate facilities for post-graduate study in order that all officers wishing to specialise should have the opportunity of doing so. As the result of these recommendations the number of specialist appointments was increased to 155 in a total establishment of 750, a relative increase of nearly 50 per cent.

For some years, a shortcoming in the scheme of specialisation was apparent; there were no arrangements by which junior officers could be selected and appointed to understudy and assist specialists. The adoption of the system of entry to the R.A.M.C. by short service commission made necessary some provision in this respect. For it was obvious that the existing system, while otherwise excellent, would not appeal to the officer on short service, for he could not qualify as a specialist unless he applied for, and was granted, a permanent commission and until he had taken the senior or promotion course at the R.A.M. College and the specialist course thereafter, that is to say, until he had completed some six to ten years' service. A new system was therefore instituted whereby a junior officer possessing qualifications and capacity indicating special aptitude in a particular subject, could be 'graded' as physician, surgeon, pathologist, etc. When so graded he was employed in his special capacity and entitled to draw specialist pay while actually filling a specialist appointment. This system appealed to junior officers. It had the advantage that, if so inclined and equipped, he would probably be employed in a specialist capacity from the outset of his military career. The experience so gained would be of great value to him whatever his future; if appointed to a permanent commission, it would help him to reap the full benefit of the specialist course when the time came for him to take it, and if he left the service on the expiry of his short service commission, it would be of no less assistance to him in civil practice.

FIELD TRAINING: OFFICERS

The development of this system for extending the professional knowledge of the individual officer was one of the more successful features of the administration of the medical services during the years between the two wars. No such success, however, can be recorded in the sphere of collective training in field medical work. The number of officers attached for brigade or divisional training was placed on the strictly utilitarian basis of providing for the medical care of troops. Staff was not sufficient to permit the attendance of medical officers for instruction in the art of war. It is true that in India there were from time to time active operations on the frontier and, during peace-time, large scale exercises with the employment of skeleton medical units.

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Nevertheless, facilities for this kind of training were insignificant in relation to the size of the Corps. Officers for promotion were tested on exercises without troops; those selected for promotion to lieut. colonel were examined in the field on a set exercise upon which they were also required to write an appreciation in the capacity of A.D.M.S. of a division or other formation.

Training in administration in the field was of a theoretical kind only. This was greatly assisted by the publication and a series of articles published in the R.A.M.C. Journal and elsewhere, recording the experience of senior officers in the 1914–18 War. It was not then considered necessary to train medical officers systematically with other branches of the staff, despite the very widely held view that the mutual understanding of professional aims and outlook to be gained by medical officers and students of the Staff College working together, would add to the efficiency of a field army.

As they are designed solely for employment on active service, field medical units did not exist in peace-time, and their absence made it essential to organise some means of providing field medical training for all ranks of the Corps. In 1928 proposals for the establishment of an annual training camp, including a field unit formed for instructional purposes, were put forward with a request for an increase in establishment necessary to provide the staff required. Sanction was not obtained, and similar recommendations made in the following year were equally unsuccessful. Owing to the rigid economy practised during the next few years, it was impossible to re-open the question, but the matter was again raised in 1935 in connexion with the allotment of additional personnel to the R.A.M.C. on account of the new programme of expansion for the field force. It was proposed to form a field ambulance training unit, with complete establishment, and maintain it throughout the summer months during which time it would be possible to hold a series of eight or ten courses and to arrange for the attendance of nearly one half of the total home establishment of 2,500. It was insisted that the establishment of the training unit must be complete in warrant and non-commissioned rank in order to provide comprehensive training. A skeleton unit affording only partial training was regarded as useless. It was also intended that this training unit should be formed annually for it was estimated that by such means, in addition to the training of medical officers, all warrant officers and N.C.Os. on home establishment would be enabled to attend once in three to five years and all privates in alternate years. The permanent staff proposed for the training unit consisted of a commandant, an adjutant and a quartermaster with an officer to act as officer commanding the field ambulance and two officers to command its two companies. Other ranks included 2 warrant officers, 12 staff sergeants and sergeants, and 115

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rank and file. Officers, warrant officers, N.C.Os. and men attached for training were to supply the personnel of the field ambulance and carry out the duties of their rank or trade, subject to direction and supervision by the permanent staff. The training thus given would be of an essentially practical kind.

This scheme for a training unit was closely bound up with the question of peace establishments. The demand for an increase in establishments to provide for the necessary staff of officers, warrant officers and N.C.Os. was strongly opposed on financial grounds. Various arguments and suggestions were put forward with the object of limiting the size and scope of the unit, chiefly in regard to the employment of warrant officers and N.C.Os. and of restricting the number of personnel to be trained, to the numbers who would actually be employed with field ambulances in war. The Army Medical Directorate rejected these suggestions because their adoption would have entirely defeated the object of the scheme which was to give all personnel some training in the work of a field medical unit, not in skeleton form, but as it would function on active service.

Owing partly to the prolonged discussion which followed, and partly to the fact that the recruits actually forthcoming were fewer than was necessary to replace and permit the release of personnel for training, the operation of the scheme was unavoidably deferred. In 1937 the object was partially achieved in that it was found feasible to establish a small training camp and to give a modified instructional course to approximately 27 officers and 495 other ranks. At long last, in 1938, the efforts of the previous ten years were brought to a successful conclusion. By then, recruiting up to authorised establishments had been completed, personnel could therefore be released for attendance at the camp, and the numbers of officers, warrant officers and N.C.Os. necessary to form the permanent staff, had become available. Arrangements were therefore made for the formation of a training camp at Aldershot. It consisted of a field ambulance, complete in personnel, equipment and vehicles, which carried out an extensive programme of field operations during a period of four and a half months from May to September. Successive parties of 9 officers and 158 other ranks drawn from all home commands were detailed to attend for three weeks training. In all 69 officers and 940 other ranks passed through this course, the first comprehensive course of field medical training to be held in the United Kingdom since the end of the 1914–18 War.

In addition to the special technical training appropriate to a field ambulance, personnel attending the camp took part in operational exercises with troops. The opportunity was taken to carry out practical tests in connexion with certain equipment and vehicles. As a result, several modifications were made in field ambulance organisation and

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equipment. It was generally agreed that the experience gained by those attending the camp was of the greatest value, not the least important being the practical training derived from taking part in divisional and brigade exercises in conjunction with combatant troops.

INSTRUCTION IN CHEMICAL WARFARE

Chemical warfare and its potentialities in relation to the work of the medical services received little attention until some years after the 1914–18 War. In 1929, the Army Medical Directorate Consultative Committee expressed doubts as to the adequacy of the training in this subject received by officers of the R.A.M.C. The position in fact was that instruction was derived from three distinct and uncorrelated sources. Certain officers were selected to attend the Chemical Warfare School at Porton but the number was small. Officers taking the senior course at the R.A.M. College before promotion to the rank of major received some instruction in the subject of chemical warfare, for they received five lectures, given on consecutive days, by the R.A.M.C. officers engaged in physiological research at the experimental station at Porton. The lectures were compressed into one week in order to cause as little dislocation as possible in the work of the latter establishment. The subject was included in the oral part of the terminal examination not as a separate subject but as a part of the section dealing with clinical medicine. Junior officers received no systematic instruction other than a few elementary lectures and gas drill included in the course for lieutenants on probation at the R.A.M.C. Depot.

It was generally agreed that there was need to improve and widen the scope of the instruction given, although the suggestion that all officers of the R.A.M.C. should attend a course of one week at the Chemical Warfare School was not adopted. The matter was referred to the Council of the R.A.M. College and as a result of their recommendations certain changes were made. The senior course was extended to include six lectures dealing with the various kinds of chemical weapons and their methods of use, the effects of chemical agents and the prevention and treatment of gas casualties. The teaching was as far as possible of a practical kind and was given, as before, by the R.A.M.C. physiologist at Porton. Chemical warfare was made a separate subject in the terminal examination and a written paper was added to the oral test. In regard to junior officers it was arranged that lieutenants on probation while at the R.A.M.C. Depot should be given a course of instruction in chemical warfare, including the recognition and physiological effects of war gases, the treatment of gas casualties, protective measures and gas drill with demonstrations in the gas chamber. This instruction was to be given by an officer specially selected from among the staff of the depot. He was required to have passed the senior course at the college and

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to have attended the regimental instructors' course at the Chemical Warfare School. The course for junior officers was later supplemented by a visit to the Anti-gas Wing of the Small Arms School for demonstrations in the use of chemical weapons.

These arrangements continued without alteration in any important respect until 1937, when the D.G. appointed a committee to report on the question of the organisation, training and equipment of the medical services in respect of the treatment and disposal of gas casualties in war. This committee, in reviewing the subject in its application to all ranks of the Corps, found that no systematic training had been undertaken beyond that already mentioned and certain elementary instruction, in the wearing and care of the respirator, given to other ranks at the depot and in commands, a fact largely attributable to the absence of equipment for training purposes. It was considered that organised instruction based on training manuals should be instituted as soon as possible. At that time the *Manual of R.A.M.C. Training* included three short chapters devoted to the classification of chemical weapons and their effects; defensive measures, e.g. the respirator, decontamination and gas-proofing; and the classification and disposal of gas casualties. The committee recommended the appointment of an officer and a N.C.O., specially qualified for the purpose, to devote the whole of their time to organising the training of the medical services in their work concerning the disposal of gas casualties in war. It was considered that this staff should be additional to the existing staff at the depot, that they should be responsible for the training of the permanent staff and recruits there, and that they should also tour commands in order to supervise training in medical units. Attention was drawn to the importance of adapting the organisation and layout of medical units to receive and treat gas-casualties, and of training personnel in the special methods required. The committee emphasised the necessity for the maintenance of a field medical unit, preferably a field ambulance on complete war establishment, in order to provide opportunities of practical training under conditions resembling as closely as possible those in which gas casualties would be handled on active service.

At this time, 1938, the possibilities of chemical warfare were assuming greater importance and attracting more attention; the recommendations of the committee were therefore carried into effect. In May of that year a Training Officer (Anti-gas) R.A.M.C. (T.O.) and a N.C.O. instructor were appointed. The proposal for a field medical unit for training purposes was combined with the scheme for a field ambulance training unit already described; indeed appreciation of the necessity for such a unit from the aspect of chemical warfare was largely instrumental in bringing the original training scheme to fruition.

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Nevertheless, the system of training evolved was not regarded as entirely satisfactory in that it was too restricted in scope and application. In March 1939, the T.O., in a memorandum submitted to the Director-General, expressed the view that the training of R.A.M.C. officers in the subject of protection against gas and air raids was inadequate and compared unfavourably with that received by officers of other branches of the Army. Officers on joining the Corps received, at the college, a few lectures on gas weapons and the treatment of gas casualties, and at the depot, very little beyond a visit of one day for a practical demonstration at the Army Gas School. They had no instruction whatever in passive air defence, and on leaving the depot they departed to units at home or abroad where there were few opportunities of additional training.

It was therefore proposed that the junior officers' course at the college and depot should be followed by a further course of two weeks instruction at the Army Gas School, that is to say, the course already arranged for, and attended by, other officers of the Army. The course was to include special instruction given by the R.A.M.C. Training Officer in the diagnosis and treatment of gas casualties. It was thought that this system would afford officers of the R.A.M.C. an opportunity of observing and becoming familiar with the various gases, weapons and equipment, used during the demonstrations given at the Army Gas School. They would thus obtain a practical introduction to a subject in which the responsibilities of medical officers were not less than those of officers in other arms of the service. Afterwards, they would have no difficulty in keeping their knowledge up-to-date by study of training manuals and by attendance at camps and exercises; further instruction of the senior course would be rendered unnecessary. The adoption of the system promised yet another advantage of the greatest importance, inasmuch as it would ensure that eventually all medical officers in staff appointments or in command of units would be in a position to deal with the military, as well as the medical, aspect of the special problems likely to arise in connexion with air raids and gas attacks.

The Army Medical Directorate favoured these recommendations as providing a sound basis for the systematic and practical training of officers of the Corps, in place of the somewhat perfunctory and largely theoretical instruction previously given. It was also expected that a more extensive knowledge of chemical warfare among junior officers would stimulate interest in the subject and lead to the attainment of a higher standard of training throughout the whole of the medical services. War Office approval was therefore given and sanction for the necessary financial provision obtained. Arrangements were made to extend the junior course for R.A.M.C. officers from three to three and a half months to allow for the additional two weeks at the Army Gas School. The change was brought into effect in the summer of 1939.

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THE CONVERSION OF THE R.A.M.C. INTO A CORPS OF TRADESMEN

Shortly after the 1914–18 War radical changes were made in the system of training and promotion applicable to the rank and file of the R.A.M.C. The basic alteration effected at that time was the conversion of the R.A.M.C. into a corps of tradesmen, that is to say a corps whose other ranks are composed entirely of personnel trained in one or more of the skilled occupations required by the work of that particular branch of the services.

Formerly, N.C.Os. up to and including the rank of sergeant, and men of the R.A.M.C. were organised in four sections, namely: nursing section including masseurs, operating room attendants, attendants in skiagraphy and electrotherapy; cooking section, clerical section; and general duty section including laboratory assistants, sanitary orderlies, packers and storemen, signallers and carpenters. In addition to the foregoing, and not included in any one of these sections, were dispensers and mental attendants. Recruits were received at the R.A.M.C. Depot where they were given instruction in general military duties and received some technical training in hospital routine, in first aid and elementary nursing. On posting to R.A.M.C. companies and thence to military hospitals they were allocated to the general duty section and were employed in non-technical work in wards, kitchens, stores and elsewhere. Men desiring, and showing aptitude for, work of a more skilful kind were selected for training in special duties with a view to qualifying in the trade of their choice. On completion of the prescribed course of instruction and on passing the qualifying examination, such a man was graded as nursing orderly, operating room attendant, laboratory assistant etc., and drew additional pay applicable to the trade and class in which he had become proficient. Further opportunities were then available by which he could progress within the trade in which he had qualified, e.g. a second-class nursing orderly, after further training and examination, was advanced to first-class nursing orderly and was entitled to a higher rate of additional pay. On the other hand men who showed no ambition for advancement could, and did, remain indefinitely in a position comparable with that of an unskilled labourer.

Under the new system introduced in 1920 and finally confirmed by revised Standing Orders published in 1924 the four sections mentioned above were abolished, and the Corps was divided into various technical trades, in at least one of which every man was required to qualify; the general duty orderly, that is to say, the technically untrained and unskilled man, disappeared. As now arranged, the recruit on joining the R.A.M.C. Depot was interviewed and tested as to his educational suitability before his enlistment was finally approved. He then underwent six months preliminary training at the depot. During the first

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three he was engaged in physical training, drill and instruction in military duties; the second half of the course was devoted to technical training, e.g. elementary anatomy and physiology, first aid, sanitation and field medical work including stretcher drill and the collection of battle casualties. At the end of this preliminary training, and having satisfactorily passed the oral and practical examination held at the end of the course, the recruit was given an opportunity of expressing his inclinations as to the category of specialist training he was to undergo. Every effort was made to meet his wishes in so far as it was possible to do so, having regard to the attainments of the individual and the requirements for specialists of various categories. The recruit was then posted to a R.A.M.C. company for disposal to a hospital or other medical unit where he received further training including that of a specialist kind.

The schedule of trades promulgated under the new system was as follows: nursing orderly (N.O.), mental nursing orderly (M.N.O.), special treatment orderly (S.T.O.), operating-room assistant (O.R.A.), trained nurse, pharmacist, dispenser, masseur, laboratory assistant, radiographer, clerk, hospital cook, sanitary assistant, optician, packer and storeman, and surgical instrument maker; subsequently the trade of chiropodist was added to the schedule. With a few exceptions these trades were divided into classes, in most cases three; after qualification in class III further advancement to class II and thence to class I was possible by further training and fulfilment of prescribed conditions as to length of service, continuity of employment in the trade, etc. In connexion with each trade and class a syllabus of training including special courses of instruction was prescribed; these, with the required conditions as to educational standards, length of service, period of employment and other qualifications applicable were published in Standing Orders. Each trade and class carried a specific rate of pay. On being qualified and mustered as a tradesman, a man drew the rate of pay applicable to his particular trade and class. A man was therefore in a position to know precisely the conditions under which he could obtain advancement, and the financial advantages that would accrue by doing so.

Every man was required to qualify as a nursing orderly and, although he could at the same time undertake training in another trade and qualify in class III of that trade, further advancement to class II or beyond was not permitted until he had also qualified as nursing orderly class III.

To qualify as a specialist class III a man was required to have passed the class of instruction at the R.A.M.C. Depot, to have attended the prescribed course of training in the appropriate subject, to have attained the required standard at the terminal examination and to have completed twelve months' service including the period of recruit training.

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Qualifications for advancement to class II were completion of 2 years' service, employment in specialist duties for a period of not less than eighteen months and a certificate stating that these duties had been performed in a satisfactory and efficient manner. Advancement to class I required a total of three years' service, a further period of one year spent in specialist duties and the passing of the appropriate examination.

In certain trades, such as those of pharmacist, dispenser, optician, mental nursing orderly and masseur, the possession of specified civil qualifications entitled the holder to be enlisted as a specialist and to be placed in class III of the respective trade without further training after entering the Corps. Personnel so qualified were able to obtain accelerated advancement to class I after one year of service and without passing through the intermediary stage of class II, but here again qualification as N.O. class III was an essential condition of advancement.

Responsibility for the training and education of other ranks of the Corps and for the conduct of examinations held in connexion with their qualification as specialists, their advancement and their promotion rested with the officer commanding the R.A.M.C. in each command. To ensure co-ordination of instruction, uniformity in examinations and the maintenance of a reasonably high standard of proficiency, all arrangements made for the technical training of warrant officers, N.C.Os. and men of the Corps, both at home and abroad, were subject to the general supervision of the Training Officer, R.A.M.C. In all commands R.A.M.C. company officers were chosen to represent him in the capacity of assistant training officers.

In order to improve the standard of instruction given and to provide better opportunity for those under instruction to derive the greatest benefit from the teaching received, a different system of training was adopted. The method by which men received part-time training at their units while also engaged in performing their regimental routine duties was to a great extent replaced by arrangements for full-time instructional courses held at central educational centres. A school of hospital cooking was instituted for the training of hospital cooks, a school of dispensing for pharmacists and dispensers, and a school of massage for masseurs. Radiographers and laboratory assistants were trained under special arrangements made at the R.A.M. College, sanitary assistants attended the Army School of Hygiene, while mental nursing orderlies received their training in the special wards of the Royal Victoria Hospital, Netley, and packers and storemen were attached for instruction to the Army Medical Stores at Woolwich.

In providing for the efficient training of other ranks of the R.A.M.C. during the period under review two great difficulties were encountered. The first was the educational standard presented by recruits. At that

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time service in the Army was not popular and did not attract, in any large numbers, those who in intelligence and education were equipped to follow a technical calling. It followed that the average educational level of recruits was low, and a large proportion of the men admitted to the Corps was found to be incapable of profiting from the training given or of becoming efficient tradesmen. Better results were obtained after steps were taken to impress recruiting officers with the necessity for accepting only the more intelligent recruits for so technical a body as the R.A.M.C.

The second difficulty was one inherent in the system of short service engagement. When in 1924 the terms of enlistment were altered and all recruits entered under an engagement which included only three years' service with the colours it was feared that so short a period would be insufficient to render the average recruit an efficient first-class tradesman. This expectation proved correct, and action was taken to provide that 50 per cent. of recruits should be entered under the previous terms of seven years' service with the colours.

The proposal that all other ranks of the R.A.M.C. should be required to qualify as nursing orderlies gave rise to much controversy. It involved the principle that a man qualified and mustered in a trade should be paid tradesman's rates of pay even though not actually performing the duties of his trade. Thus far, this principle had not been accepted. The proposal therefore required most careful and serious consideration. Because of his responsibility for the provision of an adequate medical service for an expeditionary force on mobilisation, D.G.A.M.S. was obliged to press the view that unless all men of the R.A.M.C. were so trained the number of nursing orderlies available on mobilisation would be insufficient for the expeditionary force and the forces at home. Moreover, in the interests of efficiency all men in the Corps should be qualified to undertake the duty for which they were primarily intended, i.e., the care of the sick and wounded. Manifestly, men would not be willing to undertake the training nor to devote their time and leisure towards qualifying as nursing orderlies unless they were to be paid as such. In any case the total number of men involved was but little more than 300 and the cost less than £3,000 per annum. Nevertheless, as agreement could not be reached the question was eventually referred for decision by the Secretary of State who ruled that the Director-General's recommendation should be accepted.

Simultaneously with the revision of the system of training, alterations were made in the regulations governing promotion to the ranks of warrant officer and N.C.O. in the R.A.M.C. Here again the chief feature to be noted was the development of an organisation by which those selected for promotion were given extended facilities for advanced training. This took the form of systematic instructional courses in

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substitution for the somewhat haphazard and fortuitous self-education of the individual aspirant to higher rank.

Hitherto promotion in every case and from each rank to higher rank was largely dependent upon the passing of an examination, written, oral and practical, in a variety of subjects among which military and administrative matters figured more prominently than those of a technical or specialist kind. The new system provided a more practical means of gauging fitness for promotion and ensured a higher standard of knowledge in those promoted. It was also designed to assist in overcoming one of the difficulties inherent in the expansion of the R.A.M.C. on mobilisation. The number of regular personnel was not sufficient to supply the medical units raised in war, and the establishments of these units were therefore completed by the inclusion of partly trained men. Consequently many regular N.C.Os. and men were required to officiate in ranks superior to those held by them in peace-time, hence the necessity that they should be trained for the duties they might be called upon to perform. It was therefore essential that all should qualify at the earliest opportunity for promotion to the rank next above them and that non-commissioned officers who in peace-time were employed in specialist duties should receive periodical training in the general duties of the Corps.

The previously existing regulations under which qualifications for promotion were gained largely by examination were modified. While the preliminary qualifications in regard to conduct, length of service and education attainments were retained, satisfactory attendance at special courses of instruction now became an essential condition for promotion. Three such courses were instituted; the junior course, to qualify for appointment as lance-corporal and for promotion to corporal; the intermediate course, for appointment as lance-sergeant and for promotion to sergeant and staff sergeant and the senior course for promotion to warrant officer.

The junior course was held not less than twice yearly at the headquarters station of each R.A.M.C. company. For attendance at these courses officers commanding companies selected men eligible in respect of conduct, length of service etc., and holding a class III specialist qualification, a qualification which was later prescribed as that of nursing orderly class III. The subjects taught were infantry and R.A.M.C. drill, general duties of N.C.Os., duties in the field, and hygiene. At the termination of the course an oral and practical examination was held. If successful, the soldier was recorded as 'passed junior course of instruction for promotion', and was elegible for appointment as lance-corporal according to his seniority. Six months after appointment in that rank a report was made as to his suitability as a N.C.O. and for promotion to substantive rank of corporal.

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Before undergoing the intermediate course for promotion, a N.C.O. was required to hold qualifications as a nursing orderly class III, and as pharmacist or dispenser class I. At a later date the regulations were amended to include an additional class I qualification in a trade other than pharmacist or dispenser. The intermediate course consisted of two parts. The first part was normally undertaken at the R.A.M.C. Depot and included drill, field duties and war organisation, and sanitation. The second part took the form of instruction given at a hospital where the N.C.O. was attached for not less than a month to each of the several departments where he was taught storekeeping, pay duties and orderly room procedure. During the course weekly tests were held, and at the termination of each part of the course the N.C.O. was required to obtain a certificate that he had become proficient in the subjects taught. He was then eligible for promotion to the rank of sergeant; no further qualification or training was necessary to obtain promotion to the rank of staff sergeant. The object of the regulation which included qualification as a dispenser among the necessary conditions of promotion to sergeant was to ensure that small medical units such as reception stations, where the senior N.C.O. was usually a sergeant, should be automatically provided with a qualified dispenser.

The senior course of instruction was for N.C.Os. selected for promotion to warrant officer. For this course a first-class certificate of education was necessary. The first part of the course was arranged as required at the R.A.M.C. Depot, and the second part was invariably carried out at the headquarters' station of a R.A.M.C. company where the training was supervised personally by the assistant T.O. The instruction given was of a very comprehensive kind and included in considerable detail such subjects as drill, and field duties, military law, military hygiene, medical administration, regulations for clothing and equipment, and the organisation of the medical services in war. The course was followed by an examination, written, oral and practical. A warrant officer class II was eligible for promotion to warrant officer class I without further training or examination.

Warrant officers and N.C.Os. arriving from overseas and not having had the opportunity of attending the routine courses of instruction held at the R.A.M.C. Depot were, where necessary, permitted to attend short 'refresher' courses instead. Similar arrangements were made for those who by long employment in specialist duties, or for any other reason, required to refurbish their knowledge.

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CHAPTER 6

PREPARATIONS FOR THE PROVISION OF HOSPITALS AND CONVALESCENT DEPOTS

After the armistice, policy in regard to hospital accommodation was directed towards reduction in the number of military hospitals, particularly in the United Kingdom. Many of the smaller secondary hospitals were closed, and sick were concentrated in the larger central hospitals. The abolition of the smaller hospitals resulted in a substantial saving of personnel and general overhead charges while patients derived greater benefit from the larger hospitals where elaborate means of diagnosis, e.g. pathological laboratories and X-ray apparatus, were readily obtainable, where better facilities for skilled nursing were available, and where the treatment received was of a higher order, being subject to closer supervision by the specialist staff. The change was therefore advantageous from the aspects both of economy and of efficiency.

To deal with cases of minor sickness or trivial injury, small medical reception stations were provided for lesser garrisons, regimental depots, and other military establishments. These reception stations were in no sense hospitals and were not intended for use as such. They were combined with medical inspection rooms and contained usually some six to twelve beds; they were designed to accommodate cases of illness expected to recover within a few days and to give facilities for medical treatment, dieting, etc., under conditions more favourable than those possible in barrack rooms or quarters.

Some reduction in hospitals followed the adoption of a scheme by which in certain stations the sick of all three fighting services were accommodated in one hospital, instead of two or more services each maintaining a hospital exclusively for their own needs. For example, Devonport being a large naval station, the Military Hospital, Devonport, was closed and military sick were admitted to the Naval Hospital; conversely, at Gibraltar the Military Hospital accepted responsibility for the accommodation of naval cases.

Hospital accommodation was based on the policy that the number of hospital beds should not exceed 5 per cent. of the total number of troops of all arms for whom provision was to be made. In fact, the percentage varied widely in the different commands, in some of which this number of 5 per cent. was considerably exceeded where, as in Egypt, the wide dispersal of the garrison necessitated a larger number of small hospitals with a greater total of beds than normally required. Efforts were also made to limit the provision of hospitals for military

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families to areas where there were large numbers of troops or where, if the number of troops was not large, civil hospitals were not available. The comparative costs of treatment indicated that where there were facilities for treatment of military families in civil hospitals, it was more economical to make such arrangements than to maintain military families' hospitals of small size.

POLICY FOR EXPANSION: THE 1935 COMMITTEE

All the foregoing considerations had relation only to hospital requirements in time of peace, and it was not until 1935 that there arose any question of formulating a policy for war-time expansion. Then it was that in connexion with the current plans for rearmament, D.G.A.M.S., reviewing the position of the medical services in relation to mobilisation, raised the subject of hospital accommodation in the United Kingdom for military casualties in the event of a continental war. As a result, a War Office committee under the chairmanship of D.G.A.M.S. was appointed to investigate the matter and to advise on the course of action to be adopted. The committee confined their attention to the situation that would be presented during the early stages of a European war. They were satisfied that a substantial increase in hospital beds would be necessary immediately on mobilisation to meet requirements of (*a*) the units being brought up to war strength, (*b*) the troops that would be embodied or raised after the declaration of war and, (*c*) the sick and wounded evacuated to the United Kingdom from the expeditionary force.

Before the outbreak of war in 1914, accommodation in military hospitals amounted to 9,000 beds of which 7,000 were already equipped. There were also, as part of the medical services of the Territorial Army, twenty-three general hospitals which had been organised to provide 520 beds each. For all of them, buildings had been provisionally reserved and contracts or other arrangements made for their being handed over on the outbreak of war; medical and surgical staff from neighbouring hospitals and medical schools had been appointed and were prepared to take up their duties without delay. These hospitals therefore were in a position to mobilise immediately, and so provide some 12,000 additional beds. This they did.

The position in 1935 was very different. Military hospital accommodation could supply a total of no more than 4,000 beds of which rather less than 3,000 were actually equipped, while instead of twenty-three general hospitals of the Territorial Army there were only three and even these were deficient in staff, had no equipment and were therefore negligible as regards the provision of hospital beds. On the other hand, it would not be possible, as had been done in 1914, to rely upon civil hospitals to provide beds for the Army; all their beds would

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perforce be reserved for the accommodation of civilian casualties resulting from enemy air raids.

In calculating military requirements for hospital beds at home during the first two months after mobilisation it was proposed to provide on the scale of 2½ per cent. for the forces at home, i.e. 14,950 beds. As regards the expeditionary force, wastage during the first two months was computed at 30,000, of whom, according to the experience of 1914, 77 per cent. or 23,307 would be sick and wounded, an average of 3,000 a week. On this basis, again using 1914 figures for length of stay in hospital, the number of beds required at the end of two months would be 13,964. There would be some 9,000 beds provided overseas with the expeditionary force but, of these, 50 per cent. must be kept empty and ready for a sudden influx of battle casualties; 9,464 beds would therefore be needed in the United Kingdom for casualties evacuated for the expeditionary force. These, together with the 14,950 already mentioned as necessary for the home forces, produced a total of 24,414 beds as the requirements of the whole Army. As only 5,200 were available in military hospitals and reception stations, there was thus a deficit of 19,214 to be provided elsewhere.

It was considered that two principles should govern the arrangements made during peace-time for the provision of hospitals in war. First, such hospitals should be capable of functioning within a very short period after mobilisation and secondly, they should be capable of considerable expansion at a later date when circumstances required. It appeared that no better method of supplementing military hospital accommodation could be devised than the formation of general hospitals of the Territorial Army on the same lines as those which had proved so successful in 1914. These hospitals possessed two great advantages: in peace-time they were economical and on the outbreak of war, when the Regular Army was fully engaged, their mobilisation could be rapidly effected by T.A. Associations. It was therefore recommended that twenty-nine such hospitals each of 600 beds should be established at once to supplement the three already in existence. These thirty-two hospitals, when equipped, would provide 19,200 beds in all, thus the deficit would be made good and the number of hospital beds available on mobilisation brought up to the total required. Each hospital was to be provided with a peace establishment in order that it should be opened without delay on the outbreak of war.

The recommendations of this committee were accepted by the Army Council and in due course arrangements were made for the location and reservation of the hospitals, the reservation of buildings, the appointment of medical staff and peace-time cadres. These matters have already been described in relation to the raising of medical units of the Territorial Army.

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THE 1936 SUB-COMMITTEE

While this scheme was in the stage of discussion, a conference was held at the War Office, in May 1936, to decide upon the means to be adopted for the provision of medical staff. This conference was attended by members of the Army Medical Advisory Board and of the Army Medical Directorate Consultative Committee, and also by representatives of the Home Office, of the Ministry of Health and of the British Medical Association. A resolution was passed stating that although the conference was agreed as to the necessity of providing further hospital accommodation solely for military casualties, yet it was in their opinion essential that a central authority be set up immediately to co-ordinate arrangements made for the provision of medical staff and of hospital beds for all kinds of war casualties, while at the same time safeguarding the normal needs of the civil population. This resolution was brought to the notice of the Secretary of State for War and of the Minister for Co-ordination of Imperial Defence. The latter, in November 1936, appointed a special sub-committee of the Committee of Imperial Defence to consider the co-ordination of the medical arrangements of the country in war. The chairman of the sub-committee was Sir John Goodwin, formerly D.G.A.M.S., and the members comprised representatives of the Admiralty, the War Office and the Air Ministry, including the heads of the medical branches, and of the Home Office, the Ministry of Health, the Ministry of Pensions, the Department of Health for Scotland and the British Medical Association.*

The report of this sub-committee, issued in March 1937, contained much of importance to the policy of the medical services of the Army. In view of their very wide terms of reference, the sub-committee decided first, to consider the medical arrangements which, in a national emergency, would be required in connexion with war casualties among civilians and with the sick and wounded of the three fighting services at home or evacuated to the United Kingdom, from overseas; secondly, to make proposals for the co-ordination of these arrangements having regard also to the ordinary needs of the civil community; and thirdly, to make recommendations concerning the provision of personnel, hospital accommodation, transport and equipment. These questions were examined particularly in relation to the state of affairs probable immediately after the declaration of war when intensive attack from the air was to be expected.

Examination of the estimated requirements of the various departments in respect of hospital beds during the initial two months of war, showed that the demands of the fighting services were trivial in comparison with those of the civil departments. Whereas the number of beds

* See Emergency Medical Services. Volume I, Chapter 1.

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for military casualties was placed at 24,414, the Air Raid Precautions Department required no less than 268,000.* Consideration was then given to the question of whether or not it would be best to co-ordinate all medical arrangements by the establishment of a single administrative body to be responsible for the provision of hospital accommodation and personnel both for the services and for the civil population. It was decided that no such measure would be feasible, for it was highly desirable, if not essential, that casualties among the armed forces should remain under service control. The sub-committee specifically mentioned the grounds upon which they based their conclusion. Man-power was to be regarded as an all-important factor in war, and if personnel of the fighting forces were not under service control during the period of their stay in hospital, wastage was liable to occur; whereas the service organisation was designed to ensure the return of sick and wounded to duty within the shortest possible time compatible with physical fitness. Service personnel when in hospital were required to remain under a system of discipline which could not be exercised by a civilian staff; special records and machinery in connexion with invaliding and pensions were required in a hospital for service cases, and specially trained staff were necessary to carry out duties in regard to the pay, clothing and equipment of the patients. On the other hand, service control of civilians in hospital presented obvious and unnecessary difficulties.

The sub-committee, therefore, recorded the opinion that the War Office should remain independently responsible for dealing with casualties in the Army. They endorsed the action taken to establish twenty-nine additional general hospitals within the medical services of the Territorial Army and went so far as to issue an interim report expressing their concurrence, and advising that immediate steps be taken, in agreement with the ministries and local authorities concerned, towards the initiation of building contracts and other preliminary work. Of special significance was their statement that the proposals of the War Office did not appreciably encroach upon the accommodation available for the civil hospitals of the country. Nevertheless, while accepting the principle of an independent military hospital organisation, the sub-committee forecast the necessity, in the event of war, of establishing a controlling authority whose function it would be to co-ordinate the work of the various government departments, including the services, of local authorities and of public bodies, to determine the allocation of hospital accommodation for casualties, no matter from what source, and to adjudicate generally between all concerned in matters of common interest.

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* See Emergency Medical Services. Volume I, Chapter 1.

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ALTERNATIVE SUGGESTIONS BY MINISTRY OF HEALTH, 1938

The recommendations of this sub-committee were formally approved by the Committee of Imperial Defence and as therefore constituting a declaration of policy, were of assistance to the War Office in furthering their plans for increasing hospital accommodation for military personnel. But the course of events was entirely altered by circumstances attending the threatened outbreak of war in September 1938. Local civil authorities, anxious lest the demands of the Army should deplete their resources of medical personnel and hospital accommodation, voiced their apprehension in vigorous representations to the Ministry of Health. This Ministry thereupon prepared a memorandum on the subject, which the Minister of Health forwarded personally to the Secretary of State for War. This memorandum submitted the view that heavy casualties in the Army were unlikely to occur until some time after the outbreak of war when the expeditionary force was engaged overseas, whereas heavy casualties among the civil population were to be expected from the beginning. Steps had been taken to make available 240,000 hospital beds immediately on the declaration of war and a similar number in addition as soon as equipment could be obtained. The first was to be achieved by clearing the hospitals of all cases fit to return home, the second by expansion of accommodation. These arrangements in addition to the routine work of the hospitals would require large numbers of medical practitioners and nurses, but it appeared that on mobilisation many of them would be withdrawn by the Army in order to staff hospitals for potential military casualties. In like manner the reservation of accommodation for military hospitals would seriously reduce the total accommodation available for casualties in general. The Ministry was deeply perturbed by the prospect that such a drain on local resources would prejudice the efficiency of the civil administration. To overcome these objections the adoption of an alternative plan was urged. It was suggested that during the first two months of war, military casualties could be satisfactorily treated in civil hospitals under the same arrangements as those contemplated for civilians, thus ensuring that the accommodation available would be used to the best advantage and in the interest of all concerned. During this initial phase there would be opportunity in which to complete the organisation of the medical and nursing professions and to release the personnel required later for the purpose of the Army. It was even recommended that mobilisation should not extend immediately to medical units in the United Kingdom, except in the case of those required to proceed overseas at an early date.

On being referred to D.G.A.M.S. for his opinion these suggestions met with strong opposition. In his comments he drew attention to the fact that the total requirements of the whole Army during the first two

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months of war amounted to no more than 2,140 medical officers out of a total 43,500 registered medical practitioners, and 1,200 nurses out of a total of 89,000. Reference was made to the Sub-Committee (Committee of Imperial Defence) on Co-ordination of Medical Arrangements in War, which had, after careful investigation, decided that the Army should remain independently responsible for military casualties, and that the treatment of service casualties in civil hospitals was for a variety of reasons undesirable as well as uneconomical of man-power. An assurance was given that if military hospitals were not being fully utilised for military needs they would be made available for civilians.

In these expressions of opinion D.G.A.M.S. had the concurrence of the Adjutant General but again the Minister of Health approached the Secretary of State personally and once more urged acceptance of his proposals. He was specially insistent on the restriction of the scheme for the T.A. general hospitals but agreed that if a situation arose in which all military accommodation was filled, and more accommodation was required, then the time would have arrived for the establishment of more military hospitals or for the taking over of existing civil hospitals. In such circumstances he would be prepared to hand over to the Army, hospitals or portions of them completely equipped and staffed, on condition that notice of forty-eight hours was given to arrange for clearing the hospitals, and provided that reasonable facilities existed for the transfer of patients under treatment. The Secretary of State for Scotland associated himself with the Minister of Health in this undertaking, the terms of which are of importance in view of the controversy that arose on the subject after the outbreak of war.

REVERSAL OF MILITARY HOSPITAL POLICY

The question was then discussed at a conference attended by representatives of the War Office and of the Ministry of Health, and it was eventually decided, a decision subsequently confirmed by the Cabinet, that in consideration of the undertaking given by the Minister of Health, the Army should relinquish their call on twenty-five of the twenty-nine T.A. general hospitals then in process of formation, and retain only those at Shenley, Bath, Manchester and Glasgow. Thus was the principle established that for the most part the Army should depend upon civil hospitals for the accommodation of military casualties both from the home forces and from the forces overseas, and that the formation of new military hospitals or the extension of those already existing should be limited to making provision for special needs.*

This reversal of policy, occurring at so late an hour, completely destroyed the work of two years devoted to increasing the admittedly

* See Emergency Medical Services. Volume I, Chapter 1.

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inadequate hospital facilities of the country and cast aside the considered judgment of an expert committee which had studied the subject for some six months.

Underlying this new policy was the assumption that civil hospital arrangements were suitable for military patients, an assumption contrary to the considered opinion of the Committee of Imperial Defence. The results which followed from the application of this revised hospital policy for the Army during the war will appear as the story is told and its success no less than its shortcomings, due to inherent defects, will be made manifest.

The comments that are made herein display the point of view of the Army Medical Services, which were responsible for ensuring that the best possible hospital service should be made available to Army personnel. But these services were not unaware of the needs of the civilian population. This was a period when that which was ideal had to give place to that which was practicable. Those in authority were undoubtedly right in basing their plans upon the worst prognostications of the experts who advised them. They were correct in planning for the highest estimates of air raid casualties among the civil population. Because they so planned it became inevitable that the Army could not provide adequate hospital accommodation for its own sick and wounded.

The facts that civilian casualties from air raids did not occur shortly after the outbreak of war and that when they did occur they were far fewer than had been expected cannot be used in criticism of government action. In all medical planning of this kind it is necessary and customary to plan for the worst that can be expected. It is not unusual, therefore, to find that such planning turns out to have been extravagant. Reference to the narratives of the campaigns will reveal that time and time again far more hospital beds were provided than were actually needed. So it should always be.

It is now known* that between the outbreak of war and August 14, 1945, 144,079 Army personnel and 60,595 civilians were killed and 239,575 Army personnel and 86,182 civilians were wounded by enemy action. Since among the civilian wounded only those admitted to hospital are included, it seems probable that the total number of civilian wounded did not fall far short of the total number of Army wounded. Thus it appears that while both the civil and the military medical authorities were right in preparing for far larger numbers of casualties they were equally wrong in their estimates of what these numbers might be.

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* Cmd. 6832. Strength and Casualties of the Armed Forces and Auxiliary Services of the United Kingdom, 1939 to 1945.
Problems of Social Policy. R. M. Titmuss. H.M.S.O., 1950. Appendix 8.
See also Emergency Medical Services. Volume I, Chapter 6.

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PART II

An Account of the Events which during the War Years affected the Size, Composition and Efficiency of the Army Medical Services

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CHAPTER 7

MOBILISATION

MOBILISATION OF THE REGULAR ARMY

GENERAL mobilisation was ordered by Royal Proclamation on September 1, 1939. The Secretary of State for War was thereby authorised to give directions for the mobilisation of the Army and the calling out of the Army Reserve. Accordingly, on the same day, an Army Order* summarising these directions was issued by the Army Council and made public by poster and radio broadcast. This Army Order required that all officers of the R.A.R., including the S.R., and all men of the Army Reserve, including the Militia and S.R., should rejoin for duty in compliance with instructions issued; it provided that all soldiers due for transfer to the reserve or for discharge should be retained for service with the colours; it ordered the immediate embodiment of the Territorial Army, including the T.A.R.: and it prescribed September 2 as the first day of mobilisation.

The promulgation of this Army Order brought into operation the standing scheme for the mobilisation of the Army, and consequently the arrangements made in peace-time for placing the Army Medical Services on a war footing came automatically into effect. Personnel serving on the regular establishment in the United Kingdom had previously been notified of the appointments and duties to which they were allocated on mobilisation and of the stations or units they were then to join; officers and men of the R.A.R. and S.R. were also in possession of instructions informing them as to where they were to report in the event of their being called up for service. All ranks in these classes therefore assembled at their appointed places in accordance with the orders they had received. In the same way personnel of the Military Hospitals Reserve had during peace-time been allotted to R.A.M.C. companies, military hospitals and other medical establishments at which they would be required to replace regular soldiers in the event of war; they also assembled at their previously assigned stations immediately on mobilisation. On the embodiment of the Territorial Army, personnel of its medical services reported for duty at the headquarters of their units and as mobilisation of the Voluntary Aid Detachments was consequential upon the embodiment of the Territorial Army, V.A.D. members joined the medical establishments to which they too had been allocated by arrangements included in the scheme of mobilisation.

* Army Order 158 of 1939.

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With the exception of a relatively small number retained as nucleus staff for units and formations in the United Kingdom, all officers and men serving on the home establishment of the medical services were withdrawn from their peace-time stations to supply, along with the reservists recalled for service, the personnel required to provide the medical component of the first or regular contingent of the expeditionary force.

This force, due for despatch to the Continent within a few weeks of mobilisation, was to consist of two corps, with corps and army troops and lines of communication units. The commitments of the Army Medical Services in respect of this force were, (1) the provision of regimental medical officers for its combatant units, (2) the supply of staff officers and clerical personnel for the medical branch of the staffs at General Headquarters and at the headquarters of the various formations composing the force, that is to say, two corps, five divisions, one L. of C. area, two L. of C. sub-areas, two base sub-areas and one medical base sub-area, and (3) the raising of some sixty-four field medical units:

Field Ambulances	14
Field Hygiene Sections	10
Motor Ambulance Convoys	5
Casualty Clearing Stations	7
General Hospitals	13
Convalescent Depots	3
Ambulance Trains	6
Depots of Medical Stores	3
Mobile Laboratories	3

These requirements involved the provision of medical personnel numbering almost a thousand officers and more than eight thousand other ranks.

The field medical units which were mobilised for service with the first or regular contingent of the expeditionary force are shown in Table 1.

On the order for general mobilisation, officers and men detailed for duty with combatant units or with the medical branch of the staff had only to join the units or formations to which they had been appointed in accordance with instructions already given to them. For personnel allocated to medical units, matters were not so simple for the reason that, as has been recorded, the organisation of the medical services made no provision for the existence of field medical units, as such, in peace-time, and, consequently, it was necessary, on mobilisation, to form anew all units of this kind required for active service.

The numbers and types of medical units it was intended to raise had been determined at the time of preparing the general plan of contingent military operations, and the requisite number of personnel, regulars or reservists, of the ranks and trades required had already been allocated. For each potential unit a place of assembly, the headquarters

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TABLE I

Field Medical Units Mobilised for Service with the First Contingent of the Expeditionary Force

Unit	Parent Unit R.A.M.C.	Mobilisation		Embarked		Disembarked	
		Place	Day due for completion	Place	Date	Place	Date
No. 1 Field Ambulance	Depot	Crookham	7th day	Southampton	Sept. 19, 1939	Cherbourg	Sept. 20, 1939
,, 2 ,, ,,	,,	,,	7th ,,	,,	,, 22, ,,	,,	,, 23, ,,
,, 3 ,, ,,	,,	,,	8th ,,	,,	,, 24, ,,	,,	,, 25, ,,
,, 4 ,, ,,	2 Coy.	Aldershot	9th ,,	,,	,, 20, ,,	,,	,, 21, ,,
,, 5 ,, ,,	,,	,,	10th ,,	,,	,, 20, ,,	,,	,, 21, ,,
,, 6 ,, ,,	1 Coy.	,,	11th ,,	,,	,, 23, ,,	,,	,, 24, ,,
,, 7 ,, ,,	20 Coy.	Tidworth	12th ,,	,,	,, 29, ,,	,,	,, 30, ,,
,, 8 ,, ,,	,,	,,	13th ,,	,,	Oct. 1, ,,	,,	Oct. 2, ,,
,, 9 ,, ,,	,,	,,	14th ,,	,,	,, 3, ,,	,,	,, 4, ,,
,, 10 ,, ,,	10 Coy.	Shorncliffe	15th ,,	,,	,, 30, ,,	,,	,, 1, ,,
,, 11 ,, ,,	9 Coy.	Colchester	16th ,,	,,	,, 30, ,,	,,	,, 1, ,,
,, 12 ,, ,,	10 Coy.	Shorncliffe	17th ,,	,,	Oct. 2, ,,	,,	,, 3, ,,
,, 13 ,, ,,	8 Coy.	York	10th ,,	,,	Sept. 19, ,,	,,	Sept. 20, ,,
,, 14 ,, ,,	,,	,,	18th ,,	,,	,, 29, ,,	,,	,, 30, ,,
,, 1 Field Hygiene Section	Depot	Crookham	8th ,,	,,	,, 19, ,,	,,	,, 20, ,,
,, 2 ,, ,, ,,	1 Coy.	Aldershot	11th ,,	,,	,, 20, ,,	,,	,, 21, ,,
,, 3 ,, ,, ,,	4 Coy.	Netley	14th ,,	,,	,, 29, ,,	,,	,, 30, ,,
,, 4 ,, ,, ,,	9 Coy.	Colchester	17th ,,	,,	,, 30, ,,	,,	Oct. 1, ,,
,, 6 ,, ,, ,,	18 Coy.	Millbank	6th ,,	,,	,, 18, ,,	,,	Sept. 19, ,,
,, 7 ,, ,, ,,	,,	,,	18th ,,	,,	,, 28, ,,	,,	,, 29, ,,
,, 8 ,, ,, ,,	10 Coy.	Shorncliffe	10th ,,	,,	,, 18, ,,	,,	,, 19, ,,
,, 9 ,, ,, ,,	,,	,,	6th ,,	,,	,, 9, ,,	,,	,, 10, ,,
,, 10 ,, ,, ,,	,,	,,	7th ,,	,,	,, 12, ,,	,,	,, 13, ,,
,, 11 ,, ,, ,,	9 Coy.	Colchester	6th ,,	,,	,, 10, ,,	,,	,, 11, ,,
,, 1 Motor Ambulance Convoy	10 Coy.	Shorncliffe	8th ,,	,,	,, 12, ,,	,,	,, 13, ,,
,, 2 ,, ,, ,,	,,	,,	15th ,,	,,	,, 29, ,,	,,	,, 30, ,,
,, 3 ,, ,, ,,	,,	,,	8th ,,	,,	,, 12, ,,	,,	,, 13, ,,
,, 4 ,, ,, ,,	,,	,,	10th ,,	,,	,, 19, ,,	,,	,, 20, ,,
,, 5 ,, ,, ,,	,,	,,	15th ,,	,,	Oct. 18, ,,	,,	Oct. 19, ,,

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Table 1—continued.

Unit	Parent Unit	Mobilisation		Embarked		Disembarked	
	R.A.M.C.	Place	Day due for completion	Place	Date	Place	Date
No. 1 Casualty Clearing Station	Depot	Crookham	15th day	Southampton	Sept. 24, 1939	Cherbourg	Sept. 25, 1939
" 2 " " "	8 Coy.	York	10th "	"	" 19, "	"	" 20, "
" 3 " " "	10 Coy,	Shorncliffe	10th "	"	" 28, "	"	" 29, "
" 4 " " "	19 Coy.	Warrington	6th "	"	" 12, "	"	" 13, "
" 5 " " "	18 Coy.	Millbank	15th "	"	" 28, "	"	" 29, "
" 6 " " "	8 Coy.	Catterick	15th "	"	Oct. 11, "	"	Oct. 12, "
" 7 " " "	20 Coy.	Tidworth	15th "	Diverted to Norwegian Expeditionary Force			
" 1 General Hospital (1200 beds)	Depot	Crookham	8th "	Southampton	Sept. 15, "		Sept. 16, 1939
" 2 " " " "	"	"	8th "	"	" 15, "		" 16, "
" 3 " " " "	4 Coy.	Netley	8th "	"	" 15, "	Cherbourg	" 16, "
" 4 " " " "	"	"	6th "	"	" 13, "	"	" 13, "
" 5 " " " "	10 Coy.	Shorncliffe	15th "	"	Oct. 10, "	"	Oct. 11, "
" 6 " " " "	9 Coy.	Colchester	15th "	"	" 10, "	"	" 11, "
" 7 " " (600 beds)	20 Coy.	Tidworth	6th "	"	Sept. 10, "	"	Sept. 11, "
" 8 " " " "	10 Coy.	Shorncliffe	8th "	"	" 12, "	"	" 13, "
" 9 " " " "	19 Coy.	Warrington	8th "	"	" 12, "	"	" 13, "
" 10 " " " "	13 Coy.	Edinburgh	15th "	"	" 24, "	"	" 25, "
" 11 " " " "	4 Coy.	Netley	15th "	"	Dec. 14, "	"	Dec. 15, "
" 12 " " (1200 beds)	20 Coy.	Tidworth	15th "	Dispatched to Middle East			
" 13 " " " "	"	"	15th "	Southampton	Jan. 19, 1940	Cherbourg	Jan. 20, 1940
No. 1 Convalescent Depot . .	Depot	Crookham	15th "	"	Sept. 24, 1939	"	Sept. 25, 1939
" 2 " " . .	"	"	21st "	"	Oct. 12, "	"	Oct. 13, "
" 3 " " . .	"	"	21st "	"	Feb. 7, 1940	Le Havre	Feb. 8, 1940
No. 1 Ambulance Train . .	4 Coy.	Netley	8th "	"	Sept. 15, 1939	Cherbourg	Sept. 16, 1939
" 2 " " . .	"	"	8th "	"	Sept. 15, "	"	" 16, "
" 3 " " . .	"	"	8th "	"	" 15, "	"	" 16, "
" 4 " " . .	"	"	8th "	"	" 15, "	"	" 16, "
" 5 " " . .	"	"	9th "	Harwich	Jan. 25, 1940	Dieppe	Jan. 26, 1940
" 6 " " . .	"	"	8th "	"	" 29, "	Calais	" 31, 1940
No. 1 Advanced Depot Med. Stores	10 Coy.	Shorncliffe	10th "	Southampton	Sept. 18, 1939	Cherbourg	Sept. 19, 1939
" 2 " " " "	"	"	15th "	"	" 28, "	"	" 29, "
No. 1 Base Depot Medical Stores .	Depot	Crookham	8th "	"	" 12, "	"	" 13, "
No. 1 Mobile Hygiene Laboratory	12 Coy.	Woolwich	15th "	"	" 26, "	"	" 27, "
No. 1 Mobile Bacteriological Lab.	"	"	10th "	"	" 16, "	"	" 17, "
" 2 " " "	"	"	15th "	"	" 26, "	"	" 27, "

Note:—First day of mobilisation is the first day following that upon which the order to mobilise is dated. By Army Order 158 of 1939 the second day of September was prescribed as the first day of mobilisation.

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of one of the R.A.M.C. companies or the R.A.M.C. Depot, had been assigned, and, on the order to mobilise, the personnel who were to form the unit duly assembled at the prescribed place in accordance with the instructions previously issued to them. Units in process of assembly and mobilisation were administered by the appropriate R.A.M.C. company, or by the R.A.M.C. Depot in the case of units mobilising there, which acted in the capacity of parent unit in regard to the allocation of personnel, documentation, issue of kit and personal equipment, etc. All medical stores and equipment required by units when dispatched on active service were collected, assembled and allocated in peace-time. Equipment of the lighter kind, for example, that pertaining to a field ambulance or a casualty clearing station, was held in store at the mobilisation station assigned to the unit concerned, was subsequently issued direct to the unit in process of mobilisation and thus actually accompanied the unit on its departure overseas. The heavier equipment, such as that of a general hospital or of an advanced or base depot of medical stores, was retained at the Army Medical Store at Woolwich and was despatched overseas as unaccompanied stores for onward transmission to the unit to which it belonged.

When dealing with the policy of rearmament before the war it was explained that the expansion of the Army and the building up of the field force was a task occupying several years and involving a series of intermediate stages in the course of accomplishment. Consequently the plans made for the employment of the expeditionary force in the event of war necessitated the preparation of an intermediate plan to cover the period that must elapse during the process of expansion and before completion of the programme would permit the execution of the ultimate scheme of military operations. This intermediate plan was itself divided into a series of phases corresponding to, and dictated by, the successive stages reached in the building up of personnel and material. As one phase succeeded another the size of the expeditionary force increased and its composition changed, thus entailing alteration in the number and categories of field medical units to be raised and in the allocation of personnel among them.

It so happened that September 1, 1939, was the date appointed for the change from an earlier to a later phase in the operational plan and therefore, in the scheme of mobilisation. This fact added further complication to the already intricate machinery of mobilisation and led to some confusion in the allocation of personnel to units due to be mobilised. Moreover, for reasons already stated, such as the reinforcement of overseas garrisons necessitated by the international situation and other emergencies, there were still marked deficiencies in the home establishment of the medical services and the number of personnel available was still below that required to fulfil all mobilisation requirements. The

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result was that in the end most medical units mobilised at a strength approximately 10 per cent. below official war establishment.

These considerations apart, mobilisation of medical units was rapidly and efficiently accomplished. Within three weeks of the declaration of war, thirty-six units of one kind or another had been dispatched to France; ten more left before the end of September, and, by the middle of October, fifty-six of the sixty-four field medical units included in the scheme of mobilisation were with the expeditionary force. The remaining eight units—one motor ambulance convoy, one casualty clearing station, three general hospitals, one convalescent depot and two ambulance trains—followed later or else were diverted to other destinations.

MOBILISATION OF THE TERRITORIAL ARMY

Mobilisation of the medical services of the T.A. was subject to conditions which differed in several respects from those applicable to the regular forces. That part of the Territorial Army converted into an anti-aircraft arm for the defence of Great Britain had been partially deployed in June 1939, and thereafter maintained in position on a scale of a quarter of its strength. This organisation with its medical services was therefore already functioning, if only in skeleton form, at the outbreak of war. Medical equipment, transport and accommodation sufficient for the opening phase were available at points previously selected, and it remained to complete the establishment of personnel on the embodiment of the T.A. as a whole. The position was much the same in respect of coast defence units which were also derived from the Territorial Army and which had been called to their stations during the precautionary period before mobilisation.

As regards field units of the Territorial Army, e.g. infantry, artillery, etc., these were already supplied with their regimental medical officers, for these had been attached to them in peace-time and consequently mobilised with them on the outbreak of war. Even the duplicate, or second line, units raised only a short time before the war were well provided for in this respect. Apart from these regimental medical officers and a few senior staff officers, the medical component of the Territorial Army was composed entirely of field medical units. Most of these on embodiment consisted only of a peace-time cadre, although some had recently been maintained on full war establishment, but in any case their personnel included an administrative nucleus among which were the commanding officer, the quartermaster, and senior N.C.Os. Mobilisation therefore involved, in the first instance at least, expansion of existing units rather than creation of new units. This is not to say that the medical services of the T.A. as then constituted were all sufficient. On the contrary, while well supplied with field ambulances

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on the normal scale, i.e. three to an infantry division and two to a motorised division, there was a paucity of C.C.Ss. and general hospitals. Moreover, none of these units was complete in respect of equipment, that which was held in peace-time being intended to suffice for training purposes only. However, as no units of the Territorial Army were due to depart overseas until the despatch of the second contingent at a date not earlier than three to four months after mobilisation, there was ample time in which to supply all requirements. After embodiment, field ambulances and later, field hygiene sections of the T.A., joined their divisions concentrating in various parts of the country previously selected and allocated as training areas. Here, as part of the field formations which would ultimately constitute the second increment or subsequent contingents of the expeditionary force, they engaged in unit and divisional training in preparation for active service. Casualty clearing stations and general hospitals opened in buildings provisionally reserved for them before the outbreak of war; theirs was a dual function, that of unit training and at the same time assisting in the accommodation and treatment of military patients.

CONFUSION FOLLOWS UPON MOBILISATION

The withdrawal of officers and other ranks of the R.A.M.C. for the mobilisation of the expeditionary force depleted administrative medical staffs, military hospitals, and other medical establishments at home of almost all their regular personnel. Their places were taken by retired officers re-employed, by temporarily commissioned officers and by civilian medical practitioners, also by warrant officers, N.C.Os. and men of the M.H.R. and by members of the V.A.Ds. To indicate the drastic nature of this supersession and the extent to which it was effected, mention may be made of the situation resulting in one particular command. There, at the outset of mobilisation, all save one of the personnel constituting the medical branch of the staff at command headquarters were withdrawn and replaced, the sole survivor being the chief clerk; at the same time the central hospital of the command was almost completely denuded of its former personnel and placed in the charge of a re-employed retired regular officer assisted by a medical staff composed entirely of part-time civilian medical practitioners and by other ranks who, including the warrant officers and senior N.C.Os., were for the most part but newly enlisted from the Military Hospitals Reserve.

The expedient of employing retired officers and erstwhile civilians in substitution for regular personnel released for service with the expeditionary force was in no sense a resort to opportunism but an essential part of the scheme for the mobilisation of the medical services and, as such, had been the subject of long and careful preparation. Nevertheless, no matter how carefully planned or how meticulously

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arranged, no device entailing so comprehensive a transfer of administrative and executive responsibility could be brought into operation without causing some confusion and disorganisation. Just at the time when existing units were mobilising and when new units and training centres were forming, when reservists and volunteers were joining the colours in large numbers and the Territorial Army was being embodied, when wholesale medical examination was urgently required and casualties from enemy air raids were hourly expected, when indeed, for every reason, the demands upon the medical services, in proportion to their resources, were heavier than they were ever likely to be in future, then it was that administrative and executive functions were largely in the hands of those whose acquaintance with the situation was strictly limited. Temporarily commissioned officers and junior hospital reservists had little if any practical experience of military organisation and procedure, while re-employed retired officers called from the reserve, although conversant with military matters in general, had no knowledge of current arrangements beyond the fragments they were able to glean in the few days they had spent, during the precautionary period immediately before mobilisation, with those they were about to relieve. In circumstances such as these and under the pressure of current events, the wonder is not that some confusion resulted but, rather, that utter chaos was avoided. Even so, sheer necessity compelled the adoption of this measure, despite its many shortcomings, for there could be no alternative while the Army Medical Services remained at a strength which provided but little margin between field force commitments and total home establishments.

THE IMMEDIATE TASKS OF THE ARMY MEDICAL SERVICES IN RELATION TO A NATIONAL ARMY IN THE MAKING

The medical component of the first contingent of the expeditionary force having been mobilised, the Army Medical Services at home were confronted with a twofold task: first, the building up of an organisation, sufficiently comprehensive in scope and versatile in character, to undertake the many functions, preventive and curative, involved in the medical care of a national army in the making; and secondly, the raising of the units and the training of the professional and technical personnel required to constitute a fully integrated field medical service of dimensions proportionate to future military undertakings.

In the meanwhile, and especially during the first weeks of the war, the demands made upon the medical services by the intense military activity of those early days strained available resources to the utmost. The expansion of existing garrisons and units, the raising of new units for one purpose or another, the formation of training centres of various kinds and the opening of new military camps throughout the country

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called for the provision of medical staff to an extent as yet beyond the capacity of the Army Medical Services. Apart altogether from the question of routine arrangements to provide medical attendance for sick and injured, all reservists and recruits and, in fact, all personnel joining the colours from whatever source, required initial physical examination to determine not only their fitness for military service but also the category or arm in which they were fit to serve. This examination, the vaccination, inoculation and the individual documentation entailed, required the attention of more medical officers than were available for these duties. Assistance was obtained by the employment of civilian medical practitioners, a few of them on a full-time contract, but most on a part-time or capitation basis. Results were not entirely satisfactory, for medical practitioners employed in a part-time capacity were unavoidably irregular in their attendance and liable to emergency calls in connexion with their private practices. In spite of its many disadvantages, including that of expense, this system provided the only possible means of meeting the situation, since the demand for medical officers continued for some time to exceed the supply, although medical practitioners in large numbers were already volunteering for service in the R.A.M.C. Indeed, the number was so great that the procedure involved in their preliminary interview and physical examination threw a heavy additional volume of work upon the already overburdened medical staff at headquarters of commands and at military hospitals. Events in this respect more than warranted the suggestion made by the Army Medical Directorate before the war, unfortunately too late for practical application, that both interview and physical examination of medical practitioners prepared to volunteer for service in war should be completed in peace-time so as to obviate one source of overtaxing the medical administration at the time of mobilisation.

In order to provide for the rapidly increasing number of sick occasioned by the growth of the Army, the accommodation in military hospitals and reception stations required expansion to the utmost capacity of the buildings available. It was also necessary to enlarge special departments for the purpose of affording facilities for the examination of the large number of cases referred to military hospitals for specialist opinion. All these establishments therefore required large additions to staff and to equipment, both medical and ordnance, which were supplied as they became available. To make provision for the accommodation of those suffering from minor ailments or trivial injuries and not in need of the more elaborate means of treatment and nursing provided by a fully equipped hospital, small camp hospitals, later designated camp reception stations, were established in connexion with training centres, camps, and other concentrations of troops. For these establishments medical officers were provided by the units stationed in the camp

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or in the neighbourhood; in supplying subordinate personnel, V.A.D. members were used to supplement other ranks of the R.A.M.C.

In addition to medical arrangements as applied to the individual soldier, the medical services were from the outset of the war closely concerned with the physical welfare of the Army as a community, particularly in respect of its accommodation and environmental conditions generally. Existing accommodation in barracks and camps, increased though it had been for the reception of the militia raised shortly before the war, could not contain more than a small fraction of the total number of troops under arms even in the first few weeks after mobilisation. The extension of standing camps and buildings, and the construction of new camps of a permanent or semi-permanent kind were put in hand forthwith. The medical services were vitally interested in, and intimately concerned with, the inception and execution of the vast building programme thus initiated, for many of these camps were of a size which rendered the process of their design and preparation an adventure into the realms of town planning involving all the considerations of hygienic principle and practice which that implied. Much of the time of medical officers, and more especially those of the hygiene branch, was occupied in collaborating with the R.Es. and others engaged in this extensive undertaking.

From the medical aspect, however, the quartering of troops presented more urgent and perplexing questions than that of offering expert advice in the production of embryonic military townships. Permanent camps required time for their construction, and in the interval, there was a large number of troops to be housed as could best be arranged; thus it was the task of the medical services, centrally and locally, to ensure that everything was done to render conditions as favourable as circumstances would permit. Many and various were the difficulties encountered both in rural and in urban areas. In the former, pending the erection of permanent or semi-permanent buildings, it was necessary to have recourse to tented camps and often to make use of sites which were unduly water-logged, exposed, or otherwise unsuitable, and which would have been rejected had not considerations of an operational nature dictated their acceptance. In many districts normal utility services, such as water supplies, lighting, and sewerage, were inadequate or even absent. These deficiencies gave rise to endless complications until made good by new construction. It followed, therefore, that in spite of all efforts to obtain the best that improvisation could achieve, the hygienic and sanitary state of many of these camps was, for a time, far from satisfactory. To maintain the health of troops under these conditions and to prevent disastrous results from the general deterioration in those conditions that the onset of winter would inevitably occasion, demanded the greatest vigilance and energy on the

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part of the Army Medical Services administrative staff and regimental medical officers alike.

In the towns, the quartering of troops involved different if no less anxious features. The number of buildings designed or readily adaptable for communal life was small and the number that could be requisitioned for military purposes was still smaller, being confined to a few residential schools or hostels from which the peace-time inhabitants had been evacuated. Day schools, factories, warehouses and so forth provided large rooms suitable as sleeping accommodation for troops, but lacked the necessary cooking, washing and sanitary facilities. All these accessories had to be installed in such buildings of this kind as were handed over to the military authorities. For the most part, however, and particularly at first, troops stationed in towns were quartered in small buildings and dwelling houses requisitioned for the purpose. Dwelling houses intended for occupation by one family presented the same lack of kitchen and sanitary accommodation, in proportion to the number of troops now quartered in them, as was evident in the larger buildings already mentioned. Moreover, the small rooms to be found in the great majority of dwelling houses were unsuitable as barrack rooms, were difficult to ventilate under blackout conditions, and lent themselves to overcrowding particularly when, as was often the case, units were unavoidably split into small parties and so less susceptible to supervision. The quartering of troops under these conditions during the first few months after the declaration of war was something of a nightmare to administrative medical officers who had the threat of epidemics of cerebro-spinal fever and of respiratory diseases ever in mind. The best that could be done was to maintain a system of constant and meticulous inspection and so provide a means by which the more formidable of these danger spots might be detected and subsequently eradicated, also to make insistent and oft repeated representations for more and better accommodation and for the more general recognition of sanitary precepts, all of which were dependent in no small measure upon the capacity of the seriously overtaxed engineering services to supply the required material and labour.

With a view to controlling the situation generally, quartering committees were set up in military administrative areas and were charged with the responsibility of finding accommodation and preparing it for the reception of troops. These committees, which included medical representatives among their members and upon their executive staff, sufficed to place the quartering of troops upon an organised basis and to put an end to the indiscriminate use of any accommodation that happened to be available. But even yet the primary consideration was still the provision of a roof and shelter and, while the supply of labour and material continued at a level so far below what was required, it

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followed that demands for hygienic amenity remained perforce but incompletely satisfied and that the medical services were only partly relieved of an anxious pre-occupation.

Two other matters are worthy of note as the cause of some worry and complication in medical administration at the outbreak of war. These were the provision of medical stores and the transport of sick. The large number of units suddenly brought into active existence by the embodiment of the T.A., the formation of new training centres, the opening of supply depots, the concentration of transport and maintenance groups, and the enrolment of home defence battalions, to mention but a few, occasioned the establishment of new medical inspection rooms and first-aid posts in almost unlimited numbers. All required stocking with drugs, dressings and the simpler surgical instruments and appliances. At the same time hospitals and reception stations were in process of expansion, and new camp hospitals were being opened in all directions. The central depots of medical stores established in each command and sufficing for all peace-time needs were now inundated with requests for medical supplies in such numbers and of such proportions as to be utterly beyond the physical capacity of the available staff to fulfil as rapidly as they were received. The process of selection, packing, despatch and transit to outlying districts itself involved a lapse of time which no staff, however large, could have obviated, meanwhile the supplies were urgently needed by medical officers all over the country. Military hospitals and reception stations held limited stocks barely sufficient for their own needs, and although as much assistance as possible was forthcoming from these sources it was far from being adequate to meet requirements. The end result was that medical officers in charge of troops and medical inspection rooms, many of them with little or no military experience, saw no alternative but to obtain urgently needed drugs, dressings, etc., by direct purchase, authorised or unauthorised, from local retail firms of chemists and druggists. Not only did this method involve unduly high purchase prices but it also left a legacy of confusion in accounting when, in the course of time, often long after the departure of the unit concerned, bills were presented for payment in respect of goods supplied but not accounted for in the usual official manner. Eventually, however, these difficulties disappeared as medical officers grew more accustomed to methods of procedure and as the demand for drugs, dressings and medical equipment in general became less acute. Furthermore, the staff and space at the disposal of medical storekeepers were increased, and improved organisation made the supply of articles easier and their distribution more rapid.

In the matter of transport of sick from unit lines to hospital, and from one hospital to another, the medical services at first laboured

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under serious disadvantages. While the motor companies of the Auxiliary Territorial Service (A.T.S.), at the time consisting almost entirely of personnel raised under the auspices of the First Aid and Nursing Yeomanry (F.A.N.Y.), had a sufficiency of competent and experienced drivers, there was an acute shortage of suitable vehicles. The number of motor ambulance cars available was quite inadequate to meet the needs of the moment, and it was therefore necessary to resort to the requisitioning of privately-owned vehicles and to fit them with special apparatus designed to permit the carriage of stretchers. The vehicles chosen for conversion into improvised ambulance cars were medium sized covered vans used in the retail distributing trades, small furniture vans and others of much the same type, but unfortunately the demands made by the Army for transport of this kind were so great that many of the vehicles obtained were found to be in various stages of decrepitude. The appearance of some of those allocated for use as ambulances suggested that they had for many years past lain untended and forgotten in some out of the way corner and would long since have been relegated to the scrap heap but for the possibility of war and the consequent opportunity for their profitable disposal. In addition to those completely unsuitable, many were partially so, and much time and labour were expended in keeping them on the road. In these circumstances the maintenance of a fleet of vehicles for the transport of sick was fraught with difficulty and inconvenience to all concerned. Ambulance cars provided by the B.R.C.S. and placed at the disposal of the Army Medical Services were of the very greatest help, as was the assistance of a similar kind forthcoming from the voluntary ambulance associations, local public health authorities, and other bodies. These resources, together with the employment of improvised methods by which the less seriously sick were transported in ordinary military vehicles, sufficed to ease the situation until finally overcome by the production and supply of military ambulance cars in the requisite numbers.

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CHAPTER 8

THE EVOLUTION OF THE ARMY MEDICAL DIRECTORATE DURING THE WAR

BEFORE discussing the administrative changes and developments affecting A.M.D. and taking place after the outbreak of hostilities, passing reference may be made to the fact that the Directorate occupied no less than four different buildings in London in succession during the war. It should also be mentioned that in the autumn of 1940 it was decided to carry into effect the arrangements that had been previously prepared for the dispersal of the War Office and for the evacuation from London of some of its branches. Certain sections of the Army Medical Directorate were affected. These included part of A.M.D.1, which was evacuated in company with other personnel branches, A.M.D.2 (Stats), the section of A.M.D.3 concerned with officers' medical boards, and the whole of A.M.D.4; all these moved to Cheltenham in October 1940. This dispersal, which inevitably resulted in some administrative inconvenience and delay, was of comparatively short duration, for in December 1941, the detached portion of A.M.D.1 returned from Cheltenham, and other sections followed in the course of the next few months; by August 1942, the components of the Directorate were once more concentrated in London.

On mobilisation certain changes in organisation came automatically into operation. The Directorate of Pathology, removed from the War Office in 1932 and since that date consisting only of the director who was on the staff of the R.A.M. College, was re-established as the seventh branch, A.M.D.7, of the Army Medical Directorate. All branches were reinforced as regards their staffs, new sections to deal with specific subjects were opened within these branches, and work re-allocated where necessary. In A.M.D.2 and A.M.D.3 the D.A.Ds.G. already in charge were upgraded to A.Ds.G., these two branches thus being brought into line with A.M.D.1, the head of which was the A.D.G. included within the peace-time establishment of the Directorate.

Early in 1940 it became apparent that the collection and compilation of medical statistics represented a formidable task and one quite beyond the capacity of the small section in A.M.D.2 by which this work was then undertaken. It was appreciated that a special organisation was required for the purpose, and accordingly a statistical section, designated A.M.D.2 (Stats), and consisting of a large number of statistical clerks with a staff of photostat operators was brought into being and placed under the control of a civilian statistician appointed in April 1940. Some fifteen

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months later the section was reorganised and a staff captain, later raised to the grade of D.A.D.G., replaced the statistician as the officer in charge.

A change of considerable administrative importance was made in May of the same year. During peace-time all matters concerned with the raising and mobilisation of field-force units in war were in the hands of A.M.D.1, the personnel branch. This arrangement continued in force after the outbreak of hostilities, but it soon became clear that a special and self-contained staff was necessary to undertake the increasing volume of work in connexion with the raising and training of field medical units, their mobilisation and allocation to the various theatres of war and commands overseas, and with the organisation of the medical services in the field as dictated by military as well as medical considerations and the general plan of campaign. An operational or planning branch was therefore constituted and designated A.M.D.8 under the charge of an A.D.G. This branch, which initially consisted only of three officers and a few clerks, subsequently expanded as its scope widened and its responsibilities multiplied. A section was added for the purpose of investigating and devising modifications or new patterns in medical equipment to meet special needs such as those of mountain warfare, airborne operations, combined operations, etc. The preparation of all medical war establishments, including those of static units in the United Kingdom as well as those of field units, was later transferred to this branch; and, with the entry of the United States of America into the war, and the arrival of United States troops in this country, there arose the necessity for close liaison and co-operation between the medical services of both countries. This also was made a responsibility of A.M.D.8 whose functions were officially described as follows:

(*a*) organisation, raising and mobilisation of individual field force medical units;
(*b*) organisation of the medical services in the field and the correlation of medical units to each other;
(*c*) modification and alteration in the personnel, equipment and activities of medical units in the light of experience gained in battle;
(*d*) evolution of special medical units for special purposes;
(*e*) planning of medical arrangements for the various theatres of war including those peculiar to certain kinds of warfare, e.g., arctic, mountain warfare, etc.;
(*f*) preparation of all medical war establishments;
(*g*) co-ordination between the Army Medical Directorate and operational branches of the War Office;
(*h*) liaison with medical services of the Dominions and Allies; and
(*i*) design, modification and trial of medical appliances and equipment for field use.

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On the outbreak of war, the organisation and disposition of the medical services were initially determined by the strategic plan for employment of the Army brought automatically into effect by mobilisation. Subsequently, various modifications and changes came about from time to time as dictated by developments in the general situation and by projects for specific undertakings of one kind or another. Planning in regard to the evolution and future use of the medical services, and particularly those of the field army, was thus based primarily upon the programme of military operations and was, therefore, a matter for collaboration and concerted action by the General Staff and the Army Medical Directorate. Given the nature and scope of a prospective campaign and the natural conditions under which it was to be conducted, the General Staff decided the size and constitution of the force required and, in conjunction with the Army Medical Directorate, the range and composition of its medical component. The form and extent of the medical provision to be made was indicated partly by the standard scales prescribing the number and category of medical units allocated to each division, corps, or other formation, and partly by consideration of the various special features, military, climatic, or epidemiological, likely to be presented by that particular campaign. In so far as these special features would become operative, accepted standards required modification, thus the adoption of a higher scale of hospital accommodation to cope with the higher sick-rate pertaining to tropical countries. The basis of the medical component having been settled, the Army Medical Directorate then proceeded with the preparation of the personnel and units required. When available, existing units were selected and nominated for inclusion in the order of battle, while new units were raised and formed as necessary; all of them were brought up to war establishment scales in personnel, equipment, and transport, and arrangements were made for their training, for their allocation to the appropriate field formations and, finally, for their mobilisation and dispatch. Not infrequently sudden changes in the military situation created new demands compelling revision of previous designs, the postponement or even the abandonment of half-completed preparatory measures, and the diversion of forces intended for one enterprise in order that they might undertake another. Consequently, forecasts of medical requirements and the provision necessary to meet them passed through many vicissitudes. Medical planning was therefore far from being stereotyped but was subject to constant alteration and adjustment in conformity with the exigencies of the moment.

Accounts of the preparatory planning in connexion with the different campaigns will be found in those volumes of this history which present the narratives of these campaigns.

The next new branch to be formed in the Directorate was A.M.D.9 which came into being in October 1941. This was a development of

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the provision already made to meet the special needs of the Auxiliary Territorial Service and other female personnel of the Army. In November 1940, a woman medical adviser (W.M.A.) had been appointed to advise the D.G., in these matters, and women medical advisers had also been appointed locally to the medical staffs of commands. Questions concerning the requirements of the A.T.S. in regard to their medical examination, their health, living accommodation, feeding and clothing, and such matters as the provision of hospital accommodation for the treatment of their sick very soon assumed considerable proportions owing to rapid expansion of that service. Moreover, a large number of voluntary bodies and societies of various kinds were exhibiting deep interest in the welfare of the women's services, much of this interest having implications of a medical or hygienic kind and involving the expenditure of no little time in correspondence and in attendance at committee meetings on the part of the staff of the Army Medical Directorate generally. It therefore became expedient to establish a new branch consisting of an A.D.G., formally styled woman medical adviser, a staff-captain chosen from among the female medical officers serving with the R.A.M.C., and a clerical staff. The duties undertaken by this branch were:

(*a*) to advise the D.G. on all health matters relating to the A.T.S.;
(*b*) to advise the Director, A.T.S., on the administrative aspects of these matters;
(*c*) liaison with other branches of the Army Medical Directorate and the Director of the A.T.S.;
(*d*) co-ordination of duties of women medical advisers in commands;
(*e*) supervision of training of A.T.S. personnel in hygiene; and
(*f*) liaison with public bodies interested in the medical welfare of the women's forces.

During the same month the appointment of Inspector of Medical Services was re-established on a basis very similar to that which obtained during the 1914–18 War. On the return of the expeditionary force from France the officer who had held the appointment of consulting physician to that force was employed in visiting hospitals of the Emergency Medical Services of the Ministry of Health and the Department of Health for Scotland, in which military patients were accommodated. It was intended in this way to relieve D.Ds.M.S. in commands of the duty of inspecting these hospitals for the purpose of assisting civilian hospital authorities in the administration of military patients and in expediting the disposal of convalescent cases. Later, these duties were extended to cover military medical establishments and units in addition to civil hospitals. Eventually it was sought to revise the scope of this inspectorate in such a way that its function should be directed towards the military rather than the professional side of the

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medical services. As now contemplated, the Inspector of Medical Services was to form part of the Army Medical Directorate and was to:

(*a*) inspect the training of all medical units in order to ensure uniformity;
(*b*) advise on modifications or alterations in personnel, equipment and transport, necessitated by developments in modern warfare;
(*c*) study and advise on the operational functions of field medical units; and
(*d*) maintain liaison with other arms and departments of the service in connexion with all field exercises, combined operations, air co-operation and war courses.

Recommendations to this effect were made in September 1941, and the appointment was approved and filled in the following month.

An examination of the working of all branches in the War Office was carried out during 1941 by the War Office Directorate of Investigation and Statistics. As a result, it was found that in the case of the Army Medical Directorate there was some overlapping between the various branches, and that some of them were performing duties outside the functions strictly applicable to them. For example, questions relating to the invaliding of other ranks and the relation of their disabilities to military service were referred to A.M.D.2, whose chief concerns were hospital accommodation and treatment, while the subject of medical boards upon officers was dealt with by A.M.D.3, the branch whose duties were primarily related to medical supplies and equipment. At the same time all branches were to some extent engaged in the preparation and amendment of regulations affecting the medical services and with medical documentation generally.

The result of the investigation was the formation within the Directorate of a new branch, A.M.D.10, consisting of two sections. One of these was to concern itself with:

(*a*) medical boards both for officers and for other ranks;
(*b*) invaliding of unfit personnel;
(*c*) the assessment of disability in relation to military service;
(*d*) investigation of inquiries arising out of the foregoing;
(*e*) medico-legal questions, e.g., claims in respect of traffic accidents caused by military vehicles; and
(*f*) censorship of articles for publication in the medical press.

The second section was intended to act in a secretarial capacity for the whole of A.M.D. and to co-ordinate its activities with other departments and to undertake medical documentation, and the preparation, publication and amendment of instructions for the medical services.

This branch, under the charge of an A.D.G. and including four other staff officers, was inaugurated in January 1942. No addition in total personnel was involved since the staff of the new branch was derived

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from those already employed in the duties now transferred from other branches.

The most significant administrative development made during the year 1941, however, was the appointment of an additional D.D.G. This innovation was the direct result of the fact that within the Directorate there were some nine directors or heads of branches and almost as many consultants all of whom had the right of direct approach to the Director-General whose time was thus unduly occupied in interviewing these officers and in giving decisions upon matters which in many cases could have been settled without his personal attention. Having regard to his duties outside the Directorate, with other branches of the War Office, with technical committees, and with public bodies etc., the burden of work became excessive and called for relief, the more so because much of it was within the official competence of the existing D.D.G. and might well have been undertaken by him but for the fact that he was similarly burdened with both operational and administrative matters.

So it came about that provision was made for two D.Ds.G., one of whom undertook responsibility for medical planning and the operational functions of the medical services, while the other assumed charge of administrative affairs.

Their respective duties were defined as follows:

D.D.G.A.M.S. (*Operations*)

(*a*) questions relating to the operational aspects of medical units and formations of the field force, including the subject of medical and ordnance equipment;

(*b*) policy regarding man-power required to meet the commitments of the medical services at home and abroad and all war establishments for the medical services;

(*c*) policy regarding special training requirements of field force medical units;

(*d*) policy regarding medical attendance, including treatment in hospital, at overseas garrisons;

(*e*) policy regarding utilisation of offers of service through voluntary bodies for service overseas;

(*f*) co-ordination and liaison with representatives of the Dominions and Allies; and

(*g*) policy regarding medical services of the Home Guard.

D.D.G.A.M.S. (*Administration*)

(*a*) policy regarding the provision and promotion of all personnel for the medical services, including Q.A.I.M.N.S., V.A.D., and other auxiliary services;

(*b*) policy regarding medical attendance and hospital arrangements at home and matters connected therewith, e.g., medical boards, medical complaints, etc ;

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(*c*) policy regarding training of all ranks of the medical services other than in special requirements;
(*d*) the selection of officers for appointments in all headquarters formations and for command of medical units;
(*e*) policy regarding intakes of personnel to meet the requirements of medical services at home and abroad;
(*f*) policy in questions of release, promotion and pay and of Army Council appeals, in regard to personnel of the medical services;
(*g*) policy regarding personnel of the medical services who are prisoners-of-war;
(*h*) policy regarding Geneva Convention, interpretation, etc.;
(*i*) internal economy and administration of the Army Medical Directorate, including that of consultants; and
(*j*) policy of medical administration of A.T.S.

It was expected that when the work of the Directorate had been divided and allocated in this way most questions would be satisfactorily decided by one or other of the D.Ds.G. and that reference to the Director-General in person would be necessary only in exceptional cases. The right of direct access to the D.G. possessed by directors and consultants remained unimpaired, but it was intended that this right should be exercised sparingly and only when a decision could not be reached after discussion with the appropriate D.D.G.

As a means of exercising closer control of psychiatry throughout the medical services and of co-ordinating the work of psychiatrists and other departments of the War Office engaged in the application of the principles of psychology, the Directorate of Army Psychiatry (A.M.D.11) was set up in April 1942. The duties of this directorate were as follows:

(*a*) to supervise the selection, training and allocation of psychiatrists within the medical services;
(*b*) to decide the lines of psychiatric treatment to be adopted in clinics and hospitals;
(*c*) to make contact with E.M.S. and the Board of Control of the Ministry of Health;
(*d*) to advise on the psychiatric aspects of recruiting, selection, grading and allocation of duties of officers and other ranks; and
(*e*) to advise, from the psychiatric aspect, upon training, discipline and morale.

The establishment included the Director of Army Psychiatry, in the rank of colonel, and a staff of specialists in psychiatry graded as assistant directors or deputy assistant directors. Six months later the director was raised to the rank of brigadier and the staff was increased by the addition of two more specialists, and shortly afterwards the senior psychiatrist to the War Office selection boards was transferred to this directorate in the grade of assistant director.

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The same year saw the formation of the Directorate of Medical Research. Its objects were to bring to the notice of D.G.A.M.S. matters in need of investigation from the point of view of the Army Medical Services; to advise him as to the methods to be employed in these investigations; to co-ordinate all scientific research undertaken by personnel of the medical services; and to maintain contact with other branches of the Army, and with the Medical Research Council and other civil bodies similarly engaged.

The activities of this directorate in the sphere of scientific research became increasingly associated with investigations involving considerations of wider biological significance than those restricted to the field of curative and preventive medicine. Its title, referring as it did to medical research only, was therefore something of a misnomer as insufficiently indicating the scope of the work undertaken. The name was therefore changed in December 1942, to that of Directorate of Biological Research. The establishment of the directorate included a Director of Biological Research in the rank of brigadier, several staff officers, and a pool of scientific investigators.

Time came when the name was changed again. The development of the activities and staff of the Scientific Adviser to the Army Council made it possible to transfer the non-medical interests of the Directorate of Biological Research to him. This was done. At this time the greatest need in the Army Medical Directorate was the provision of a statistical machinery which would produce information on which administrative policy might be based and by which the value of therapeutic measures might be judged. The directorate was reorganised to become the Directorate of Medical (Statistical) Research. Unlike other directorates with the Army Medical Directorate this directorate was not designated as a numbered branch.

From the outbreak of war arrangements for the disembarkation of sick and wounded from hospital ships at home ports and the distribution of these cases to hospitals within the United Kingdom were controlled by a special organisation known as the Medical Embarkation and Hospital Distribution Headquarters under the charge of a D.D.M.S. directly responsible to, but distinct from, the War Office. This system was similar in principle to that which had been adopted during the 1914–18 War. This headquarters administered the medical staffs stationed at the various ports to supervise medical arrangements in regard to the embarkation and disembarkation of personnel.

Early in 1942 this system and the headquarters administering it came under review in the course of a general investigation undertaken by the War Office Directorate of Investigation and Statistics. It appeared that a special headquarters' organisation of this kind served no useful purpose and was nothing more than a legacy from the days of the 1914–18

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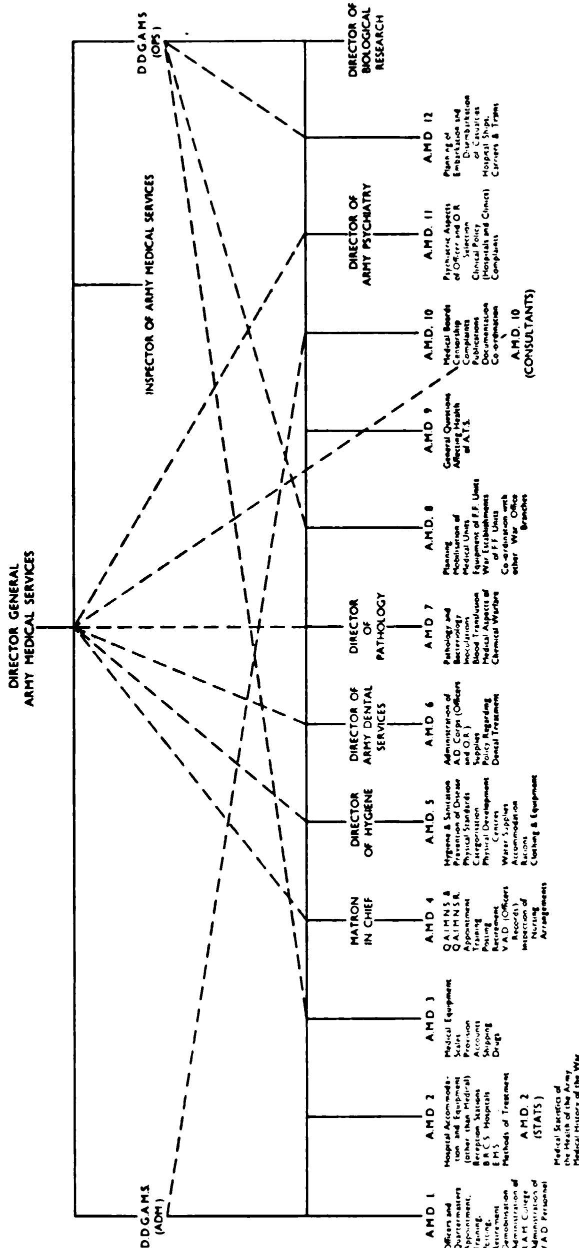

FIG. 2. Organisation of A.M.D. December 1942.

War. Indeed, it was considered that administration would be facilitated and speeded by transferring these functions to the War Office itself. The result was that the Embarkation and Hospital Distribution Headquarters as a distinct entity was abolished and its staff and duties was

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absorbed by the Army Medical Directorate. At first it was thought that the formation of a section in A.M.D.2 would suffice for the purpose, but it was eventually found necessary to constitute a new branch which was established in August 1942, under the designation of A.M.D.12. The A.D.M.S. of the medical embarkation staff at the port of Liverpool was appointed A.D.G. of the new branch. The constitution of the Army Medical Directorate as organised at the close of the year 1942 is shown diagramatically in Figure 2.

During the year 1943 the Army Medical Directorate was made the subject of a further investigation into its organisation with a view to effecting any administrative changes that might be found desirable in the interests of efficiency. The investigation, which was of a lengthy and detailed nature and included examination of the functions and activities of each branch, was conducted by the War Office Directorate of Establishments. The report, submitted in March 1944, contained recommendations which involved an almost complete reorganisation within the Directorate itself and entailed certain corresponding adjustments outside it in regard to medical administrative staff appointments in commands, districts and areas. This somewhat revolutionary document became the subject of prolonged discussion and, in some respects, of acute controversy. Keenly supported by some in position of authority, it was as vigorously opposed by others; in general it was not, in its entirety at least, warmly welcomed within the Army Medical Directorate and more than one counter-scheme was put forward as an alternative. It appeared that, while the need for some measure of reorganisation was almost universally recognised, there was great divergence of opinion as to how far and in what direction it was desirable to proceed at that juncture. Suffice it here to say that, in the end, a solution proved illusory, the question of reorganisation was allowed to drop, and consequently matters remained as they were and so continued until the end of the war.

Nevertheless, it may be of interest to give some brief account of the suggestions that were made and the reasons advanced in their support. It was contended that the expansion of the Directorate during the war, and its accretion by the addition of new branches as occasion arose, had been fortuitous and contingent upon the ever-increasing pressure exerted on the administrative machine. It was in no respect the result of pre-determined planning or ordered development. There were now no less than five directorates, including four branches, and a further eight branches and two sub-branches, uncorrelated to directorates, making a total, for all practical purposes, of fifteen branches, these constituted 'a bewildering array of activities best described as a series of vertical channels lacking efficient lateral cohesion'. It appeared that common functions were repeated in individual branches, while professional responsibilities were handled partly at directorate level and partly

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at branch level. On the other hand there was apparent no principle or logical basis underlying the allocation of affairs as between the several branches. For example, one of them was concerned both with the provision of hospital accommodation, and with the duty of prescribing methods of treatment; that is to say, it combined the wholly administrative functions of an authority responsible for quartering with activities which were purely professional and clinical in character. Moreover, there was considerable overlapping in the spheres of the Directorates of Hygiene and Pathology, both being concerned with certain aspects of preventive medicine. Further, it was considered that the position of the consultants called for revision. While having no executive authority, they none the less exerted a very considerable influence in the formulation of medical policy, but they themselves were handicapped and their efforts impeded by the absence of any organised channel for the administration of clinical activities. Co-ordination within the Army Medical Directorate was regarded as deficient, partly because this was only one among a wide diversity of duties undertaken by the particular branch concerned, but still more because there was lacking any specific direction as to the measure of co-ordination desired and the methods by which it was to be achieved. Most important of all perhaps, it was insisted, as it had been in the past, that the Director-General himself was too heavily burdened with administrative detail. By reason of their holding a rank inferior to that attaching to certain other senior appointments within the Directorate, his deputies, the D.D.G. (Administration) and the D.D.G. (Operations), were not in a position fully to exercise authority on his behalf and so relieve him of the less onerous of his responsibilities, while lack of appreciation of the status of these officers in relation to other deputy directors in the War Office tended to place the appointment of D.G.A.M.S. at a false level.

In sum, the Army Medical Directorate was considered to suffer from several administrative deficiencies, the chief of which were stated to be:

(*a*) absence of a clearly defined channel of authority for the direction of executive and administrative responsibility;

(*b*) absence of effective machinery for ensuring co-ordination within the Directorate; and

(*c*) confusion of functions through incorrect distribution of duties.

To overcome these disabilities comprehensive reorganisation was recommended. The inexpediency of embarking on any plan likely to cause profound disturbance of the existing machinery was fully admitted, but it was asserted that the proposals made did not entail major disturbance for the reason that the reorganisation suggested took the form of rearrangement rather than alteration, and the various functions of the Directorate, although reallocated, would for the most part remain in the hands of the same personnel; while the scope of the several branches,

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as such, might be changed, specific duties would be performed much as before. Briefly, it was proposed that the medical work of the Army Medical Directorate should be allocated among four directors, all in the rank of major general, who would form an executive body responsible for the conduct of the medical services subject to the general supervision and control of the D.G. who, being thus relieved of all matters of routine, would be free to devote his attention to questions of directive policy. The designations and provinces proposed for the four directors were as follows:

(*a*) *Director of Medical Services* (*Administration*), responsible for purely administrative activities and in charge of two 'common-, user' branches: A.M.D.1, a personnel, or 'A', branch dealing with the recruitment, training and employment, etc., of officers and men of the R.A.M.C.; and A.M.D.2, a quartering, supply and transport, or 'Q', branch in which were concentrated all matters concerned with hospital accommodation, medical equipment, medical embarkation and distribution of casualties;

(*b*) *Director of Army Medical Clinical Services*, dealing with the treatment of the sick and wounded from the medical, surgical and pathological aspects, hospital administration, medical boards, invaliding and other matters concerned with the practical application of clinical medical science;

(*c*) *Director of Army Preventive Medicine*, concerned with measures undertaken for the maintenance of health among effective troops including hygiene and sanitation, prevention of disease, rations, clothing, medical classification and medical aspects of training, discipline and morale;

(*d*) *Director of Army Medical Services* (*Operations*), controlling a branch, to be known as A.M.D. (Ops.), responsible for the organisation of the medical services in the field and for the preparation, in conjunction with the general staff, of plans for medical arrangements in future military operations.

Besides the foregoing there would be the Director of Army Dental Services, with his directorate constituted as before, and the Director of Army Nursing Services, formerly designated as Matron-in-Chief, at the head of what was formerly A.M.D.4 but was now reconstituted as a directorate. The Army Medical Directorate was thus to comprise six directorates, representing its several medical, dental and nursing activities, and, in addition, a panel of consultants to advise on various clinical and scientific subjects. All directors and consultants were to be given the right of direct access to the Director-General, and, as a means of ensuring the co-ordination of effort throughout the Directorate, it was proposed that there should be set up a central organisation, to be known as A.M.D. Co-ordination, as a much extended and developed counterpart of the existing A.M.D.10, and including

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secretariat, liaison, statistical, and establishment sections. Details of the reorganisation recommended are shown graphically in Figure 3.

WAR-TIME CHANGES IN COMMANDS AT HOME

For purposes of military administration, the British Isles were, in peace-time, divided geographically into six commands, Aldershot, Eastern, Southern, Northern, Western and Scottish and two independent districts, London and Northern Ireland. In addition to these there was the Anti-aircraft Command, the functions of which, however, were essentially operational, rather than administrative, and confined to the A.A. arm alone.

In each of the six administrative commands the medical services were controlled, and their personnel commanded by a D.D.M.S. representing D.G.A.M.S. The deputy director was a member of the headquarters' staff of the command and, in addition to his direct administrative functions in regard to the medical services, was the adviser to the general officer commanding-in-chief on all matters relating to the health and physical well-being of the troops in the command.

The D.D.M.S. was assisted by his own staff of officers. For administrative duties there was an officer in the grade of A.D.M.S. or D.A.D.M.S., according to the size and importance of the command and the responsibility incurred, while A.Ds.H. and A.Ds.P. were included to advise on these special subjects. In the smaller commands the appointments in respect both of hygiene and of pathology were held by the same officer. In five of the six commands there was also an assistant director of dental service (A.D.D.S.).

With the exception of that of Aldershot, commands were sub-divided into military administrative areas, the number of which, being determined by local considerations, varied among the several commands, there being three in Eastern Command, five in Southern, two in Northern, three in Western and two in Scottish Command. The medical administration of each of these areas was in the hands of an A.D.M.S. responsible to, and subject to direction by, the D.D.M.S. of the appropriate command but having the same relation to the area commander as had the deputy director to the general officer commanding-in-chief. The medical branch of the H.Q. staff of an area, being closely concerned with the environmental conditions in military stations and garrisons, included a deputy assistant director of hygiene.

Medical services in London District were administered by an A.D.M.S. through Eastern Command, that is to say, as if the district formed part of that command, but in Northern Ireland District there was an A.D.M.S. independent of any command. The administration of the medical services in Anti-aircraft Command was in the hands of a D.D.M.S. whose responsibilities referred to all A.A. forces in the British Isles irrespective of their geographical distribution.

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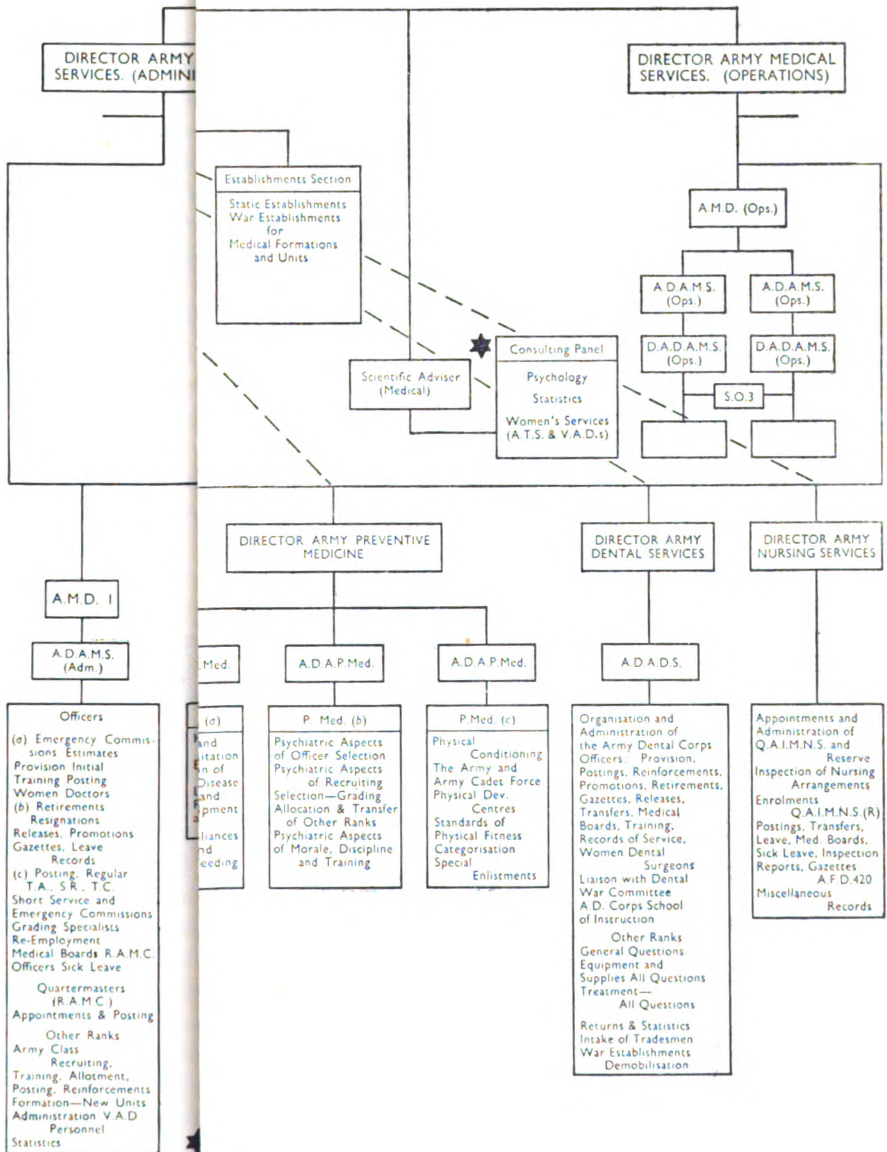

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During the war, apart from minor adjustment of boundaries as occasion required, only one significant change was made in the geographical arrangement of commands at home. This took place in February 1941, when Eastern Command was divided to form two commands, that portion lying north of the Thames and the boundary of London District retaining the name of Eastern Command, while the portion to the south was designated South-eastern Command. The latter also absorbed Aldershot Command which from that date ceased to exist as a separate command and thereafter became Aldershot Area. Eventually, as the result of changed circumstances in the military situation in the United Kingdom, the need for two distinct commands in the eastern parts of England disappeared. South-eastern Command was therefore abolished with effect from November 30, 1944, when most of its constituent parts reverted to their former assignment within Eastern Command. The sole exception was Aldershot Area, in the meantime re-designated Aldershot District, which became incorporated in Southern Command.

After the outbreak of war the growth of the Army, the corresponding expansion of the medical services and the greatly increased volume of administrative work entailed soon made it necessary to augment the medical staff at the headquarters of commands. In each of the smaller commands the D.A.D.M.S. was upgraded to the status of A.D.M.S., and in every command additional D.A.Ds.M.S. were appointed in order to deal with the mass of correspondence and administrative detail which devolved upon the medical staff at these headquarters, and from which it was essential to relieve the D.D.M.S. who, as the senior administrative medical officer and adviser to the general officer commanding-in-chief, was already fully engaged with considerations of policy, planning and development. Quartermasters, R.A.M.C., were brought into headquarters to supervise arrangements for the supply and distribution of medical equipment and stores; A.Ds.H., A.Ds.P., and A.D.D.S. were all reinforced by the appointment of D.A.Ds. in these departments. Specialists in certain branches of medicine and surgery, e.g. psychiatry and ophthalmology, were employed in the capacity of command specialists for supervisory duties and to advise the D.D.M.S. in the technicalities of these subjects. In due course a consulting physician and a consulting surgeon were appointed to each command. The advent of the Auxiliary Territorial Service and the subsequent increase in the recruitment of women to other branches of the Army entailed administrative problems hitherto outside the ambit of military experience and so occasioned the development of a new staff organisation. Women medical advisers, later given the status of D.A.Ds.M.S., were therefore added to the medical staff at command headquarters to assist in the preparation and supervision of arrangements in respect of

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medical treatment and hospital accommodation for female personnel, and to study and advise upon a variety of matters having special relation to the physical welfare of the women's services. Finally, a matron, Q.A.I.M.N.S., was posted to each command medical staff for the purpose of inspecting, and advising upon questions referring to, the nursing services.

Thus the staff of a D.D.M.S. at the headquarters of a home command, consisting, in peace-time, of some two, three or four officers according to the size of the command, expanded in the course of the first few years of the war until it comprised some twenty or more officers in one capacity or another. Clerical and subordinate staffs were increased in like proportion. This expansion was in no way the result of a preconceived plan, but took the form rather of a gradual process of evolution spread over a period of years and developed according to circumstances and emergent needs. Moreover, the process was not at first uniform in application to commands in general. Additional appointments were made as the needs of the situation demanded, and as conditions varied so did the provision made to meet them.

In administrative areas development proceeded along intrinsically different lines. Here, instead of substantially increasing the scope and therefore the staff of each individual area headquarters, the principle adopted was that of multiplying the number of areas and establishing in each a separate headquarters. Thus within a few months of the declaration of war the fifteen pre-war areas had been reorganised to form twenty-four; others were added at a later date. From time to time these static formations were subject to numerous changes in respect of organisation, responsibilities and functions, both administrative and operational, not only in regard to themselves but also in their relation to field force formations, i.e. corps and divisions, located for the time being within their geographical boundaries. Changes were made in terminology when certain areas, and finally all areas, were reorganised as districts. These alterations did not greatly affect the medical services, in which administrative changes were the result of technical rather than general military considerations.

The scheme of mobilisation, while arranging for the formation of certain additional areas on the declaration of war, made no provision for additional medical staff to the headquarters either of those already in existence or of those it was proposed to form, and some six months elapsed before A.Ds.M.S. at these headquarters were given D.A.Ds.M.S. for administrative duties, duties which, in the meanwhile, had therefore to some extent fallen to the lot of the D.A.Ds.H. in addition to their own special work. Shortly afterwards a deputy assistant director of dental service (D.A.D.D.S.) was appointed to take charge of the rapidly increasing dental work being undertaken in all military

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stations. No other appointments were made to the medical branch of the staff at the headquarters of areas, for although certain officers holding specialist appointments were designated area specialists the term was used in a geographical sense as indicating that the scope of their duties was extended to all units within a defined locality, usually an administrative area, rather than restricted to any one unit.

The administrative responsibilities entrusted to the D.D.M.S. of a command, on the one hand, and to the A.D.M.S. of an area, on the other, the powers exercised by each and the functions performed by their respective staffs were all subject to continual readjustment as the war proceeded. In the earlier stages administrative responsibility within a command was centred almost entirely at its headquarters and the A.D.M.S. in an area was in most respects little more than the local executive representative of his deputy director at command headquarters. In this capacity his duties were mainly inspectorial both as regards the military and technical efficiency of the medical units nominally under his control, and also in relation to arrangements for the medical care, including examination, classification, treatment, disposal of sick, etc., of troops of all units located within his area. With the help of his D.A.D.H. he was called upon to devote much of his time and attention to supervising measures aimed at the prevention or mitigation of infectious disease and to visiting military establishments of all kinds with the object of ensuring the maintenance of satisfactory environmental conditions. His office functioned chiefly as an agency for the distribution of instructions received from, or through, the D.D.M.S. of the command, and for the collection and consolidation of information and returns required by higher authority.

Before long, however, the magnitude of the military administrative machine rendered some degree of decentralisation as inevitable as it was desirable. Thus it came about that much authority formerly exercised direct by the Army Medical Directorate at the War Office was now delegated to D.Ds.M.S. at the headquarters of commands; consequently these officers in their turn found it incumbent upon them to transfer to the A.Ds.M.S. of the areas within their commands certain of the functions and duties previously performed by themselves.

Among the factors that initiated and furthered this development there may be mentioned the interdependence of civil and military activities apparent even at the outbreak of war but becoming increasingly significant as time went on. The part played by the Emergency Medical Services in providing hospital accommodation and treatment for military patients entailed close co-operation between administrative officers of the Army Medical Services, regional hospital officers of the Ministry of Health and superintendents of civil hospitals. Similarly, medical arrangements made to meet the threat of invasion,

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involving as they did the pooling of all national medical resources necessitated constant discussion and mutual agreement between the civil and military authorities responsible for the preparation and execution of local defence schemes. While main lines of policy in these matters could be, and were, determined by higher authority, there was much remaining in the elaboration of detail to be decided by those on the spot and cognisant of local conditions and requirements.*

Eventually, therefore, the position in the Army Medical Services at home became such that the medical staff at command headquarters was concerned mainly with questions of policy, planning, and general direction, while much of the administrative and executive work which they had formerly undertaken was assigned to A.Ds.M.S. in areas or, as they subsequently became, districts.

During the course of the war numerous alterations were made in the character of the various areas. From time to time military expansion demanded an increase in their number and a corresponding diminution in their size. Frequently changes in name were found necessary. As a result of reorganisation in the disposition of forces occasioned by the scheme of defence against invasion, many areas were replaced by new formations known as corps districts and county divisions. Eventually all these disappeared, and every major sub-division of a command was designated a district. These developments, however, although matters of operational or administrative significance, had little effect on the medical organisation which continued throughout broadly on the lines already indicated.

INCREASE IN THE NUMBER AND VARIETY OF CONSULTANTS

In peace-time a number of eminent civilian specialists in various branches of medicine gave their services to the Army in the capacity of honorary consultants to the large military hospitals such as the Queen Alexandra's Military Hospital, Millbank, where some twenty were available for consultation as required. On the other hand there was provision for only two full-time consultants within the regular peace establishment of the Army Medical Services. These were the Consulting Physician and the Consulting Surgeon to the Army, whose appointments were combined with those of professorships in tropical medicine and in military surgery, respectively, at the R.A.M. College. Although the officers holding these appointments formed part of the staff of the College and were to a great extent occupied in teaching, yet they were closely concerned with the Army Medical Directorate both in the capacity of technical advisers and in connexion with the administrative control of specialist functions throughout the medical services. Never-

* See Army Medical Services, Vol. III, Chapter 6. The Battle of Britain.

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theless, it was the intention that, in the event of war and the despatch of an expeditionary force, they should form part of the medical staff at G.H.Q. of the force in order to advise and assist the D.M.S. It would therefore be necessary to arrange for their replacement in regard to the Army at home. Moreover, the inevitable expansion and development of the medical services consequent upon mobilisation and the raising of a national army would create a demand for the services of consultants in various special departments other than general medicine and surgery. More would be required to staff the medical base which it was proposed to establish overseas as a part of the expeditionary force, and in which hospitals for general and special work would be concentrated.

In September 1938, D.G.A.M.S., approached the Royal College of Physicians of London and the Royal College of Surgeons of England asking them to nominate members of the civil medical profession for appointment as consultants to the Army on mobilisation. Seven nominations were requested, those of consulting physician and consulting surgeon to the Army at home, and consultants in medicine, surgery, ophthalmic surgery, psychology, and dermatology for the medical base overseas. Nominations were duly received, but no further steps were taken at that time, it having been decided that no appointments should be made until mobilisation appeared imminent.

Early in 1939 the matter was reopened, and the Royal Colleges were requested to confirm their previous nominations or to make new recommendations. Those nominated were then officially invited by the War Office to serve with the Army in the event of war. In this way eight provisional appointments were made: a physician, a surgeon, and a psychologist for the Army at home; and a physician, a surgeon, an ophthalmic surgeon, a psychologist, and a dermatologist for the medical base overseas. On the outbreak of war all of them were given emergency commissions in the R.A.M.C. and joined for duty early in September 1939. In accordance with regulations governing the grant of commissions in general, they were gazetted in the lowest rank applicable to their particular arm of the service, i.e. that of lieutenant, and were immediately promoted to the rank of acting colonel.

In December 1939, a pathologist was added to the consulting staff serving with the B.E.F. in France, and, a few months afterwards, a physician, a surgeon, and an ophthalmic surgeon of the same status were appointed to the headquarters of the forces in the Middle East. Thereafter consultants in various specialities were posted to the medical staff in the several theatres of operations overseas in accordance with the particular requirements of the forces concerned. At home, during the same year, the number of honorary consultants was greatly increased, inasmuch as many civilian physicians and surgeons on the staff of the universities and larger hospitals throughout the country undertook to

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place their services at the disposal of the local military medical authorities. With the rapid growth of the Army, however, the need for more whole-time consultants was soon felt, particularly in respect of some of the special subjects where the amount of work involved, including that of an administrative kind, could not be undertaken by civilians serving in an honorary position. The consulting staff at the War Office, until then consisting of a physician, a surgeon, and a psychologist, was reinforced by the appointment of a dental surgeon in February 1940, an ophthalmic surgeon in May 1940, a neuro-surgeon in June 1940, and a specialist in physical medicine in September 1940. In addition to all these officially styled consultants there were two officers of lower rank who, although functioning in a consulting capacity, were designated advisers: one in radiology, an officer of the R.A.R.O. employed in his specialty at the War Office since mobilisation; and the other an officer of the Directorate of Hygiene who, while holding the appointment of A.D.H., was in fact employed as adviser in venereology.

Meanwhile, the medical services were rapidly expanding concurrently with the steady rise in strength of the Army generally. Many new units had been raised and more were in process of formation; the number of hospitals was growing and the volume of professional work undertaken was much increased. At the same time the scope of the various specialities was continuously extended and widened in many directions. Consultants of the Army Medical Directorate found themselves concerned largely with the consideration of technical questions arising in the now numerous theatres of military operations and referred to them for expert opinion, with the development of specialist services at home and overseas, and with the selection and training of specialist officers. Becoming more and more occupied with their administrative responsibilities, they had progressively less time to devote to visiting hospitals and other medical establishments throughout the country. Some relief was afforded by the withdrawal of the B.E.F. from France in June 1940, since it occasioned some small increment in the number of consultants available for work in the United Kingdom, especially in commands at a distance from London, thus leaving those at the War Office to deal with commands closer at hand in addition to their administrative duties in the Army Medical Directorate.

The assistance thus derived was but palliative, and, in February 1941, the Consulting Physician to the Army submitted a memorandum which, while dealing with the subject from the aspect of his own speciality, was in substance of general application as illustrating the state of affairs that had arisen. He called attention to the fact that, with the exception of a few officers who were in charge of medical divisions of the larger hospitals and whose duties were confined to those hospitals, medical specialists in the Army could not be regarded as physicians of

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ripe age and experience; for the most part they were men of 30 to 38 years of age, who, although possessing higher medical qualifications and having received extensive post-graduate training, had not yet the amount of experience usually associated with those holding the appointment of assistant physician on the staff of a teaching hospital. Consequently they required assistance with difficult cases and general guidance from the consulting physicians, and in fact asked that the services of the latter might be made more frequently available. The Consulting Physician then referred to the position of medical officers in charge of troops at training centres and other large units, and to their requirements in the same connexion. He emphasised the importance and responsibility attaching to the duties of these officers who were for the most part inexperienced, and who had no means of receiving the aid of a senior physician except by referring doubtful cases to hospital, a course which in the case of men suffering from certain complaints, such as dyspepsia, etc., only served to aggravate the symptoms. When visiting these training centres he himself had been able to discuss the many difficulties with which regimental medical officers were confronted, and to help and advise them in matters having a considerable influence on man-power. As the administrative duties of the Consulting Physician to the Army necessitated his presence in the Army Medical Directorate for several days each week, the number of visits he could pay was severely limited and was further restricted by considerations of distance. He was in fact able to be of little value to hospitals and units at any great distance from London.

The Consulting Physician recommended that in addition to himself, who could attend to the Southern Command and to the areas which afterwards became the South-eastern Command, consulting physicians were required for: (*a*) The Eastern and Northern Commands; (*b*) the Western Command; and (*c*) the Scottish Command and Northern Ireland District. These representations were successful, and the additional appointments recommended were approved in April 1941; later in the year the number of consulting surgeons was similarly increased to four.

During the year 1941 the consultant staff of the Army Medical Directorate was reinforced by the appointment of a consulting radiologist and a consulting neurologist, the first of these appointments being filled by raising the status of the Adviser in Radiology who had been in the War Office since the beginning of the war. Other additions made at the same time were those of advisers in anaesthetics and in oto-rhino-laryngology. These officers held the rank of lieut. colonel.

Hitherto consultants and advisers at the War Office, that is to say, consultants to the Army generally as distinct from those appointed to specific commands, were actually part of the establishment of the

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R.A.M. College and were provided with offices situated in that building. The fact that they were not accommodated under the same roof as the Army Medical Directorate and so were not immediately available for consultation with the Director-General or other officers caused much inconvenience. It was therefore proposed that as a war-time measure they should all form part of the Directorate and be accommodated in the same building. In the event, it was decided that they should remain on the staff of the R.A.M. College, but that for office accommodation and clerical staff they should be regarded as within the Directorate.

Shortly afterwards arose the question of the rank which should be held by consultants in the Army Medical Services. The matter was raised chiefly in regard to the status and pay of those who were normally civilians but serving in a military capacity for the duration of the war only. This subject, which was developed on somewhat controversial lines, engaged the attention, not only of the War Office and the Army Council, but also that of the Royal College of Physicians, the Royal College of Surgeons, and the Central Medical War Committee.

As already stated, consultants on appointment were raised to the rank of colonel which, with the exception of the Director-General and some six or seven major generals employed as D.Ds.M.S. in the larger commands, was normally the highest held by officers in the Army Medical Services. A regular officer in the appointment of consulting physician or consulting surgeon held the rank of colonel and was raised to that of major general, supernumerary to establishment, only when a colonel junior to himself was selected for an administrative appointment carrying promotion to the rank of major general.

The subject of consultants, their duties, status, rank, and pay, was considered by the Army Medical Advisory Board at their meetings in August and September 1941. The discussion was somewhat discursive and covered such matters as the age and earnings of consultants to the Army in relation to those of the Emergency Medical Services, and also the material advantages or disadvantages applicable to those who had temporarily forsaken their civilian careers to assist the Army as consultants in war-time. The board duly recorded their recommendations. In the first place, it was urged that the only medical officer senior to the consultant should be the administrative officer he was appointed to advise, and that, subject to this provision, consultants should be given the rank of brigadier in view of the fact that this rank had recently been introduced into the Army Medical Services. In the opinion of the board the status conferred by rank was of the highest importance in the satisfactory performance of professional duties; once a man was in the Army, rank carried authority, and, although consultants fulfilled their duties mostly by advice and seldom had to resort to direction or enforcement,

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yet the rank accorded was the measure of the authority and prestige attaching to the office and to the holder, no less in the medical services than in other branches of the Army. Secondly, the board considered that all consultants of the Army Medical Services, temporarily commissioned officers and regular officers alike, should be eligible for promotion to the rank of major general in appropriate circumstances. There should be no discrimination in promotion to the higher ranks; the choice of officer should depend entirely upon ability irrespective of the kind of commission held. Thirdly, the board was of the opinion that consultants promoted to the rank of brigadier or major general should receive the pay and allowances attaching to these ranks. Apart from the general principle that the labourer is worthy of his hire, it was held that in the interests of the Army and in justice to the medical profession there should be no differentiation in treatment between the medical services and other branches of the Army, nor should there be any differentiation within the medical services between regular and temporarily commissioned officers.

These recommendations were conveyed to the Secretary of State for War who, after prolonged consideration and consultation with other service departments, replied to the chairman of the Army Medical Advisory Board in January 1942. In his reply the Secretary of State said he had endeavoured to make the fullest allowance for the legitimate desires of the medical profession while, on the other hand, having regard to the effects of his decision upon the service to which distinguished members of the profession were lending their skill. Except in the case of regular consultants whose careers lay in the Army and for whom special promotion conditions already existed, he was unable to agree to the grant of paid rank higher than that of colonel. For he could not overlook the fact that the paid rank of general officer was one reserved for those very senior officers who were entrusted either with the command of formations in the field, or with the higher ranges of staff and administrative duties; he had been unable to persuade himself that such paid rank was suitable for those who had offered their experience and training in a consultative capacity. Moreover, in war-time, the services of all classes of the community were necessarily at the absolute disposal of the state, and it would be wrong to have regard to the standard of emoluments drawn in private life before the outbreak of war. In this respect the medical profession was but one of the many civilian professions which must, under the force of circumstances, accept the sacrifice imposed by the existence of war. On the other hand, the Secretary of State fully appreciated the point that if professional consultants, of whatever profession, were to be in a position to give their advice with the fullest weight of their professional skill and experience, it was on occasions necessary for them to speak on terms of equality in rank with

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their professional brethren of the regular forces. He had therefore decided, with the approval of the Army Council, to reserve, for those consultants serving on a temporary basis, local and unpaid rank for two major generals and four brigadiers.

This statement by the Secretary of State was not altogether acceptable to the Army Medical Advisory Board. They disagreed with the dictum that the paid rank of general officer should be reserved for those commanding formations in the field or holding positions of superior administrative authority. In their view the responsibilities attaching to the clinical branches of the medical services were no less onerous and equally worthy of consideration in the matter of promotion to the higher ranks. They were insistent that, within the medical services, there should be no discrimination between regular officers and those employed in a temporary capacity for the duration of the war, if only on the grounds that the latter were seven times as numerous as the former and included many enjoying a wide reputation and generally acknowledged as leaders of the profession. They welcomed the Secretary of State's agreement that rank carried authority in the medical services, as in other branches of the Army, and that promotion to the rank of major general would be granted to two and that of brigadier to four, temporarily commissioned consultants. This they regarded as a recognition that these higher ranks were necessary in the interests of the service and were not being granted merely as a concession to civil medical opinion, and indeed that the number of such promotions would be increased as circumstances required. The board considered the supreme need was for a sufficiency of consultants possessing the authority of appropriate rank, and, provided this policy were carried out in its completeness and were applicable to both regular and temporary officers alike, the medical profession would not wish to dispute over extra emoluments. The board thus waived the claim to paid rank for consultants promoted to the rank of brigadier or major general. These views were conveyed to the Secretary of State who, in reply, gave his interpretation of the board's letter as indicating their acceptance of the proposals whereby regular or temporary consultants, in general, would be granted the paid rank of colonel with the local rank of brigadier, and, in one or two specific cases of consultants at headquarters of commands or armies, would receive the rank of major general. There would, of course, be the exception already noted in regard to the special regulations applicable to regular consultants promoted by seniority automatically on the promotion of administrative officers junior to them.

This letter from the Secretary of State was followed by yet a further communication from the chairman of the Army Medical Advisory Board suggesting that the number of consultants to be promoted to major general should not be restricted in the manner proposed. It so

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happened that two regular officers holding appointments as consultants had recently been made major generals. The board was aware of the fact that these promotions had been decided many months previously and being governed by existing regulations, were consequential on the promotion of less senior officers to administrative appointments. On the other hand the medical profession generally could not be expected to understand these technicalities; they saw only the fact that two regular consultants and no temporary commissioned consultants held the higher rank, although both of the former were junior in their respective Royal Colleges to several of the latter. As there was the further inequality of their having paid rank, the civilian profession was affronted and had become suspicious. The chairman of the board advised that the promotion of at least two temporary consultants to the rank of major general was necessary to restore confidence.

This recommendation was not adopted and no such appointment was made at the time. Indeed, it was not until a year later, in May 1943, that three temporarily commissioned consultants, two in the United Kingdom and one in the Middle East, were promoted to the rank of major general.

At a meeting of the Army Medical Advisory Board in July 1942, discussion included the subject of the status of advisers to the Army. It was suggested that certain of these advisers holding the rank of lieut. colonel should be raised to the status of consultant with the rank of brigadier. The matter, however, was postponed until the next meeting of the board in March 1943. In the meantime representations had been made to the Secretary of State by the Royal Colleges and by the Central Medical War Committee recommending that the advisers in oto-rhino-laryngology and in anaesthetics at the War Office should be made consultants. D.G.A.M.S., however, was of the opinion that in considering the entitlement of the two officers specified, regard must also be had to advisers in other subjects, e.g. venereology, dermatology and dietetics. The board investigated the duties and responsibilities attaching to these various appointments and recommended that the adviser in oto-rhino-laryngology at home, the adviser in venereology at home, and the adviser in venereology to the forces in the Middle East should become consultants with the rank of brigadier. The recommendation was accepted and brought into effect in May 1943, but in the following month the board revised their previous finding, in respect of the adviser in dermatology and now sought to obtain for him the higher status of consultant. This also was approved.

During the same year two further appointments were made, i.e. a consulting malariologist and another consulting psychiatrist. Eventually the consultants in the Army Medical Directorate numbered more than a dozen. With their colleagues appointed to home commands and others

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engaged in special work, e.g. head injuries, blood transfusion service, etc., they constituted a consultants' committee which met monthly in London for the consideration of current medical matters. Much the same organisation was set up at the headquarters of commands abroad where the senior administrative medical officer was provided with a staff of consultants and advisers in various branches of medicine and surgery. The number of these officers and the specialities represented varied according to the emergent needs and special circumstances of the particular command, having regard to operational commitments, climatic conditions and other determining factors.

Since the quality of the performance of a directorate such as the Army Medical Directorate is determined far more by the quality, personal and professional, of those who serve in it and by the quality of the leadership displayed by its head than by the neatness or comprehensiveness of the design of its organisation, it is desirable to place on record the names of those who together represented the Army Medical Directorate during the war years.

Quite early in the war, Sir William MacArthur completed his term of office and was succeeded by Sir Alexander Hood. The posts of D.D.G. (Admin.) and D.D.G. (Ops.) were held by a series of regular officers who, having served therein for a year or so, left the War Office to take up a command in the field. There were early changes in the posts of A.D.G. in A.M.D.9, D. of H. and D. of P. There was a later change in that of D.A.D.S. The consultant group served unchanged throughout with the exception of the Consulting Dental Surgeon. The personalities within the Army Medical Directorate, as in 1944, were as under:

D.G.A.M.S.	Lt. General Sir Alexander Hood, G.B.E., K.C.B.
D.D.G. (Admin.)	Brigadier J. M. Macfie, C.B.E., M.C.
D.D.G. (Ops.)	Brigadier W. E. Tyndall, C.B., C.B.E., M.C.
A.Ds.G. A.M.D.1—A.M.D.12 (inclusive)	
A.D.G., A.M.D.9	Lt. Colonel Albertine Winner, O.B.E.
D. of H.	Major General D. T. Richardson, C.B., M.C.
D. of P.	Major General L. T. Poole, D.S.O., M.C.
D. of A.P.	Brigadier H. A. Sandiford, M.C.
D.A.D.S.	Major General A. B. Austin, C.B.
D.B.R.	Brigadier F. A. E. Crew, T.D.
Matron-in-Chief	Dame Katherine Jones, D.B.E.
Cons. Surgeon	Major General D. C. Monro, C.B., C.B.E.
Cons. Physician	Major General Sir Alexander Biggam, K.B.E., C.B.
Cons. Radiologist	Brigadier D. B. McGrigor, O.B.E.
Cons. Psychiatrist	Brigadier J. R. Rees, C.B.E.
Cons. Psychiatrist	Brigadier G. W. B. James

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Cons. Ophthalmologist	Brigadier Sir Stewart Duke Elder, K.C.V.O.
Cons. in Physical Medicine	Brigadier F. D. Howitt, C.V.O.
Cons. Neurologist .	Brigadier G. Riddoch
Cons. in Orthopaedic Surgery .	Brigadier W. Rowley Bristow
Cons. Anaesthetist .	Brigadier A. S. Daly
Cons. Oto-rhino-laryngologist . .	Brigadier M. L. Formby
Cons. Venereologist .	Brigadier T. E. Osmond
Cons. Dermatologist .	Brigadier R. M. B. MacKenna
Cons. Malariologist .	Brigadier J. A. Sinton, V.C.
Cons. in Transfusion and Resuscitation .	Brigadier Sir Lionel Whitby, C.V.O., M.C.
Cons. Surgeon (Head injuries) . . .	Brigadier Sir Hugh Cairns, K.B.E.
Cons. Psychologist .	Colonel W. Stephenson
Cons. Dental Surgeon .	Brigadier H. Stobie (1940–44).
Cons. Dental Surgeon .	Brigadier R. A. Broderick, D.S.O., M.C., T.D.

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CHAPTER 9

RECRUITMENT AND RELEASE

RECRUITING AND TRAINING OF SPECIALISTS

PROVISIONAL arrangements for the supply of specialists to the Army Medical Services after mobilisation were included in the general scheme for the war-time recruitment of medical officers to the armed forces and were thus primarily the responsibility of the Central Emergency Committee of the British Medical Association. On the outbreak of war this committee, now reconstituted and redesignated as the Central Medical War Committee placed its executive powers largely in the hands of a special organisation called the Committee of Reference whose duty it was to undertake the classification of the medically qualified according to age and professional attainments and thereafter to select those who were eligible and considered suitable for nomination to specialist appointments.

The procedure, as subsequently elaborated, was that the Army Medical Directorate notified the C.M.W.C. of their immediate needs, indicating the numbers in each specialty required; the C.M.W.C. then nominated practitioners who were prepared to volunteer for service and whose names had been put forward by the Committee of Reference; whereupon the War Office communicated with the practitioners so selected offering them emergency commissions in the R.A.M.C., subject to confirmation after their medical examination and interview under the same arrangements as those applicable to other candidates for commissions in the medical services. Nominations made by the C.M.W.C. on the advice of the Committee of Reference were automatically accepted by the War Office with the reservation, however, that an officer's retention in a specialist capacity was conditional upon the approval of D.G.A.M.S. Specialists, on being commissioned, were gazetted in the substantive rank of lieutenant, as in the case of all medical officers appointed to emergency commissions, but on posting to a specialist appointment they were granted promotion to the rank of major, and, as soon as they were actually engaged in specialist duties, they received the additional pay attaching to these appointments.

The rank of major for specialist medical officers recruited to the medical services in time of war had been approved when details of pay and conditions of service were discussed and agreed by the various authorities concerned during the months of preparation before the actual outbreak of war. No such privilege was conferred during the 1914–18 War, nor did it apply to officers of the regular forces

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holding specialist appointments in peace-time. It was, in fact, sanctioned, very much at the insistence of the B.M.A., entirely as an emergency measure in order to attract a sufficient number of specialists to the Army at a time when, it was expected, the medical profession would be a reserved occupation, in terms of any statute enjoining compulsory military service, and its members, therefore, not liable to conscription. Indeed, the grant of field rank, carrying a rate of pay and allowance by no means niggardly, in conjunction with the additional pay normally drawn by a specialist was undoubtedly a generous concession to the medical profession, the more so having regard to the rank and conditions of service afforded to professional men in other arms of the service. None the less, it was to prove the cause of some dissension even in the medical services where it was subject to adverse criticism as savouring of partiality towards the specialist. Not infrequently officers of mature age, of wide experience, and of some length of service, such as those holding commissions in the Territorial Army or those who had fought during the 1914–18 War, found themselves superseded in their units by much younger officers, with no experience of military matters and sometimes with, apparently, very limited experience of their professed specialty, merely by virtue of their having been appointed specialists on the nomination of the Central Medical War Committee. The fact that an officer was not entitled to additional pay as a specialist until actually performing specialist duties also gave rise to grave dissatisfaction. Demands for specialists were submitted strictly in accordance with requirements as represented by the replacement of wastage in the various theatres of war, the reinforcement of commands overseas, the expansion of medical establishments at home, and the raising of field medical units for projected military operations. Every care was taken to ensure that recruitment did not outrun the exigencies of the moment, but even so specialists, no less than other medical personnel, needed some modicum of military training and the opportunity of accustoming themselves to the conditions under which they would be required to work. Hence the necessity of posting them to their units while the latter were in process of preparation for active service. In any event, some time must of necessity be occupied by a unit in completing mobilisation and in transit to the scene of operations; thus there was inevitably an appreciable interval between the commissioning of a specialist officer and his being actually in the performance of specialist duties. The more youthful among them, it appeared, were led by their enthusiasm to hope and expect that from the very moment of putting on their new uniforms they would be flung into a maelstrom of battle casualties; they did not realise, as did those of greater age and worldly wisdom, that the dictates of war pay but little regard to personal predilection and that its events are uncertain and cannot be

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scheduled with the precision of an academic syllabus or a railway time-table.

During the month of September 1939, the C.M.W.C. nominated 110 medical men for commissioning as specialists, but the total forthcoming throughout the following six months was only ninety-eight. It thus early became apparent that the number of experienced specialists available for recruitment was insufficient to meet the requirements of the Army Medical Services. In the absence of an adequate supply of officers possessing the professional qualifications desired, it was necessary to have recourse to those of a less eminent status, and the War Office therefore communicated with the C.M.W.C. intimating that, in the circumstances, a proportion of younger and less experienced men would be acceptable for appointments in the various specialties. It was intended to employ officers of this kind in units, such as the general hospital of 1,200 beds, where the authorised establishment provided for more than one specialist in a particular branch. Thus they would work in a junior position as assistants under the guidance and supervision of more experienced officers of full specialist status. To distinguish them from specialists, the term 'graded' was applied to officers of this class and they were accordingly designated 'graded physician', 'graded surgeon', etc. They held rank as general duty officers (G.D.Os.) but, although not promoted to the rank of major, they were entitled to the additional pay of a specialist while they were performing specialists' duties. In addition to those nominated by the C.M.W.C. for appointment as graded specialists, officers already serving in the R.A.M.C. were eligible for similar grading, provided they held the required qualifications and were recommended as suitable for employment in that capacity. All recommendations in this regard required the support of the appropriate consultant in the command concerned; they were then submitted to the War Office by whom alone these appointments were sanctioned.

There was little that was either revolutionary or experimental in these measures for augmenting the number of specialists in the Army Medical Services. Rather did they denote a development, with modifications, of the scheme put into operation, in the year 1935, following the introduction of the system of entry into the R.A.M.C. by the short-service commission, a scheme which made provision for the employment in a junior specialist capacity of officers whose length of service was insufficient to render them eligible for promotion to the rank of major, and who had not, therefore, had the opportunity of taking the advanced course of study necessary to qualify for that promotion and for appointment as a specialist. Eminently successful as applied to regular officers in peace-time, this expedient in its extension to temporarily commissioned officers under conditions of war appeared no less auspicious.

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For some months after the evacuation of the expeditionary force from France in June 1940, requirements in respect of specialists fell to inconsiderable numbers only to rise again soon afterwards in consequence of preparations for extending military operations in the Middle East. By mid-1941, less than two years from the beginning of the war, 869 specialists and 187 graded specialists, a total of 1,056 including 272 surgeons, were serving with the medical services in one place or another, approximately half of this total being employed in general hospitals either already overseas or on the point of departure.

The measure of professional skill sufficient to warrant appointment as specialist or graded specialist remained somewhat nebulous until early in 1942 when, owing to the large number of applications for classification in one or other category received from officers having neither the qualifications nor the experience necessary, it became desirable to specify, in some detail, the conditions governing these appointments, and the minimum standards to be required of those seeking advancement in that direction. It was therefore laid down that, for classification as graded specialist applicants should have held hospital house appointments of a senior kind such as that of registrar; they must have been medically qualified not less than four years and engaged in their particular specialty over a period of at least two years; they were required to possess higher qualifications such as the M.R.C.P., F.R.C.S., or comparable degree or diploma appropriate to their subject; and normally they would be 29 or more years of age. Officers holding emergency commissions in the R.A.M.C., and possessing the necessary qualifications, were eligible for classification as graded specialists after completing six months' service. A specialist was required to hold the same qualifications and to satisfy the same conditions as those applicable to a graded specialist but, in addition, to have had three more years' experience in his specialty and to have held an appointment on the staff of one of the larger civil hospitals; his age would usually be 32 or more. Graded specialists already serving were not eligible for advancement to the status of specialist until they had held the junior appointment for at least one year, and even then their promotion was by no means a matter of course. All appointments of this nature, whether as graded specialist or specialist, were largely a matter of recommendation by the command consultant concerned, to whom all applications were submitted for comment before transmission to the War Office for final decision.

As the Army expanded, demands for specialists in all branches of medicine became considerably greater than could be met from the resources available. With the passage of time, successive intakes recruited to the medical services of the armed forces from the civil section of the profession consisted more and more of young recently

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qualified medical men and included progressively fewer practitioners of standing or experience and suitable for appointment as specialists or even as graded specialists. Among those already serving, all who had the requisite knowledge were already employed in specialist duties. In the absence of other sources of supply it became a matter of paramount importance to utilise and develop such facilities as the R.A.M.C. itself could provide for the training of specialists within its own organisation. The result was the evolution of a scheme whereby general duty officers, who, although not eligible for appointment as graded specialists, desired to specialise and showed aptitude and promise in that direction, were nominated by D.Ds.M.S. of commands for training in one or other specialty. Subject to approval by the War Office, officers so selected were then given a course of training, of three months' duration in the first instance, at certain military hospitals chosen for the purpose as providing the required facilities. As no additional establishment was authorised to cover these officers while under training, they were posted in the capacity of general duty officers and in replacement of others in that category included in the normal establishment of the hospital. They were therefore required to perform their share of routine duties, but even so they were given every opportunity of gaining proficiency in the subject of their choice. On completion of his period of training each officer was made the subject of a report, rendered to the War Office, containing a statement of his capabilities and prospects and also a recommendation as to whether he were eligible for specialist employment, at once or after further training, or suitable only for general duty. These arrangements applied to the training of graded specialists in general medicine or general surgery. In respect of certain other specialties more specific measures were necessary to provide the experience required. Thus the training of graded pathologists was carried out at command laboratories where courses of instruction were held for the purpose; those wishing to take up one or other of the special branches of surgery, e.g. ophthalmic, thoracic, cranial, maxillo-facial etc., were attached for a time to special hospitals or surgical units engaged in these activities. Training of specialists in all branches was greatly assisted by attendance at lectures, demonstrations, and clinical instruction in war medicine and surgery arranged at frequent intervals by various post-graduate teaching bodies.

The introduction of this scheme of training provided an opportunity of issuing, for the information of all concerned, general instructions governing the classification of specialists and graded specialists and the selection of officers for training as such. The main principles already established in this connexion were elaborated and explained; conditions relating to the qualifications and experience required in respect of some 14 specialties were now defined in greater detail than heretofore and embodied in the form of a schedule to the instructions which

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thenceforth served as standing regulations on the subject. Noteworthy throughout the conditions prescribed was the importance attached to experience gained after qualification by the holding of house appointments in civil hospitals. So much so that to have held an appointment of this kind before joining the Army was now stipulated as indispensable to acceptance for further training in respect of certain specialties. In regard to others, particular circumstances called for the application of specific provisions; for example, practical experience in a malarious country was essential for qualification as a specialist in malariology.

Despite minor amendments made from time to time in accordance with the exigencies of the moment, the procedure outlined above remained substantially unchanged and continued throughout the succeeding war-years to regulate selection and appointment to what in course of time had developed into a large and highly organised specialist service covering all branches of medicine, surgery, and the medical sciences and absorbing rather more than a quarter of the total of medical officers on the strength of the Army Medical Services. Even after the termination of hostilities when, as a direct result of the system upon which demobilisation was effected, the demand for specialists became relatively greater than ever and the supply from civil sources almost non-existent, the same principles were maintained. Indeed, it was categorically affirmed by the Army Medical Directorate that, although the release of senior specialists in the earlier age and service groups would, to some extent, lower the standard of professional advice available to the Army, it was not permissible to accept, as a necessary corollary, the inference that there must be some relaxation of the standards governing the classification of specialists and graded specialists.

The provision of specialists in hygiene was a matter presenting features peculiar to itself, and the methods employed in their recruitment and training differed in several respects from those described in reference to the other specialties. In the first place, hygiene as a specialty was not included within the scope of the arrangements made by the War Office for the nomination of specialists by the Central Medical War Committee after selection by the Committee of Reference. At the beginning of the war such officers as were required for the hygiene branch of the medical services were taken from among newly commissioned medical practitioners, and those who possessed higher qualifications in hygiene, e.g. the D.P.H., and had experience of public health work, either at home or abroad, were selected for appointment as hygiene staff officers or as officers in command of field hygiene sections. It was not until the war had been in progress some months that these appointments were accorded specialist status carrying the rank of major and entitlement to additional specialist pay. However, it soon became

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evident that the requirements of the rapidly expanding medical services for specialists in hygiene could not be fulfilled by the relatively few persons with the requisite experience included among those then joining the R.A.M.C. from civil life. Prospects for the future were no better, for the number of medical men holding full-time public health appointments and likely to obtain their release for military service was very small owing to the natural reluctance on the part of local authorities to deplete their medical staffs now called upon to shoulder additional burdens in connexion with the civil casualty services. Further, many civil practitioners who possessed special qualifications in public health had in practice occupied themselves in other directions, or had confined their activities to one or other of the more specific and circumscribed aspects of the subject, and therefore lacked the wider and more generalised experience required by hygienists in the Army.

Having regard to this unpropitious state of affairs, and in consideration of the fact that in any case military hygiene is a somewhat recondite subject involving much that has no parallel in civil life, it was decided that the Army Medical Services must rely upon their own resources and themselves undertake the training of hygiene specialists in numbers sufficient for their needs. In this subject, as in the other specialties, certain qualifications and experience were prescribed as essential to acceptance for further training. Selection was restricted to those who had been medically qualified for a period of at least five years, had taken the D.P.H. or equivalent qualification, and had held a full-time appointment in the public health service at home or in one of the colonial medical services. Subsequently, it was found necessary to waive the rigid application of the last of these conditions, two years' service in the R.A.M.C. being accepted as an alternative. In addition, three months' experience as a regimental medical officer in charge of troops was stipulated as a necessary condition to classification as a specialist in hygiene. Officers selected for training attended a course of instruction in military hygiene and the allied subjects at the R.A.M. College and the Army School of Hygiene and were later given three months' practical experience in the hygiene branch of the medical services; and in due course they were posted to command field hygiene sections or to take up staff appointments as D.A.Ds.H. It is to be noted that there was no provision for graded specialists in hygiene. In the later years of the war, the Government decided that as many medical officers in the public health services as possible should be released for military service to serve as hygiene specialists.

The qualifications demanded of trainee, graded specialist and specialist respectively are summarised in Table 2.

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TABLE 2

Specialists, Graded Specialists and Trainees

Qualifications and Experience required

Specialty	For acceptance as trainee	For classification as graded specialist	For classification as specialist
Medicine and surgery	Qualified at least 2 years, 1 of which should have been spent in the practice of medicine or surgery.	Qualified 4 years, 2 of which should have been spent in the practice of medicine or surgery. Should have a higher qualification in medicine or surgery unless the candidate has passed the appropriate period of probation as trainee.	Qualified 7 years, 5 of which must have been spent in the practice of medicine or surgery. Should hold a higher qualification in medicine or surgery and should have been on the medical or surgical staff of a recognised civil hospital. Higher qualification may be waived if the candidate has exceptional experience in war medicine or surgery. Officers who have completed 1 year's service as a graded physician or surgeon will be eligible for consideration for classification as specialist.
Anaesthetics	Qualified 2 years, 1 of which should have been spent in gaining considerable experience in the administration of anaesthetics. Should have held a house appointment in general medicine or surgery at a recognised hospital.	As for trainee, but should have held an appointment as resident anaesthetist for at least 1 year or held a staff appointment as anaesthetist at a recognised hospital, or passed an approved period of probation as a trainee in this subject. Normally he should hold a diploma in anaesthetics.	As for graded anaesthetist, but should be qualified 5 years, 3 of which must have been consistently spent in the administration of anaesthetics. Officers who have completed 1 year's service as a graded anaesthetist will be eligible for consideration for classification as specialist.
Dermatology	Qualified at least 2 years and preferably should have held a house appointment in general medicine or surgery.	As for trainee but qualified 3 years during 1 of which a separate study of dermatology should have been made. Should hold higher qualification in medicine or surgery which may be waived if the candidate has considerable experience in military or general medicine or surgery.	As for graded dermatologist but with at least 3 more years' experience in the specialty, during the whole of which time the candidate should have been on the regular staff of a recognised military or civil hospital working in the appropriate department. Should hold higher qualification in medicine or surgery. Officers who have completed 1 year's service as a graded dermatologist will be eligible for consideration for classification as specialist.

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Table 2—continued.

Specialty	For acceptance as trainee	For classification as graded specialist	For classification as specialist
Hygiene	All hygiene specialists are trained in the Army. As there are no graded specialists all prospective hygiene officers are selected with a view to their potentialities for eventual employment as hygiene staff officers (D.A.Ds.H.) or in command of field hygiene sections.		Candidates recommended for training as hygiene specialists should have the following qualifications and experience; qualified 5 years; hold the D.P.H. or its equivalent; have had at least 2 years' service experience or have held a recognised full-time public health appointment or an appointment in one of the colonial medical services; 3 months' experience as regimental M.O. Selected candidates in the United Kingdom must qualify at the hygiene specialists' course at the R.A.M. College and at the completion of the course receive 3 months' practical instruction in the duties of a hygiene officer and be satisfactorily reported on before being posted to fill a vacancy.
Malariology	Qualified 2 years. Have at least 18 months' service experience of which 6 months should have been spent in an overseas station where malaria is endemic.	Have undergone a special course in malariology and subsequently been engaged in anti-malarial work under supervision for at least 6 months.	Qualified 5 years. Have had special experience of anti-malarial work in the services, including the colonial medical services, or with a recognised civil organisation over a period of 2 years.
Entomology		Possess a degree in natural science. Have been engaged on entomological work for a period of 18 months. 6 months' experience of entomology in relation to military problems in the Army.	Possess a degree in natural science. Have held a recognised appointment as an entomologist for a period of at least 2 years.
O.C. mobile hygiene laboratory (chemist)			Should possess a degree in natural science (chemistry) or its equivalent. Have had experience in the work of a public analyst, a public health laboratory, or the department of chemistry in a recognised teaching institution, or have held a recognised appointment with an industrial firm.

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Table 2—continued.

Specialty	For acceptance as trainee	For classification as graded specialist	For classification as specialist
Physiology		Should possess a degree in natural science or be medically qualified and have had 2 years' experience of work in physiology or allied subjects in a university or institution of university status.	Should possess a degree in medicine or natural science and have a recognised status in research or teaching in physiology or allied subjects in a university or institution of university status.
Oto-rhino-Laryngology	Qualified 2 years, 1 of which should have been spent in the practice of the specialty. Should have held house appointment in general medicine and surgery at a recognised military or civil hospital or clinical assistantship in the specialty.	Qualified 3 years, 2 of which should have been spent in the specialty. Should hold a special diploma in the specialty or equivalent. Should hold a higher qualification in medicine or surgery unless the candidate has passed the approved period of probation as a trainee.	Qualified 7 years, 5 of which must have been spent in the specialty. Should hold a diploma in the specialty or equivalent qualification in medicine or surgery. Should have been on the regular staff of a recognised civil or military hospital in the appropriate department. Officers who have completed 1 year's service as a graded otologist will be eligible for consideration for classification as specialist.
Pathology	Pre-graduate evidence of interest in pathology and aptitude for laboratory work. He should have been qualified at least 1 year during which time he should have been engaged in clinical work. Post-graduate experience in clinical pathology, not necessarily full-time. The possession of a higher medical qualification and/or a science degree desirable. Should be under 30 years of age and of medical category A.	Engaged full-time in clinical pathology for 2 years in a pathology department of a general hospital of over 200 beds or one of the recognised institutes of pathology.	As for graded specialist, but employed full-time in pathology for 5 years. Over 30 years of age. In cases of exceptional ability these conditions may be waived.
Psychiatry	Training is best carried out by special course of attachment to a psychiatric hospital in addition to regimental experience. Trainees need apprenticeship to an area psychiatrist. Qualified at least 5 years, or 4 years if 2 of these have been spent exclusively in the practice of the specialty.	Normally qualified 6 years but waived if more than 3 years have been spent in the practice of psychiatry. Should hold a special degree in psychiatry and should have had adequate or satisfactory alternative experience in civil or military practice.	As for graded psychiatrist but 8 years qualified. More than 5 years in psychiatric practice. Officers who have completed 1 year's service as a graded psychiatrist will be eligible for consideration for classification as specialist.

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Table 2—continued.

Specialty	For acceptance as trainee	For classification as graded specialist	For classification as specialist
Radiology	Qualified at least 2 years and should have held a house appointment in general medicine or surgery at a recognised hospital.	Qualified 3 years, 2 of which should have been spent in the radiological department of a recognised military or civil hospital. Should hold a special diploma in radiology or equivalent higher degree in medicine or surgery which may be waived if candidate has passed approved period of probation as trainee.	Qualified 7 years, 5 of which must have been spent in radiology. Should hold a special diploma or equivalent higher qualification in medicine or surgery and have been on the regular staff of a recognised military or civil hospital as a radiologist. Officers who have completed 1 year's service as a graded radiologist will be eligible for consideration for classification as specialist.
Venereology	Qualified at least 2 years and preferably be interested in, and have had some experience of, venereology.	As for trainee, but qualified 3 years and have been employed in venereology at a recognised military or civil hospital or clinic at least 2 years.	As for graded venereologist but qualified 7 years, 5 of which must have been spent in the practice of venereology on the staff of a recognised civil or military hospital or clinic. Officers who have completed 1 year's service as a graded venereologist will be eligible for consideration for classification as specialist.

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RECRUITMENT OF MEDICAL OFFICERS

It has already been recorded that some years before the 1939–45 War, the Central Emergency Committee of the British Medical Association, a body representative not only of the Association itself but of all sections of the medical profession and of the various government departments intimately concerned with the question of recruiting medical personnel, was established. Among the preliminary steps taken by this C.E.C. was the compilation of a register of medical practitioners willing to undertake military service should circumstances require. When, in 1939, war appeared imminent, arrangements were made at the headquarters of the several home commands for the immediate interviewing and medical examination of those prepared to report for duty within forty-eight hours of mobilisation.

On the declaration of war, most of these, and many other, practitioners at once offered their services and, on joining for duty, were appointed to emergency commissions in the R.A.M.C., being gazetted in the war-substantive rank of lieutenant. The emergency commission was a war-time innovation consequent upon the decision that in all branches of the Army the grant of permanent, short-service, and temporary commissions, as in peace-time, should be suspended for the duration of the war. For the most part, officers holding emergency commissions were, in the first instance, used to replace regular officers withdrawn on mobilisation for service with field force units, to reinforce military hospitals and reception stations, and to fill the numerous medical appointments occasioned by the formation of new units, the opening of training centres, and military expansion in all directions. Owing, however, to an increase in the prescribed strength of the expeditionary force and to other subsidiary causes, the number of medical officers available from the regular establishment of the R.A.M.C., even when supplemented by officers of the reserve called up for war service, was insufficient to meet total requirements; some of these newly commissioned, and therefore untrained, officers were of necessity used to supply deficiencies in the establishments of field medical units due for dispatch overseas.

During the month of September 1939, some 800 medical practitioners volunteered for service in the Army and were granted emergency commissions in the R.A.M.C. Before being appointed, they underwent medical examination at a military hospital and interview by a D.D.M.S. or his representative, at the headquarters of a command. None was accepted save with the cognisance and consent of the Central Medical War Committee, and those who made direct application to the War Office or to D.Ds.M.S. in commands were referred in the first instance to that committee. In this way nearly 3,000 medical officers were obtained for the Army Medical Services between the outbreak of war

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and the end of June 1940; all were volunteers agreeing to serve for the duration of the war, and their entry into the Army was entirely independent of arrangements made for the recruitment of personnel for the armed forces by the Ministry of Labour and National Service under the provisions of the National Service (Armed Forces) Act.

In June 1940, however, a totally new procedure came into operation. It had been apparent for some time that the number of medical officers required by the armed forces would ultimately be very large, and it already seemed doubtful if so many would be forthcoming from voluntary sources alone. There was thus no alternative but to have recourse to conscription. Accordingly, the practice of medicine was removed from the schedule of reserved occupations, and medical practitioners consequently became liable for compulsory military service in terms of the National Service (Armed Forces) Act. There was then considerable discussion as to the method to be followed in calling up medical men for military service. At first, it was suggested that they should be subject to the same arrangements as those applicable to other sections of the population, that is to say, immediately after registration, they would be summoned by the Ministry of Labour and National Service in the usual way for medical examination by the civilian medical boards (C.M.Bs.) constituted under the National Service Act, whereupon the C.M.W.C. would notify the War Office, or other department concerned, of those available for calling up to the forces. The armed forces favoured early medical examination as likely to eliminate at the first opportunity those unfit for service, but, on the other hand, the C.M.W.C. were strongly averse to the routine medical examination of all practitioners following their registration under the Act. In any case it was by no means certain that the normal calling-up procedure would be strictly applicable to medical men nominated for military service, in view of the intention to appoint them to commissions, for it was doubtful if anyone liable to conscription under the National Service (Armed Forces) Act was legally obliged to accept the offer of a commission. Moreover, as practitioners so called up were to be granted commissions, the service departments desired to retain the right to carry out the special medical examination invariably required of potential officers irrespective of any previous examination by civilian medical boards.

The procedure as ultimately determined was that the War Office and other departments informed the C.M.W.C. of their requirements; this committee then decided the quota of practitioners to be found from each district in the country; local medical war committees then chose the practitioners they considered most suitable for service in the armed forces, having regard to all the circumstances of the district, and transmitted the names of those they selected to the C.M.W.C. in whose hands lay the final nomination and allocation as between the Admiralty,

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the War Office, and the Air Ministry. In so far as the Army was concerned, on receipt of a nomination, the War Office communicated with the practitioner indicated, notifying him that he was liable for service in the armed forces and offering him a commission in the R.A.M.C. He was requested to attend at a specified place for medical examination and interview by some senior officer representing D.G.A.M.S., and he was informed that in the event of his failing to attend for interview, or of his declining a commission if offered, he would in due course be called up for service in the ordinary way under the National Service (Armed Forces) Act. Payment of travelling expenses to those attending for interview was eventually sanctioned, although not without prolonged discussion. After medical examination and interview, reports on the practitioner concerned were forwarded to the War Office, with whom lay the final decision as to the grant of a commission, and by whom the candidate was informed of the time and place at which he was to report for duty. Medical practitioners brought into the armed forces by this procedure were entitled to exercise the usual rights of appeal in regard to exemption, deferment, or conscientious objection.

The question then arose as to further liability, in respect of military service on the part of those found unfit at the time of medical examination under this system. Certain practitioners who had been rejected on medical grounds asked for documentary assurance that they were thereafter free from military commitments. It was ruled that no man liable to military service could become free from the obligations imposed by the National Service (Armed Forces) Act while that Act remained in force; and, in any case, these particular practitioners had not in fact been called up within the meaning of the Act, but had merely been found unfit for commissions under the standards required at the time. Some of those now rejected might be accepted later on if scarcity of man-power necessitated the lowering of physical standards.

In the matter of medical man-power, the War Office was alive to the urgent need of ensuring the most economical use of personnel. As early as May 1940, the Army Medical Directorate called the attention of D.Ds.M.S. in all commands to the difficulty apprehended in meeting demands for medical officers in respect both of the field force and of home establishments, owing to the very large numbers of medical practitioners absorbed by the civil defence services and the Emergency Medical Services of the Ministry of Health and the Department of Health for Scotland for the treatment of civilian and military casualties, a factor not operative during the 1914–18 War. Senior administrative medical officers were therefore required to review their establishments and to submit reports as to the economies that could be effected. It was suggested that where units were placed in close proximity it ought not to be necessary to fill all the appointments authorised by war

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establishments. Regimental medical officers could often undertake part-time duty in military hospitals and reception stations, as was the custom before the war, thus reducing the staff required by those units; specialists were to be employed in general duties when not fully occupied in their special branches; and an endeavour was to be made to utilise the services of civilian medical practitioners for small and scattered units. In point of fact, these precepts had to some extent already been put into practice in the home commands, and the duties of medical officers were, as far as possible, arranged on a geographical, rather than a unit, basis. The employment of civilian medical practitioners, however, involved much difficulty and inconvenience, for it was found impossible to rely upon them for regular and prompt attention to military personnel, subject as they were to the calls and vagaries of private practice.

THE ROBINSON COMMITTEE*

In November 1940, the Central Medical War Committee approached the Minister of Health requesting an immediate inquiry into the supply of medical men for the armed forces whose demands it was, in their opinion, impossible to satisfy, without detriment to civil medical needs, from the limited number of practitioners available. After consultation between the Secretary of State for War and the Minister of Health, a committee under the chairmanship of Sir Arthur Robinson was appointed to consider the question of recruitment of medical practitioners for the armed forces, having regard to the situation at the moment and as likely to develop in the near future, and also to state what should be done to secure a proper allocation of medical man-power between the civil and military services. This committee examined a large number of witnesses, representing various government departments and professional bodies, and issued a report in January 1941.

From a general survey of the position, it was estimated that the total number of effective practitioners in Great Britain and Northern Ireland was about 45,300, of whom 43,900 were in civil practice at the outbreak of war, that is to say rather less than one per 1,000 of the population. From September 1939, to December 1940, approximately 7,500 had joined the forces leaving 36,400 in civil practice at the close of the year 1940. Of this number, 16,700 were over fifty years of age, and some 5,000 were by age or other reason unfit to bear the stress of any additional work. Thus the ratio of civil practitioners per 1,000 population was in the neighbourhood of 0·82, whereas in the forces the ratios were: Royal Navy, 4·1; Army, 2·8; Royal Air Force, 2·9. It was worthy of note that civil practitioners, while suffering a decrease in numbers, were also called upon to bear a large part of the burden entailed by the civil

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* See Emergency Medical Services. Volume I, Chapter 14.

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casualty services and the Emergency Medical Services in addition to an increase in their own work occasioned by the influx of evacuated persons, by the troubles associated with a population living largely in air raid shelters, and by more intensive measures for the welfare of factory workers. Despite these facts, the medical profession was faced with heavy demands for the recruitment of medical officers to the armed forces, demands which for the first quarter of 1941 were estimated at 1,750 thus: Royal Navy, 90; Army, 1,220 including 210 for India; Royal Air Force, 240; Indian Medical Service, 200.

The recommendations of Sir Arthur Robinson's Committee were as follows:

(*a*) all medical establishments, service or civil, should be reviewed forthwith with a view to the fullest possible utilisation of medical personnel and the reduction of future demands;
(*b*) the services of civilian practitioners in proximity to troops might be further extended;
(*c*) where the three services in this country are represented in the same or adjacent areas, further economy should be effected by the adoption of the principle of area service;
(*d*) the possibility of temporarily releasing practitioners from the services for civilian work through the winter months when the demands of the civilian population are greatest should be carefully examined;
(*e*) the employment of alien practitioners, admitted to the register, in civil hospitals and the services should be further extended;
(*f*) the employment of final-year students as house surgeons or house physicians in civil hospitals should be set on foot;
(*g*) the question of the employment of more practitioners from the Dominion of Canada and the other Dominions should be further explored;
(*h*) the possibility of recruitment of practitioners from the United States of America is a new factor and action in regard to it should be taken as quickly as possible; and
(*i*) an effective organisation for the settlement of questions of priority should be established.

One concrete proposal for economy in the Army Medical Services put forward by the committee concerned the appointment of medical officers as registrars to the military wings of Emergency Medical Service hospitals. As their duties were very largely of an administrative kind related to discipline, pay, clothing, and records, it appeared that they could with advantage be replaced by non-medical officers. This suggestion and, indeed, all the recommendations of the committee were accepted by the War Office, who in collaboration with the other fighting services and the Ministry of Health, took immediate steps to carry them into effect.

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A matter of some anxiety to the military medical authorities and closely connected with the subject of economy in medical man-power was the question of supplying sufficient medical officers for both operational troops and medical units in the event of invasion. In addition to divisional troops, with their normal complement of medical officers and medical units, it was intended to use for defence purposes mobile columns formed from training units and other personnel not usually called upon to engage in the fighting line. To provide these columns with medical services it would be necessary to deplete military hospitals and reception stations of their medical officers. The replacement of this personnel was a matter of vital importance. The problem was solved by arranging that, in an emergency of the kind contemplated and involving the withdrawal of medical officers from military hospitals for field work, military staff would be replaced by civil practitioners not already directly associated with the Emergency Medical Services or civil defence services. In each county and county borough area, military and civil officers in conjunction worked out provisional plans for the reinforcement of hospitals, first-aid posts, etc., and for the allocation to specified duties of civil practitioners who were to hold themselves in readiness to assist the military authorities in an emergency as and when directed by the regional hospital officer of the Ministry of Health acting in consultation with the local representative of the Army Medical Services. To give effect to this scheme, the senior regional officers of the Ministry of Health were authorised to exercise the powers of national service officers under the Defence Regulations and thereby enabled formally to direct civilian practitioners to undertake such duties as might be required of them. These arrangements came into force in February 1941.

The labours of the Robinson Committee, or, as it may have been, the visible results of the action taken to carry out their recommendations, did not satisfy the Central Medical War Committee, who pressed for the establishment of the organisation which had been suggested for the settlement of questions of priority. Neither the Minister of Health nor the Secretary of State for War was inclined to favour the suggestion, but in May 1941, the former intimated that he had received deputations from the Central Medical War Committee and from the Royal College of Physicians and the Royal College of Surgeons all of whom stated their inability to raise a further substantial number of medical recruits unless they and their local committees, and indeed the medical profession as a whole, could feel assured that the best use was being made of their medical resources by the armed forces and the Emergency Medical Services. Precisely how the supply of medical men available was in any way dependent upon the satisfaction of the profession with regard to the manner in which that supply was to be utilised is somewhat obscure. If literally

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interpreted, it would have conveyed a degree of pressure little removed from a threat of direct action which was no doubt far from the intention of the bodies mentioned.

THE SHAKESPEARE COMMITTEE*

At all events the upshot was the appointment of a committee of inquiry whose terms of reference were to consider what further steps could usefully be taken to secure the utmost economy in the employment of personnel in all the medical services, military and civil, and in general practice; and, in the light of their investigations, to make recommendations from time to time as to the future allocation of available resources. Mr. Geoffrey Shakespeare, Parliamentary Under-Secretary of State for the Dominions, was made chairman of the committee, which included eminent members of the civil side of the profession and representatives of the medical branches of the fighting services, and which first sat on June 25, 1941.

Members of the committee themselves visited all parts of the country in order to see for themselves the arrangements made to meet the needs of the forces and of the civil population. They heard numerous witnesses and examined a mass of documentary evidence. The papers submitted by the Army Medical Directorate included a memorandum on the organisation of the Army Medical Services, a statement of liabilities and assets in respect of personnel, a forecast of future requirements, and a statement showing the action that had been taken to give effect to the recommendations of the Robinson Committee. The last of these explained that establishments had been reviewed and economies achieved: (*a*) by reductions in field force units; (*b*) by reorganisation of the anti-aircraft medical services on an area, instead of a regimental, basis; (*c*) by substituting non-medical officers for medical officers holding appointments as staff officers at the War Office and at headquarters of certain formations, as company officers R.A.M.C., and as registrars to military hospitals and military wings of Emergency Medical Service hospitals. In this way 200 officers had been transferred from administrative to professional employment; nearly 250 more would be replaced as soon as substitutes could be trained and made available in relief. The services of civilian medical practitioners for attendance upon troops were being utilised where possible, while co-operation in the employment of officers of the Navy, Army and Air Force stationed in the same area had been ensured by consultation between the local administrative officers concerned. As regards the recruitment of alien practitioners to the Army, it was considered that, for various reasons including those of security, they could best be employed in a civil

* See Emergency Medical Services. Vol. I. Chapter 14.

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capacity and so release British practitioners for service with the armed forces; nevertheless, some 270 medical men of other than British nationality had already been granted commissions in the R.A.M.C. The loan of more practitioners from the Dominions and the possibility of recruiting others from the United States of America had been taken up with the appropriate authorities, but hitherto the results had been negligible, and the indications were that no reliance could be placed in obtaining any appreciable reinforcement from these sources. The statement of liabilities and assets showed that the number of medical officers authorised by existing establishments was 7,909. The programme of expansion already approved required a further 1,194, and potential expansion 517 more. Against these figures the actual strength of medical officers was only 6,972 exclusive of 175 missing and prisoners-of-war, to which might be added the 438 officers that would be forthcoming by the substitution of non-medical officers in certain appointments. There was thus an alarming deficit in the number available in relation to the number required. As regards demands on the Central Medical War Committee and the supply received, the number outstanding from the year 1940 was 135, and demands for the period January to April 1941, amounted to 1,289, i.e. a total of 1,424, whereas the whole intake up to the end of June 1941, was 680 only.

The Medical Personnel (Priority) Committee (M.P.P.C.) as it came to be known, issued its first interim report in August 1941, confining itself for the time being to certain urgent recommendations the need for which they had already established. They were satisfied that considerable economy had been secured during the progress of the inquiry and that the demands of the armed forces were now reduced to what, pending further investigation, might be taken as minimum requirement. These amounted to a total of 1,600 medical officers, 100 for the Royal Navy, 1,200 for the Army, and 300 for the Royal Air Force. At the date of the report there were only about 28,000 male civil medical practitioners under 70 years of age, and the withdrawal of a further 1,600 from civil practice would impose a severe drain on existing resources. In these circumstances it was imperative to maintain constant vigilance in the distribution of medical men and so ensure that every economy was exercised. The committee was not satisfied that a concerted effort had everywhere been made by the military and civil authorities to secure the best use of the medical man-power at their disposal. It therefore recommended the setting up of local committees, consisting of the senior administrative medical officers of the fighting services with the regional and hospital officers of the Ministry of Health to keep under continual review the medical needs of the forces and of the civil population in their areas, to contrive the closest co-operation between all the services, and to eliminate under-employment or

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over-lapping of medical personnel. It was hoped by these means to effect still further economies without which it would be difficult to meet the needs of the armed forces. An inquiry into the bed-accommodation and staffing of all civil hospitals was urgently necessary to assist the Central Medical War Committee, since it was from the staffs of these hospitals that a proportion of the medical officers required must inevitably be derived. Other recommendations included proposals for raising the age limit of liability for compulsory military service in respect of the medical profession, and for wider powers to transfer general medical practitioners to districts where there was more urgent need of their services.

Following the issue of this report, arrangements were made for the establishment of the local or regional committees suggested, and D.Ds.M.S. in home commands were appointed to serve as the military representatives. At the same time the search was continued, both centrally and locally, to find additional means of achieving savings in personnel. As usual, measures which appeared both feasible and simple when considered in committee proved to be more difficult and complicated in practical application. In the first place, it was not possible to effect much reduction in respect of field medical units, for the number of medical officers included in their establishments was dictated by the functions they were required to perform when engaged in active operations; and to maintain their personnel markedly below the authorised war establishments, even while they remained in the United Kingdom, was to hamper training and impair efficiency. Thus the brunt of measures for economy fell upon static units and home establishments generally, but even here there were limits beyond which it was impossible to go without arriving at a state of affairs where one problem was solved only by creating another in its place. As a result of reduction in their own numbers, medical officers in charge of troops were each required to serve a greater number of units, either by holding larger sick parades at central medical inspection rooms, or else by undertaking a series, or round of sick parades at different points, often widely scattered, and at various times throughout the day. In either case these arrangements seriously interfered with the efficiency of many units whose programme of work could not be carried out unless sick were seen early thus leaving the remainder of the day free for training or technical activities. Indeed, commanding officers complained bitterly of the disorganisation entailed by a system which required that men in need of medical advice, but fit for duty, should either occupy much of their time in travelling to a medical inspection room at a distance, or interrupt their work to attend a local sick parade held at odd hours. Many were the difficulties that beset senior administrative medical officers in endeavouring to arrange that adequate medical attendance should be

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everywhere available with a minimum of inconvenience to all concerned. One very important point, which apparently escaped the attention of the committee, was the fact that medical arrangements organised on an area basis involved much travelling on the part of the officers so engaged and therefore the provision of transport on a large scale. Unfortunately it was not only in regard to medical officers that economy had been decreed; scarcity of petrol and rubber imposed severe restrictions in travelling facilities. On further examination it was found that there was not sufficient transport available to give effect to the proposal in its entirety, and that it was out of the question to arrange for substantial additions in order to effect relatively small savings in medical personnel.

However, for the information of the M.P.P.C., the Army Medical Directorate prepared a revised statement of requirements up to the end of the year 1941. It was shown that existing commitments necessitated 3,556 medical officers for the field force, 450 for defended ports abroad, 373 in connexion with the organisation for the air defence of Great Britain, 1,965 for static units at home, and 1,361 regimental medical officers. In addition to the foregoing, the programme of expansion required 520 more. Total liabilities therefore amounted to 8,225 medical officers. On the other hand, the existing strength was 6,972; there were 178 missing and prisoners-of-war; 50 had been requested from Canada; 238 were available as a result of various economies. Estimated assets were thus 7,438, leaving a deficit of 787.

In February 1942, the Medical Personnel (Priority) Committee issued their second report. Reviewing results so far obtained, it was stated that initially the demands of the armed forces for the second half of the year 1941 amounted to 2,300 medical practitioners in all. Subsequent revision, based on acceptance of the recommendations made by the committee in their first report, effected a reduction to 1,600. Between the beginning of July and the end of September, the C.M.W.C. supplied 598 of this number, leaving a balance of 1,002 to be met during the last three months of the year. After consideration of what had been learned by members of the committee while visiting various headquarters and military establishments all over the country, estimates were again examined in consultation with the departments concerned. Finally, outstanding requirements for the year 1941 were fixed by general agreement at the total of 600, of which the Army Medical Services were to receive 500, and the Central Medical War Committee eventually managed to supply the whole of that number by January 1942.

Immediate further requirements, in so far as they could then be foreseen, were placed at 980, as follows; Royal Navy, 120, Army, 610, Royal Air Force, 160, I.M.S., 90. This number implied a monthly rate of recruitment far higher than any likely to be obtainable from the sources of supply hitherto available. The committee had therefore

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explored other means of procuring additional personnel for the forces. They were of the opinion that the majority of the employable alien practitioners had by now been absorbed, and that no further assistance could be expected from the Dominions or the U.S.A. They had already recommended a reduction in the whole-time staffs of all civil hospitals, and there was thought to be a limited field of recruitment in the public health service and in the school medical service. It remained to have recourse to the opportunities provided by the raising of the age limit for military service under the National Service (Armed Forces) (No. 2) Act of 1941. Finally, the committee expressed themselves as satisfied that the service departments were fully alive to the limited resources available to meet their own requirements and those of the civil population, and to the consequent necessity of ensuring the utmost economy in medical man-power; indeed, as a result of their co-operation, the demands of the forces for medical personnel during the year 1941 had been reduced by about 1,000. They hoped that their recommendations in regard to the saving of personnel in civil hospitals, and the deliberations of the regional committees would help to solve the problems of the next six months, but they were none the less convinced that constant vigilance was necessary.

The facts brought to light in this report of the M.P.P.C. were communicated to the Minister of Labour with a view to obtaining his assistance in widening the resources at the disposal of the C.M.W.C. His attention was drawn to the difficulties of the position in which that committee was placed, since it might well be that during the year 1942 the armed forces would ask for as many as 2,000 more medical officers; and apart from practitioners newly qualified, and certain others made available by recent reductions in hospital staffs, the main source of supply would be medical men in general practice even though the ratio of general practitioners to the civil population was not more than one per 2,500, and in some reception areas as low as one per 4,000. It was urged that medical men between the ages of 41 and 51, now liable for military service under the National Service Act, should be made available for recruitment to the forces without delay. They should be registered and called up in two groups, the first, consisting of those under 46, at once, and the second, containing the remainder, towards the end of the year. Unless the scope of recruitment were so extended, it would be impossible to meet current demands.

This was a matter for decision by the War Cabinet. In expressing his own views on the subject, the Minister of Labour pointed out that, although all men up to 51 years of age were subject to the provisions of the National Service Act, they were liable to military service only when their age groups were called up by Royal Proclamation. No proclamation had yet been issued in respect of anyone over 40, and, if it were

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proposed to call up medical practitioners above that age, it would be necessary to issue a Royal Proclamation applicable to all, not only medical practitioners, within the proclaimed ages. In point of fact, as those over 40 in other occupations were not required for the Army, only medical practitioners would be affected; nevertheless, the issue of a proclamation must have a disturbing effect upon all within the specified age groups, and it would therefore be desirable to make an announcement indicating the intention to apply it only to the medical profession. The Minister saw no objection to the calling up of medical practitioners from 41 to 46 years of age while others in that age group were unaffected, and was prepared to accept the proposal although he himself was not satisfied that the best use was being made of medical man-power in the Emergency Medical Services, the strength of which was based on an estimate of air raid casualties quite out of relation to actual experience, and which was in need of revision having regard to the shortage of medical men and the urgent demands of the forces. However, he agreed to proceed in the manner he had indicated, and in due course liability to military service was extended to medical men between the ages of 41 and 46.

Early in 1942 and while these discussions were in progress, the Minister of Health arranged for a percentage reduction in the whole-time staffs of civil hospitals; for the release of a number of medical men from the staffs of mental institutions and of public health authorities; and for the replacement of junior house officers in teaching hospitals by final year students. It was expected that about 1,000 practitioners would become available from these sources. To prevent delay in the subsequent commissioning of those called up to the Army, it was arranged, at the suggestion of the Ministry of Health, that all medical men on the staffs of civil hospitals should be medically examined forthwith in order that the hospitals concerned might have early information as to which of their officers were likely to be withdrawn. In May 1942, instructions were issued to all home commands by the War Office that it was desired to complete these examinations not later than the end of the following month; special arrangements would therefore have to be made to cope with the work involved, and specialists must be available to assist medical boards in their assessment of physical fitness in doubtful cases so that a second attendance on the part of those presenting themselves for examination would be unnecessary. It was not proposed to arrange individual appointments; two or three days in each week should be set aside for this work at each of the several centres, and the practitioners concerned would be informed by the War Office of the days and hours at which the examinations were conducted. Detailed notes as to the form of medical examination and particulars to be obtained from those presenting themselves were drawn up for the guidance of officers carrying out the medical examination and interview.

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Complications soon arose in connexion with these arrangements. In the first place, there was some confusion on the part of the practitioners examined, and, no less, of those examining them, in regard to the difference in procedure applicable, on the one hand, to practitioners attending for preliminary examination without prejudice to subsequent recruitment, and, on the other, to those actually nominated for commissions. Moreover, there were numerous complaints of the waste of time and of the inconvenience occasioned by travelling long distances to the places of examination, despite the fact that, in order to obviate this as far as possible several examination centres had been set up in each command. Suggestions for travelling medical boards were impracticable on account of the time and number of medical officers that would have been occupied in touring the country for the purpose. Eventually, a satisfactory solution to all these difficulties was provided by delegating this preliminary, or, as it might more correctly be termed, eliminating, examination to the senior members of the staffs of the appropriate hospitals. Practitioners found fit for service at the time of examination were nominated for commissions in the usual way; those considered physically unsuitable were re-examined by military medical boards in order that they might be officially rejected on medical grounds.

Later in the year, when the shortage of medical personnel was giving rise to ever-increasing anxiety the Ministry of Health forwarded to the War Office correspondence from local bodies stating that long delay, often amounting to several months, occurred in the commissioning of medical officers released by local public health authorities. This, it was alleged, was occasioned by the dilatory methods of the Army Medical Directorate in making arrangements for their interview and medical examination. As it was clearly essential in the interests of public policy that any misgivings of this kind should be dispelled, either by showing them to be groundless, or by removing the cause of complaint, full particulars were obtained and the matter thoroughly investigated. Inquiry failed to discover any case of unnecessary or avoidable delay on the part of the military authorities. The facts as ascertained were that very often a practitioner was not actually nominated for military service until some time after his employing authority agreed to release him; the next stage was the transit of the nomination through the hands of the local medical war committee to the C.M.W.C., and thence to the War Office, the practitioner then had the statutory right of seven days in which to lodge an appeal if he wished to do so; in some cases an investigation from the security aspect was required; ten to fourteen days' notice of medical examination had to be given; and finally, after acceptance, the practitioner required a reasonable period of some seven to ten days in which to settle his private affairs. Thus there was an unavoidable interval, which might extend to so long as four or five

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weeks, from the time when a civil medical practitioner was given his release to the date of his entering the army. It was for this very reason that the War Office had already suggested that those selected for military service should be nominated not less than one month before becoming due for release.

Shortly afterwards, in January 1943, the Army Medical Directorate had occasion to refute another imputation that the armed forces were not taking full advantage of the resources at their disposal. Some members of the Medical Personnel (Priority) Committee were apparently much concerned at the high percentage of rejections, on medical grounds, among candidates nominated for commissions in the R.A.M.C. by the Central Medical War Committee, and they had suggested that the physical standards enforced were too high and were susceptible of some reduction. This was a subject to which tacit allusion had frequently been made in the past and, as a matter of vital significance from the aspect of recruitment, called for an unequivocal reply. The opportunity was therefore taken to submit, for the information of the M.P.P.C. as a whole, a memorandum describing at some length the result of three years' experience supported by a wealth of statistical evidence. Mention was made of the circumstances in which the examination of medical practitioners for service in the Army came to be placed in the hands of military medical boards. It was then explained that the Army had adopted a system of medical classification by categories representing the various standards of physical efficiency implied by constitutional diversity and the presence or absence of bodily defects. The grouping of personnel in these categories facilitated their selection for employment in a branch of the service for which they were best suited and physically capable; and it sought to prevent their being allocated to duties beyond their capacity or under conditions tending to aggravate their disabilities. In the interests of the service no less than of the man himself, no one found to be suffering from a mental or physical defect likely to deteriorate under conditions of military life should be accepted for service in the Army. Similarly, it was imperative to reject those liable to frequent or prolonged periods of absence from duty on account of indifferent health. Indeed, many candidates whose medical history was suggestive of dyspepsia associated with duodenal or gastric symptoms had in the past been accepted; most of them had subsequently broken down in health merely for the reason that under service conditions, even in Great Britain, it was not possible to exercise the personal care and to obtain the necessary diet and comforts of home life so instrumental in assisting civil medical practitioners of this category to conduct with relative ease even a busy general practice. Broadly speaking, candidates rejected for service with the R.A.M.C. could be classified in five groups; group A, those suffering from diseases which are known to be aggravated

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by service conditions, e.g. tuberculosis, or diseases of the heart; B, those with disabilities likely to cause interruption of duty, e.g. peptic ulcer, asthma, high blood pressure, or nervous diseases; C those with defects such as arthritic conditions and congenital deformities; D, those who were dependent upon continuous treatment in order to maintain their health owing to the presence of such diseases as diabetes, cholecystitis, thyrotoxicosis, nerve palsies, obesity, etc; and E, those rejected on grounds of character, habits, or for other reasons not associated with physical unfitness. During the last nine months of the year 1942, the C.M.W.C. nominated 2,551 practitioners for commissions in the R.A.M.C.; of these 397 were rejected: group A, 130; B, 152; C, 49; D, 49; E, 17. Thus of the total number nominated, 15·5 per cent. were rejected, 15 per cent. on medical grounds, and 0·5 per cent. for other reasons.

In the combatant branches of the Army, all candidates for commissions, in addition to their medical examination, were interviewed by a War Office selection board for assessment of those qualities considered necessary in an officer. When, as an experiment, a number of newly commissioned medical officers appeared before one of these selection boards, it was found that some 10 per cent. would have been liable to rejection according to the standards demanded. It had been suggested that this percentage was largely represented by those who subsequently proved unadaptable to military life and who eventually were downgraded in medical category or discharged; if, therefore, all practitioners were interviewed by selection boards before being commissioned, this wastage might and probably would to a great extent be obviated. It was felt, however, that in the light of the foregoing any such innovation would involve the risk of still further raising the rejection rate and, having regard to the shortage of medical men available, could not therefore be adopted.

The guiding principle in assessing physical fitness in candidates for commissions as medical officers was that they should be fit for general service in the field, i.e. military medical category A, or at least fit for duty at the base or on lines of communication abroad and for all ordinary duties at home, i.e. category B.* In certain cases candidates were acceptable if fit only for sedentary and specially selected duties in the United Kingdom, category C, but the number in this category that could be absorbed and profitably employed was strictly limited. It was frequently suggested that the greater part of the home establishment might be filled by officers of category C, but in point of fact this was not possible, if only for the reason that a large reserve was necessary to provide reinforcements or to meet sudden demands in theatres of war overseas,

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* See Chapter 11.

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and also to be available for interchange with officers returning to the United Kingdom after prolonged periods of service abroad. This reserve could consist only of those fit for general service and borne on home establishments. Moreover, a proportion of home appointments must be filled by newly commissioned officers in order that they might obtain military experience before being sent on active service. Nevertheless, the number of officers fit only for home service was rapidly rising and creating a serious problem, so much so that proposals had been made for the release from the Army of category C officers in exchange for physically fit practitioners from civil life. In the circumstances, therefore, the lowering of existing physical standards for medical officers was bound to entail liabilities not in the interests either of the Army Medical Services or of the State.

While this vexed question was before the M.P.P.C. the same issue was raised by the C.M.W.C. who stated that among local medical war committees there was a feeling of dissatisfaction with the system employed in the examination of candidates for commissions in the R.A.M.C., inasmuch as it was thought that military medical boards were rejecting many men who were in fact fit for service. Furthermore, many practitioners were asserting their right, in common with others liable for service under the Military Service Act, to examination by the civilian medical boards constituted under that Act. This was, of course, precisely the view taken by all the government departments concerned and agreed to by their representatives at a conference held in April 1940, when the procedure for calling up medical practitioners under the National Service Act was first considered, and it was only in deference to the wishes of the C.M.W.C. who took strong exception to following the ordinary routine in the case of medical practitioners, that alternative methods were eventually adopted. Now that these objections were removed there was general agreement in favour of reverting to the original proposal, and it was accordingly decided that in future young medical men should be examined by the civilian medical boards of the Ministry of Labour immediately after qualification, and that established practitioners should be examined by the same boards on nomination by the C.M.W.C. Then arose the time-honoured question of their being required to undergo, in addition, the special medical examination conducted by the service departments in respect of all candidates for commissions. The Admiralty, the War Office, and the Air Ministry each wished to continue these examinations in some, if not in all, cases. On the other hand, the Ministry of Labour was much averse to anything in the nature of complete re-examination of candidates for commissions, first, in view of the extremely thorough examination carried out by the statutory civilian medical boards, and secondly, because any procedure involving two examinations within a short period was open

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to the suggestion that medical man-power was being wasted at a time of great scarcity, an impression it was desirable to avoid. With this view the M.P.P.C. concurred, and after further discussion it was agreed that re-examination should be required only in certain classes of candidate where special tests were necessary, as for example, in so far as the Army was concerned, those placed by civilian medical boards in grade II and those whose constitutional fitness was open to question. These revised arrangements for the medical examination of medical practitioners were brought into force in July 1943.

The year 1943 was particularly eventful in regard to the recruitment of medical officers for the Army Medical Services, chiefly because it was then that demands were most prodigious, that the supply was most precarious, and that the question of medical man-power in the country generally reached a crisis. The gravity of the situation in this connexion became more than ever apparent even before the end of 1942 in consequence of the demands received from the armed forces as essential to meet their commitments during the coming year. In respect of the Army alone, estimated requirements for this purpose amounted to no less than 5,000 additional medical officers. This figure was based on the General Staff forecast of operational contingencies for which 3,000 more officers would be necessary; to these were added the deficit of 180 carried over from 1942, normal wastage put at 360, and 960 more to supply the needs of India, not only for the R.A.M.C. but also for the I.M.S. who had found it impossible to raise locally the number of medical officers required.

The M.P.P.C. were thus placed in a serious dilemma. Approximately 13,650 medical practitioners had already been recruited to the armed forces, including 9,800 to the Army. The forces therefore contained about 40 per cent. of all effective practitioners on the medical register. The committee were now called upon to find nearly 6,000 more, the bulk of whom must of necessity be drawn from those engaged in general practice, leaving the civil population with only just over half the number of practitioners at work before the war. Notwithstanding the most drastic steps in the way of reduction in whole-time staffs of hospitals and of public health departments of local authorities, despite an increase which they had reluctantly made in the quota imposed upon the body of general practitioners, and even with the use of other temporary expedients, the committee considered it impossible to recruit more than 200 to 235 practitioners each month during 1943 as against the 500 a month necessary to meet the demands of the forces. It remained to determine which of two courses should be followed: either, medical facilities available to the public must be reduced to an extent that would involve complete cessation of certain health services and render prompt medical attention in time of urgent need problematical; or, the armed

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forces must restrict their demands to the limit of 200 to 225 recruits each month, the total to be distributed among them on a proportional basis. The committee considered that to choose between these alternatives was outside their function, and the matter was referred to the Lord President's Committee of the War Cabinet. At the time, December 1942, the subject of the country's man-power, including the size of future intakes to the Army, was engaging the attention of the War Cabinet, and it seemed probable that the forces' demands for medical officers would be substantially reduced as a result of their decisions. The Lord President's Committee was therefore of the opinion that no final assessment of the numbers required could yet be made, but, in the meanwhile, demands should be re-examined with a view to reduction wherever possible, always recognising that, while there could be no question as to the necessity of making adequate provision to deal with battle casualties and with sickness in unhealthy climates abroad, yet, at the same time, a sufficiency of medical men must be kept in general practice and in the public health services to maintain the well-being of the civil population.

At a preliminary discussion between the Ministers having charge of the departments closely concerned with the employment of medical personnel, it appeared that in spite of recent Cabinet decisions in regard to a reduction in the potential strength of the armed forces the latter would still require far more medical officers than it would be possible to recruit. It was therefore decided that the Ministry of Health and the Ministry of Labour should consider economies in the personnel in the industrial medical services and the possibility of extending the use of the Emergency Medical Services, while Ministers of the service departments would again review their demands in the light of changed circumstances.

In this connexion, the Army Medical Directorate prepared a revised estimate of the number of medical officers required during 1943 in order to complete authorised establishments and to provide for new units to be raised in accordance with the now modified schedule of operational undertakings. This may be summarised as follows:

(*a*) deficiencies in establishments carried over from 1942	259
(*b*) provision for static military hospitals	37
(*c*) medical units for field force	1,306
(*d*) staff for headquarters of formations of expeditionary force	120
(*e*) medical officers for 120,000 troops to be transferred from static formations to operational functions	60
(*f*) requirements for India at the rate of 80 per month (30 for R.A.M.C. and 50 for I.M.S.)	960
(*g*) wastage due to sickness, releases, battle casualties, etc.	500
TOTAL	3,242

This estimate, which showed a decrease of nearly 1,600 in the number previously submitted, was approved by the Army Council, and the sum total was then communicated to the M.P.P.C.

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That committee, now faced with demands from the forces amounting to as many as 4,000 medical officers for the year, reiterated their inability to procure more than 220 a month or 2,640 in all, even that number being obtainable only by further curtailment of civil medical facilities. Matters being at a deadlock, the decision now devolved upon the Lord President's Committee, who, early in February 1943, considered a proposal put forward by the Lord President of the Council that an independent Minister of Cabinet rank be invited to conduct an inquiry into the basis on which the demands of each of the armed forces had been calculated, and into the wider question as to how the limited resources in medical personnel now available could best be utilised in an endeavour to meet current needs in all directions. Meanwhile, and as a purely temporary measure, such recruits as were forthcoming might be allocated between the forces in proportion to their latest demands. It was recognised that if the suggestion made by the Lord President of the Council was adopted the proposed inquiry would involve delay in supplying the Army with the officers now urgently required and so seriously impede the work of preparing medical units for active operations. It was agreed that before the matter, recently raised, of extending liability to military service, in the case of medical men, to the age of 51, an age limit above that applicable to the general population, could seriously be considered, it was imperative that, as the result of an impartial inquiry, such an expedient was shown to be justified. Finally, it was decided to invite the Lord Privy Seal, Lord Cranborne, to conduct, in association with the appropriate Ministers, an inquiry of the nature suggested by the Lord President.

THE CRANBORNE INQUIRIES*

There was then some discussion on the allocation of practitioners recruited pending the completion of Lord Cranborne's inquiry. The monthly intake was expected to be not more than 150, of which the Army would receive only 101 including the quota to be supplied to India, a quota subsequently reduced by agreement with the India Office consequent upon the formation of the Indian Army Medical Corps which was to be recruited locally under arrangements made by the Government of India. In the event, the recruitment of medical practitioners proceeded more satisfactorily than was expected, the number forthcoming during January and February being 400, thus easing the situation to some extent.

In March of that year, Lord Cranborne, having examined the estimate of requirements for the Army prepared in the previous January and summarised above, forwarded his comments to the Secretary of State

* See Emergency Medical Services. Volume I, Chapter 14.

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for War. He offered trenchant criticism both of the grounds upon which the demands were based, and of the methods employed in calculating them. It appeared that, after allowing for a reduction of 600 in the quota to be supplied to India, the total requirements for the Army in 1943 amounted to 2,642 additional medical officers. Almost the whole of this number was required for the field force, and mostly for the force preparing for operations in Western Europe. If all requirements were met, the field force at the end of 1943 would contain about 7,000 M.Os. Of these, 3,800 were already serving in commands overseas and, as establishments in those commands were to all intents and purposes complete, it followed that the allocation for Western Europe must be in the neighbourhood of 3,200. This establishment on the ratio of 4 M.Os. per 1,000 troops represented a field force of about 800,000. In the first place, it seemed unlikely that the force would be of that magnitude, and, in any case, while it was axiomatic that adequate medical provision must be made for troops in the field and that, in calculating requirements, there should be some allowance for emergent and unpredictable needs, yet it was none the less true that, with one exception, in the several forces then overseas where all demands were being fully met the ratio of medical officers to troops was considerably lower than 4 per 1,000. Moreover, in operations based on the United Kingdom much of the treatment of battle casualties would be undertaken by the civil hospitals of the Emergency Medical Services.

In regard to static formations, Lord Cranborne drew attention to the fact that establishments provided 1 M.O. per 1,000 troops, with an additional 1 per 1,000 to provide staff for hospitals. In the previous January, the strength of static troops was 1,092,000; therefore the number of medical officers required on the basis of 2 per 1,000 amounted to 2,184, whereas there were actually 2,400, leaving a surplus of at least 200 for the field force. With the transfer of some 120,000 troops from static to operational functions, the number of static formations would decrease and so release more medical officers for service with the field force. Also, as civil hospitals were treating two-thirds of the Army's hospital cases, the ratio of medical officers to static troops was for all practical purposes raised to 2·7 per 1,000. While it might be argued that a reduction in medical officers for static formations would entail a lower standard of medical service, yet very cogent reasons were required to warrant a scale of provision five times greater than that applicable to the civil population. Medical officers in training and awaiting posting were shown as non-effective, but it seemed that they were, more correctly to be regarded as a reserve pool. Figures given in respect of wastage appeared unduly high having regard to the probability that, as the strength of the Army gradually decreased from its maximum, medical establishments would decline in proportion.

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In reply to these criticisms, D.G.A.M.S. pointed out that provision had to be made for the field force retained at home as well as for that intended for service in Western Europe, hence the seemingly large number of medical officers included under the heading of field force. When considering the necessity for medical services to the extent represented by a ratio of 4 M.Os. per 1,000 troops, heed should be given to circumstances where a force was about to enter an enemy country rather than to conditions in an operational theatre such as the Middle East where the Army was already well established, and where economies had therefore been rendered practicable. But, in any case, the contention that the medical services required by a force could be assessed by a fixed ratio of medical officers to the total strength of that force was entirely fallacious. Field medical units were raised on a prescribed scale in relation to the fighting formations taking part in any specific military operation. Hospital beds were provided in accordance with an estimate of casualties likely to occur, not only as a result of battle, but also from sickness. The actual number of beds supplied, therefore, was determined by the conditions under which the particular campaign was to be conducted and differed widely from one theatre of war to another. In North Africa the basis was 6 per cent. of the force engaged; in Burma it would be 13 per cent. with a correspondingly larger number of medical officers. Consequently, the ratio of medical officers to troops in any one place was largely fortuitous and the result of many and variable factors; it furnished no reliable guide to requirements elsewhere.

As regards medical officers for static troops, while it was true that personnel in this category would decrease as the field force increased, yet their hospital treatment would still devolve upon a static hospital while they remained in the United Kingdom. Further, any diminution in hospital work consequent upon the departure of the expeditionary force could but be temporary and would soon be more than counterbalanced by greater activity due to the arrival of casualties from the Continent. No reduction in the staffs of static hospitals was therefore feasible, but it might be possible to effect some economy in that direction by utilising the personnel of field force units until the time came for their dispatch overseas. Allowance had already been made for the transfer to the field force of medical officers attached to static troops when the latter were assigned to operational functions. The extent of this transfer was, however, limited by the restriction that only physically fit men of medical category A were eligible for employment with field units.

Little assistance was to be derived from attempts to compare the number of M.Os. employed in the Army with the total engaged in civil practice. There could be no analogy between the medical services given to military personnel and those obtainable by the civil population, since they were based on entirely different principles and adapted to very

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different conditions, the soldier receiving much that was neither available to, nor required by, the civilian. The fundamental truth was that the military medical officer spent much of his time, not in treating the sick, but in supervising the health and welfare of the soldier, in medical classification and the assessment of physical fitness, in training, and in other activities outside the scope of the medical practitioner in civil life. This aspect of the situation could be summed up by saying that the Army Medical Services were organised for war, the civil medical services were not. Finally the Director-General suggested that better medical facilities for the civil population could be provided by a more systematic distribution of the general practitioners available; and this might well be undertaken before resorting to measures which must inevitably lead to deterioration in the standard of medical achievement hitherto maintained in the Army.

All things considered, and after discussion with his technical advisers, the Secretary of State for War felt unable to advocate fulfilment of the War Office's demands in their entirety. Reduced though they now were to a total of 2,300, they must be still further decreased, as it was quite clear that there were not enough medical practitioners in the country to satisfy all needs everywhere, and the Army was unlikely to obtain more than 1,200 at most during the current year. There was, however, the probability that the scheduled date by which the expeditionary force was to be ready for action would be postponed from August 1, 1943, to April 1, 1944, and it might therefore be possible to effect some diminution in the number of M.Os. required at the moment by a corresponding deferment in medical provision, even though it would probably involve increased recruitment in the first three or four months of the following year. It remained to ascertain how the intake of M.Os. could be distributed over the twelve months period of April 1943, to April 1944, on condition that all establishments in the medical complement of the expeditionary force were to be complete by April 1, 1944.

Once again the position was examined and estimates prepared on these lines. For several reasons, chiefly those of security, the period taken for purposes of computation was that of June 1, 1943, to May 31, 1944. It appeared that on the revised basis of calculation, the Army would need to obtain medical officers at the average rate of approximately 165 a month during the twelve months beginning on June 1, 1943, in order to satisfy all requirements. As to the situation after May 31, 1944, it was difficult to form a reliable estimate, on account of operational contingencies, but the necessity for a further supply at the rate of 48 a month in replacement of wastage and battle casualties could be safely assumed. In due course these results were communicated to Lord Cranborne who, however, found himself unable to recommend provision on so large a scale having regard to the prevailing shortage of medical

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practitioners among the civil population. On the other hand the Secretary of State was not prepared to accept Lord Cranborne's suggested ratios of 4 M.Os. per 1,000 strength of operational formations and 2 per 1,000 non-operational troops.

In his report, presented to the Lord President's Committee in July 1943, Lord Cranborne said that there was a general consensus of informed opinion that the present standards of medical service available for the general population were already dangerously low. He had first considered the civil position not only in order to obtain a clear picture of the conditions but also in order to discover whether there were any further economies in the use of civilian doctors which would make it possible to provide recruits for the Armed Forces without impairing the existing standards for the civilian population. The Minister of Health and the Secretary of State for Scotland had accepted his recommendations for a further comb-out of medical practitioners from hospital staff, from the public health services and from those engaged in teaching and in research. It was especially important to prevent further deterioration in the general practitioner service. This would involve at least the maintenance of the present numbers of doctors engaged in general practice and some improvement in their geographical distribution. No large yield, however, could be expected to result from these measures. Any further reduction in medical resources would involve serious risk to the civil population. The needs of the armed forces had then been examined, and as far as possible a distinction had been drawn between operational and non-operational formations. Doubtless, it was a matter for the forces themselves to make such adjustments as might be necessary, nevertheless it was felt that, while requirements in respect of medical officers for operational formations must be met in full, the same claim had not been established in regard to non-operational personnel, the more so because large numbers of military patients were treated in hospitals controlled by the Emergency Medical Services. In the year 1943, therefore, the supply of medical practitioners to the forces must be reduced substantially below the demands put forward. The allocation proposed for the year 1943 was as follows: Royal Navy, 400; Army, 1,000; Royal Air Force, 256; India, 360.

Lord Cranborne further stated in his report, however, that the Service Ministers had not felt able to accept these allocations. In particular they had not seen their way to make a distinction, as Lord Cranborne had suggested, between operational and non-operational formations. The requirements which they had put forward were built upon actual needs of all individual establishments and were accordingly all of equal importance.

After hearing the views of the Ministers concerned, the Committee decided that the Lord Privy Seal's recommendations must be accepted.

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In the course of the discussion, reference was made to the possibility of closing a number of military hospitals and transferring their work to the Emergency Medical Services—a measure which would substantially reduce the Army's requirements. The Committee took note of this suggestion and left it for further consideration between the Ministers concerned.

The position thus reached was that for the year 1943 the Army had already received 635 medical officers up to the end of May and required 1,200 in addition during the remaining seven months at the rate of approximately 165 a month; for the first part of 1944 the same rate of recruitment was desired to produce 797 more. Against these demands the allocation for the whole of 1943 was 1,000 plus a refund in respect of the quota for India, previously included in estimates for the Army Medical Services amounting to 120; while the allocation for 1944 was quite indeterminate. So great a deficit called for drastic measures to achieve some degree of compensation. Since it was beyond question that the requirements of the field force should be fully supplied, and as the war establishments of field medical units had been closely examined and reduced to the minimum that could be accepted without incurring grave risk, it followed that, to provide the personnel requisite for the field force, the decreased intake of medical practitioners must be made good at the expense of a reduction, amounting to one-third, in the total number of medical officers included within the establishments of static units, training centres, and base organisations in the United Kingdom. It remained to determine how and where this cut in establishments could best be effected. Medical personnel employed in a non-operational capacity within the home establishment were divisible into three main groups: first, some 259 engaged in administrative duties; secondly, 363 concerned with scientific work, research, training, medical boards, man-power selection and grading, etc; and thirdly, 2,044 undertaking the distribution and care of the sick. It was estimated that replacement of medical officers by quartermasters, R.A.M.C., or by officers of other arms would release 52 medical officers from among the first group. In the second, small reductions in the staffs of schools, laboratories, etc., were possible, but upon the activities of medical boards, and of officers employed in personnel selection, in rehabilitation and development centres, depended in no small measure the conservation of man-power; and their loss would, in the end, increase rather than decrease the demands for medical men, seeing that they had been largely instrumental in reducing wastage by 50 per cent. during the past two years. Nevertheless, in spite of these objections, the estimated saving in this group was placed at 87. The third group consisting of officers in medical attendance upon the troops, was capable of reduction in several directions. It was decided to close a number of military hospitals

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and to arrange for their work to be transferred to E.M.S. hospitals; in the case of other military hospitals the staff would be withdrawn and replaced by personnel of field medical units pending their departure overseas. Establishments of the remaining hospitals and reception stations, and medical establishments of the anti-aircraft arm were to be cut by 10 per cent., those of home ambulance trains and of field ambulances of reserve divisions by 50 per cent. Altogether a saving of 363 medical officers was to be made in this, the third group of static personnel. Lastly a reduction of 98 was made in the allowance for normal wastage. Thus there was, on paper at least, a total of 600 medical officers available for transfer to field units.

Some months before the completion of Lord Cranborne's investigation, D.Ds.M.S. in home commands were warned of the serious state of affairs in regard to medical man-power and of its probable implications. Attention was drawn to the fact that there were then as many as 500 general duty officers of medical category A or B, and under 47 years of age, employed in other than field units stationed in the United Kingdom. All of them would certainly be withdrawn during the year for service with the field force; and if this could be accomplished without having recourse to demands for replacements it would go a long way towards overcoming the deficiencies with which the medical services were to be faced. Moreover, there had recently been some increase in the number of medical officers employed in home commands without any concomitant rise in the strength of the troops stationed in those commands. D.Ds.M.S. were therefore requested to review their needs from the aspect of a complete redistribution of medical officers regardless of war establishments, to examine the possibility of still further utilising the services of civil medical practitioners and the facilities provided by the Emergency Medical Services, and to substitute, wherever feasible, officers over the age of 47, or of medical category C, for those of younger age or higher category. It was realised that these measures might entail a lower standard of efficiency, but subject only to the provision of an adequate medical service these considerations must be ignored.

In August 1943, this warning was followed by specific instructions from the Army Council directing attention to the shortage of medical men and calling for reduction in the number of medical officers employed with units and formations other than those of the field force. Each command in the United Kingdom was required to effect a decrease in establishments in accordance with a schedule drawn up on the basis described above. Notification was given of the intention to close certain military hospitals, and of the arrangements made by the E.M.S. to undertake additional work in respect of military patients, including the treatment of those suffering from minor complaints not previously regarded as warranting admission to civil hospitals. At the same time

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commanders-in-chief of forces in theatres of war overseas were instructed to carry out a thorough examination of their war establishments with the object of reducing the number of medical officers and medical units in all formations to the minimum compatible with safety, and to work on the principle that no medical officer was to be employed in duties that would be satisfactorily performed by an officer of any other class.

Apart altogether from such things as the reduction of excessive establishments, the elimination of redundant appointments, and the substitution of non-medical officers for medical officers in administrative positions, there remained yet another cardinal factor in the matter of conserving medical man-power. The more precarious the supply, the more vital was the necessity of restricting the employment of medical officers to wholly medical activities, and of ensuring that their time and labour were not devoted to affairs outside the ambit of professional skill. For long enough there had been a very strong feeling, both within and without the medical services, that medical officers generally, and especially those attached to units or in charge of troops stationed at home, were unduly burdened with a mass of administrative and routine work, some of it of doubtful value, and much of it not requiring the personal attention of a qualified medical man. To what extent this opinion was current in authoritative circles is, perhaps, conjectural, but at all events the Army Medical Directorate, shortly after the decisions recorded above, invited D.Ds.M.S. in home commands to conduct a critical examination of the duties performed by medical officers, whether serving with medical units or in charge of effective troops, and thereafter to offer suggestions for the reduction of administrative work and for the elimination of any routine procedure that involved an expenditure of time out of proportion to its usefulness.

There was close agreement both in the opinions expressed and in the proposals put forward. Senior administrative medical officers were unanimous in pressing for further provision of transport and of clerical assistance for their officers, including specialists, inadequacies in these two directions being responsible for limitation in scope and waste of professional time. The three-monthly-review of the medical categories of all personnel was considered unduly frequent; and it seemed that nothing would be lost by extending the time from three to six months, in view of the statistical evidence available which showed that, in one command at least, more than 90 per cent. of those examined retained their categories unchanged and, of the remainder, the number downgraded was approximately equal to the number upgraded so that no appreciable saving in man-power had resulted. It was also the general opinion that military personnel were subjected to much unnecessary medical inspection undertaken for the purpose of detecting infectious disease. Apart from periodical routine inspection, they were examined on many occa-

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sions, e.g. on transfer to another unit, on arrival at the new unit, before and after leave and attendance at courses of instruction. Much of this examination was superfluous, and many of the routine inspections were held to be within the competence of regimental officers or of N.C.Os. of the R.A.M.C., provided doubtful cases were referred for the opinion of a medical officer. It was also proposed that medical officers should be relieved of the duty of carrying out routine inspections of barracks and regimental lines; here again, it was contended, the time of professionally qualified officers was occupied in work that could well be delegated to unit officers and sanitary assistants who could seek expert medical advice when it was required. Nearly all D.Ds.M.S. emphasised the necessity of restricting the number of cases sent for specialist opinion by medical boards and by medical officers in charge of troops. Medical boards ought to refrain from demanding the advice of specialists as a routine procedure, since many cases were capable of assessment without such assistance. Equally, medical officers should rely with confidence upon their own clinical judgment rather than avoid responsibility by seeking confirmation from others. Lastly, there was a strong feeling that much precious time was occupied by medical officers in investigating complaints initiated by the War Office or by members of Parliament, complaints which for the most part proved ill-founded or of a trivial nature.

It cannot be said that this inquiry was prolific in practical result. Transport facilities were still the subject of close restriction on account of shortages in petrol and rubber. The prospect of obtaining assistance with clerical work was remote, since trained clerks were almost as scarce as were medical officers. The proposal that medical categories should be reviewed at intervals of six months did not meet with approval at the War Office where it was insisted that the result would be loss of manpower. Except that inspection at the time of returning from leave was discontinued, routine medical examination of personnel remained much as before, even though in the meanwhile the suggestions put forward in this connexion had been made the subject of an experiment and proved successful. In the matter of sanitary inspection, little relief was accorded to medical officers of static units and none at all to those of field force units, chiefly because of the reasonable insistence, on the part of the Directorate of Hygiene at the War Office, that environmental hygiene was no less a concern of the regimental medical officer than was the care of the sick and wounded. Although everywhere recognised as both desirable and necessary, it was by no means easy to achieve a reduction in the number of cases referred for examination by specialists. From the very beginning of the war, the importance attaching to specialism and specialist opinion had been stressed, if not exaggerated. Finding that, even in respect of simple and straightforward cases, medical boards and administrative officers were inclined to disregard his

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opinion unless endorsed by the dictum of the appropriate specialist, the general duty officer became more and more imbued with the official doctrine of specialist infallibility. Consequently, he showed himself increasingly dependent upon those whose opinions were accepted as authoritative, and progressively less reliant upon his own powers. Manifestly it was impossible to reverse in a few weeks or months a process that had been steadily gathering momentum over a period of four years. The last, if not the least, of the suggestions submitted by D.Ds.M.S., that is to say, the plea for a respite from the multiplicity of investigations demanded by the War Office and members of Parliament, was from the outset a forlorn hope.

Yet another inquiry into the distribution and employment of medical officers was made before the end of the year 1943. On this occasion the investigation was undertaken by a team of observers specially appointed for the purpose by the Director-General, and was concerned chiefly with the work of officers in medical charge of non-operational troops. As the result of numerous visits to units of all kinds it was found that the war establishments of static units still absorbed a large proportion of the total number of medical officers available. Local organisation of the medical services was thus relatively inflexible, making it difficult to use personnel to best advantage. In some units, the primary training centre, for example, the periodic arrival of large intakes caused wide fluctuation in the amount of medical work by reason of the need to complete the medical classification, vaccination, inoculation, etc., of the whole intake within a few days of their arrival. On these occasions the establishment of medical officers proved inadequate, and temporary assistance had to be provided from other sources. Conversely, in other units the amount of work was never sufficient fully to occupy the time of even one officer. When, in these circumstances, arrangements were made for his part-time employment elsewhere, it frequently happened that strong objection was raised by the commanding officer concerned, on the grounds that, since the medical officer was carried on the unit's establishment, he was therefore reserved for duty with that unit only. Similarly in regard to medical reception stations and camp reception stations, the number of medical officers on establishment was determined by the number of beds provided, but had little or no relation to the total amount of work to be undertaken. Where charge of patients within a reception station was the sole duty of a medical officer, he could be responsible for a large number of beds; on the other hand, when he was also required to attend medical inspection rooms or to hold a large number of sick parades, the time he could devote to patients in the reception station was correspondingly reduced. It was considered that, in the interests of efficiency no less than of economy, officers in medical charge of static units should no longer be carried on the war

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establishments of the units concerned, but, in each command, there should be a pool of medical officers to be employed at the discretion of the D.D.M.S. who was clearly in the best position to decide where and how they should be used.

This recommendation was approved and subsequently adopted. A further recommendation which proposed that the medical personnel of the Anti-aircraft Command should cease to exist as a separate entity but should be merged in the suggested command pools for employment as circumstances dictated, was not accepted, although there was evidence of overlapping and extravagance in the use of medical officers where the two different administrations were operating in the same region. The necessity of supplying medical officers with transport, in order to save time and so increase the amount of work that could be undertaken by each of them, was again emphasised, and once more it was urged that they should be relieved of routine sanitary inspection of barracks, camps, etc., by increasing the number and scope of sanitary assistants.

In the latter part of 1943 attention turned once more to the further recruitment of medical officers. When approving Lord Cranborne's proposals for 1943, the Lord President's Committee invited him to continue his investigations and submit recommendations for the allocation to be made in the following year. Accordingly, Lord Cranborne asked the Secretary of State for War for an indication of his requirements in 1944, warning him that there was little prospect of an allocation as high as that of 1943. Whereupon the controversy that developed on the previous occasion was renewed on much the same lines and with much the same results. Estimates prepared by the Army Medical Directorate first indicated that some 1,147 additional medical officers would be needed, in certain contingencies perhaps as many as 1,694; but, after making allowance for reduction in the field force and using a revised basis for the calculation of casualty rates, the total was subsequently brought down to 1,075.

In November 1943, Lord Cranborne submitted an interim report to the Lord President's Committee pointing out that estimates received from the armed forces far exceeded the number that could be provided, and there was still a deficit to be made good in the allocation for 1943. There was no possibility of another cut in the staffs of civil hospitals, and it had already been agreed that no further deterioration in the standard of provision for the civil population should be permitted. In any case it was particularly important that no such attempt should be made until the peak period of sickness during the winter had passed. There remained the expedient of accelerating recruiting by reducing, from six months to three, the time during which newly-qualified practitioners held their first hospital appointments. The effect would, however, be merely temporary, and there would not be any increase in

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the total supply. Of the 2,000 medical men and women expected to qualify during the year, the number of physically fit male practitioners available for the forces would probably not exceed 1,200 in all. Little would result from any further attempts to comb out the civil section of the profession which was suffering from increasing strain caused by the withdrawal of the younger men for military service.

At the time of this report, the Lord President's Committee was much concerned on account of an epidemic of influenza then prevalent in most parts of the country. They went so far as to recommend that the calling up of medical practitioners for service should be held in abeyance for the time being, and that arrangements should be made whereby medical officers of the forces could be placed at the disposal of the civil authorities in order to give assistance when required by civil hospitals and general practitioners (*vide* page 197). Beyond suggesting that some decrease in the estimates submitted should be possible in consequence of reductions pending in the total man-power of the forces, and that an approach should be made to the Governments of Canada and of the United States of America requesting the loan of medical officers for employment in the British Army, the deliberations of the Lord President's Committee achieved little towards a solution of what had become an increasingly urgent and anxious question.

In so far as it was applied to the Army, the argument that a decrease in total man-power automatically entailed a corresponding reduction in medical man-power was invalid. True though it was that the total intake to the Army for 1944 had been fixed at 169,000 less than the original figure, nevertheless, military commitments remained unchanged and the scale of projected operations was in no way modified. Battle casualties in 1944 were still estimated at 250,000 including 175,000 wounded, who, with the normal complement of sick, would require hospital provision to an extent imposing severe strain on existing medical establishments. Although the effective strength of the Army might decline during the latter part of the year, the gross strength, in all probability, would decline scarcely at all and in any event would include a proportionally greater number requiring medical services. Moreover, the Indian and Far Eastern theatres of war were now requesting additional medical personnel. So far from there being any reduction, the numbers necessary to meet increasing commitments continued to rise, and, even taking into account the savings accruing from reductions in home establishments, demands for 1944 amounted to 1,350.

In putting forward these estimates and the considerations on which they were based, the Secretary of State took the opportunity of mentioning that the British ratio of 4 M.Os. per 1,000 total strength for a force engaged in active operations, so far from being excessive as had been suggested, was considerably lower than the ratio of 6·2 per 1,000

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authorised in the American Army, and had in fact proved inadequate in Italy, where, only recently, epidemic disease had almost brought about a breakdown in the medical services. Experience during the previous six months was sufficient to demonstrate the accuracy of the methods used in assessing casualty rates for 1944. No assistance in the way of obtaining medical officers on loan was likely to be forthcoming from the U.S.A. or from anywhere else. Finally, the Secretary of State indicated the attitude he proposed to adopt. When, in the previous August, operational projects for 1944 were still to some extent undetermined, he was ready to concede an element of chance in the allocation of medical officers. Now, however, the plan of campaign was decided, and, although resources in man-power had been drastically cut, there was no corresponding reduction in the undertaking to which the Army was committed, indeed the fighting might prove harder than had been hoped. He was not, therefore, prepared to let the Army take the field insufficiently provided with medical officers, nor deliberately to accept the risk of a repetition of events in Mesopotomia during the 1914–18 War.

All these considerations notwithstanding, the War Office was given to understand that there could be little prospect of recruiting more than 1,200 medical practitioners in 1944 to supply the total needs of the armed forces. Thus it seemed probable that the Army would obtain some 700 medical officers, or less than half the number regarded as vitally necessary to the efficiency of the medical services during what was undoubtedly to be the most crucial year of the war. It was now February 1944; the expeditionary force, in process of preparation for an assault upon North-west Europe and due to be in readiness by April 30, was still deficient of 350 medical officers. It remained to fill establishments and so complete the medical component of the force at the expense of other commands at home and overseas as follows: by further cuts in home establishments over and above those made a short time before and already described; by postponing the dispatch of drafts to India until after the departure of the expeditionary force to the Continent; by limiting drafts for other theatres of war to the replacement of wastage only; and by undertaking no new commitments of any kind. The inevitable results of these measures included: a general deterioration in the standard of medical attention provided for the Army in the United Kingdom, a slower administrative procedure in respect of medical boards, invaliding, etc., delay in building up the forces in the Far East with consequent postponement of projected operations in that part of the world; depletion of medical resources in the Mediterranean and Middle East through battle casualties which could not be replaced; and accumulation of deficiencies in all other forces abroad.

These facts and their implications were communicated by the Secretary of State to the Lord President's Committee who about the same time

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received Lord Cranborne's report confirming his previous findings. He had, however, asked the Medical Personnel (Priority) Committee to ascertain if there was any way in which the supply of medical practitioners could be increased and that supply accelerated to provide assistance to the forces at an earlier date than previously contemplated. So far from there being the possibility of an increase, the investigation showed that only about 1,050 newly-qualified men, including volunteers from North Ireland and Eire, would be forthcoming. As a result of the decision in 1943 to call up newly qualified practitioners after holding hospital appointments for only three months, the number of these men available in the early part of 1944 was much reduced. Even if the expedient were repeated, the effect would not be felt until late in the year. To reach the estimate of 1,200 practitioners, it was necessary to resort to other devices, and the course recommended by the M.P.P.C. was an increase in the recruitment of women and aliens. A further yield of 200 might be obtained from these sources thus raising the total to 1,250. Even this would occasion some further decline in the medical facilities available to the civil population, although far less than that entailed by a reduction in hospital staffs. There were major risks in leaving the civil medical services at so low a level, risks which could be acceptable only as an emergency measure for that period of the year when sickness among civilians was at a minimum. In the circumstances Lord Cranborne recommended that the Lord President's Committee should approve a total allocation of 1,250 medical practitioners, including 200 women and aliens, for the first nine months of 1944. The position should be re-examined in the coming autumn in order to determine whether or not it would be necessary to provide a further supply of medical officers but it should not be assumed that any supplementary allocation would in fact be possible. It was doubtful if the demands of the forces ought to be fulfilled in their entirety, since they allowed for the continued replacement of casualties and wastage at former rates. It was not fully appreciated that the assumption of maximum impact in 1944 implied a reduction in strength thereafter and, as far as man-power generally was concerned, a decrease in the size of the armed forces after the autumn of 1944 because casualties and other wastage would not be fully replaced. This was a factor applicable to the medical services no less than to other arms. Much had been done by the forces to economise in medical officers, yet there was reason to think that they were in a better position to suffer reduction than were the civil medical services. Had it not been for the urgent operational needs with which the country was faced, it would have been difficult to justify the imposition upon the civil population of the further sacrifices entailed by the allocation proposed. The total allocation was to be distributed on a proportional basis as follows: Royal Navy, 240;

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Army (including R.A.M.C. in India), 720; Royal Air Force, 90; India, 200.

At their meeting of March 31, 1944, the Lord President's Committee accepted Lord Cranborne's view that the recruitment of 1,250 medical practitioners for the first nine months of the year represented the limit of what could be done towards satisfying the needs of the armed forces. The Secretary of State for War gave warning that failure to meet the studied demands of the War Office would, unless forthcoming operations were more immediately successful than there was any right to expect, involve grave risk of a breakdown in the Army Medical Services later in the year. This unequivocal declaration evoked certain somewhat nebulous suggestions for a scheme whereby medical personnel in various establishments, civil or military, would be reserved for immediate transfer, in case of emergency, to other establishments where a breakdown or loss of efficiency would have the most serious consequences. Further reference was made to the possibility of seeking assistance from the U.S.A., despite the assurance given that there, also, the shortage of medical personnel was a cause of concern and any hope of alleviation from that quarter therefore remote.

The proposals advocated by Lord Cranborne and endorsed by the Lord President's Committee were then considered at a meeting of the War Cabinet on April 5. From the records of the proceedings it would appear that the essence of the question at issue was itself not very closely examined. Attention was engaged rather in discussing various extraneous projects which, it was hoped, might help to provide a solution to what was in truth an insoluble problem. Among these was a proposal that the Prime Minister should approach the President of the United States of America with a request for assistance in supplying medical personnel; it was also suggested that help was to be had in the persons of some eighty Danish medical practitioners then in Sweden and said to be willing to come to Britain. For all that, Lord Cranborne's recommendations received the support and approval of the Cabinet, the Prime Minister ruling that, if heavy casualties were to be sustained over a considerable period, the armed forces must be ready to accept a dilution of fully trained personnel and a departure from the high standards appropriate in other circumstances. Only in this way could the best use be made of the personnel available.

As the result of the War Cabinet's decision, the Army Medical Services were to be reinforced to the extent of only 720 medical officers for the first nine months of 1944, or little more than half the total required for the whole year. Moreover, the allocation of 720 was to include some 115 women or aliens. Now female officers and officers of foreign nationality already constituted 3·6 and 4·1 per cent. respectively, of the total strength of medical officers in the R.A.M.C. While

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satisfactorily employable with static units and non-operational formations, they were not regarded as suitable for service in the field. They were not, therefore, available for replacement of battle casualties. It followed that, to complete the medical complement of the expeditionary force and to meet all other operational commitments during the next six months, the Army Medical Directorate would have at their disposal not more than 600 additional male medical officers. Even these expectations failed to materialise. Recruitment, which had almost ceased after the conclusion of the 1943 allocation in the previous January, when once more resumed was so slow that only 136 more officers were obtained by the end of May, that is to say before the expeditionary force was due for dispatch overseas. On the other hand, during the same period, no less than 97 medical officers had relinquished their commissions on account of ill health. Thus it was that the medical complement of the force could not be brought up to full strength before its departure, and there were deficiencies in the establishments of many units at the time of their leaving the United Kingdom. The deficit would have been far greater had it not been that the prescribed scale of provision in hospital beds for the force had been reduced, and the number of general hospitals required was accordingly less than originally contemplated. Subsequently, recruiting was accelerated, but by September 30, the end of the period covered by Lord Cranborne's recommendations, there was still a deficiency of nearly a third in the total allocation.

It was not until after this date that steps were taken to make provision for the last quarter of 1944 and for 1945. In October, Lord Cranborne, who had again been asked to advise on the distribution of medical man-power, informed the Secretary of State for War that, although the recruitment of medical practitioners to the forces during the previous nine months had fallen short of the full allocation, it would yet be possible, by the end of December, to complete the prescribed numbers which must then suffice as the total allocation for the year 1944. With regard to the first half of 1945, estimates of requirements for that period should be based on the assumption, recently adopted by the War Cabinet for purposes of man-power planning, that the war with Germany would be at an end by December 31, 1944. In these circumstances, medical needs would conform to the reduction in the strength of the Army already foreshadowed by tentative plans for partial demobilisation and so permit the release of an appreciable proportion of medical officers serving at the close of 1944. It would also be necessary to decide whether or not, in that event, the calling up of newly-qualified practitioners should continue as before.

The Secretary of State felt it incumbent upon him to agree to the proposal that the making up of the existing deficit should be regarded as completing the allocation for the whole of the year 1944, but, as to

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the future, he declined to accept the supposition that the war with Germany would be over by the end of the current year. On the contrary, he insisted that it would be most unwise, in calculating prospective requirements, to take for granted the termination of hostilities in Europe before the middle of 1945. That being so, and in order to meet their additional commitments between January 1 and June 30, 1945, the Army would need 505 more medical officers. Furthermore, the India Office was asking for an allotment of 647 in respect of the same period. While this demand was quite separate from that of the War Office the Secretary of State for War was indirectly concerned because, if India did not receive the desired quota, the War Office would be faced with the necessity of supplying the deficit, as far as it might be possible to do so, from their own resources. The hypothesis that, after the end of the war with Germany, reduction in the number of medical officers would proceed in direct proportion to reduction in the total strength of the Army was open to challenge on the grounds that future medical needs would lie mainly in the Far East where hospital provision was required on a scale twice as great as that which sufficed in a European theatre of war, and where, moreover, there was no home base reinforced by the E.M.S. organised to undertake much of the accommodation and treatment of military casualties. In any case, there could be no doubt that the calling up of young practitioners immediately after six months' hospital training must be maintained for some time to come unless, under the scheme for partial demobilisation of the Army after the defeat of Germany, the release of medical officers was to lag far behind that of officers in other arms.

Lord Cranborne's intentions in regard to the completion of the allocation for 1944 were eventually fulfilled, although not until early in the following January. When he came to examine the question of the allocation for 1945, he was faced with a situation even more acute than ever. In the first place, events had belied the promise of the previous autumn, and it had become necessary to presume the continuance of the war in Europe until the summer of 1945 and to provide accordingly. On this basis, the demands of the armed forces for the first half of the year amounted in sum to 1,900 medical officers of whom about 1,000 were in respect of the I.M.S. According to the estimate of the M.P.P.C., however, the number that could be made available during the whole year under the existing system of recruitment would not exceed 1,400. Meanwhile, the position from the civil aspect was such that, if the public health services and general practice in hard pressed areas were to be given much-needed relief, some 2,000 additional practitioners were required for England and Wales alone. The Cabinet had decreed that full weight must be given to the urgency of the need for medical officers in the Far East during the campaign of 1945; on the other hand, it was

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as authoritatively insisted that there should be no further diminution in the provision of medical personnel for the civil population. If all newly-qualified practitioners together with those who could be released from civil employment were to be recruited to the forces, the total number obtainable would yet be far below requirements, and at the same time civil resources would deteriorate still further. This dilemma being referred to the Lord President's Committee by Lord Cranborne at the end of December 1944, it was ruled that there could be no absolute priority in any one direction. The relative urgency of the various needs must be assessed and the available supply distributed in such a way that it could be used to best advantage.

Further consultation took place between Lord Cranborne and the Secretary of State for War during the early months of 1945, but in the course of discussion the subject of the Army's need of medical officers in the first half of the year became almost inextricably interwoven with other matters which would arise only after the defeat of Germany, such as the medical requirements of the armies of occupation in respect of civil affairs, and the extent and rate of release of medical officers necessary to preserve a correct balance between the resources of the Army and the civil population. Meanwhile, delay in coming to a decision on the primary question was seriously impeding plans for projected operations. While total assets remained conjectural, so long must provision for future liabilities continue in suspense; particularly was this so in the dispatch of reinforcements to complete the medical services of the force being built up for an extension of the campaign against Japan.

Towards the end of March, Lord Cranborne submitted his proposals. It appeared that not more than 700 practitioners could in any circumstances be recruited to the armed forces during the first half of 1945. This number would include 600 derived from those newly qualified and due to be called up in the ordinary way; the remaining 100 would be established practitioners withdrawn from the civil medical services. Provision to this extent implied that the forces would obtain all the physically fit men and women that were to be had, while the civil population would be left with fewer practitioners, less fitted than ever to continue their work under circumstances of increasing pressure, and one-tenth of them over 70 years of age. The total allocation to the forces would not therefore exceed 30 to 33 per cent. of their demands, the Army receiving 160–167; India, 280–300; and Civil Affairs, 120–132. Due regard had been paid to the Prime Minister's dictum that the grave needs of the medical services in the Far East must be given every consideration, and it was on this account that the Lord President's Committee were advised to accept the suggested allocation in spite of its effect in still further depleting civil medical resources. The requirements in personnel for 1945 put forward by the forces were but a small fraction of

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the number of medical officers already serving, i.e. some 16,000 in the aggregate or two-fifths of all the medical practitioners of the country, and it was by redistribution of this total that the armed forces themselves must ensure that their more urgent needs were met. Nevertheless, at the moment, they were confronted with a situation of especial difficulty, and the risk to the civil population involved in supplying their requirements must be accepted. On the other hand this state of affairs could not be allowed to continue indefinitely; unless effective steps were taken to restore the civil medical services later in the year, the situation in the coming winter would be highly dangerous. The contention of the Ministers in charge of the three fighting services, that, at the end of the war with Germany, deficiencies in authorised establishments should be made good and replacements provided for all medical officers released under the scheme of partial demobilisation, was one difficult to accept. While it might be assumed that the calling up of newly-qualified men would continue and so serve to provide some measure of replacement, it was eminently desirable that the requirements of the armed forces as against those of the civil population should be reassessed as soon as possible after the termination of hostilities in Europe.

Lord Cranborne's recommendations were not considered by the Lord President's Committee until several weeks later, by which time the imminent collapse of the German armies was already assured. Not unnaturally, perhaps, at their meeting of April 27, attention was concentrated upon plans for ensuring the rapid release of medical officers to civil life rather than for augmenting the number on active service. Despite representations that it remained to make adequate provision to cover redeployment of all available forces against Japan, the proposed allocation of medical practitioners in response to demands for the first half of 1945 received scant notice. On the contrary, the Prime Minister gave it as his opinion that there was room for an immediate cut of 10 per cent. in the total number of medical officers employed by the armed forces at home and in European theatres of operations, and he announced his intention, after obtaining detailed information on certain points, to issue a directive on the subject.

Within a few days, the defeat of Germany was an accomplished fact, and the war in Europe was over. Shortly afterwards, on May 21, the Prime Minister issued instructions that, the standard of medical attention available to civilians being so low, 1,600 medical officers were to be returned forthwith to civil life from the armed forces. Thereafter, release, rather than recruitment, became the question of greatest moment in the matter of medical man-power. Lord Cranborne's proposals in regard to a specified allocation for the year 1945 never having received final ratification, the Central Medical War Committee proceeded on the lines necessary to meet the requirements of the system

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of partial demobilisation; that is to say, recruitment was limited to the calling up of newly-qualified men becoming due for service under the normal arrangements, and of such established practitioners as were needed to provide replacements for serving specialists due for release. For the most part, recruitment was confined to practitioners of not more than 35 years of age; but, in order to allow for the inclusion of experienced, and therefore older, specialists, 40 was the officially prescribed age limit. As a matter of interest it may be noted that the number of practitioners recruited to the Army Medical Services during the first half of 1945 eventually amounted to 349 for all purposes including the requirements of India and Civil Affairs. An allocation for the second half of the year had not been determined when the surrender of Japan, in August 1945, brought the war to its conclusion in so far as active military operations were concerned.

THE CONFLICT BETWEEN MILITARY AND CIVILIAN NEEDS

In studying the course of events and the trend of opinion in regard to the recruitment of medical officers for the Army Medical Services during the 1939–45 War, there are certain aspects of the question worthy of particular note. The basic fact of the matter was that the total resources of the country in medically qualified personnel did not and could not, suffice to meet both the civil and the military needs of the nation under conditions of modern warfare. The former comprised, in addition to the facilities normally provided for the civil population, first, a civil medical defence service to deal with casualties caused by enemy air raids, secondly, the Emergency Medical Services organised for the hospital accommodation and treatment of large numbers of patients, military and civil, and thirdly, extended medical welfare services required by a veritable army of factory workers. On the other hand, as the fighting forces grew larger and extended the scope of their commitments and the scale of their operations throughout the world, their requirements became progressively greater. Never was the conflict of interests greater than in 1943 when, as resources in medical manpower were rapidly dwindling to vanishing point, the Army was preparing to undertake what was, perhaps, the most ambitious military enterprise of all time. More than once it so happened that the examination of this vexed question was to some extent influenced by the prospect of epidemic disease among the civil population. Such was the position in December 1943, when the country was faced with an outbreak of influenza which, although not of an unusually severe character, was responsible for much minor sickness and hence a serious falling off in productive power at a time when a maximum of effort was never of greater importance. Anxiety on account of the immediate civil emergency on the spot tended to overshadow the calls of military

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ventures more remote in time and place; so much so that on this occasion while discussion was in progress on the subject of accelerating the supply of medical officers to the armed forces, recruitment of medical practitioners was for some weeks entirely suspended. Furthermore, although it was frequently asserted that the proportion of the medical profession remaining in general practice was totally inadequate, and that any further curtailment of the civil medical services would be fraught with dire risk to the population at large, yet no cogent statistical evidence was adduced to substantiate these fears or to indicate the probability of a breakdown in either direction.

From the military aspect of the matter, it is evident that the Army Medical Services were at a disadvantage inasmuch as those whose business it was to pass final judgment in assessing the needs of the armed forces were but imperfectly acquainted with the functions and duties of the military medical officer and the organisation to which he belonged. For example, reiterated explanation failed to elicit recognition of the elementary truism that the total effective strength of the Army provided no accurate measure of its medical requirements; that the medical services should be related more to the gross strength including non-effective personnel, mostly sick and wounded, the number of whom would increase as the effective strength of the Army decreased, so creating a demand for more, not fewer, medical officers. Nor was it possible to eradicate the fallacy that the duties of the military medical officer and those of the civilian practitioner were analogous, and that the requisite ratio of medical officers to the forces could be determined, even if only approximately, by the ratio of general medical practitioners to the civil population. Apparently it was not realised, certainly it was not fully appreciated, that, whereas the civilian practitioner was concerned solely with the medical treatment of his patients when they were ill, the military medical officer had more extensive and more constant responsibilities towards the soldier and thus spent much of his time, not in treating the sick, but in training subordinate personnel and teaching hygiene to effective troops; in carrying out preventive inoculation, vaccination, medical inspection, and physical grading ; and occupied with medical boards and a host of other administrative matters unknown to civil practice but essential to military efficiency.

In the course of the six years' struggle to make ends meet, constant endeavours were used to achieve economy in medical man-power. Many were the devices tried, and still more the suggestions put forward, with this object. Some were excellent in conception and successful in application; others, again, proved impracticable. Most of the former derived from the findings of the earlier committees of investigation working in consultation and collaboration with the service departments themselves. Notable among them were the revision of war

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establishments and the elimination of redundant appointments; closer co-operation between the personnel of the three fighting services; the pooling of medical officers and their employment on a geographical, rather than a regimental, basis; and the use of non-medical officers for duties not requiring professional knowledge. Latterly, there was a tendency on the part of higher authority to seek an escape from the necessity for continued recruitment on a large scale by advancing vague and sometimes inconsequent proposals for alternative schemes which, however attractive as adventitious aids, promised little in the way of a practical solution to the problem and merely served to divert attention from the main issue.

Never at any time during the war did the Army Medical Services succeed in reaching the strength in medical officers that was regarded as being essential to the efficient performance of their manifold undertakings. To what extent, if any, the estimate of their needs was exaggerated, whether or not the share of available medical resources that they received was commensurate with their responsibilities, how great was the risk of breakdown as the result of their being denied the fulfilment of their demands, are all questions that invite differences of opinion. Judgment will depend largely upon the aspect from which the circumstances of the time are regarded, and upon the relative significance that is attached to the many and various exigencies arising therefrom. Nevertheless, whatever may be the verdict as to the merits of the case submitted on behalf of the medical services of the Army, one self-evident truth emerges from a study of the exhaustive, and often discursive, arguments raised during the prolonged negotiations here summarised. The root of the controversy, for controversy it was, lay in the conviction, firmly implanted in the minds of those controlling the distribution of medical man-power, that, in urging their claims to an increasingly larger share of the medical resources of the country, the armed forces were inclined rather to ask for more than to make the best use of what they already had. The current belief, dating from the very beginning of the war, that the Army Medical Services were prodigal of their professionally qualified personnel and wasteful in their system of employing medical officers in other than medical duties, persisted until the end. While a measure of economy had been effected in certain respects, it was contended that there was yet wide scope for further and more drastic efforts in many directions. These sentiments, tacit or expressed, were constantly manifest throughout the proceedings. Whether or not, in the light of events, they were indeed warranted by circumstances, must remain a debatable question; but, be that as it may, there is no doubt that nothing the Secretary of State for War could say, and nothing the Army Medical Directorate could do, sufficed to overcome so deep-seated an impression or the somewhat obdurate attitude it engendered.

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THE ARMY MEDICAL SERVICES AT THE END OF THE WAR IN EUROPE

The size, composition and distribution of the personnel of the Army Medical Services at the end of the war in Europe are displayed in Tables 3 and 4.

TABLE 3

Medical Establishment in Relation to the Total Strength of the Army at the Conclusion of the War in Europe, May 1945

Strength of the Army (all arms):		
British Army	2,910,900	
Indian Army—British personnel . . .	16,900	
,, ,, —Indian ,, . . .	2,015,400	
Colonial Forces	528,600	
Women's Services	227,200	
		5,699,000
Strength of the Medical Services:		
Effective strength in medical officers, R.A.M.C.	11,421	
,, ,, ,, ,, ,, I.A.M.C.	5,482	
		16,903
Ratio of medical officers to troops		2·98 per 1,000
Distribution of medical officers, R.A.M.C.:		
(i) Medical administration and training: Includes all administrative officers, War Office consultants, presidents of medical boards, hygiene staff officers, instructors in training establishments, and officers employed in the military administration of civil affairs	1,005 (9% strength)	
(ii) Selection and rehabilitation of personnel: Officers dealing with the reconditioning of personnel at convalescent depots, physical development centres, etc.	288 (2% ,,)	
(iii) Care of the sick and wounded: Officers of medical units such as hospitals, casualty clearing stations, field ambulances, hospital ships, etc.	6,278 (55% ,,)	
(iv) Regimental medical officers . . .	2,248 (20% ,,)	
(v) Preventive medicine and research: Preparation of vaccines, blood products, etc.	227 (2% ,,)	
(vi) Non-effective: Sick and wounded, in transit, under training, etc.	1,375 (12% ,,)	

ASSISTANCE TO CIVIL AUTHORITIES ON THE OCCASION OF EPIDEMIC DISEASE DURING THE WAR YEARS

During the late autumn of 1943 the incidence of influenza showed a marked rise and rapidly increased until, by the beginning of December, the disease was epidemic throughout the country. Although not of a severe type the epidemic was responsible for a high rate of sickness among all sections of the civil population and among factory workers in particular. The result was absence from work upon so extensive a scale as seriously to retard production. It appeared that the general medical practitioners available, already much depleted in numbers and working at full pressure, were unable to cope with the additional burden now imposed upon them,

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TABLE 4

Medical Personnel Serving on May 31, 1945

War Establishments and Strength

	Medical Officers		Quartermasters		Non-medical Officers		Nursing Services		Other Ranks	
	Est.	Str.	Est.	Str.	Est.	Str.	Est.	Str.	Est.	Str.
ARMY MEDICAL SERVICES										
Home postings	2,599	2,522	226	245	31	57	1,588	1,905	17,631	18,440
Supernumary and under orders		414		28		11		251		491
Training		94							3,365	5,461
All commands abroad except India and South-east Asia	6,040	5,388	362	482	466	372	5,846	5,020	39,333	38,109
India and South-east Asia	3,057	2,987	255	238	231	202	4,685	2,971	15,594	15,670
Totals	12,116	11,421	843	993	728	642	12,119	10,147	75,923	78,171
INDIAN ARMY MEDICAL SERVICES										
India and South-east Asia	5,428	5,132					5,774	2,568		
Other commands	455	350					242	189		
Totals	5,883	5,482					6,016	2,757		

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Distribution of Medical Officers

	War Establishments	Posted Strength		Total Posted Strength	In Transit	Total Effective Strength
		R.A.M.C.	Attached from Dominions and Colonies			
ARMY MEDICAL SERVICES						
Home postings	2,599	2,522		2,522		2,522
Supernumary—including officers on overseas leave, repatriated P.o.Ws., transfers to home establishments, etc.		359		359		359
Under orders		35		55		55
Training		94		94		95
North-west Europe	2,187	2,086	10	2,096		2,096
Central Mediterranean	2,061	1,770	35	1,814	18	1,832
Middle East	1,167	859	10	869	14	883
East Africa	324	223	48	271	10	281
West Africa	191	180	2	182	4	186
Gibraltar	34	30		30	1	31
Malta	33	21	12	33		33
India and South-east Asia	3,057	2,794	15	2,809	178	2,987
Other commands	43	44		44	2	46
Civil Affairs	420	16		16		16
Totals	12,116	11,062	132	11,194	227	11,421
INDIAN ARMY MEDICAL SERVICES						
India and South-east Asia	5,428					5,132
Central Mediterranean	163					58
Middle East	292					292
Totals	5,883					5,482

and the civil medical service seemed in imminent danger of breaking down under the strain. Some form of relief was therefore essential.

Early in December by the direction of the Lord President's Committee of the War Cabinet, a conference was called to discuss the situation and to examine the question of providing from the medical branches of the fighting services a means of giving emergency assistance to civil practitioners. At this conference, which was attended by representatives of the services and of all the departments concerned with health, production and labour, it was stated that although there were no precise statistics available to indicate the extent of the epidemic or the areas most affected, yet there was sufficient evidence to show that the position was undoubtedly serious and the effect upon production already alarming. The service departments expressed their willingness to give whatever help they could, in addition to that they were rendering at the moment.

The Ministry of Health put before the conference a draft scheme designed to make full use of such facilities as the services were able to place at the disposal of the civil medical organisation. It was suggested that all arrangements be decentralised and co-operation secured by personal contact between local service and civil authorities to whom full latitude and discretion must be allowed. In broad outline the suggested procedure provided that general practitioners or factory medical officers in need of help with their work should get into touch with the secretary of the appropriate local medical war committee; the secretary would forward the request to the medical officer of health of the district who would make application to the nearest administrative officer of one of the medical services, Navy, Army or Air. This officer, having already made arrangements to hold a reserve of medical officers for the purpose, would then detail one of them for duty with the practitioner concerned. Assistance from the medical services was likely to be required also to reinforce the medical staffs of the E.M.S. hospitals where a large influx of patients was to be expected. In this case the application for additional personnel would be addressed by the hospital to the regional hospital officer who would transmit the request to the D.D.M.S. or other service administrative officer. As a further means of assisting the civil medical profession to tide over the emergency it was recommended that the further call-up of civil practitioners for military service be deferred until the emergency had passed.

The service representatives agreed to accept the scheme submitted by the Ministry of Health and to make arrangements in conformity with its proposals. They assured the conference that after meeting their own vital needs they would place at the disposal of the civilian authorities every assistance that could be made available. They added that the military forces of Canada and the United States of America had indicated their desire to co-operate in this work. The conference approved in principle

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and left it to the departments concerned to elaborate the administrative details. It was also agreed that the call-up of medical practitioners should be held in abeyance temporarily, but should be resumed at the end of one month from the date of that meeting. It was proposed also to take steps for the provision of additional transport for the use of military medical officers assisting in civil practice.

Following the conclusions reached at this conference the War Office notified D.Ds.M.S. in home commands of the decisions made and the arrangements proposed. These were warned that although help given to the civil authorities must inevitably throw a heavy burden upon their resources in personnel and would unavoidably retard military training, yet they must be prepared to render the utmost assistance within their power. It was expected that to some extent the services of military medical officers would be required for civil hospitals, but that most calls for assistance would emanate from medical men in general practice. It would therefore be necessary to arrange for the allocation temporarily of medical officers on either a full-time or a part-time basis to help practitioners in the routine conduct of their practices or to act as substitutes for them where necessary, as in the case of sickness. These temporary postings were not likely to extend beyond a period of four weeks. Medical officers performing civil work under the scheme would remain on the strength of their units and retain their appointments; they would continue to wear uniform and would be paid as usual from Army funds. They would not receive additional payment for the civil work performed by them, but arrangements for their accommodation and messing would be made by the appropriate civil authority.

These arrangements came into force towards the end of December and continued in operation until the early part of the following February. In all only 264 medical officers were detached for civil duty, 26 to E.M.S. hospitals, 72 as part-time assistants to general practitioners and 166 as full-time assistants to, or substitutes for, general practitioners. Thus in spite of the stress under which the civil medical profession was alleged to be labouring the demands made upon the Army Medical Services were not great. It may well be that official anxiety had somewhat exaggerated the gravity of the position; on the other hand, the resources placed at their command may not have appealed to the majority of general practitioners. In any event but little advantage was taken of the facilities offered; nevertheless the Ministry of Health and the Central Medical War Committee were fully appreciative of the assistance given by the Army Medical Services at what was regarded as a critical time.

With the passing of the epidemic these emergency arrangements came to an end, but thereafter further discussions took place between the service departments and the Ministry of Health in order to settle various

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outstanding questions, e.g. that of financial reimbursement, and to confirm or revise the administrative procedure to be followed in the event of a similar emergency occurring in future. It was decided that, in the main, the same methods should be followed except that applications for assistance made by general practitioners would be submitted, not through the secretary of the local medical war committee, but direct to the M.O.H. of the district and thence to the D.D.M.S. or A.D.M.S. It was considered that this system would be more expeditious and provide means for a closer check upon the circumstances of the case and a more precise definition of the kind of assistance required. Financial provisions were discussed, and it was decided to impose standard rates at which practitioners would in future be required to reimburse public funds in respect of the services of military medical officers. These rates were fixed at one guinea a day for whole-time assistance, and half a guinea for each half-day or shorter period. Practitioners were required to make arrangements for, and pay the cost of, the board and lodging of officers temporarily removed from their mess or quarters, and to provide transport where necessary.

SHORT SERVICE REGULAR COMMISSIONS

Recruitment to the regular establishment of the R.A.M.C. fell into abeyance as a consequence of the promulgation, immediately before the outbreak of hostilities in September 1939, of measures to regulate the commissioning and promotion of officers in war.(1) Thereby, the normal peace-time procedure governing the grant of regular commissions in the Army was suspended, and it was prescribed that thenceforward all entrants to the commissioned ranks would be given emergency commissions for the duration of the war only. This rule had special implications for the R.A.M.C. and, should the war be prolonged, was likely to lead to serious complications in the future. The reason for this peculiar state of affairs lay in the fact that the system of appointment to permanent regular commissions in the Army Medical Services differed from that applicable to most of the other branches of the Army. All officers within the regular establishment of the R.A.M.C. were, in the first instance, granted short-service commissions for a period of five years only, and they had no prescriptive right to further employment. On completion of their five years' service, however, they were eligible for appointment to permanent pensionable commissions, but the number selected was dependent upon, and limited to, the number that, in the ordinary course of events would subsequently gain promotion to the rank either of lieut. colonel or colonel, within the prescribed period of service, in accordance with the terms and conditions laid down by the Warren Fisher Committee.(2) Indeed, the report of that committee had been adopted as providing a basic constitution for the R.A.M.C. and

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the scheme evolved to give effect to its recommendations was both elaborate and intricate. It was therefore essential that the system thus brought into being should be maintained and its operation continued even in time of war in order to secure the future of the R.A.M.C. and to ensure the adequacy of the medical services on a return to peace conditions.

In December 1941, D.G.A.M.S. took up the question and advocated resumption of recruitment to the permanent establishment of the R.A.M.C. and the Army Dental Corps by reverting to the pre-war system subject to such modifications as might be desirable in the special circumstances of the time. Consideration of the then existing position and a forecast of developments in relation to future requirements left no doubt as to the need for some means of restoring the situation which was deteriorating month by month. At the outbreak of war in 1939, the peace establishment of the R.A.M.C. in medical officers was 915, but the actual strength was only 755 of whom 495 held permanent commissions and 260 were serving on short-service commissions. Total strength was therefore 160 below establishment. At the close of the year 1941 the strength was 705, comprising 502 permanent officers and 203 on short-service. The deficiency had thus risen to 210 and, unless recruiting were reopened, would continue to increase. To provide the conditions necessary for the complete fulfilment of the Warren Fisher recommendations, the peace establishment of 915 should have included 454 permanent, and 461 short-service, officers. It was estimated that by September 1944, if appointment to regular commissions were to remain in abeyance, retirement of permanent officers through age, and loss of short-service officers by completion of their period of service, would have reduced the strength of regular officers to 448, all of them holding permanent commissions.

Normally, the grant of permanent commissions in the R.A.M.C. was governed by two factors. The first was the maintenance of the Corps at the strength authorised by establishments, and the second was the replacement of wastage. Vacancies were filled by the selection of suitable short-service officers desiring to adopt the Army as a career. These appointments were usually made in half-yearly batches, and since the outbreak of war the practice had been continued, although to a limited extent only, in respect of those already serving, but in the absence of any further entry of short-service officers this method of replacement must come to an end. Moreover, a return to the system of granting short-service commissions in the regular forces was required in order to obtain some indication of the number of officers, then serving on emergency commissions, wishing to remain in the Army after the war, thus making it possible to select those suitable for specialist training and so obviate a dearth of specialists at the time of, and following demobilisation. Finally, the immediate introduction of a graduated and regularly

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spaced intake of officers was necessary to avoid a recurrence of the indiscriminate recruiting that took place at the close of the 1914–18 War and which resulted in a persistent block in promotion, from the disastrous results of which the medical services were still suffering. In the circumstances the aim had to be to attain the full peace-time establishment of 915 officers by a gradual process, and for this purpose to recruit short-service officers in half-yearly batches of forty each. Even on this basis a considerable time would elapse before the desired total could be reached.

The Director-General's scheme, although approved by the military authorities concerned, required financial approval. This was sought in February 1942, when strong opposition was encountered. In the first place, it was feared that the reopening of short-service commissions for the Army Medical Services might prove inimical to the interests of the medical branches of the other fighting services who were not prepared at that time to offer similar inducements. Exception was taken to the reintroduction in war-time, of the conditions pertaining to the short-service commission in so far as officers not eventually selected for permanent commissions were entitled to a gratuity. If these terms were to be applied to officers recruited during the war it followed that a proportion of those appointed would be earning substantial gratuities in respect of their war service, a departure from an established principle of general application. Lastly, it was argued that, having regard to developments in India and elsewhere and the changes likely to take place after the war, the medical services of the future would in all probability be very much smaller than in the past; any estimate of potential deficiencies was therefore entirely problematical.

During the prolonged negotiations that ensued, various suggestions were made to overcome these objections and to devise a means of recruiting personnel to the regular establishment of the R.A.M.C. without creating anomalies or violating accepted principles. Eventually, but not until the end of December 1942, the terms upon which approval would be given were stated, and, after certain minor amendments, final sanction was obtained in April 1943. Some months were then occupied in settling administrative details, but in the end the resumption of recruitment to the R.A.M.C. and the A.D. Corps by short-service commission was officially authorised by A.O. and Army Council Instruction issued in the following November and December respectively.[3]

Applications were then invited from serving officers wishing to accept regular commissions on the terms published. Appointment was entirely by selection subject to the fulfilment of certain conditions. To be eligible for consideration, a candidate was required to have at least one year's commissioned service; to be recommended by his commanding officer, by the senior administrative medical officer of the formation

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to which he belonged, and by the D.M.S. or D.D.M.S. of the force or command in which he was serving; to have been more than 22, but less than 30 years of age at the time of beginning his war service; and to be of medical category A. In order to ensure an even rate of entry, and to avoid the creation of a block in promotion at a later date, appointments were made in half-yearly batches chosen from groups of candidates whose commissioned service began in succeeding six monthly periods, the first being August 24, 1939, to March 31, 1940, and thereafter from April to September, or from October to March, year by year. The tenure of the short-service commission was as formerly, five years. In each case it was made effective from the date of being gazetted to an emergency commission or of otherwise first undertaking war service in the Army. On the expiry of the prescribed period of short-service, the holder was eligible for selection to fill a vacancy in the permanent establishment on condition that if so appointed to a permanent commission he would not be entitled to retire with a gratuity before completing ten year's service, of which not less than five must have been served after the statutory date of the termination of the war, when the whole of his war service would be included as qualifying towards retired pay or retiring gratuity. If, on the other hand, he were not selected for a permanent commission, and provided he had completed not less than two years' service after the statutory date of termination of the war, a gratuity was to be payable in respect of his post-war service as follows:

After 2 years' post-war service	..	£400
" 3 " " "	..	£600
" 4 " " "	..	£800

Where the period of short-service was due to expire before the completion of two years' post-war service, there would be the option of continuing to serve until this condition had been satisfied. In no circumstances would an officer holding a short-service commission be eligible for gratuity in respect of any portion of his service during the war; thus war-time service would count only in the case of those who were appointed to permanent commissions and who subsequently chose to retire with a gratuity after ten years' service rather than continue in the Army for the length of time necessary to qualify for a pension. It was clearly laid down that the numbers both of short-service and of permanent commissions available at any time were limited and variable according to the exigencies of the service. The grant of the former conveyed no promise of subsequent appointment to the latter, selection for which would be dependent upon reports received in regard to the work and capacity of the officer concerned, and also upon the number of vacancies remaining to be filled. Before the expiry of his short-service period, every officer would be informed as to whether or not he had been chosen for a permanent commission.

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Concurrently with the resumption of the system of entry by short-service commission, authority was obtained for continuing the grant of permanent commissions to selected short-service officers already serving, provided the number was restricted to twenty-six annually.

APPOINTMENT OF WOMEN MEDICAL OFFICERS

The desire of women medical practitioners to participate in rendering assistance to the armed forces of the Crown in any future national emergency was brought to official notice in December 1937, when the Medical Women's Federation approached the Secretary of State for War suggesting that, as a part of the country's defence measures, a scheme should be prepared to regulate the employment of qualified women in the medical branches of the fighting services. The M.W.F. drew attention to the fact that during the 1914–18 War many medical women had served with the forces in one capacity or another, but, owing to the absence of preparatory arrangements in this connexion and to the lack of any definite basis for their employment, they had suffered grave hardship and much personal disability. It was suggested that the time had arrived to decide the status and conditions under which they would serve in the event of war, and to examine the possibility of training them for duty in the armed forces and in the women's uniformed services. The M.W.F. asked the Secretary of State to receive a deputation to discuss the matter.

In commenting on these proposals, D.G.A.M.S. expressed the view that the scope for women in the medical services of the Army was strictly limited, since, however adequate and suitable they might be to fill certain appointments, they could not well be employed in field medical units. On the other hand, conditions of modern warfare would render the needs of the civil population for medical practitioners much greater than they were during the years 1914–18. All things considered, it appeared that the services of medical women could be utilised to best advantage in a civil capacity.

In the meanwhile, however, the Medical Women's Federation forwarded to the Secretary of State a lengthy memorandum recalling the services performed by medical women during the 1914–18 War and setting forth in some detail the various disabilities under which they had laboured. Apparently, with regard to pay, status, and general conditions of service, their position had been largely ill-defined, although unquestionably disadvantageous in relation to that of their professional colleagues in the R.A.M.C. It was contended that the root of the trouble lay in their being denied commissioned rank which would have placed them upon the same footing as male medical officers. Satisfactory adjustment of this grievance and a definite indication of their future status would be necessary to obtain the co-operation of medical women in

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preparation for war service. Moreover, the grant of commissions to women could not be refused without negation of the principle, already accepted in the medical profession, of equality as between the sexes.

The Director-General's advice to the Secretary of State was that the allocation of medical practitioners to all the services, military and civil, was in the hands of the Central Emergency Committee of the British Medical Association who would doubtless supply the Army with medical men in the requisite numbers. The R.A.M.C. being essentially military in its organisation and functions, a male medical officer was of greater all-round utility than a female of equal professional attainments; but should medical women be employed in a capacity involving control over personnel subject to military law they must be given the same status as that applicable to men placed in a similar position. The Secretary of State agreed; but there were certain other aspects of the question, some legal and some administrative, requiring elucidation. In the first place, it was ruled that no female could be an officer in His Majesty's Forces within the meaning of the Army Act in its existing form; consequently, special legislation would be necessary to authorise the grant of commissions to women. There was also the matter of uniformity as among the various women's services, for at the time, July 1938, it was intended that members of the Auxiliary Territorial Service should be enrolled rather than enlisted, and the question of granting commissions in connexion with that body did not therefore arise. As an alternative it was suggested that women medical officers should be given the same status as that pertaining to members of Queen Alexandra's Imperial Military Nursing Service.

In July 1938, the Secretary of State replied to the M.W.F. informing them of the arrangements whereby the allocation of medical practitioners to the R.A.M.C. in war-time was to be regulated by a committee of the British Medical Association. It was expected that a sufficient number of male medical officers would be forthcoming. There were objections to the recruitment of female medical officers for the Army in that they were unable to undertake the military duties devolving upon officers of the R.A.M.C., but if it were found necessary to accept them for military service they would be given a grading which would rank with officers of the Army; details as to the form this grading should take were already in process of settlement by the several authorities concerned.

Some months later, the B.M.A. showed their interest in the matter by inquiring what progress had been made, and in December 1938, the Director-General, anxious to obtain a decision in this somewhat controversial question, put forward concrete proposals for the employment of medical women in relation to the Army Medical Services. He regarded them as employable in two distinct categories; first, as civil medical practitioners, either on a whole-time or on a part-time basis,

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subject to the same terms as those offered to men; and secondly, as medical officers in replacement of officers of the R.A.M.C. It was recommended that in the latter capacity women should be appointed, and not gazetted, to the R.A.M.C., they should be given relative rank of lieutenant on first appointment; they should be eligible for promotion under the same conditions as those applicable to the R.A.M.C. in war; they should receive pay and allowances on the same scale as officers of the Corps; and they should wear uniform with the badges of the R.A.M.C. and insignia of rank. It was not proposed that they should be given commissions, for at the time it appeared most improbable that the principle of granting commissions to women generally would be accepted. In point of fact, uncertainty in this direction was partly responsible for delay in arriving at a decision in regard to the Director-General's scheme. It was, however, the financial aspect that proved most contentious. Strong exception was taken to certain of the provisions in regard to pay and allowances. Equality in rates of pay as between male and female officers was opposed on the grounds that the latter were unable to perform the military duties undertaken by the former. The Director-General insisted that there were no means of assessing what proportion of his pay an officer received in respect of his military duties, and it was therefore impracticable to fix a lower rate of remuneration for women on that basis. Moreover, in the medical world, the salary attaching to an appointment was determined by the nature of the work performed without regard to the sex of the holder, a principle recognised and accepted by the Ministry of Health in reference to all appointments made by them or subject to their approval. A further objection was then raised on account of the fact that the pay of officers of the Auxiliary Territorial Service had been established at two-thirds of the rate payable to male officers, and a comparable proportionate rate was advocated for women medical officers although it would have resulted in a fully qualified medical woman receiving less pay than did a warrant officer. Among the somewhat casuistic arguments advanced against the payment of full R.A.M.C. rates was the plea that women would not be called upon to serve in the firing-line, a statement no less true of the very large number of male medical officers who for one reason or another were unlikely to take part in active operations.

Towards the end of August 1939, with war now imminent, the Director-General urged that his scheme for the employment of medical women, already deferred by months of argument upon financial details, should receive immediate sanction in order that he might complete arrangements for the recruitment of medical officers. Even so, it was not until after the outbreak of hostilities that final approval was obtained. Thereupon the War Office communicated with the British Medical Association and the Medical Women's Federation informing them of

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the terms and conditions of service which the Army Council had authorised for medical women joining the R.A.M.C. and which were subsequently promulgated by an Army Order in October 1939,[4] that is to say, almost two years after the matter was first raised by the M.W.F.

The conditions thus prescribed were substantially those originally suggested and already outlined above; they were accepted by the B.M.A. and by the M.W.F. as providing, in the words of the latter body, 'opportunities for honourable and useful service in many capacities'. The Federation regretted the decision that medical women undertaking military service would not be granted commissions in the R.A.M.C. but would only be appointed for service with the Corps and given relative rank. In this connexion, it is perhaps permissible to record an incident which, if not strictly of historical significance, is not without interest of another kind. In the War Office letter announcing the Army Council's decision it was stated that the uniform to be worn by women medical officers would include the R.A.M.C. badge less the motto. The Medical Women's Federation when replying, expressed their disappointment at finding that permission to wear the complete badge had been withheld, since medical women attached to the R.A.M.C. would very naturally have felt honoured to be held worthy of its motto as well as of its tradition. It appeared to have escaped the notice of all concerned, nor was it recalled until some time afterwards, and then by an officer of the R.A.O.C. that the R.A.M.C. badge as worn upon the cap and jacket collar both by officers and by other ranks, while bearing upon its scroll the title of the Corps, does not include the motto.

At the outbreak of war in September 1939, owing to the tardy methods of peace-time procedure which had permitted nearly two years' discussion upon relatively trivial details, the scheme for the employment of women medical officers in the Army had not proceeded beyond the establishment of its main principles. Much therefore remained to be done, even after recruitment had begun, in the way of administrative arrangements to determine the place these officers should occupy and the scope of the duties they should undertake. At the beginning of the war, and for some time afterwards, their lot was therefore, in many respects, unenviable. Placed in a somewhat indeterminate category, with duties and responsibilities but ill-defined, without actual rank or title and even the details of their uniform unprescribed, their position was invidious and beset with difficulties not only as affecting themselves but also in their relation to other personnel, male and female, of the medical services. There was thus every reason to improve and regularise the status of these officers at the earliest possible moment; with the increase in the number of women medical officers and the greater responsibilities occasioned them by the growth of the women's

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services, the necessity became still more compelling. This fact was not lost upon the medical profession in general and least of all upon its professional organisations who became increasingly emphatic and insistent in their criticism. In the circumstances, the grant of commissions to women appeared to offer the only feasible solution. Timely recognition of the inevitable might well have allayed existing dissatisfaction and avoided subsequent dissensions. It was therefore the more unfortunate that the remedy was so long in suspense.

Early in 1941, however, developments in another connexion brought about the termination of this equivocal state of affairs. By that time, the scope of the women's services had been widely extended in many directions, and the number of women employed ancillary to the fighting forces, already large, was likely to become very much greater as the result of amendments, proposed but not yet enacted, to the Military Service (Armed Forces) Act by which liability for military service was to be extended to women. It was therefore deemed necessary to link the women's services more closely with the military organisation and to establish them as an integral part of the Army. Accordingly in April, 1941, it was decreed by Order in Council, in the form of the Defence (Women's Forces) Regulations, 1941, that women employed with the R.A.M.C. with relative rank as officers, women enrolled in the Q.A.I.M.N.S. and Territorial Army Nursing Service and their reserves, and women enrolled in the A.T.S. were, from the date of the Order, members of the armed forces of the Crown and subject to the Army Act. Those of them selected as officers might be granted and hold commissions, the terms and conditions of which were prescribed by the Women's Forces (Officers' Commissions) Order, 1941.(5)

Thereupon, the War Office communicated with all women medical officers then serving in the Army offering them commissions in the Women's Forces in accordance with the Order recently promulgated and explaining that the grant of a commission would give them powers of command similar to those exercised by male officers, but that otherwise their terms and conditions of service would not be affected. Rank would continue to take the form of relative rank as formerly. This was the signal for a renewal of the old controversy. The British Medical Association approached the War Office expressing dissatisfaction with the decision that commissions for medical women should be granted in the Women's Forces and not in the R.A.M.C. and that they should carry relative rank only. The Association was of the opinion that conditions governing the employment of medical women during the war should be the same in all respects as those applicable to men. It was felt that the matter should be reconsidered even if it involved modification of the regulations already issued. The creation of a women's branch of the R.A.M.C. was strongly urged, and it was stated that this question of

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women's status involved a principle to which the medical profession attached great importance.

Shortly afterwards the Medical Women's Federation submitted a memorandum for the consideration of the Army Council. The Federation referred to the discussions which took place before the war and which ended in September 1939, by their acceptance, although with reserve, of the proposed arrangements for the recruiting and employment of medical women, arrangements which it was admitted had on the whole worked smoothly. Stress was once more laid on the necessity of maintaining equality between men and women of the medical profession in respect of their status and conditions of service in the Army. It was contended that the decision to grant medical women commissions in the Women's Forces instead of in the R.A.M.C. constituted the segregation of women in a separate category and thus a contravention of the principle of professional equality. Moreover, so the Federation insisted, a commission in the Women's Forces or in a women's section could not fail to be regarded as offering a status inferior to that of the R.A.M.C. officer. As such, it would have an adverse effect upon recruiting and would not be welcomed by women already serving; indeed it was alleged that, owing to the confusion with which the matter was surrounded, few of the women medical officers who had signified their readiness to accept a commission realised that they were agreeing to incorporation in the Women's Forces rather than in the R.A.M.C. After reiterating the fitness of women to undertake full military duties and their proved capacity, not only in the matter of professional skill but also in regard to qualities of leadership, the memorandum concluded with a request that the matter be reconsidered and women admitted to commissions in the R.A.M.C. itself.

The attitude of the professional organisations at this juncture is open to question as regards both its propriety and its wisdom. In emphasising the anomalous position of women medical officers and the difficulties with which they had to contend, in urging the need for remedial measures and in recommending the grant of commissions to women, the professional bodies were undertaking no more and no less than was warranted in the interests of general efficiency and good understanding. When, however, they sought to dictate in matters of detail and to prescribe the kind of commission to be granted, then it was that they forsook an unassailable position for an excursion into the field of military expediency, a subject undeniably outside their cognisance and their experience. The introduction of such considerations as those of sex equality from a professional aspect merely served to confuse the main issue. Equality in all respects between the sexes was doubtless a well-established and accepted principle in the civil medical world. Its application to the Army was quite another matter, for the armed forces of the Crown

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remained predominantly male in constitution, the more actively combatant arms wholly so. No officer of the Army can avoid the responsibility of his rank, and it follows that circumstances may arise requiring an officer of the technical corps and services, such as the R.A.M.C., to exercise command and maintain discipline over soldiers in their capacity of fighting men. Right or wrong as it may be regarded, the fact remains that soldiers, except as hospital patients, were not yet accustomed to receive orders from women, and to have granted to women medical officers commissions in the R.A.M.C. would have served only to burden them with responsibilities impossible for them to discharge, and to place them in a position as embarrassing for themselves as for others. It was for this reason, above all, that they were granted commissions in the Women's Forces and were thus not required to exercise command or disciplinary powers over soldiers outside the scope of their professional duties.

Another consideration of some importance is worthy of mention in this connexion, although it would appear to have received but scant attention from the civil medical profession. It was not only in medicine but in many other walks of life that men and women were wont in peace-time to work together on terms of equality. Nevertheless, no permanent regiments or corps of the Army, even those of a professional or technical character, had admitted women to their commissioned ranks. Despite this fact large numbers of women had joined the women's services to be employed in the same kinds of work, professional or otherwise, as those in which they were engaged in peace-time. Many had thus rendered distinguished service with gratification to the authorities and, apparently, with satisfaction to themselves, untrammelled by vexation of spirit on account of any inferiority of status, real or imagined, occasioned by their holding commissions in the Women's Forces. This being so there seemed the less reason to make a sole exception in the case of the medical profession and the R.A.M.C.

In consequence of the representations made to the War Office by the C.M.W.C. of the British Medical Association and by the Medical Women's Federation the Director-General took the opportunity of attending meetings of both these bodies when he explained the military standpoint and the reasons underlying the decisions that had been taken. After full discussion the C.M.W.C. were inclined to support the official view that commissions in the Women's Forces for women medical officers should meet the claims of the profession.

In October 1941, the War Office seeking to remove any misconception that might still remain among those concerned, again communicated with all women medical officers then serving; the nature of the commission offered and the terms and conditions of service were fully explained, and a copy of the governing regulations was enclosed for information.

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They were also informed that the ranks to be carried by these commissions would correspond exactly with those of the R.A.M.C. Officers not wishing to accept a commission in these circumstances were given the alternative of continuing to serve under their existing contracts. The upshot of this inquiry was that, so far from there being a general reluctance on the part of women medical officers to accept commissions in the Women's Forces, no less than 80 per cent. of them indicated their desire to do so. The Central Medical War Committee was informed accordingly.

Steps were then taken to adjust and establish the position of commissioned women medical officers in relation to other personnel of the Army. As regards rank and precedence, it was prescribed that they would take precedence on equal terms with Army officers of the same rank. Here it may be noted that officers of the Auxiliary Territorial Service took precedence junior to Army Officers of the same relative rank. It was laid down that commissioned women medical officers would have powers of command over their own juniors and other female personnel with whom they came into contact in the discharge of their duties; R.A.M.C. officers would have power of command over women medical officers only if the latter were junior to them in relative rank and seniority unless specifically placed under their orders by a superior military officer, and, conversely, women medical officers would exercise power of command over R.A.M.C. officers junior to them and over all military personnel under their care in hospital, but they were not given similar authority in regard to soldiers outside the scope of their professional duties. These provisions were published in Army Orders and Army Council Instructions[6] and ultimately incorporated in *King's Regulations*.

There was now good reason to hope and expect that this question had now reached a settlement which, if not wholly satisfactory to some, was at least acceptable to all. Yet such was not to be, for in April 1942, there appeared in the medical press a letter, under the signature of the President of the Medical Women's Federation calling attention once more to the alleged inequalities and disabilities suffered by women medical officers on account of their inferior status. For the most part the subject matter was nothing more than a repetition of arguments previously raised and already exhaustively examined and discussed. There was, however, the acknowledgment that women medical officers had no grounds for complaint in respect of their pay and privileges and that they received fair and equitable treatment from those among whom they worked. The writer was concerned chiefly to insist that, in order to secure the much-desired equality of status, women must be admitted to the Army Medical Services on terms of parity with men and granted commissions in the R.A.M.C. instead of in the Women's Forces. It was categorically asserted that, until this concession were forthcoming,

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the Federation would feel compelled to advise medical women against accepting commissions.

This ultimatum evoked a variety of reactions within the War Office. In the Army Medical Directorate, whilst it was generally acknowledged that the Medical Women's Federation could readily find a certain justification for its attitude, it was considered that the Federation was mistaken in pressing its claims in this fashion at this particular time. The Directorate's immediate task was that of securing the services of a sufficiently large number of medically qualified persons. In order to do this it was desirable to gain the co-operation of the Medical Women's Federation. It seemed that the only way of getting this was by acceding to the demands now made.

But this matter of parity between male and female in respect of service status was one that could not be considered as a problem affecting the Army Medical Services alone. Moreover, when it was contrasted with the others then confronting the military authorities, it seemed to be of relatively little importance. It had already been given considerable attention. Only a few months previously a compromise in the form of a proposal for the formation of a women's section of the R.A.M.C. had been rejected by the Medical Women's Federation. There was no great inclination to reopen the matter.

So it was that the decision was reached to regard the subject of medical women's status, their commissions and their terms and conditions of service as closed until the conclusion of hostilities.

During the remaining three years of the war little more was heard of a matter which, having its origin in a praiseworthy endeavour to secure the adjustment of patent anomalies, developed into something of an agitation concerned primarily with the furthering of social principles which at this time seemed to have no place in military affairs. Certainly the women medical officers serving in the Army were far less interested in the theoretical considerations pertaining to their status than were their official champions. Together they formed a service, for a service it was whatever it may or may not have been in name, unsurpassed by any in professional performance and in the devotion of its members.

APPOINTMENT OF NON-MEDICAL OFFICERS

The rule that the commissioned ranks of the R.A.M.C. save in respect of quartermasters, were open only to medical men holding professional qualifications registerable by the General Medical Council was not long maintained under the stresses and exactions of war. As already recorded, this had been in progress but a few months when there were unmistakable signs of an impending shortage in the supply of medical officers for the forces, and it was apparent that, even with recourse to conscription, medically qualified personnel would not be available in

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numbers sufficient to fill all the appointments of every kind that, under peace conditions, would have been held by medical officers. Hence the need to ensure that medical officers were employed only where their special skill could be used to full advantage, and to this end it was sought, in so far as was practicable, to remove them from appointments of a mainly administrative character thus releasing them for duties which could be performed only by those possessing the requisite professional qualifications.

The first step in this direction was taken at the end of 1940 in regard to officers appointed as medical registrars at military wings of Emergency Medical Service hospitals. As they were almost entirely concerned with administration, and related to such subjects as discipline, documentation, pay, clothing, etc., requiring little or no medical knowledge, their duties were well within the competence of officers belonging to other branches of the service. It is true that certain disadvantages attached to their replacement by professionally unqualified persons, and there was therefore some reluctance to make the innovation. Nevertheless, as there was really no choice in the matter, a scheme was duly put into effect whereby suitable combatant officers, physically unfit for general service and available for sedentary employment only, were selected for these appointments and specially trained for the work by means of a period of instruction under the guidance of a medically qualified registrar at an E.M.S. hospital. In this way upwards of 100 medical officers were released for more appropriate duties. Shortly afterwards, and with the same object in view, it was decided that similar measures should be adopted in respect of other appointments in which administrative, rather than professional, functions predominated. Accordingly, arrangements were made to post combatant officers in relief of medical officers employed as registrars in military hospitals, as officers in charge of R.A.M.C. companies, and as instructors in military subjects at R.A.M.C. depots. Simultaneously, quartermasters, R.A.M.C., were substituted for medical officers in certain staff appointments at the War Office and at the headquarters of commands and elsewhere.

The principle underlying these changes having once been accepted, its application was capable of further extension. It was evident that in the internal economy of all medical units, including those of the field force, much of the work was purely administrative and had little relation to medicine. Moreover, even in dealing with battle casualties, the collection and disposal of wounded, as distinct from their surgical treatment, while involving much technical skill made no great demand for recondite professional knowledge and could safely be entrusted to officers who were not medically qualified provided only that they were adequately trained in their duties. Thus it came about that authority was given for the introduction into the R.A.M.C. of a new type of commission to be held by non-medical officers gazetted, in the first instance, in the

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rank of second-lieutenant.[7] The appointments open to non-medical officers were those of officer-in-charge of a bearer section of a field ambulance and of administrative officer in a field dressing station (F.D.S.), C.C.S. or, at a later date, a general hospital. After six months' commissioned service they were promoted to the rank of lieutenant and they were eligible for further promotion to the rank of captain if selected for appointment as company commander at a R.A.M.C. depot or company or as staff captain.

Plans for the recruitment and training of non-medical officers, R.A.M.C., began to take shape in 1942. N.C.Os. and men of all branches of the Army were eligible for selection and appointment provided they were able to satisfy the prescribed conditions. Candidates were required to be of medical category A and not more than 30 years of age; preference was given to those under 30. Since they were destined to control the collection and evacuation of casualties, and to supervise the rendering of first aid on the battlefield, it was necessary that they should be highly intelligent, with a capacity for organisation and the ability to master the details of documentation, the care and use of medical equipment, and such technical matters as the arrest of haemorrhage and the immobilisation of fractures. In addition, importance was attached to temperamental qualities including the power of leadership and of inspiring confidence in those under their command. On being recommended by their commanding officers as suitable for appointment to commissions, candidates appeared before the D.D.M.S. of the command for interview and report of the War Office. Those selected were required to undergo preliminary training before passing through an Officer Cadet Training Unit (O.C.T.U.) in the usual way.

In November 1942, the initial batch of thirty candidates for commissions as non-medical officers began their preliminary training which was divided into three parts: the first consisted of the normal basic military training, i.e. drill, weapon training, anti-gas precautions, map-reading, etc., and occupied two weeks; the second, also of two weeks, was concerned entirely with the driving, maintenance, and repair of motor vehicles; and the third was devoted to technical training by means of a specially devised instructional course of six weeks' duration undertaken by a field ambulance which had been converted into a battle school for medical personnel. As this course was intended to serve as an introduction to the organisation and activities of the R.A.M.C. from the wider aspect, the syllabus included routine military and Corps duties, drill and physical training, also hygiene, water purification, chemical warfare, and other subjects of a general medical nature. Its main object, however, was to prepare those under training for the special duties which they would be required to perform in connexion with the field work of the medical services; consequently, the programme

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was designed chiefly to illustrate the functions of field units and their personnel. The range of lectures and demonstrations therefore covered the administration of these units, the personnel carried on their establishments and the various duties assigned to each, scales of equipment and supplies and measures taken for the care and replacement of stores, unit transport and its maintenance, and the methods by which equipment and stores were packed into the appropriate vehicles. But above all, attention was concentrated upon the responsibilities of the medical services in military operations and the disposition of medical units in battle. Candidates were fully initiated into the procedure for the collection of wounded from the fighting-line, into the principles governing the disposal of casualties, and into the system by which they were passed along the chain of evacuation from front to rear. In this regard, considerable importance was attached to providing ample opportunity for them to gain personal experience in siting and establishing casualty collecting posts (C.C.Ps.) and advanced dressing stations (A.D.Ss.) under a variety of conditions, and in working out their own schemes of casualty collection to meet the circumstances of the occasion. They were given comprehensive instruction in first aid, improvisation of splints and contrivances for carrying wounded, erection of shelters, camouflage and concealment, loading of ambulances, and other kindred matters. Map-reading, navigation, signals, and communications were among the subjects taught; and the course included demonstrations in mess-tin cookery and occasions when the pupils were required to prepare and cook their own meals. All the teaching undertaken was essentially practical in its conception and application; wherever possible, training took the form of field exercises carried out both at night and by day under conditions made as realistic and as closely resembling those of actual warfare as ingenuity could ensure. These exercises included the special assault courses already described elsewhere in reference to the battle course for medical officers. Having satisfactorily completed their preliminary training, candidates passed on to an O.C.T.U. for the prescribed period before being appointed to commissions. The first batch of non-medical officers, R.A.M.C., was commissioned in March 1943. All were subsequently posted for duty with field medical units.

A further incentive to the employment of non-medical officers was provided by the increasing difficulty of obtaining medical officers in the requisite numbers. From time to time it had been suggested, by members of the Medical Personnel (Priority) Committee among others, that much of the work undertaken by medical officers in respect of hygiene and sanitation could be equally well performed by specialists in sanitary science even if not medically qualified. It was contended that men who held qualifications, and had experience, as sanitary inspectors in civil life and who had been employed in that capacity by local public

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health authorities had the necessary knowledge and were otherwise competent to direct the work of these units thus replacing medical officers whose release would assist to some degree in relieving the shortage in medical man-power. While this view was not wholly acceptable, there was undoubtedly scope within the hygiene branch of the medical services for non-medical officers, particularly in relation to field hygiene sections employed on lines of communication and in base areas. The decision was therefore taken to make some thirty appointments of this kind. Candidates were sought among N.C.Os. and men of the R.A.M.C. having civil qualifications and experience as sanitary inspectors in addition to not less than one year's service in field hygiene sections. Only men below 40 years of age and of medical category A were acceptable. Applicants were subject to interview and selection in the manner already described, and suitable candidates attended the Army School of Hygiene for special training before joining an O.C.T.U. for cadet training in the ordinary way.

By August 1943, there were more than 200 non-medical officers commissioned or under training. In the meanwhile, the prospect of substantial reductions in the allocation of medical practitioners to the Army still further emphasised the necessity of restricting the employment of medical officers to professional duties and of releasing them from administrative appointments of all kinds. Consequently the need for non-medical officers in replacement became correspondingly greater in all branches of the medical services. The war establishment was therefore increased to 385, and, with the object of reaching this total within the succeeding six months provision was made for an intake of 30 candidates for training every three weeks instead of every six weeks as formerly. At the same time arrangements for the selection, training, and commissioning of non-medical officers were extended to overseas commands. Both establishments and strength continued to rise until in the following June, little more than eighteen months from the date when the first batch of candidates began their training, there were 430 non-medical officers already commissioned, and 170 more were due to complete training before the end of the year. This prospective total of 600 by the end of 1944 sufficed to meet all current demands; selection of further candidates was therefore suspended except for a few required to take command of field sanitary sections. At the conclusion of the war in Europe the strength of non-medical officers, R.A.M.C., was 642.

VOLUNTARY AID DETACHMENTS

On the declaration of war, Voluntary Aid Detachments were mobilised under the arrangements drawn up in peace-time and mutually agreed upon by the War Office and the V.A.D. Council. On mobilisation, male

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members reported at the medical units to which they had been previously allocated and were enlisted in the R.A.M.C. in accordance with the undertaking given by them on their enrolment under the V.A.D. scheme. They were thus absorbed into the Army as soldiers on the same basis as other volunteers and, for the duration of the war, passed out of the control of the bodies to which they belonged as members of the V.A.D. Further discussion on the subject of V.A.D. therefore has no reference to male members of that organisation.

On the other hand, female members, who in terms of their agreement on enrolment in the V.A.D. undertook to serve with the medical services still retained their status, conditions of service, and uniform as personnel of the V.A.D. after joining the armed forces although they were administered by, and under the orders of, the military authorities. There was in consequence some duality of control. Application for the posting of V.A.D. personnel was made in the first instance by D.Ds.M.S. of home commands, to the War Office in the case of officers, and to the Officer-in-charge, R.A.M.C. Records, in the case of members. These requirements were transmitted to the V.A.D. personnel who in turn notified their county controllers who were the executive officers charged with the administration, training, and mobilisation of V.A.D. personnel. County controllers then arranged for the despatch of the personnel required to the units that required them. After their initial posting, the reposting and transfer of V.A.D. personnel were arranged by the military authorities only. In all cases, however, notification of posting or transfer was sent to the V.A.D. Council who retained all documents referring to V.A.D. members.

This dual form of control, and the circuitous method of obtaining V.A.D. personnel for medical units which it involved, was the cause of some confusion in the early stages of the war. On occasions medical units, in an endeavour to hasten the supply of V.A.D. personnel urgently required, made application direct to county controllers, local committees of the British Red Cross Society, and other bodies, with the resultant duplication in posting. It not infrequently happened that, owing to unforeseen contingencies or changed circumstances, it was necessary for military administration officers to alter the destination of members after their posting orders had been issued by the V.A.D. authorities. In this way personnel specifically allocated to one unit were in some cases eventually despatched to another. In the circumstances of pressure generally pertaining at the time of mobilisation these changes were not always notified to the V.A.D. Council. Lastly, in a few instances, medical establishments provided for under the scheme of mobilisation, and for which V.A.D. staff had been allotted for direct posting, had not actually been brought into being at the appointed time. Personnel therefore arrived to find no unit in existence and ready to

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receive them and were compelled to return to their homes under conditions of difficulty, inconvenience, and exasperation. Many of the difficulties and much of the consequential confusion arising at this time would have been avoided had all V.A.D. members been initially posted to central military hospitals and their subsequent reposting to smaller medical units been undertaken as occasion demanded by the local administrative officer of the Army Medical Services.

The peculiar relationship of V.A.D. personnel to the War Office on the one hand, and to the V.A.D. Council on the other, had somewhat embarrassing administrative consequences in the first few months of the war. For although V.A.D. personnel on mobilisation became subject to military authority and procedure, they tended to regard themselves primarily as members of their voluntary associations and still entitled to refer to these bodies in personal matters. The V.A.D. Council moreover appeared to consider themselves as officially responsible for the welfare of V.A.D. members and the conditions under which they served. It followed that as a result of these misconceptions many complaints in regard to accommodation, amenities, general working conditions, etc., were made by individual V.A.D. members direct to their local committees or to the central V.A.D. organisation instead of through the usual military channels. Many of these complaints were taken up by the V.A.D. authorities and other interested persons and involved much correspondence upon matters many of which were of a minor nature and could have been adjusted with little difficulty or delay had the normal military procedure been adopted by the member aggrieved.

To make clear the conditions applicable to V.A.D. members serving, or mobilised in the future, an Army Council Instruction was published shortly after the outbreak of war.[8] Members were required to possess qualifications under one or more of the following categories; nursing members, pharmacist, dispenser, radiographer, hospital cook, cook, clerk, masseur, laboratory assistant, operating-room assistant. Certificated nurses were classified for pay, etc., with members of the Q.A.I.M.N.S. Uncertificated nurses on mobilisation were to be classified as grade II and eligible for pay as for nursing orderlies, R.A.M.C., class II; after six weeks duty in a military hospital, if certified proficient, they were to be classified as grade I and become eligible for pay as nursing orderly, class I. Non-nursing members, if qualified in terms of trade-groups under *Standing Orders for the R.A.M.C.*, would receive rates of pay provided for class III of the appropriate trade group and become eligible for reclassification in a higher class in accordance with the regulations for advancement of other ranks of the R.A.M.C. All members when promoted to higher rank to replace R.A.M.C. personnel were entitled to the appropriate pay of that rank. Where lodging, fuel, and light were not received in kind, allowances were payable instead;

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uniform grants were fixed at £10 for nursing members and £8 for non-nursing members with annual replacement grants of £5 and £4 respectively; and a washing allowance of 2s. 6d. per week was made payable to all members. Certificated nursing members and uncertificated nursing members after classification in grade I were given first-class travel warrants while other members received third-class warrants; the scale of accommodation applicable to V.A.D. members was prescribed as that provided for soldiers of equivalent rank.

Despite these official announcements, there remained some doubt as to the conditions of service for V.A.Ds. and as to the duties their members were required to perform, particularly in the case of nursing members. Numerous complaints arose, among V.A.D. members themselves and, even more, from sources outside, that nursing members were required to spend their time performing menial tasks incompatible with their status. In an attempt to remove any grounds for complaint in this direction an Army Council Instruction was published in March 1940, restricting the duties which V.A.D. members might be called upon to undertake.[(9)] In respect of nursing members, other than certificated nurses or uncertificated nursing members grade I, who were employed entirely in nursing duties, it was prescribed that they should be required to perform only those duties undertaken by a probationer nurse in a civil hospital, including sweeping, dusting, polishing of brasses, cleaning of ward tables and patients' lockers, cleaning of baths, sinks, and ward utensils, washing of bed patients, washing of patients' crockery and sorting of linen. Non-nursing members were required to undertake, in addition to the duties normally included within the trade in which they were mustered, only those duties performed by persons employed in a similar capacity in civil hospitals, that is to say, those relating to the care and cleanliness of the department in which they worked and of the articles and equipment concerned therewith.

Dissatisfaction continued, however, chiefly in respect of the pay of certain specialist members and of the status of uncertificated nursing members. As regards the former, the Army Council decided that it was not possible to abrogate the rule that the pay of V.A.D. members should be fixed at two-thirds of the rates payable to other ranks of the R.A.M.C.; any departure from that policy would involve revision of tradesmen's rates of pay throughout the Army and of the scale of pay of the Auxiliary Territorial Service. A solution was sought by withdrawing these specialist categories, i.e. radiographers, masseurs, and laboratory assistants, from the V.A.D. altogether and by employing these personnel on a civilian basis. While no alterations were required in regard to certificated nursing members, it was decided to make some improvement in the status of uncertificated nursing members. For this purpose it was arranged that nursing members, grade II, should be regarded as nursing

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members, grade I, after a probationary period of three months and being subsequently certified by the matron of a military hospital as proficient and suitable for advancement. On reclassification as grade I, nursing members were now to receive further privileges in addition to those already described above, they were: first-class travelling; board and washing allowances and accommodation scales applicable to members of the Q.A.I.M.N.S.; to rank next and after the Q.A.I.M.N.S.; to be subject to the orders of members of the Q.A.I.M.N.S. only, and not to those of warrant officers or N.C.Os., R.A.M.C., except when the latter were in sub-charge of the unit, e.g. a medical reception station. These concessions did not apply to nursing members grade II or to non-nursing members. The changes described were brought into force in October 1940, by an Army Council Instruction which also prescribed that V.A.D. clerks should be placed initially in class II, instead of class III, but made no change in the conditions of employment applicable to pharmacists, dispensers, and cooks.[10]

As a result of these innovations, which with the various changes made since the outbreak of war were embodied in the War Regulations for V.A.Ds. published in February 1941, a somewhat invidious situation arose in that V.A.D. nursing members received some of the privileges of officers although performing the functions of other ranks, while non-nursing members, many of whom were highly trained and qualified persons, received less favourable treatment. It was stated in evidence before a committee appointed in July 1942, to investigate the whole question of the V.A.D. service that much discontent arose in consequence of these admittedly anomalous conditions. To what extent discontent did actually exist within the rank and file of the V.A.D. and how much such discontent as did exist was exaggerated for one reason or another by interested persons outside, it was not possible to determine. Be that as it may, the subject of the conditions of service for V.A.Ds. continued to engage the close attention of the War Office. The report of the committee referred to above suggests that in the consideration of these questions the V.A.D. Council, which had been set up expressedly for the purpose of dealing with such matters, was not brought sufficiently into consultation, and that this omission was regrettable as being the cause of much subsequent misunderstanding. In point of fact, confidential discussions were continued tentatively during the year 1941 between the War Office and the chairman of the V.A.D. Council, and eventually, in May 1942, after review of the situation by the Executive Committee of the Army Council under the chairmanship of the Secretary of State for War, it was proposed to the voluntary bodies concerned, i.e. the Order of St. John of Jerusalem, the B.R.C.S., the Council of County Territorial Associations, and the St. Andrew Ambulance Association, that the V.A.D. organisation as a

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separate entity within the Army should be abolished and should be reconstituted as a medical branch forming part of the Auxiliary Territorial Service.

Two main reasons for advocating the absorption of V.A.D. members in the A.T.S. were advanced by the Army Council. In the first place, it was contended that the V.A.D. organisation was wasteful in regard to the employment both of men and women. Uncertificated V.A.D. nursing members could not be employed as qualified nurses nor could they, while subject to the existing restrictions in the scope of their duties, fully replace nursing orderlies, R.A.M.C., who undertook the more laborious and menial tasks from which V.A.D. members were exempt, and who had to be retained in medical units for that purpose. Many nursing members were of a capacity which could not be adequately utilised in the performance of routine ward work with little prospect of advancement, but rather warranted their training as student nurses or as officers in the women's services. Secondly, the means of providing adequate opportunity for the advancement of the individual member could best be afforded by the merging of the V.A.D. into the A.T.S. where the necessary organisation was already in operation. It was considered undesirable to establish a duplicate organisation within the ranks of the V.A.D., as it had become the accepted policy that there should be but one women's service within the Army, hence the reason for the proposal that the V.A.D. should be reconstituted within the A.T.S. rather than as a women's branch of the R.A.M.C. Here it may be objected that the enunciation of this principle was at variance with the fact that women medical officers serving with the R.A.M.C. remained personnel of the Army Medical Services and at no time formed part of the Auxiliary Territorial Service.

The recommendations put forward by the Army Council contained details of training and grading of V.A.Ds. under the new scheme, and of the release of those members who were not willing to enrol for service in the A.T.S. At that time the number of V.A.D. members was approximately 4,208, including 4,160 mobile members, of whom 76 per cent. were nursing members and more than 10 per cent. N.C.Os.

The Order of St. John and the B.R.C.S. both protested against the Army Council's proposals. They argued that if every serving V.A.D. member enlisted in the A.T.S. there would not on that account be any increase in the women available to the Army; on the other hand they had reason to believe that a considerable proportion would resign and take up other war work, thus involving a serious loss to the Army of experienced personnel. It was objected that there was no guarantee that, if transferred to the A.T.S., V.A.D. members would be retained in the duties they had previously performed, and in that respect also there would be waste of nursing experience. The proposal that V.A.Ds.

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at the time of transfer to the A.T.S. should undergo a month's basic training appeared to the voluntary bodies as further waste of time and personnel. They also took strong exception to the substitution of A.T.S. uniform, especially in the case of nursing members, partly because the traditional uniform of a nurse had a beneficial psychological effect on patients and commanded a special respect towards its wearer, and partly on the grounds that members of the voluntary bodies were proud of their uniform and its traditions and would suffer in morale from its withdrawal. Finally, the Army Council's scheme was regarded as a crushing blow not only to the V.A.D. movement but to the parent associations generally. The argument concerning the uniform is of peculiar interest in the light of the adoption of service dress by the Q.A.I.M.N.S.

THE ELLIOT COMMITTEE

These bodies then put forward alternative proposals, although they made it clear that they desired the maintenance of the existing system with certain modifications to meet the difficulties that had arisen. Subsequent discussion failed to effect a settlement of outstanding differences, and eventually it was decided that the subject should be examined by a committee whose members were to be nominated by the voluntary bodies ; the service departments ; the Ministry of Health and the Ministry of Labour; and the Council of County Territorial Associations; but presided over by an independent chairman. This committee was duly appointed under the chairmanship of the Rt. Hon. Walter Elliot, M.C., M.P., and began its sittings in October 1942. Their report was published in June 1943. The committee stated that two factors had strongly influenced their consideration of the problem presented to them; the expansion and growing importance of the Auxiliary Territorial Service; and the conscription of women for national service. The first provided a new framework for all women's auxiliary units of the Army closely integrated with the organisation and discipline of the service. The second effected a break with the old conditions under which a group of women, under no compulsion, undertook to serve with medical units of the armed forces. Arduous and exacting as their chosen work might be, it was no more arduous and was often more interesting than the occupations to which they might have been directed had they not already been engaged in their own particular form of national service. In the opinion of the committee it was therefore anomalous that they should enjoy privileges, other than those inseparable from the efficient performance of their work, not enjoyed by comparable groups in the women's auxiliary services or by members of the R.A.M.C. for whom they might be substituted. This, it was stated, was fully recognised by the representatives of the Order of St. John and the

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B.R.C.S. and the evidence received suggested that V.A.D. members had in fact willingly undertaken a wider range of duties than could have been required of them by a rigid interpretation of regulations.

The committee therefore recommended that the status and range of duties of V.A.D. members should be the same as those which would apply to the trade of A.T.S. nursing orderly whose recruitment was foreshadowed in the Army Council's proposals. They were of the opinion that V.A.D. personnel should be enrolled in the women's forces and be subject to military law in the same way as members of the A.T.S., a provision which had in fact already been requested by the V.A.D. Council. Detailed suggestions were put forward for the classification, advancement, and conditions of service of V.A.D. members, for their functions and status, and for their relation to personnel of the R.A.M.C. and of the Q.A.I.M.N.S.

Turning to the question of organisation, it was considered that a strong case had been made for the assimilation of V.A.D. members by the A.T.S. in respect both of economy in administration and of conformity with the existing policy of recognising but one women's auxiliary service. Nevertheless, they could not regard these as the only determining factors. The long and distinguished history of the V.A.Ds. in relation to their parent bodies had created a sincere attachment to a separate nursing auxiliary service which should not be ignored. There was evidence of a widespread desire on the part of V.A.D. members to remain as such, identified in their own eyes and in those of the public with a sphere of work peculiarly suited to women. Moreover, the post-war future of the A.T.S. was unknown, and the future organisation of the nursing auxiliary services would probably be the subject of discussion over a wider field than that then under consideration; the committee were therefore reluctant to take any step such as the incorporation of V.A.Ds. in the ranks of the A.T.S., which might prejudice or complicate future discussions. They accepted the opinion of the voluntary bodies that radical changes in the V.A.D. organisation would be detrimental to the work of these bodies as a whole. Believing, therefore, that the objections to the proposal outweighed its advantages, they recommended that the proposed absorption of the Voluntary Aid Detachments by the Auxiliary Territorial Service should not take effect and that the former should retain their separate identity, under their existing name, and their distinctive uniform.

The committee considered that the proposals they had made would remove the anomalies that had been brought to their notice; they had ample evidence of the value of the work done by V.A.D. members and of the harmonious relations existing between them and the Queen Alexandra's Imperial Military Nursing Service personnel under whose direction they worked. They also desired to see certain improvements

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made in the existing organisation with a view to simplification of the administrative machinery. The V.A.D. Council, although it had performed valuable service in building up the organisation, did not appear to have functioned actively in the immediate past. Had it done so the necessity for that special committee might have been avoided. Indeed the evidence before them suggested that reliance had been placed upon the method of individual approach and response, and that V.A.D. members had been granted at least one privilege for which the responsible organisation had not asked. This statement presumably referred to the grant of first-class travelling privileges to grade I nursing members. It was therefore recommended that for the V.A.D. Council there should be substituted a standing committee representing the voluntary bodies concerned, including the Council of County Territorial Associations. In conclusion, the committee endorsed the opinion, expressed both by the service departments and by the voluntary bodies, that, in order to make the best use of their aptitude and capacity, all encouragement should be given to V.A.D. nursing members to undertake training in order to qualify as state registered nurses.

In December 1943, it was officially notified by Army Council Instruction that the Secretary of State for War had accepted the recommendations made by the Committee on Voluntary Aid Detachments, namely, that the status and range of duties of V.A.D. nursing members should be the same as those applicable to the trade of nursing orderly, A.T.S.: the V.A.Ds. should not be merged in the A.T.S. but should retain their separate identity under their existing name; and that a standing committee representing the voluntary bodies concerned, including the Council of Territorial Associations, should be substituted for the V.A.D. Council. This Army Council Instruction described the changes to be brought into operation on January 1, 1944, in order to give effect to the recommendations of the committee.(11)

Under the new conditions of service, V.A.D. members on enrolment became members of the armed forces of the Crown and subject to military law. Command over V.A.D. members was exercised by military commanders in the normal manner. The officer commanding R.A.M.C. was made responsible for the discipline of all ranks under his command but was not charged with the exercise of powers of punishment over V.A.D. members; this was entrusted to nursing officers. Administration of V.A.D. members was transferred from the V.A.D. Council to the Officer-in-charge Records, R.A.M.C., who took over the existing records and documents. With effect from January 1, 1944, V.A.D. members already serving were invited to enrol for employment for the duration of the war as members of the armed forces subject to military law. Enrolment as regards both serving members and recruits was undertaken at the headquarters of the R.A.M.C. company to which they were posted.

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V.A.D. recruits in possession of first aid and home nursing certificates were classified as nursing orderlies, class III, on enrolment. Clerks qualified in accordance with the standards laid down in Standing Orders for the R.A.M.C. were similarly classified as clerks, class III. Dispensers and hospital cooks were subject to classification under the conditions applicable to other ranks of the R.A.M.C. As regards nursing members already serving, it was provided that those in grade I would, on passing the trade test for nursing orderly class I, R.A.M.C., be officially classified nursing members, class I. Nursing members in grade II would be classified nursing members, class II, on being certified by the officer commanding the unit as fit for such reclassification. The range of duties for nursing members ceased to be limited in the manner prescribed by previous regulations and were made identical in scope with those applicable to the trade of nursing orderly, R.A.M.C. The status of all V.A.D. members, their conditions in regard to accommodation, allowances, and travel became those pertaining to A.T.S. auxiliaries of corresponding rank or qualifications. It was prescribed that V.A.D. members should receive the same opportunities for trade and technical training as those authorised for the R.A.M.C.; they would continue to replace R.A.M.C. other ranks in military medical establishments and while doing so their employment, training, classification, and promotion would follow the rules applicable to other ranks, R.A.M.C.; the ranks and appointments of V.A.D. members would correspond with those of other ranks of the R.A.M.C. Nursing officers were made responsible for the welfare, instruction, and technical supervision of V.A.D. members, while their messing and pay was placed in the hands of the appropriate R.A.M.C. officer. A limited number of V.A.D. warrant officers was authorised for the purpose of assisting matrons of the Q.A.I.M.N.S. in domestic administrative matters affecting V.A.D. members. Subject to the usual conditions as regards suitability, members of the V.A.D. were made eligible for appointment to commissions in the A.T.S., previous service with the V.A.D. being reckoned as service in the ranks of the A.T.S. The distinctive uniform of V.A.D. members was retained and existing rate of uniform allowance and washing allowance continued. Pay remained at the rates previously laid down plus service increments on the scale authorised for A.T.S. auxiliaries. Procedure for discharge was regularised and the various grounds upon which release from military service might be granted were set out in detail. As regards the offices of commandant and assistant commandant it was arranged that these should in due course be abolished; the further enrolment or employment of state registered nurses as V.A.D. members was discontinued, those already serving were given the option of resigning with a view to employment in civil hospitals or to being absorbed in the Q.A.I.M.N.S. reserve.

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Two further Army Council Instructions[12] issued at the same time as that described above detailed the rates of pay applicable to V.A.D. members under the new conditions of service and prescribed the procedure and documentation connected with their enrolment. The second of these Army Council Instructions provided that V.A.D. members declining to enrol under the new scheme would be released from employment with the Army. They were informed that the time of release would depend upon the exigencies of the service, but their departure would be permitted as soon as it could conveniently be arranged. Those of an age within the limits of liability for national service were thus made available for other employment, but those who felt they had a vocation for nursing were to be encouraged to enter a training school for nurses with a view to qualification as state registered nurses.

THE RELEASE OF MEDICAL OFFICERS AT THE END OF THE WAR*

As it became increasingly evident that the war in Europe was moving surely, if slowly, to a successful issue, the thoughts of the nation turned to events and future prospects in the Far East where it remained to conclude another war, partly forgotten amid the excitement occasioned by landings in Normandy and by scarcely less stirring events on the Italian and Russian fronts. Informed opinion ventured to predict that the defeat of Japan could not be ensured within less than eighteen months or two years after the downfall of Germany and would require for its accomplishment an almost complete remobilisation of resources, both military and industrial. General acceptance of this view gave rise to much conjecture as to the changes to be expected during the interval and the results that would accrue from the re-orientation of national effort. In this connexion, nothing, perhaps, commanded more attention than authoritative pronouncements intimating that redeployment of the forces, in the transfer of major British activity from Europe to the East, would imply some reduction in the total numbers engaged and therefore the release of those of greater age and longer service. In medical circles, as elsewhere, the method by which this might best be achieved, having regard to the claims of all concerned, was a matter of much speculation and debate. Letters and articles from time to time appearing in the professional journals left no doubt that, within the medical services of the armed forces, interest was not unmixed with anxiety lest, in view of the difficulties inherent in the maintenance of adequate medical man-power, the principles of equity might be subordinated to considerations of administrative expediency.

Following the rapid advance of the allied armies through France and Belgium in the late summer of 1944 and various indications from the

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* See Emergency Medical Services. Volume I, Chapter 6.

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highest official quarters that the end of the war in Europe was probably not far distant, medical opinion became still more vociferous in the expression of its doubts and fears which even the publication, on September 22, 1944, of the White Paper on the subject of partial demobilisation following the defeat of Germany, did but little to allay. Indeed, so great was the apprehension exhibited on all sides that the Army Medical Directorate Consultants' Committee, after full discussion of the state of affairs as known to them from official and unofficial sources, thought it well to record their views in a memorandum representing a very strong feeling on the part of medical officers in the Army Medical Services. This, they urged, should be sent to the Central Medical War Committee in order to call attention to the necessity for active measures if an adequate medical service were to be maintained after the close of military operations in Europe. As, however, the question of release and replacement of medical officers in the fighting services had already been raised with the C.M.W.C. by the Ministry of Health, it was decided that no further move in the matter should be made at that juncture.

With the object of elucidating the position from the standpoint of the Army Medical Services, the Director-General, in October 1944, prepared a detailed and comprehensive paper on the subject of release of medical officers in relation to the scheme for partial demobilisation of the Army as then conceived. Considering first the methods it was proposed to adopt, he mentioned that a sub-committee of the C.M.W.C. had already formulated a plan for the demobilisation of medical personnel. This plan, although based upon the principle of priority for age and length of service, differed in certain respects from the scheme applicable to the forces at large. Government had decided that the general scheme must operate in reference to medical personnel in common with others. Provisional arrangements anticipated the release of three distinct classes in different circumstances: class A, those rendered surplus to military requirements and available for release, on grounds of personal entitlement, in groups determined by a combination of age and length of service; class B, those released in the national interest to satisfy civil needs; and class C, compassionate release on account of exigencies of a private and domestic nature. As regards the medical, dental, nursing, and certain other professions, it was specially provided that release would be effected only on individual sanction by the War Office.

The Director-General then proceeded to review the situation likely to result from the cessation of hostilities in Europe and the extension of military undertakings in South-east Asia. Releases in class A of the demobilisation scheme would be made possible only by overall reduction in the strength of the Army, and, since they were not subject to replacement

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by further recruitment from civilian resources, the number to be so released was directly proportional to corresponding reduction in the Army's total commitments. It was to be emphasised, however, that at the end of the war in Europe there would be little, if any, reduction in medical commitment. Although there would be some decrease in the size of the Army as a whole, there would also be transfer of strength from Europe to India and South-east Asia, and this transfer must of itself involve a substantial increase in medical services, first, on account of the higher scale of provision necessitated by the higher sick rates experienced in tropical regions such as Burma, and secondly, because of the absence there of the hospital facilities supplied by the Emergency Medical Services upon which the Army Medical Services were in great measure dependent for the accommodation and treatment of casualties derived from military operations in Europe. The conversion of the armies in Europe, from a fighting to an occupying function, would occasion a saving in medical officers, but all of them would be absorbed in furnishing reinforcements for India and South-east Asia. Apart from medical officers of units belonging to formations to be transferred to the East, it was estimated that India would require not less than 1,000 medical officers including 500 specialists, to provide adequate medical services for projected operations in Burma. The supply of reinforcements was made difficult because large numbers of medical officers in the United Kingdom were ineligible for service in the East on account of age or low medical category, or for the reason that they had already completed a long tour of service overseas. Thus the prospect was that, for some time, operational requirements would permit of little or no release of medical officers except by replacement. Pressure for release in all three classes would doubtless prove very great, and there was already considerable anxiety as to the extent to which it would be found possible to relieve those most entitled to consideration on the grounds of services already rendered. Every effort must be made to meet this demand as far as possible; at the same time means must be found to fulfil the requirements of the Army. The whole question was inseparably bound up with the subject of intake and allocation from the civil side of the profession and for that reason, should receive consideration by the Medical Personnel (Priority) Committee.

In elaboration of his last contention the Director-General included the memorandum submitted by the Army Medical Directorate Consultants' Committee. Speaking with the authority of a twofold experience, as senior members of the medical services of the armed forces and also as civilian consultants and teachers having a side knowledge of the profession, they urged that at the termination of the war in Europe the release of serving medical officers should be accomplished by means of a general call-up to the services of all eligible civilian practitioners.

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This call-up should not be limited merely to the younger and more recently qualified; it should include all, provided they were physically fit, who had remained at home during the war, either in private practice or on the staffs of hospitals including those of the E.M.S. It was to be remembered that those who had continued in civil life, while doubtless strenuously employed, had, nevertheless, enjoyed the advantage of maintaining their practice of clinical medicine and the opportunity of proceeding to higher degrees if desired; whereas those in the forces had experienced their share of hard work and at the same time been subjected to the limitations, difficulties, and stresses of military service. Emphasis was laid on the necessity of ensuring that medical men after serving in the armed forces should be enabled to leave with a feeling of having been fairly treated, a matter of no little importance from the aspect of the potential needs of military service in the future and of the development of any state civil medical service that might be contemplated.

The substance of this paper, prepared primarily for official purposes, was communicated to the C.M.W.C. and also to the headquarters of commands overseas for the guidance of Ds.M.S. who found themselves inundated with a stream of questions in regard to the operation of the scheme for release. In the absence of any authoritative statement of policy on the subject, they themselves were occasioned some embarrassment and the officers under their command much anxiety. They, also, repeated and supported the widespread demand for some measure of interchange whereby medical officers in the fighting services overseas would be relieved and released by those from the Emergency Medical Services or civil practice at home.

This suggestion for interchange between military and civil medical personnel was no new idea. A scheme of this kind had been mooted earlier in regard to the replacement of medical officers of medical category C by physically fit civil practitioners but, for one reason or another, had come to nothing. In the light of events, the Army Medical Directorate now sought to raise the matter again, although in a different form and with a different object. During the months of March, April, and May 1945, there followed a series of discussions and conferences between representatives of the Navy, the Army, and the Air Force and those of the Ministry of Health, the Ministry of Labour and the Central Medical War Committee. The proposition now put forward by the War Office was dictated by two cardinal difficulties. In the first place, there was an actual shortage of officers available for service abroad, the relatively small numbers stationed at home being for the most part already tour-expired or ineligible on account of age, low medical category, or other cause. This state of affairs was due pre-eminently to the fact that, owing to the part played by the E.M.S. in the accommodation and treatment of military patients, the Army Medical Services had

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no large hospital base in the United Kingdom to provide a reserve of personnel or to supply the wherewithal to arrange an adequate system of exchange between home forces and theatres of war overseas; on the contrary, the extent of hospital development overseas being ten times greater than that at home, the prompt replacement of those who had completed the prescribed tour of foreign service was rendered impossible. Secondly, there was a further potential shortage of specialists owing to their relative preponderance in the age and service groups having priority of release and the consequent early departure of a proportionally greater number of specialists than of general duty officers. It was therefore submitted that military medical officers, tour-expired or of low medical category, should be released from the forces to take up appointments in the Emergency Medical Services, thus relieving an equivalent number of civil practitioners, suitable for appointment as graded specialists, who would be recruited to the Army Medical Services in replacement. Officers so released would come within the purview of release under class B, i.e. on grounds of national importance, and would therefore be subject to direction in regard to the acceptance and retention of their appointments.

These suggestions did not receive a favourable reception, partly on account of the complicated machinery and the expenditure of time and labour involved in arranging suitable and agreed exchanges and in obtaining the consent of the employing authorities, but still more because it was felt that it would be wrong to create a special class of officer who would have the opportunity of leaving the service out of turn, and whose departure might even cause delay in the release of those in class A. An alternative scheme was then devised in the form of a system of secondment under which medical officers of the Army Medical Services, while retaining their military status, would be placed in civil hospital appointments in relief of civil practitioners to be called up for military service. It soon became obvious, however, that the administrative difficulties inherent in the process were almost insuperable. Eventually on May 15, 1945, a final conference on the subject ended in a decision to reject the War Office's proposals and to abandon attempts to arrange a system of interchange of medical officers in connexion with release under class B. In coming to this conclusion the conference was influenced largely by the views of the C.M.W.C. who objected to the principle underlying the project, in that it appeared to offer a prospect of accelerated release to those who agreed to accept hospital appointments at specified salaries, and savoured of individual selection instead of the impartial operation of the official scheme approved by the Government. Further, it had been decreed that the number of releases under class B was to be strictly limited, and it would almost certainly be impossible to deal under that heading with anything

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approaching the numbers suggested by the War Office. Be that as it might, the committee advised that in any case the best results were to be obtained by the concentration of effort towards ensuring the timely and effective operation of the procedure for release under class A. With this contention there was general agreement, and, having regard to the impossibility of releasing many of those in the earlier age and service groups until replacements were supplied for civilian sources, it was suggested that the C.M.W.C. should be provided with lists of officers in these groups who, although entitled to release, were likely to be retained pending replacement. If, as might be assumed, most of those released were to return to the hospital or other work to which they had been attached in peace-time, the committee would initiate the recruitment of practitioners, e.g. junior specialists, who could be spared on the arrival of the serving officers. There would, of course, be an unavoidable time-lag in respect of those who would need to await relief before vacating their appointments for military service; while there seemed more than an element of doubt that, in the event, the committee would be able to fulfil their undertaking, there was a consensus of opinion that this method, if successful, would provide the easiest and most satisfactory solution to the question and should therefore be given a trial.

In the meanwhile, owing to the belief, rapidly gaining currency, that the conditions governing the release of medical officers would differ widely from those applicable to other arms, increasing pressure was being exerted upon the Army Medical Directorate for an authoritative statement elucidating official policy and intention in regard to the demobilisation of the medical services. In point of fact there was at the time more than a little doubt in the minds even of the authorities at the War Office as to how *Regulations for Release from the Army*, 1945, then recently published, were to be interpreted and put into effect. However, with the object of dispelling misapprehension, in so far as it was possible to do so, all senior administrative medical officers in commands at home and abroad were categorically informed that the release regulations, as published, applied to all personnel of the Army medical officers no less than others, and that, in consequence, medical officers would be released in their appropriate age and service groups as and when the operational requirements of the Army would permit. Nevertheless, it was to be remembered that there were special provisions in the regulations applicable to officers of the medical, and certain other services, whereby their release was subject to individual sanction by the War Office. Moreover, all personnel were bound by the military necessity clause of the regulations decreeing that, irrespective of any entitlement, no one would be released if his retention were operationally vital. Inevitably this clause must operate differently in different arms of

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the service; operational needs would entail a more extensive application in some than in others, and the R.A.M.C. was by no means the only corps in which the prescribed powers might perforce be widely exercised. As to how quickly and how far release of medical officers could in the first instance be accomplished, it was impossible at the moment to form any concise or definite estimate. Much must depend upon the general military situation and the extent of medical undertakings at the time when the scheme was brought into effect.

Scarcely had this statement been issued when it became known to the Army Medical Directorate that the programme of partial demobilisation provided for the release of the first three age and service groups within a few weeks of the end of the war with Germany. As these three groups included 600 medical officers and thus comprised more than 5 per cent. of the total strength in medical officers as compared with less than 1 per cent. of the Army at large, there appeared little prospect that this schedule of release could be made applicable to the medical services without jeopardising their efficiency in every direction. The Director-General was convinced that the sudden withdrawal of so large a number, constituting as it did a very high proportion of medical strength in the United Kingdom, to say nothing of those serving in India and other commands abroad, was impracticable. He therefore advised that commands overseas be so informed without delay. They should be warned that the release of medical officers could not be made to keep pace with the general programme for the Army as a whole; the medical services were affected by circumstances not pertaining to other arms, and they must therefore be prepared to accept a slower rate of release. However expedient this suggestion, it was not considered possible to act on these lines which would indeed have been a negation of the principles previously enunciated.

Perplexing as the situation had now become to those seated at the centre of medical administration and charged with the twofold task of ensuring an efficient service and, at the same time, of surrendering the means of maintaining it, worse was yet to follow as the result of the conclusions of the Lord President's Committee which met on April 27, 1945, to consider a memorandum by Lord Cranborne who, during the past two years, had advised the Cabinet concerning the use and allocation of medical man-power. Lord Cranborne recommended that the usual call-up of newly-qualified medical practitioners should continue during the first half of the year 1945, thus making available to the armed forces some 700 medical officers, that is to say, one-third of their total demands for that period. The only addition accruing to the civil medical services would be derived from those discharged or temporarily released from the forces and such of the recently qualified practitioners as were found medically unfit for military service. Consequently there

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must be a further reduction in civil medical facilities, already at a precariously low level. This state of affairs might be accepted for the first half of the year, but, unless something were done to restore the medical services available to the civil population later in the year, the situation during the coming winter would be highly dangerous. If, as had been suggested, the armed forces, so far from releasing medical officers after the end of the war with Germany, persisted in their desire for the completion of authorised war establishments, it would mean their absorbing 2,000 more medical practitioners from civil resources. It was to be noted that there were already about 16,000 medical officers serving in the forces, i.e. one for every 300 on the strength, whereas the proportion among the civil population was only one to 1,750. In this connexion it was considered imperative that there should be some restoration of the civil medical services before the winter. On the other hand, it was understood that the difficulty felt by the fighting services as to any net release of medical officers related only to the six months after the cessation of hostilities in Europe. As far as the Army was concerned, the requirements put forward were tentative only, and subject to revision if, as appeared probable, the scale of projected operations against Japan were to be modified.

Discussion culminated in a statement by the Prime Minister who, after hearing the arguments put forward by the several protagonists, announced his inability to accept the proposal for delayed medical demobilisation. The casualty rate in the Army during the first quarter of 1945 had been only one-quarter of the War Office's estimate, and an even lighter rate was to be expected in what remained of the fighting in Europe; moreover the number of divisions it would be possible to deploy against Japan must be very limited. After making allowances for all demands upon the medical services of the armed forces in respect of demobilisation, released prisoners-of-war, and the high scale of medical provision necessary in the Far East, it should be possible to release substantial numbers of medical officers during the second half of the year. He believed that there was room for an immediate cut of 10 per cent. in the total employed at home and in the European theatres of operations. He proposed to ask for further information concerning the employment of medical officers in the forces, and thereafter he would issue a directive on the subject of release.

Within a fortnight of this decision, hostilities in Europe ceased as a result of the formal surrender of Germany. Shortly afterwards, on May 21, 1945, the Prime Minister issued the following personal minute: 'It has not been possible as yet to set out my proposals for the release of doctors in relation to the demobilisation, but the standard of medical attention available to civilians is so low that as a first step 1,600 doctors should be returned to civilian life, forthwith, from the forces'.

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It now remained to devise a means of giving effect to the Prime Minister's directive which involved a reduction of 10 per cent. in the medical services of the armed forces. Since the release of medical officers was to be undertaken forthwith, it was presumed that the intention was for the process to begin on June 18, i.e. six weeks after the end of the war in Europe, in accordance with the timetable scheduled for the rest of the Army, and to be based on the system of age and service groups common to all arms. It was also taken for granted that the 1,600 for release were to be provided by the three fighting services in proportion to their respective total strengths in medical officers at the time: Royal Navy, 2,500; Army, 11,000; Royal Air Force, 2,430. On this basis, the contribution to be derived from the Army Medical Services was 1,100 and involved application of release procedure to groups 1–11, inclusive, containing a total of some 1,400 medical officers of one kind or another, for, although the total was nominally in excess of the number required, it was necessary to provide a substantial margin to cover the deficit that would otherwise have arisen in respect of a few seeking voluntary deferment of release and a large number of specialists to whom retention on the grounds of military necessity must be applied. The release of these 11 groups was scheduled for completion by August 31, but, in view of the amount of cross-posting and travelling incurred in the relief of officers overseas before they could be brought home for release, it might well be that all 1,100 would not have left the Army before the end of September; in any event this should suffice to afford the prescribed reinforcement of civilian services before the advent of winter. While it was specifically enjoined that an officer's claim to release must not be prejudiced by reason of his serving in any particular theatre of operations overseas, yet special measures were necessary in respect of specialists, of whom there were no less than 467 within the first eleven age and service groups. It would be impossible to release all of them without replacement in view of the demand for 700 more specialists of various kinds for India and South-east Asia, and of the fact that repatriation of time-expired specialists had already been suspended owing to lack of eligible substitutes. Although the Central Medical War Committee had undertaken to recruit specialists in relief of those that could not otherwise be spared, it still remained to be seen whether or not they would succeed in doing so, and in the meanwhile commands overseas must be authorised to apply the military necessity clause to not more than 75 per cent. of their specialists. Calculation of assets and liabilities in regard to release were based on the assumption that the allocation of civilian practitioners due to be recruited to the forces during the first half of 1945 would be forthcoming. The number officially allocated to the Army, including those required for India, was 599; of this total only 360 nominations had been received and only

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287 actually commissioned. There was thus a deficit of 312 in the allocation; consequently, unless this were made good, the proposed rate of release must be retarded or recourse made to release from groups beyond group 11. In any event the scheme as now formulated would inevitably delay the programme for the building up of the forces in South-east Asia; it would also postpone any contemplated reduction in the length of the overseas tour of service and at the same time involve serious reduction in the amount and quality of medical work performed.

Instructions to this effect were immediately despatched to all commands at home and overseas. Individual release of all medical officers in groups 1–11 was to be regarded as authorised in terms of *Regulations for Release from the Army*, 1945, subject to the retention of specialists under the military necessity clause where required. Retention of officers other than specialists was confined to staff officers whose services were considered operationally vital. All officers in these groups other than those agreeing to voluntary deferment or those retained pending replacement, were to be returned to the United Kingdom in time for release by August 31.

The time-table of release in age and service groups as arranged and subsequently effected was as follows:

Group 1 .	beginning on	June 18	and ending on	July 23.
Groups 3–5 .	,, ,,	July 23	,, ,, ,,	July 30.
Groups 6–7 .	,, ,,	July 30	,, ,, ,,	August 6.
Groups 8–9 .	,, ,,	August 6	,, ,, ,,	August 15
Groups 10–11	,, ,,	August 15	,, ,, ,,	August 31.

By the end of August 1945, the numbers of medical officers released were: 922 in class A, and 21 in class B. In regard to the matter of release in class B, it was found that certain specialist officers, including some in the position of advisers or in charge of medical or surgical divisions of general hospitals, had been approached by medical schools or other teaching bodies, with whom they held appointments in peacetime, asking them if they were willing to be considered for release under the conditions prescribed for class B. As most of these officers were in age and service groups not immediately due for release, the commands concerned were somewhat perturbed lest arrangements of this kind, if concluded, should entail a further drain upon their prospectively much reduced resources in specialists. A statement was therefore issued by the Army Medical Directorate reaffirming that, in accordance with the demobilisation scheme as sanctioned by Government, releases under class B were restricted to 10 per cent. of those under class A; they would be permitted only on grounds of national interest and then only after a beginning had been made with class A. Release under class B was controlled centrally at the War Office and every application required the support of a government department before it could be

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entertained. In the case of the medical profession all such recommendations were in the hands of the Central Medical War Committee to whom the Ministry of Health had delegated their powers in this respect. Moreover, each release was conditional upon individual replacement from civilian sources. It was fully realised that the loss of any considerable number of senior specialists out of their turn would seriously dislocate medical arrangements; every application therefore received careful scrutiny and was sanctioned only when suitable replacement by an officer of comparable professional status was forthcoming.

Mention has already been made of the measures which the C.M.W.C. agreed to adopt for the recruitment of civilian practitioners in relief of specialists serving in the forces. Accordingly, the Army Medical Directorate from time to time, furnished nominal rolls containing the names and appointments of all specialist officers in the age and service groups about to be scheduled for release and indicating, in particular, those who must be retained pending replacement. By this means the Committee were kept informed of the numbers of specialists of each kind for whom substitutes were required and, it was hoped, assisted in their efforts to obtain new recruits from the areas to which released specialists would in all probability return. Nevertheless, events were soon to show that, despite prior notification of requirements, the committee were experiencing considerable difficulty in recruiting and were not in a position to meet their obligation in this connexion. By August 1945, a situation of some anxiety had been reached in regard to the prospects of effecting the early release of specialists retained under the military necessity clause of the release regulations. Up to the end of July replacements asked for amounted to seventy-four in respect of releases in the first eleven age and service groups under class A and to eleven in respect of releases to meet civil needs under class B, a total of eighty-five. The number actually supplied amounted only to sixteen. There was thus already a large deficit which, having regard to the time that inevitably elapsed before a newly recruited specialist could arrive in so distant a theatre of war as the Far East, denoted a state of affairs very far from reassuring. Approached on the subject by the Director-General the Central Medical War Committee agreed that recruitment had been unduly slow owing to failure on the part of local medical war committees to secure the numbers required and because of the delay occasioned in giving those provisionally selected the opportunity, to which they were entitled, of lodging objections to their being called up for military service. It was frankly admitted that while every endeavour was being made to obtain new specialist recruits from civil medical practice, it was yet too early to judge of the probable success of the committee's plan.

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How the Army Medical Services were to fare, dependent upon so precarious a method of recruitment to offset the effects of a relatively inflexible system of release, was a matter of speculation. And such it still remained insomuch that, fortunately perhaps, it was never put to the extreme test. Suffice it to say that commands overseas were at one in averring their inability to afford any further depletion of medical resources and consequently their reluctance to part with any more officers until replacements had actually arrived on the spot. When, at the beginning of August, groups 12–16, which included rather more than 700 medical officers were scheduled for release in the near future, these warnings were followed by urgent representations that application to the medical services was utterly impracticable. Events themselves, however, served to provide at least a partial solution to the problem, for within a matter of a few days afterwards came the news of the surrender of Japan and the end of active military operations throughout the world. As the result of greatly reduced commitments in the Far East and consequent cancellation of heavy reinforcements previously in demand, a substantial extension and acceleration of the release programme became feasible. Before the end of the month authority was given for the release of seven more age and service groups, i.e. groups 17–23, including nearly 1,700 medical officers to whom the instructions issued on former occasions in regard to the retention of certain classes of officer, including specialists, on the grounds of military necessity, etc., were made applicable in the same way as before.

Among the effects upon the Army Medical Services entailed by the operation of the scheme of partial demobilisation, one worthy of particular mention was the grave threat to efficiency occasioned by the early departure of the more senior consultants and advisers and the more experienced specialists who, as might be expected, were to be found mostly in the age and service groups standing high in order of priority for release. Owing to the decision that they should be released as their respective groups became due, almost all the consultants within the Army Medical Directorate and in home commands, save only the few who were regular officers, relinquished their commissions soon after the end of the war in Europe. In commands abroad much the same state of affairs arose, although somewhat delayed owing to the younger age of those concerned. Similarly, in regard to specialists there was a disproportionate loss of the more experienced among them by reason of their earlier release. Here again the effect was most marked in home commands, not only because specialists on home establishments were for the most part older, but also on account of the necessity to give overseas commands the advantage of the best specialist services available and therefore to retain a relatively higher proportion of junior men in the United Kingdom. In order to provide, in some degree, a substitute

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for the previous organisation whereby military consultants were available in case of need in each command, measures were taken to re-establish and improve existing arrangements for making the services of consultants of the Emergency Medical Services obtainable for advice and assistance in respect of military patients when required. In addition, D.Ds.M.S. were instructed to nominate, from the resources at their disposal, specialist officers in the various specialties to act in the capacity of command specialists. These officers, while retaining their normal rank, were thus authorised to visit all medical units in the command for the purpose of advising the treatment of patients as required; they were also available for advice and assistance in the administration and supervision of the specialist services generally.

Early in November it became necessary to give effect to a decision by the Cabinet that the release of medical officers from the armed forces was to be accelerated with the object of strengthening the medical resources available to the civil population. In announcing their conclusion the Cabinet indicated that, in view of the critical situation in which the civil medical services were placed, the fighting services must contrive to meet essential military requirements with medical provision on a scale not more than twice as great as that which had to suffice for civil needs. They accordingly directed that the total number of medical officers in the medical services of the forces should be reduced by the end of the year to a ratio of 2 per 1,000 total strength. In so far as the Army was concerned, the Cabinet's dictum implied the release of 5,600 medical officers in all during the period June 18 to December 31 and involved a reduction of some 50 per cent. in total establishments to be effected within that time, instead of the 33 per cent. foreshadowed by the original scheme of release. It was estimated that on completion of group 24, shortly due for release, some 3,600 medical officers would have left the Army Medical Services. It therefore remained to expedite the completion of the programme already devised and then to ensure the departure of 2,000 more before the end of December. Commands were therefore instructed that, with the exception of those specialists who were being retained under the military necessity clause pending replacement, all medical officers of groups 1–24 were to be released by mid-December, if possible, and must in any event arrive in the United Kingdom in time for release not later than December 31; deferment of release as operationally vital was not to be exercised in respect of general duty officers in these groups without the sanction of the War Office. Over and above the release of those in the first twenty-four groups, each command was required to surrender, in proportion to its total strength, an additional number of medical officers, exclusive of specialists, from later age and service groups up to, and including, group 38; these also were to be sent home for release by the end of

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the year. At the same time all concerned were warned that acceleration of the release programme to the extent now determined and the reorganisation entailed thereby would involve re-deployment of the medical services throughout the world and a lower scale of provision in personnel. Consequently, medical arrangements generally would require revision and modification to meet altered circumstances. In order that the best use might be made of available resources the following precepts were to be borne in mind. The efficient care of the sick must have priority over all other considerations; the provision of hospital beds should conform closely to the number in average occupation with an additional allowance for crisis expansion; specialists could be called upon to take a share of general duties; measures in connexion with hygiene and sanitation should, as far as possible, be delegated to non-medical, and regimental, officers; routine inspection and clerical work must be reduced to a minimum.

Within a few weeks of their original decision the Cabinet had occasion to reconsider the project for accelerated release of medical officers in the light of more recent developments and the need for still further precautionary measures. The upshot was that arrangements made to complete the release of all groups up to, and including, group 24 held good and were to be effected by mid-December or as soon thereafter as circumstances would permit. Release beyond group 24, as originally intended in order to produce the required reduction in ratio, was to be suspended and held in abeyance pending further notice. Instead, medical officers in these groups, already being returned to the United Kingdom for release in accordance with previous instructions, would on arrival be transferred to home establishments and retained for the time being. These, nominally amounting to upwards of 1,000, with some 300 more, who, in an emergency, could be spared from home commands without incurring undue reduction in the number available for attendance to the troops, were to form a pool of medical officers available at short notice to assist the civil medical services and general practitioners in dealing with any outbreak of epidemic disease that might occur during the winter.

This, then, was the course of action eventually adopted and subsequently put into effect although, in point of fact, the threat of epidemic disease did not materialise, and consequently little use was made of the emergency pool held in readiness for that contingency. On the completion of release in all groups up to, and including, group 24, which was satisfactorily accomplished during the month of December, the number of medical officers returned to civil life from the Army during the period of six and a half months from June 18, when the scheme of partial demobilisation first became operative, to the end of the year amounted to 3,703, consisting of 3,533 under class A, 144 under class B,

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and 26 under class C. Complications, however, arose in regard to the additional number approximately 2,000, to be released as a means of bringing about reduction of the medical services to the prescribed ratio of 2 M.Os. per 1,000 total strength of the Army. As described above, each command had been instructed to send home a specified number of officers, proportional to its medical strength, as a contribution towards the sum required. But the distribution of medical officers as regards their age and service groups was by no means uniform throughout the forces overseas. On the contrary, so wide was the divergence in the several commands that, in order to produce their respective quotas, some had been compelled to draw on groups as late as 45, whereas others had not found it necessary to go beyond group 25. Were all these officers to be released indiscriminately on arrival in the United Kingdom or, in accordance with later arrangements, after the dispersal of the pool formed to meet civil emergencies, the group sequence would be disturbed and officers released out of turn; thus the accepted rules of priority would be infringed and much heartburning provoked.

To prevent confusion and at the same time to avoid any ground for complaint that might be occasioned by a departure from the usual methods of procedure, the Secretary of State proposed, and the Prime Minister agreed, to allow a period of grace in which to re-sort and re-allocate those medical officers that were being sent home; some were already on their way, under instructions recently issued. On arrival, or as soon afterwards as expedient, officers in the earlier groups would be transferred to other commands where there were officers having prior claim to release but retained pending replacement. Although this process was to begin as soon as the first batches arrived from overseas, it could not in any event be completed until the end of February 1946. In order to simplify matters and to reduce transfer and cross-posting to a minimum, it was proposed that, instead of allotting a specific date for each age and service group as heretofore, several should be scheduled for simultaneous release. It was also found necessary to make special arrangements in regard to specialists whose release had by now fallen far behind that of general duty officers. Two factors were primarily responsible: first, the disproportionate number of the former in the earlier age and service groups; and secondly, the failure of measures for their replacement by recruitment from civil sources. The programme of release, even as originally devised and before its subsequent acceleration, involved the loss, by the end of the year 1945, of 62 per cent. of all specialist officers as compared with 33 per cent. of medical officers of all kinds. Looking as far ahead as June 1946, the figures were 83 and 55 respectively. Among the 2,000 medical officers released within the first few months of June 18, 1945, there were more than 250 holding

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appointments as physicians or surgeons; the number in these categories recruited during the same period was less than 20. Manifestly, there was a limit to the release of specialists until such time as others were forthcoming to replace them. As that position was being rapidly approached so the necessity for vigorous recruiting efforts became more insistent. The Central Medical War Committee in an endeavour to assist to the best of their ability duly addressed all local medical war committees calling attention to the urgent need for recruits of specialist status, and appealing for whole-hearted co-operation in fulfilling the promise made to medical officers in the forces that recruitment of civilian practitioners should be maintained on the scale necessary to ensure their release with their respective age and service groups. Nevertheless, demand had continued to outrun supply and there seemed little prospect that the future had anything better to offer. Hence the necessity of seeking some means by which to obviate the almost universal application of the military necessity clause to specialists whenever the release of a further age and service group was authorised. It was therefore decided, perhaps somewhat late in the day, to give official recognition to the self-evident truth that it was impossible in practice to effect the release of specialists on equal terms with general duty officers, the shortage of the former making a slower rate of release imperative no matter what the prescribed time-table. Thus, for the first time, in scheduling forthcoming releases, different age and service groups were specified in respect of G.D.Os. on the one hand and of specialists on the other.

In the light of the foregoing considerations, the Army Medical Directorate prepared a special programme to make available, by the end of February 1946, the additional 2,000 medical officers necessary to complete the total of 5,600 whose release was decreed by the Cabinet's decision of November 8, 1945. This programme, subsequently approved by the Adjutant General and duly carried into effect, was as follows:

General Duty Officers	Groups 25–30	January 1946	823
,, ,, ,,	,, 31–38	February 1946	943
Specialist	,, 25–26	January 1946	208
,,	,, 27	February 1946	107
		TOTAL	2,081

Early in the next year the disappearance of the need for emergency measures and a general improvement in civil medical resources made possible some relaxation of restrictions imposed upon the medical services of the armed forces, and by the end of February it became permissible to proceed with release on the basis of maintaining an overall ratio of 2·5 medical officers per 1,000 total strength of the army.

The distribution of medical officers by age and service groups is shown in Table 5:

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TABLE 5

Scheme of Release from the Army, 1945

Age and Service Group Distribution of Medical Officers

Age and Service Group	Medical Officers			Whole Army
	Eligible for release in group	Cumulative total eligible for release	Cumulative percentage reduction in strength	Cumulative percentage reduction in strength
1	572	572	4·8	0·8
2	Nil			
3	34	606	5·1	0·9
4	54	660	5·5	1·1
5	75	735	6·2	1·2
6	70	805	6·8	1·4
7	106	911	7·6	1·7
8	118	1029	9·6	2·2
9	129	1158	9·8	2·7
10	105	1163	10·6	3·2
11	134	1397	11·7	3·8
12	114	1511	12·7	4·6
13	132	1643	13·8	5·4
14	144	1787	15·0	6·1
15	145	1932	16·2	7·3
16	171	2103	17·7	8·1
17	170	2273	19·1	9·2
18	224	2497	21·0	10·5
19	218	2715	22·8	12·0
20	237	2952	25·0	14·6
21	246	3198	27·0	17·7
22	276	3474	29·2	21·1
23	291	3765	31·7	25·3
24	278	4043	34·0	30·2
25	284	4327	36·5	42·4
26	278	4605	38·8	51·6
27	262	4867	41·0	59·1
28	242	5009	42·1	63·4
29	210	5219	43·8	66·0
30	197	5416	45·4	67·6

Numbers in groups above group 30 bring the total, including regular officers, up to 11,894.

Percentage reduction in strength	Age and service group at which reached	
	Medical Officers	Whole Army
5	3	12
10	10	18
15	14	20
20	18	22
25	20	23
30	23	24
35	25	25
40	27	25
45	30	26
50	33	26
55	36	27
60	40	28
65	43	29

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APPENDIX

MEDICAL MAN-POWER AND ACCOMMODATION IN MEDICAL UNITS*

ALLOCATION OF MEDICAL MAN-POWER—1945

Inter alia the administration may be called on to provide answers to two classes of questions with respect to medical personnel: (*a*) what basis past experience offers for assessing medical man-power requirements in a given situation; (*b*) whether the allocation of medical man-power to the service is excessive *vis-a-vis* the needs of the civil population. It goes without saying that ratios of British Army medical officers to British Army strengths furnish no basis for a satisfactory answer to one or the other. Valid comparison of medical man-power utilisation by an army population such as the British Army during the War of 1939–45 with allocation of medical man-power in a civilian population, and evaluation of medical man-power requirements from experience of a force in a particular theatre alike raise an issue analogous to that of budgeting for bedstates in situations where:

(i) British Army medical units provide accommodation for personnel (other Services, Dominions, Allies and Colonial) other than that of the British Army;

(ii) British Army personnel receive treatment in medical units other than those of the British Army, including E.M.S. hospitals.

The need for design of documents to take account of both these circumstances received recognition at a comparatively late stage in the war; and any change of documentation involves an inescapable time-lag. Therefore basic data for a continuous survey of medical man-power utilisation throughout the war are not in fact available; but an examination of the situation at mid-year 1945 in the light of information supplied by cable *ad hoc* will be serviceable if it bring into focus what information is essential to a proper balance sheet incorporating all the relevant items on the credit and on the debit side of the account, i.e. data with respect to use of British Army M.Os. for treatment of personnel other than British Army, and data with respect to treatment of British Army personnel by medical men not in the service of the British Army. For it is all too easy to forget that appropriate design of a statistical document calls both for intelligent anticipation of questions which may require an answer and for preliminary analysis to clarify what data are essential to their solution. Lack of such preliminary analysis results in the issue of forms which waste the time of those responsible for filling them by specifying redundant items and that of the administration by omitting

* A memorandum prepared by the Directorate of Medical Research and later included in the *Statistical Report on the Health of the Army*, 1943–45. (H.M.S.O., 1948.)

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others which are essential. For any budget of this sort it is necessary to start with a clearly defined statement of the question or questions for which the documents may be called on to furnish an answer. With due regard to qualifications specified below the first question (*a*) formulated above is reducible to the following terms:

> ***On the basis of experience in a given theatre, how many M.Os. would be requisite to deal with the health of a given quota of troops under British Army administration, if such M.Os. were responsible only for British Army personnel and the latter received medical care exclusively from such M.Os.?***

We may call the index so defined the ***medical man-power ratio***, here denoted by the symbol R_{MM}. In contradistinction to the crude ratio of British Army M.Os. to British Army troops, the index R_{MM} constitutes a fair assessment of medical man-power *vis-a-vis* the appropriate population at risk. With due regard to responsibilities undertaken by Army M.Os. over and above those of the civilian practitioner (inspections, medical categorisation, mass immunisation, etc.), it provides a basis for comparison with medical man-power allocation in a civil population of comparable age composition. A first prerequisite to an evaluation of this sort is to draw a distinction between particular situations embraced by a more general case (Case 3) viz:

Case 1. A mixed force of United Kingdom and Dominion or allied troops with common provision for hospitalisation but respectively autonomous with regard to health measures at regimental level, i.e. all R.M.Os. responsible for United Kingdom troops are British Army medical officers and British Army R.M.Os. are responsible only for United Kingdom troops;

Case 2. A mixed force of United Kingdom and indigenous Colonial troops for the care of which British Army medical officers are responsible, i.e. British Army R.M.Os. and administrative officers serve Colonial units as well as hospitals, C.C.S., F.A., etc., accommodating Colonial sick. To make the medical man-power allocation comparable to that of a British Army population at risk, we then have to give consideration to the possibility that the Colonial sick rate is different from that of United Kingdom troops and to make an appropriate adjustment for total numbers of sick with which M.Os. would have to deal if the entire population at risk were personnel of United Kingdom domicile.

It will be easier to appreciate what data are essential for the evaluation of the more general case of a theatre in which United Kingdom, Colonial and Allied or Dominion forces share medical man-power in

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accordance with the conditions implicit in the above, after a preliminary analysis of each of the foregoing. For any such estimates it is necessary to make certain assumptions; and the reliability of the estimates themselves will be greater or less according as such assumptions tally more or less closely with contemporary circumstances. We have first to assume that available figures represent a normal administrative set-up, more especially in so far as the hospital population is representative *vis-a-vis* prevailing local conditions. For simplicity, it will also be convenient to assume that the allocation to Colonial troops of British Army medical officers other than those responsible for domiciliary sick is not primarily affected by different morbidity rates of United Kingdom and Colonial personnel. For simplicity also we may conveniently neglect what proportion of M.Os. may be held on various X lists not actively employed. Within the framework of these assumptions, we can now specify for each of the two elementary cases defined earlier, and for the more general one embracing both, an appropriate schema making explicit the requisite data for the design of a statistical document capable of providing an answer to the question stated in italics above reliable figures were not to hand for all theatres, though it was possible at least to illustrate the use of such information as was available. Since provision of M.Os. must be adequate to deal with peak in contradistinction to mean requirements, an exhaustive factual treatment of the problem should take stock of seasonal fluctuations with respect to sickness (and casualties in general). It is therefore important to emphasise that our data, such as they are, refer only to the specified period of the calendar year. It is also necessary to point out that the estimated numerical value of R_{MM} for a particular theatre depends on the current evacuation policy.

Case 1. For a force consisting of United Kingdom troops and others (Dominion or Allied) autonomous in respect of medical care and administration outside medical units while sharing hospitals, C.C.S., Field Ambulance, etc., the schema is:

	British Army Personnel				Other Personnel
Total Strength British Force	M.Os. in hospitals C.C.S., Fd. Ambs. etc.	R.M.Os. (and Admin.)	Sick in Brit. Army Medical units	Sick in other Medical units	Sick in Brit. Army Medical units
p_b	d_h	d_b	s_b	s_{bo}	s_{ob}

In this framework d_h British Army M.Os. look after $(s_b + s_{ob})$ sick, i.e. the medical man-power allocation per patient is $d_h \div (s_b + s_{ob})$. The

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actual number of British sick is $(s_b + s_{bo})$. If British M.Os. were responsible only for British sick and all British sick received treatment from British officers only, the total requirements for care of sick would therefore be $(s_b + s_{bo}d_h) \div (s_b + s_{ob})$; and the total medical man-power allocation would be:

$$d_t = d_b + [(s_b + s_{bo})d_h \div s_b + s_{ob})]$$

$$\therefore\ R_{MM} = \frac{d_b}{p_b} + \frac{(s_b + s_{bo})\,d_h}{(s_b + s_{ob})\,p_b}$$

Case 2. For a force consisting of United Kingdom and indigenous Colonial troops with United Kingdom R.M.Os. (and administration officers), the schema is as follows:

Total Strengths		United Kingdom Medical Officers		Sick in British Army Medical Units	
United Kingdom	Colonial	In hospitals, C.C.S., etc.	R.M.Os. and Admin.	United Kingdom	Colonial
p_b	p_c	d_h	d_{bc}	s_b	s_c

The population at risk is now $(p_b + p_c)$. We may assume that the allocation of R.M.Os. and administration is not primarily determined by relative morbidity, and we have merely to make an adjustment of the medical officers directly responsible for domiciliary sickness appropriate to current morbidity, measured in this context by the ratio (M_b *or* M_c) of numbers remaining in hospital to total population at risk, i.e.

$$M_b = s_b \div p_b \textit{ and } M_c = s_c \div p_c$$

If a numerically equivalent population at risk were United Kingdom troops, $M_b.s_c \div M_c$ British sick would replace s_c Colonial sick; and our total sick would be:

$$s_b + [M_b s_c \div M_c] = M_b.(p_b + p_c)$$

Hence the requisite number of doctors for care of sick would be: $d_h.M_b(p_b + p_c) \div (s_b + s_c)$ and the total number of M.Os. would be:

$$d_{bc} + [d_h.M_b(p_b + p_c) \div s_b + s_c)]$$

$$\therefore\ R_{MM} = \frac{d_{bc}}{(p_b + p_c)} + \frac{M_b.d_h}{(s_b + s_c)}$$

Case 3. For a force containing both Colonial troops with United Kingdom R.M.Os. and others (Dominon or Allied) with their own R.M.Os. the schema in conformity with symbols for the preceding more special cases which this one embraces, is as follows:

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Brit. Army Medical Officers		Sick in Brit. Hospitals (etc.)				Sick in *other* Hospitals (etc.)		Strengths			Morbidity Ratios*	
R.M.Os. and Admin.	Hospitals, C.C.S., etc.	United Kingdom	Colonial	Others	Total	United Kingdom	Colonial	United Kingdom	Colonial	Total	United Kingdom	Colonial
d_{bc}	d_h	s_b	s_c	s_{ob}	t_b	s_{bo}	s_{co}	p_b	p_c	t_p	$(s_b+s_{bo})\div p_b = M_b$	$(s_c+s_{co})\div p_c = M_c$

* Defined as above, i.e. ratio of numbers remaining in hospital to total population at risk.

As for Case 2 above we may now set against a population at risk taken to be $p_b + p_c = t_p$ medical man-power requirements under these headings:

(i) R.M.Os. etc $= d_{bc}$;
(ii) M.Os. responsible for United Kingdom and Colonial sick.

British Army M.Os. responsible for t_b domiciliary sick are d_h, an allocation per patient of $d_h \div t_b$. The equivalent number of British and Colonial sick with due regard to differential morbidity is:

$$(s_b + s_{bo}) + [M_b(s_c + s_{co}) \div M_c] = M_b.t_p.$$

Hence for (ii) above we have $d_h.M_b.t_p \div t_b$.

$$\therefore R_{MM} = \frac{d_{bc}}{t_p} + \frac{M_b.d_h}{t_b}$$

Each of the three foregoing formulae is the sum of two comparable terms (A + B):

	A	B
1.	$\frac{d_b}{p_b}$	$\frac{(s_b + s_{bo})d_h}{(s_b + s_{ob})p_b}$
2.	$\frac{d_{bc}}{p_b + p_c}$	$\frac{M_b.d_h}{(s_b + s_c)} = \frac{s_b.d_h}{p_b(s_b + s_c)}$
3.	$\frac{d_{bc}}{p_b + p_c}$	$\frac{M_b.d_h}{t_b} = \frac{(s_b + s_{bo})\, d_h}{p_b(s_b + s_c + s_{ob})}$

In conformity with assumptions stated elsewhere, the first term (A) exhibits the number of M.Os. requisite for administrative and R.M.O. treatment of a given quota of troops. The second (B) shows the number

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requisite for domiciliary treatment of sick troops, if M.Os. employed in British hospitals were responsible only for British Army personnel and British troops received domiciliary treatment only in British Army medical units.

MEDICAL MAN-POWER IN UNITED KINGDOM

On the basis of figures for sick made available by the redesign of A.F.W.3180 to take account of the circumstances cited at the conclusion of the opening paragraph above, it is possible to make a precise estimate of medical man-power allocation at mid-1945. From information supplied by the appropriate medical branch (A.M.D.1) figures for different categories of medical personnel were as follows:

Administrative and R.M.Os.

R.M.Os. i.c. troops, excluding 45 Div. and A.A. Comd.	550
Home Field Army	309
45 Div. and A.A. Comd	238
Held and under training	510
Staffs	169
Home Psychiatric Pool	92
Others, excluding seaborne establishments based in United Kingdom	242
Total (d_b) ..	2,110

Medical Units

Military Hospitals	593
Reception Stations (Military)	268
Reception Stations (A.T.S.)	65
Convalescent Depots	43
(d_h) ..	969

The total population at risk as supplied by A. G. (Stats.) was 1,331,263. The relevant figures for sick were:

British Army Sick in Medical units under British Army Administration	(s_b)	24,896
Other sick in medical units under British Army Administration	(s_{ob})	2,544
British Army Sick in other (E.M.S.) units ..	(s_{bo})	38,887

We have no appreciable number of Colonial troops with which to reckon and may therefore regard Case 1 above as the appropriate model. Since $(s_b + s_{bo}) = 63{,}783$ and $(s_b + s_{ob}) = 27{,}440$,

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$$R_{MM} = \frac{2{,}110}{1{,}331{,}263} + \frac{(63{,}783)\,(969)}{(27{,}440)\,(1{,}331{,}263)}$$

$$= 0{\cdot}003277$$

$$= 3{\cdot}28 \text{ per } 1{,}000 \text{ or } 1 \text{ M.O. per } 305 \text{ troops.}$$

If we took no account of the contribution of the E.M.S. to the British Army or of that of British Army M.Os. to other personnel the (crude) ratio would be:

$$\frac{d_b + d_h}{p_b} = \frac{3{,}079}{1{,}331{,}263} = 0{\cdot}0023128$$

$$= 2{\cdot}31 \text{ per } 1{,}000 \text{ or } 1 \text{ M.O. per } 432 \text{ troops.}$$

West Africa

The relevant figures as at July 31, 1945 were:

British Army strength	$6{,}306 = p_b$
Colonial Army strength	$52{,}601 = p_c$
British Army M.Os. in medical units ..	$113 = d_h$
British Army M.Os.-others	$47 = d_{bc}$
British Army sick in British Army Medical Units	$164 = s_b$
Colonial (and other) sick in British Army Medical Units	$1{,}748 = s_c$

The last item is not a firm figure for s_c in the sense defined in the foregoing treatment of Case 2 since it may include a small (but certainly not very significant) proportion of sick other than Colonial troops (e.g. R.N. and R.A.F. personnel). We may disregard 13 cases of British Army personnel in other units. With due regard to these trivial qualifications, we can use the formula cited for Case 2:

$$M_b = s_b \div p_b = 164 \div 6306 = 0{\cdot}026007$$

$$\therefore R_{MM} = \frac{47}{58{,}907} + \frac{(0{\cdot}026007)\,(113)}{1{,}912}$$

$$= 0{\cdot}002335$$

$$= 2{\cdot}34 \text{ per } 1{,}000 \text{ or } 1 \text{ M.O. per } 428 \text{ troops.}$$

The crude ratio of British Army M.Os. to United Kingdom troops is $160 \div 6306 = 0{\cdot}02537$, i.e. 25·37 per 1,000 or 1 M.O. per 39 troops. The ratio of British Army doctors to all troops (United Kingdom and Colonial) calculated without regard to the morbidity differential would be $160 \div 58{,}907 = 0{\cdot}00272$, i.e. 2·72 per 1,000 or 1 M.O. per 368 troops.

A.L.F.S.E.A.

Since the new statistical proforma for monthly hygiene reports had not come into use at mid-year 1945, available information obtained by

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cable concerning the Far Eastern theatre was less satisfactory than such as we had at our disposal with respect to United Kingdom or W. Africa. From such data as were to hand, it appears legitimate to regard A.L.F.S.E.A. as a case on all fours with the preceding if we consider British and Indian Army as a single entity in this context. As will be seen from the following figures for strengths we may disregard without serious error reciprocity between (*a*) British or Indian Army and (*b*) other administration.

British troops (British Army)	..	164,728	
British troops (Indian Army)	..	4,993	
Total British troops (p_b) ..	..		169,721
Indian Army troops ..	..	679,183	
Burma Army troops ..	..	7,234	
Other Colonial troops ..	..	151,535	
Total Colonial (p_c) ..	..		837,952
Grand total, excluding Allies ($p_b + p_c$)			1,007,673
Allies (incl. U.S. ground forces)	..	74,575	

The above refer to July 31, 1945 as do the following for sick:

British Army personnel in medical units under British Army administration 4,008

Other personnel in medical units under British Army administration.. 13,128

For the reason given we can regard the last as exclusively Colonial without serious error. The medical units to which the figures refer are general hospitals, malaria forward treatment units (M.F.T.U.) and convalescent depots inside the A.L.F.S.E.A. boundary. No information was available with respect to British Army sick in hospitals outside the A.L.F.S.E.A. boundary whether under British Army or Indian Army administration. Medical personnel figures refer to a month earlier (June 30, 1945). A rough and ready split of the two broad categories distinguished in the treatment of Case 2 above on the basis of a nominal roll submitted by S.E.A.C. to A.M.D.1 gives:

		R.A.M.C.	*I.A.M.C.*	*Total*
Medical units (d_h)	..	478	691	1,169
Others (d_{bc}) ..	..	169	340	509

The ratio $d_h \div d_{bc} = 2{\cdot}3$ tallies fairly closely with the corresponding figure 2·4 for West Africa. On the basis of these figures we have:

$$M_b = 4{,}008 \div 169{,}721 = 0{\cdot}02362$$

$$\therefore R_{MM} = \frac{509}{1{,}007{,}673} + \frac{0{\cdot}02362\ (1169)}{17{,}136}$$

$$= 0{\cdot}002116$$

$$= 2{\cdot}12 \text{ M.Os. per } 1{,}000 \text{ or } 1 \text{ M.O. per } 472 \text{ troops.}$$

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M.E.F.

The situation in M.E.F. is more complex than the foregoing. We cannot disregard interchange between medical administration of British Army and others. To the extent that we are entitled to disregard certain qualifications mentioned below, and to assume that British Army R.M.Os. are responsible only for British and Colonial (including Indian) troops, the appropriate model is therefore Case 3. It will suffice to cite figures as at July 31, 1945 for the relevant items by their appropriate symbols as specified in the schema given:

M.Os. $d_{bc} = 410$ $d_h = 186$
Sick $t_b = 14{,}052$
Strengths $p_b = 128{,}067$; $p_c = 126{,}257$; $t_p = 254{,}324$;
Morbidity Ratio $M_b = 0{\cdot}02457$

In accordance with the formula cited for Case 3:

$$R_{MM} = \frac{410}{254{,}324} + \frac{0{\cdot}02457\,(186)}{14{,}052}$$

$$= 0{\cdot}001937$$

$= 1{\cdot}94$ M.Os. per 1,000 or 1 M.O. per 516 troops.

The ratio of British Army M.Os. to British troops in this theatre $(d_{bc} + d_h) \div p_b = 0{\cdot}004654$, i.e. 4·65 per 1,000 or 1 M.O. to 215 troops, and the crude ratio of British Army M.Os. to British and Colonial troops not adjusted with respect to differential morbidity $(d_{bc} + d_h) \div t_p = 0{\cdot}002343$, i.e. 2·34 per 1,000 or 1 M.O. per 427 troops.

Information from Statistical Section G.H.Q., M.E.F. was to the effect that; civilians in the M.E., other than those entitled to medical treatment under para. 309 of *Regulations for the Medical Services of the Army* 1938, only receive first aid treatment. The number of such civilians was 243,740, while the number of those fully entitled was insignificant. The number of the former, however, which had in practice become the responsibility of Army medical officers (owing to their being situated where other facilities were not available) was fairly substantial: this number cannot be assessed. It must also be pointed out that Army medical officers were responsible to a large extent for hygiene and supervision of conditions in factories, a very large commitment in the M.E.

Note. The strength figures used in the above are those supplied by A.G. (Stats.). Figures for a month earlier (June 30, 1945) provided by Stats. Section G.H.Q., M.E.F. show.:

$P_b = 159{,}816$; $p_c = 62{,}103$; $t_p = 221{,}919$

How far the discrepancy between the two sets of figures cited is attributable to substantial troop movements we have no certain means of

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deciding. If we take the June strength figures as a basis for calculation, we get:

$R_{MM} = 0{\cdot}00211$
$= 2{\cdot}11$ M.Os. per 1,000 or 1 M.O. per 474 troops.

It is suggestive to tabulate the two terms A and B shown separately on page 249, expressing each as the number of M.Os. per 1,000 troops.

	A	B
United Kingdom ..	1·59	1·69
M.E.F.	1·61	0·33
W.A.	0·80	1·54
A.L.F.S.E.A.	0·51	1·61

In the right hand column only the M.E.F. figures fall out of step, as also in the next table:

Number of Doctors per 1,000 Patients in Medical Units

United Kingdom	35·3	per 1,000	or 1	doctor	per	28	patients
M.E.F.	13·2	,,	,,	,,	,,	76	,,
W.A.	59·1	,,	,,	,,	,,	17	,,
A.L.F.S.E.A.	68·2	,,	,,	,,	,,	15	,,

A possible reason for this is that figures relating to medical strengths, derived from a cable sent by the Stats. Section of that theatre, were defective. Figures for the three other theatres quoted are firm, being drawn from nominal rolls held by A.M.D.1. The detailed specification on the M.E.F. cable was:

Total medically qualified British Army officers

M.I. Rooms	371
Hospitals	186
Administration	39
Total	596

The wording of the cable thus suggested that:

(*a*) dilutees were probably excluded;

(*b*) the heading M.I. Rooms almost certainly included some M.Os. employed in C.R.Ss. etc., and therefore assignable to d_h rather than to d_{bc}.

A.M.D.1 in fact have a figure of 766 for the total M.O. strength of M.E.F. at this time; if this is taken and if the ratio $d_h \div d_{bc}$ be taken as the same as A.L.F.S.E.A. and W. Africa, i.e. 2·3, then we get $d_h = 534$ and $d_{bc} = 232$.

These figures give $R_{MM} = 0{\cdot}00091 + 0{\cdot}00093$
$= 0{\cdot}00184$
$= 1{\cdot}84$ M.Os. per 1,000 or 1 M.O. to 543 troops.

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It will be seen that despite using a larger figure for the total number of doctors, the fact that a higher proportion of them are employed in hospitals enables the M.E.F. to receive full credit for the large numbers of non-British Army sick hospitalised by the R.A.M.C. in that theatre and the resultant R_{MM} is in fact lower.

The foregoing estimates refer to mid-year 1945. Relevant information with respect to basic data other than strengths was not available for C.M.F., E. Africa or B.A.O.R. at that time. The preceding analysis yields the following figures:

	R_{MM}	t_p
United Kingdom	3·28	1,331,263
W. Africa	2·34	58,907
A.L.F.S.E.A.	2·12	1,007,673
M.E.F.	1·94	254,324
C.M.F.	—	473,464
E. Africa	—	158,842
B.A.O.R.	—	750,154
Total		4,034,627

In United Kingdom the R_{MM} was higher than the crude ratio of British Army M.Os. to troops because the debt to E.M.S. exceeded the credit balance with respect to treatment of other personnel. In other theatres the reverse was true. This raises the question: How far did the credit balance in overseas theatres offset the debit in the United Kingdom? The appropriate answer to this would be the average of the separate values of R_{MM} weighted with respect to the proportionate contributions of the separate (t_p) to the entire population at risk. From figures available later in the year, we know that the overall value of R_{MM} for overseas theatres other than A.L.F.S.E.A. (2·1) and W. Africa (2·3) cannot have been greater than 2·0. Thus a rough estimate of the overall value of R_{MM} at mid-year 1945 for all theatres is 2·4 per thousand or 1 M.O. per 417 troops.

Tables 6–11 show the situation at the end of 1945. Figures in the first column of Table 6 based on nominal rolls from commands overseas represent effective working strengths, and these have been used in subsequent calculations in preference to theoretical commitments. At the same time, a more refined breakdown of the man-power budgeting figures for the British Army at home permits the analysis of employment of medical officers into the categories shown in Table 8. Broadly speaking, doctors shown under Empire Base were those concerned with the treatment of troops in the United Kingdom static organisations, whereas the Other group includes M.Os. under training and those working with the Home Field Army and certain special establishments.

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TABLE 6

Strength of Medical Officers by Commands, December 31, 1945

	Nominal Rolls Total	A.M.D. 1 Return		
		Total posted	In transit	Total
B.A.O.R.	987	987	—	987
C.M.F.	731	801	73	874
M.E.F.	723	748	64	812
E. Africa	201	233	9	242
W. Africa	102	128	4	132
Malta	24	22	2	24
Gibraltar	14	15	1	16

TABLE 7

Employment of Medical Officers Abroad, December 31, 1945

	Administration and Consultants	Hygiene and Malaria Control	Regimental Medical Officers	Forward Medical Units*	Casualty Clearing Stations and Reception Stations	Hospitals	P.W. Camps and Hospitals	Trooping and Hospital Ships	Ambulance Trains	Civil Affairs	Medically Non-effective and Unposted Reinforcements	Convalescent Depots	Total
B.A.O.R.	59	27	275	204	14	258	4	—	4	33	17	2	897
C.M.F.	48	37	186	97	25	293	20	9	2	11	3	—	731
M.E.F.	64	32	194	66	18	279	1	12	3	29	20	5	723
E. Africa	12	8	59	12	—	91	1	—	—	13	2	3	201
W. Africa	7	6	12	3	3	70	—	1	—	—	—	—	102
Malta	1	1	9	—	—	13	—	—	—	—	—	—	24
Gibraltar	1	1	2	—	—	10	—	—	—	—	—	—	14

* Includes Field Ambulances, Field Dressing Stations, Field Surgical Units and Forward Treatment Units.

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TABLE 8

Employment of Medical Officers in the United Kingdom, December 31, 1945

I. Empire Base		II. Other	
Staff	131	Training organisation	116
Research	5	Reserve organisation	21
Laboratories	10	Miscellaneous establishments	21
Military hospitals	555	Home field army	72
R.S., C.R.S. and A.T.S. R.S.	323	A.A. Command	1
Home psychiatric pool	60	Held and under training	417
Convalescent depots	34	Seaborne	99
Other	602		
Total	1,720	Total	747

Grand Total — 2,467

TABLE 9

Proportion of Medical Officers Employed in Certain Duties, December 31, 1945

	Hospitals	Field Medical Units	Other Duties	Total
United Kingdom (All)	22·5	13·1	64·4	100·0
United Kingdom (Empire Base only)	32·3	18·8	49·0	100·0
B.A.O.R.	28·8	24·3	46·9	100·0
C.M.F.	40·1	16·7	43·2	100·0
M.E.F.	38·6	11·6	49·8	100·0
E. Africa	45·3	6·0	48·7	100·0
W. Africa	68·6	5·9	25·5	100·0
Malta	54·2	—	45·8	100·0
Gibraltar	71·4	—	28·6	100·0

TABLE 10

Patients per Medical Officer Employed in Certain Units, December 31, 1945

	Hospitals	Field Medical Units and Reception Stations
United Kingdom	13·0	8·5
B.A.O.R.	21·3	8·5
C.M.F.	21·9	6·0
M.E.F.	39·0	15·0
E. Africa	24·8	32·7
W. Africa	13·9	8·5
Malta	14·2	—
Gibraltar	11·7	—

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TABLE 11

Medical Man-power Ratios, December 31, 1945; Medical Officers per 1,000 Troops

Theatre	R_{MM}	Crude ratio with respect to British Troops only	Crude ratio with respect to British and Colonial Troops
B.A.O.R.	1·5	1·6	1·6
C.M.F.	1·9	2·2	2·2
M.E.F.	1·7	4·0	2·3
E. Africa	1·4	16·5	1·7
W. Africa	2·4	22·7	2·2
U.K. (All)	4·2	2·4	—
U.K. (Empire base only)	3·2	1·7	—

The foregoing section sets forth an approximate budget of medical man-power in 1945. The computation of an index appropriate to the allocation of nursing officers to the British Army raises no issues essentially different from those implicit in the build-up of R_{MM}. Since we may safely regard all nurses as employed in medical units holding domiciliary sick, only the second half of the relevant R_{MM} formula is requisite for the presentation of a true bill; but it may be as well to recapitulate the argument. Where British Army hospitals care for non-British Army sick, excluding colonial forces, and some British Army sick receive treatment in other Medical Units, our schema is as below:

In this case n_t nurses care for $s_b + s_{ob}$ patients. The allocation of nurses per patient is therefore $n_t \div (s_b + s_{ob})$. In an autarchical situation there would be $(s_b + s_{bo})$ British sick, who would consequently require $n_t\ (s_b + s_{bo}) \div (s_b + s_{ob})$ nurses for their attention. So the allocation to the total British force would be:

$$\frac{n_t\ (s_b + s_{bo})}{(s_b + s_{ob})\ p_b}$$

Where Colonial sick are involved, we have to adjust our ratio to the situation by estimating what number of sick would require care, if Colonial troops were replaced by British. The argument proceeds as in the case of medical officers, and further recapitulation is unnecessary. By applying these formulae we arrive at the results shown in Table 12. On a patient per officer basis, there are about one-third as many patients per Nursing Officer as per M.O.

All Nursing Officers	Total strength British Troops	British Army Sick: In British Army Medical Units	British Army Sick: In other Medical Units	Other sick: In British Army Medical Units
n_t	p_b	s_b	s_{bo}	s_{ob}

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TABLE 12

Strength and Medical Man-power Ratios with respect to Nursing Officers; December 31, 1945

Theatre	Nursing* Strength	R_{MM} per 1,000 Troops	Patients per Nursing Officer
United Kingdom . .	1,807	4·79	5·0
B.A.O.R. . . .	743	1·18	7·4
C.M.F. . . .	853	1·99	7·5
M.E.F. . . .	783	1·09	13·9
E. Africa . . .	166	0·89	13·6
W. Africa . . .	102	2·41	9·5
Other Theatres . .	3,624		
Total . . .	8,078		

* Includes Civil Affairs and medical non-effectives.

ALLOCATION OF ACCOMMODATION IN MEDICAL UNITS —END OF 1945

The accountancy of what we commonly refer to as the bedstate of the British Army has two facets, in so far as we may be concerned with:

(*a*) the operational issue involved in prescribing the requirements of a changing situation during the build-up of a new theatre;

(*b*) the more straightforward issue of presenting a budget which comprehensively exhibits the various commitments of Army medical administration in a steady state.

The first is as complex as the data relevant to the attainment of equilibrium between accommodation for casualties and casualty rates are various when the total population at risk is rapidly changing, especially because the relevant data are themselves subject to gross variation inherent in the nature of the operation. In this context we are concerned only with the second issue specified above, in so far as:

(*a*) the extent of the commitments of Army medical administration calls for availability of certain basic data;

(*b*) the design of documents which can make it possible to assess the extent of such commitments presupposes that such data are in fact available.

The basic data relevant to either the one or the other became available only as the result of changes in the layout of A.F.W. 3180 for the United Kingdom and the statistical returns of monthly hygiene

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reports, since replaced by A.Fs.W3166–7 for general use in overseas theatres and in the United Kingdom. The essential innovation entailed is a clear-cut specification of:

(*a*) the extent of the commitments of British Army medical administration for personnel other than of the British Army *sensu stricto*.

(*b*) the extent of care for British Army personnel undertaken by medical units *not* under British Army medical administration.

Given the availability of documents which do in fact disclose these data, we can provide a true bill both for beds occupied in British Army medical units by British Army or other personnel and for beds which would be occupied if British Army medical units were responsible only for British Army personnel and British Army personnel received treatment only in such units. The administration can then prescribe the requisite number of beds equipped with due consideration to the appropriate safety margin between equipped beds and beds occupied in a static situation involving specified commitments of British Army administration on the one hand and of medical units not under British Army medical administration on the other. It is beyond the scope of available medical statistics to provide information bearing on what the safety margin should be, except in so far as they can clarify how far any mean figure is subject to variation arising from seasonal, local or operational circumstances, which do not concern us in this preliminary stage of inquiry. Beyond this, there are other pertinent considerations arising *inter alia* from local distribution of units *vis-a-vis* lines of communication.

As emphasised in a previous section on the allocation of medical man-power, it has been impossible in the past to get a clear picture of British Army requirements owing to lack of documentary data in respect of British sick treated by medical units not under British Army administration and other sick (including locally recruited Colonial troops) treated in British Army medical units. For the latter half of 1945, we have such data at our disposal, and it is therefore possible to present a budget of bedstates with due regard to commitments of both kinds. Such a picture presupposes information of three sorts:

(i) What proportion (P_1) of British Army sick are dealt with in British Army medical units?

(ii) What proportion (P_2) of beds occupied in British Army medical units are occupied by British Army patients?

(iii) What proportion (P_3) of occupied beds in British hospitals would still be in use if both outside help and outside commitments vanished?

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The following schema *en rapport* with one employed in a previous treatment of medical man-power displays the relevant data:

Brtiish Army Personnel		Other Personnel
Sick in British Army Medical Units	Sick in other Medical Units	Sick in British Army Medical Units
s_b	s_{bo}	s_{ob}

With these symbols the indices specified above expressed as percentages are more precisely definable thus:

(i) $P_1 = 100 (s_b \div s_b + s_{bo})$
(ii) $P_2 = 100 (s_b \div s_b + s_{ob})$
(iii) $P_3 = 100 (s_b + s_{bo}) \div (s_b + s_{ob}) = 100 (P_2 \div P_1)$.

For simplicity, we here consider a medical unit of the British Army as a clearly defined entity. Unfortunately this is not necessarily so. Two complications arise:

(i) War establishments are so devised that British military hospitals of a given size may be expanded by grafting on 'extensions' of so many beds. Such extensions may be added specifically to deal with personnel other than British Army, but are not necessarily staffed by R.A.M.C. personnel alone. Thus a British general hospital in M.E.F. may be equipped for British Army cases with two extension wings, one staffed by R.A.M.C. to deal with British Africans, and the other dealing with prisoners-of-war staffed by prisoners-of-war and calling on the R.A.M.C. solely for administration and specialist consultation;

(ii) In the Far East most hospitals at the end of 1945 were combined general hospitals operated jointly by R.A.M.C. and I.M.S. Although beds in such hospitals are equipped for fixed numbers of British and Indian troops, the numbers of R.A.M.C. and I.M.S. officers were not as a rule in the same proportion as the numbers of patients assignable to the British Army and the Indian Army.

For unavoidable reasons inherent in the paucity of documentary data, figures available for what follows specify foreign extensions in M.E.F. as British, but place combined general hospitals in A.L.F.S.E.A. among others. This apparent inconsistency arises from a defective method of submitting available figures; but does not seriously affect the main argument. Tables 13–17 summarise the bedstate situation in different types of medical units in all parts of the world except India as at December 31, 1945.

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SUMMARY

The salient features of the tables accompanying this section are as follows:

(*a*) In all overseas commands except A.L.F.S.E.A. and N. Caribbean Area on December 31, 1945, more than 95 per cent. of hospitalised British Army sick received treatment in British Army hospitals.

TABLE 13

Beds Equipped by the R.A.M.C.; all Countries except India; December 31, 1945

	Hospitals	Convalescent Depots	Other Units
B.A.O.R.	11,700		4,988
M.E.F.	18,013(1)	1,970	4,123
C.M.F.	10,870	100	1,829
A.L.F.S.E.A.	1,800(2)		
E. Africa	6,887	99	739
W. Africa	2,350	—	90
Gibraltar	600	—	—
Malta	625(3)	—	25
N. Caribbean	137	—	60
A.L.F. Norway	—	—	15
Bermuda	38	—	2
S. Africa	1,032	216	—
S. Caribbean(4)			
Total Overseas (Excl. India and S. Caribbean)	54,052	2,385	11,871
United Kingdom	14,871	12,735	9,926
World Total	68,923	15,120	21,797

(1) Includes beds under the control of D.M.S., M.E.F., equipped for African, Polish and Greek Troops, T.J.F.F. and Prisoners-of-war. These are not wholly staffed by R.A.M.C.

(2) British General Hospitals only. Combined General Hospitals, though partially staffed by R.A.M.C., are counted as "other" hospitals herein.

(3) Includes 25 equipped for military families.

(4) Figures not available.

Less than (in most commands far less than) 90 per cent. of beds occupied would be in use if British Army hospitals exclusively treated their own sick, and British Army sick were exclusively treated in British Army hospitals. In M.E.F. and C.M.F. the number of occupied beds would be respectively reduced to 25 per cent. and 75 per cent. if there were no external and internal commitments.

(*b*) In A.L.F.S.E.A., less than 30 per cent. of British Army sick received treatment in R.A.M.C. hospitals; but the net effect of external and internal commitments is impossible to assess on the basis of extant documentation because of the existence of combined general hospitals.

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(*c*) In the United Kingdom about one quarter of British Army sick received treatment in military hospitals, the remainder almost entirely in E.M.S. hospitals. But for the latter it would have been necessary for military hospitals to find accommodation for over three times as many sick as in fact occupied beds therein.

(*d*) About 45 per cent. of all British Army hospitalised sick were accommodated in R.A.M.C. hospitals. If external and internal

TABLE 14

***British Army Bedstate; all Countries except India; Hospitals as at December* 31, 1945**

	British Army sick		Other sick			
	In R.A.M.C. Hospitals (S_b)	In Other Hospitals (S_{bo})	In R.A.M.C. Hospitals (S_{ob})	P_1	P_2	P_3
B.A.O.R.	4,761	129	729	97·4	86·7	89·0
M.E.F.	2,630	27	8,249	99·0	24·2	24·4
C.M.F.	4,761	4	1,659	99·9	74·2	74·3
A.L.F.S.E.A.	942	2,351	40	28·6	95·9	335·3
E. Africa	151	—	2,110	100·0	6·7	6·7
W. Africa	105	—	867	100·0	10·8	10·8
Gibraltar	57	—	60	100·0	48·7	48·7
Malta	57	1	127	98·3	31·0	31·5
N. Caribbean	32	10	81	76·2	28·3	37·1
S. Caribbean						
A.L.F. Norway	—	—	—			
L.F. Hong Kong	—	137	—			
Bermuda			3	—	—	—
St. Helena	3	—	—	—	—	—
S. Africa	382	19	312	95·3	55·0	57·7
Total Overseas (excl. India & S. Caribbean)	13,881	2,678	14,237	83·8	49·4	58·9
United Kingdom	7,166	22,766	1,858	23·9	79·4	331·7
World Total	21,047	25,444	16,095	45·3	56·7	125·2

commitments ceased to exist, the number of occupied beds would have been 25 per cent. greater. For overseas commands as a whole it would have been 40 per cent. less. This difference largely arises from the contribution of the E.M.S.

(*e*) The proportion of British Army convalescents in R.A.M.C. convalescent depots under overseas commands was about 55 per cent., in the United Kingdom 70 per cent. If all British Army convalescents received treatment in R.A.M.C. units which themselves took in no other convalescents, the beds occupied would increase by about 30 per cent. overseas and 40 per cent. for the Army as a whole.

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TABLE 15

Non-British Army Sick in R.A.M.C. Hospitals Overseas (excluding India) as at December 31, 1945

	Soldiers' Families	Locally Enlisted and Colonial Troops	Indian Army	R.N. and R.A.F.	Others	Total
B.A.O.R.[1] . . .						(729)
M.E.F.[2] . . .	—	2,258	2,038	947	3,006	8,249
C.M.F. . . .	8	446	198	425	582	1,659
A.L.F.S.E.A. . .	—	—	2	—	38	40
E. Africa . . .	—	1,982	—	32	96	2,110
W. Africa . . .	—	832	—	25	10	867
Gibraltar . . .	—	—	—	39	21	60
Malta. . . .	10	39	—	48	30	127
N. Caribbean . .	—	50	—	31	—	81
Bermuda . . .	—	2	—	—	1	3
S. Africa . . .	—	4	24	169	115	312
Total (excl. B.A.O.R.)	18	5,613	2,262	1,716	3,899	13,508
Total (excl. B.A.O.R.) as %	0·1	41·6	16·7	12·7	28·9	100

(1) Figures not available. (2) Estimated from December admissions.

TABLE 16

British Army Bedstate; all Countries except India; Units other than Hospitals as at December 31, 1945

I. Convalescent Depots

	British Army Sick		Other Sick	P_1	P_2	P_3
	In R.A.M.C. convalescent depots	In B.R.C.S. and other convalescent homes	In R.A.M.C. convalescent depots			
1. All Overseas Commands	524	404	181	56·5	74·3	131·5
2. United Kingdom	7,477	3,104	21	70·7	99·7	141·1
3. World Total .	8,001	3,508	202	69·5	97·5	140·3

II. Other Medical Units (C.R.S., C.C.S., etc.)

	British Army Sick		Other Sick	P_1	P_2	P_3
	In R.A.M.C. Units	In other Units	In R.A.M.C. Units			
1. All Overseas Commands	2,761	269	1,706	91·1	61·8	67·8
2. United Kingdom	2,735	6	342	99·8	88·9	89·1
3. World Total .	5,496	275	2,048	95·2	72·9	76·5

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(*f*) Over 90 per cent. of British sick in lower medical units (reception stations, etc.) in overseas commands as a whole and in the United Kingdom received R.A.M.C. treatment; but such sick constituted less than 65 per cent. of all sick in these units overseas and less than 90 per cent. at home. Thus, beds occupied in all R.A.M.C. units at this level would have been 25 per cent. less if there had been no external or internal commitments.

TABLE 17

British Army Bedstate; all Countries except India; all Medical Units as at December 31, 1945

	British Army Sick		Other Sick	P_1	P_2	P_3
	In R.A.M.C. units	In other units	In R.A.M.C. units			
1. All Overseas Commands	17,166	3,351	16,124	83·7	51·6	61·6
2. United Kingdom	17,378	25,876	2,221	40·2	88·7	220·7
3. World Total .	34,544	29,227	18,345	54·2	65·3	120·6

REQUIREMENTS OF DENTAL MAN-POWER*

This section is the outcome of an inquiry undertaken at the request of the Director, Army Dental Service, to provide answers to the following questions:

(i) How many recruits should be allotted to one dental officer to ensure that 100 per cent. of recruits are rendered dentally fit during their first 3½–4 months' service; and what would be the effect of taking as the target 75 per cent. dental fitness ?

(ii) How many trained soldiers overseas should be allotted to one dental officer to ensure that 75 per cent. of them remain dentally fit; and what would be the effect of taking as the target 50 per cent. dental fitness ?

(iii) How many trained soldiers in the United Kingdom should be allotted to one dental officer to ensure that 75 per cent. of them remain dentally fit; and what would be the effect of taking as the target 50 per cent. dental fitness ?

Basic data to hand for this purpose come from returns of inspections of recruits at entry, made to the Director, Army Dental Service, as also of recruits after 3½–4 months' service, and trained soldiers in the United Kingdom, C.M.F., and M.E.F. Among other information recorded is the number of visits required to make the soldier dentally fit. The number of troops per dental officer in the different groups is also available.

* A memorandum prepared by the Directorate of Medical Research and later included in the Statistical Report on the Health of the Army 1943–45 (H.M.S.O. 1948.)

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We have thus two relevant classes of variables:

(*a*) Relative strengths of dental officers;
(*b*) Relative frequencies of cases requiring 0, 1, 2, etc., visits to complete treatment.

REQUIREMENTS FOR RECRUITS

The questions we here ask are:

How many recruits should be allotted to one dental officer to ensure that 100 per cent. of recruits are made dentally fit during their first three and a half to four months' service? What would be the effect of lowering the target to 75 per cent. or some proportion between 75 per cent. and 100 per cent.?

The returns mentioned show that 4·8 per cent. are dentally fit (i.e. require no treatment) on the first inspection after enlistment. For calculating the number of visits, it is assumed that men who require 2–3 need 2½ on the average and those who require 4 or more need 5. In addition, every man has been allotted ⅓ of a visit, to allow for the preliminary inspection. The analysis of a sample of 987 recruits throughout the United Kingdom is then as follows:

	Recruits		No. of visits required per 100 men.
	No.	per cent.	
Fit (0·3 visit)	47	4·8	1·6
1 visit (1·3) .	211	21·4	28·5
2-3 visits (2·83)	462	46·8	132·6
4 or more (5·3)	267	27·0	144·0
	987	100·0	306·7

On the average these men serve about three and a half months before they complete their training as recruits. Normal deterioration of teeth during this period may reasonably be assumed to account for about 10–20 more visits per 100 men. Thus an adjusted figure of 320 visits per 100 men will be close to the mark.

Analysis of recruits (not the same group, but a similar one) at the end of their training yields the following figures:

	Completed Training		No. of visits required per 100 men
	No.	per cent.	
0 visits . .	528	52·4	—
1 visit .	346	34·3	34·3
2-3 visits .	98	9·7	24·2
4 or more .	36	3·6	18·0
	1,008	100·0	76·5

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The number of visits is calculated as before, without the 33·3 per cent. allowance for the preliminary inspection. The operative scale of dental officers for recruits is 1 per 720 recruits p.a. Presumably therefore a group of 720 recruits will require $7{\cdot}2 \times 320 = 2{,}304$ visits, the number assumed under the scale in force to occupy the time of one dental officer. Of this programme he completes $2{,}304-(7{\cdot}2 \times 76{\cdot}5) = 1{,}753$, leaving 551 undone. Thus the scale required to secure 100 per cent. fitness is therefore $720 \times \frac{1{,}753}{2{,}304} = 548$ men per dental officer.

This estimate takes no stock of the fact that figures for home commands differ materially. A similar calculation carried out for the separate commands yields the following:

	Command				
	Western	Southern	Eastern	Northern	Scottish
RECRUITS AT 1ST INSPECTION—					
Per cent. needing 0 visits	1·0	5·7	11·7	2·5	2·9
Ditto 1 visit	8·8	26·3	34·0	16·6	21·1
Ditto 2-3 visits	51·3	44·3	41·6	50·8	46·1
Ditto 4 or more visits	38·9	23·7	12·7	30·1	29·9
	100·0	100·0	100·0	100·0	100·0
No. of visits required per 100 recruits	364·8	288·9	234·8	327·4	319·2
Adjusted No. of visits	380	305	250	340	335
AT END OF RECRUITS' TRAINING—					
Per cent. needing 0 visits	44·9	46·0	55·5	55·0	61·2
Ditto 1 visit	34·1	42·4	29·0	33·0	33·2
Ditto 2-3 visits	13·1	11·6	11·0	9·0	3·6
Ditto 4 or more visits	7·9	—	4·5	3·0	2·0
	100·0	100·0	100·0	100·0	100·0
No. of visits	106·4	71·4	79·0	70·5	52·2
No. of recruits p.a. per dentist to ensure 100 per cent. fitness	519	552	492	572	608

For practical purposes great refinement of computation is not essential. It thus seems legitimate to regard 1 dental officer to 550 recruits p.a. as a number suitable if the end in view is to ensure that 100 per cent. of the recruits are dentally fit when they have finished training. This is the answer to the first part of the question stated at the beginning of this section; but the figures available bear on another issue. Though a scale of 1 dental officer to 720 recruits p.a. ensures that only 52 per cent. of the recruits are dentally fit by the end of the training period, the full value of the work done by the dentist is masked by this index, since it gives no weight to a very substantial improvement of the dental health of the remaining 48 per cent.

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A satisfactory answer to the second part of the question cited at the beginning of this section is more difficult to obtain; but the following considerations justify an approximate estimate:

(*a*) Since there is far less difference between the different commands at the end than at the beginning of training, it looks as if dental officers work off the worst cases first;

(*b*) We may assume that it will be harder to ensure dental fitness of the terminal 5 per cent. (i.e. from 95 per cent. to 100 per cent.) than that of the initial (i.e. from 52 per cent. to 57 per cent.). These two considerations guide us in calculating interpolated figures, viz.:

Target percentage fit	Scale of Dental Officers
52	1 to 720 recruits p.a.
65	1 to 670 ,, ,,
75	1 to 630 ,, ,,
80	1 to 610 ,, ,,
85	1 to 590 ,, ,,
90	1 to 575 ,, ,,
95	1 to 560 ,, ,,
100	1 to 550 ,, ,,

REQUIREMENTS FOR TRAINED SOLDIERS OVERSEAS

The questions we here ask are:

How many trained soldiers overseas should be allotted to one dental officer to ensure that 75 *per cent. of trained soldiers stay dentally fit? What would be the effect of lowering the target to* 50 *per cent. or some proportion between* 50 *per cent. and* 75 *per cent.?*

For this purpose C.M.F. and M.E.F. were chosen as two representative forces, in which most of the troops had seen long continuous overseas service. The operative scales of dental officers in these two theatres were respectively 1 to 2,600 and 1 to 1,500. For purposes of computation, we have to subdivide our mean figures, and shall here suppose that dental states may be subdivided thus: (*a*) those recorded as needing 0 visits include at one extreme the minute proportion absolutely fit, and at the other borderline cases whose requirements we may assign as ½ a visit; (*b*) those recorded as needing one visit include those to which we assign at one extreme ½ a visit and at the other 1½ visits; (*c*) those needing 2–3 visits include those to which we assign from 1½ to 3½; (*d*) those needing 4 or more visits include those to which we assign more than 3½.

Proceeding in this way, we replace the cruder classification adopted in the returns by a more refined grading, and can then tabulate the numbers of soldiers in percentages requiring visits up to any

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chosen number, as shown in the first three columns of the following table:

No. of Visits (n) (1)	Percentage requiring n visits or less (C.M.F.) (2)	Percentage requiring n visits or less (M.E.F.) (3)	C.M.F. percentages adjusted to M.E.F. scale (4)
0·0	0	0	0
0·25	23	25	25
0·5	36	41	41
0·75	48	55	54
1·0	58	67	65
1·25	67	73	74
1·5	74	79	79
1·75	78	83	82
2·0	81	86	84
2·5	84	88	88
3·0	88	91	92
3·5	92	93	93
4·0	93	94	95
5·0	95	96	96

The figure in column 4 corresponding to *n* in column 1 is the figure derived from column 2 (by interpolation if necessary) corresponding to $1{\cdot}2 \times n$ in column 1. Thus, to find the figure in column 4 corresponding to 2·5 visits, we multiply 2·5 by 1·2, getting 3; against 3 in column 1 we find 88 in column 2, which is accordingly entered against 2·5 in column 4. The operation is the same as drawing the graph of column 2 against column 1 and reducing the horizontal scale in the ratio of 1 to 1·2. The correspondence between columns 3 and 4 is very striking; and though reached by a procedure which is not self-explanatory, has a simple meaning, viz. in the longer intervals between visits in C.M.F. dental condition has deteriorated approximately 1·2 times as much as in the shorter intervals in M.E.F., and this is equally true for groups of men whose condition naturally deteriorated rapidly and for those whose condition deteriorated slowly.

In dealing with the third question, below, we shall see that this fact is not so obvious as might appear. It is important for our present purpose because it enables us to predict with some confidence the result of altering the scale of dentists. For it implies that the extent of dental deterioration depends in the simplest possible way on two factors which are independent:

(*a*) peculiar to the man himself;
(*b*) depending on the average amount of dental officer's time available for each man.

With M.E.F. (1 dental officer to 1,500 men) as our standard, we take (*b*) as 1, and for C.M.F. (1 dental officer to 2,600 men) it is 1·2. We may estimate factor (*b*) according to the table* on following page:

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Scale of Dental Officers (1)	Factor (*b*) (2)
1 to 480	0·00
1 to 500	0·06
1 to 550	0·18
1 to 600	0·29
1 to 700	0·46
1 to 800	0·59
1 to 900	0·69
1 to 1,000	0·76
1 to 1,500	1·00
1 to 2,000	1·12
1 to 2,600	1·20
1 to 3,000	1·24
1 to 5,000	1·33

* For a note on the method used see below.

For our present purpose we may combine the content of the last two tables of the text by reversing the procedure employed to derive column 4 of the last table but one from column 2, i.e. by entering against *n* in column 1 values in column 2 corresponding to 1·2 *n* to get what C.M.F. percentage requirements would be if C.M.F. had as many dental officers per unit strength as M.E.F. If we multiply the figures in column 1 by any one of the numerical values of factor (*b*) set out in the subsequent table, we can obtain a new set of values for column 1 of the previous one, and hence percentages of men needing a given number of visits for a given scale of dental officers corresponding to a particular value of factor (*b*). One example will suffice. For a scale of 1 dental officer per 3,000 troops the last table cites (*b*) as 1·24. The previous table shows 83 per cent. troops in column 3 against 1·75 visits in column 1. Accordingly, we derive the figure $1{\cdot}75 \times 1{\cdot}24 = 2{\cdot}17$ for the maximum number of visits which 83 per cent. of the men require. Given a standard of dental fitness, here taken as consistent with a number of requisite visits not exceeding 0·5, we can then determine the scale of dental officers appropriate to a given level, e.g. 50 per cent. or 75 per cent. dental fitness, as below:

Target percentage fit	Scale of Dental Officers
50	1 to 989, or, say, 1,000
55	1 to 880, or, say, 900
60	1 to 798, or, say, 800
65	1 to 746, or, say, 750
70	1 to 689, or, say, 700
75	1 to 646, or, say, 650

REQUIREMENTS FOR TRAINED SOLDIERS IN UNITED KINGDOM

We have now to ask:

How many trained soldiers in the United Kingdom should be allotted to one dental officer to ensure that 75 per cent. of them stay dentally fit?

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What would be the effect of lowering the target to 50 per cent. or some proportion between 50 per cent. and 75 per cent.?

At home the operative scale of dental officers was 1 to 1,400 and the following table shows the proportions of men requiring different numbers of visits:

Percentage of men requiring n visits or less

No. of Visits (n)	5 Home Commands	'Best' Home Command	'Worst' Home Command
0·0	0	0	0
0·25	19	27	11
0·5	35	43	22
0·75	45	56	32
1·0	54	67	41
1·25	62	76	49
1·5	68	83	57
1·75	73	87	63
2·0	77	89	68
2·5	81	92	79
3·0	86	95	87
3·5	89	97	94
4·0	93	98	98

As compared with the simple relationship between C.M.F. and M.E.F. these results are anomalous, but the 'best' home command accords well with what we should expect on the basis of arguments outlined above. Agreement with respect to 'worst' home command and the '5 home commands' is very crude; and the 'worst' excels the average if we confine our attention to men who need higher numbers of visits, a feature compensated by anomalies in the other three commands. With such information as we have at our disposal, we have to make the best use we can of the same methods as before with due regard to the fact that special circumstances operated at home. For instance, there was a larger proportion of older and/or low medical category men; and there had been concentration of dental work on behalf of 21 Army Group. The 75 per cent. fitness target for the 5 commands falls between 1·75 and 2 visits. Thus the value of 'n' needs to be reduced in the proportion of $\frac{0{\cdot}5}{1{\cdot}875} = 0{\cdot}27$. This yields a scale of 1 dentist to 590 trained soldiers. The corresponding figures for the 'best' and 'worst' commands are 1 dentist to 667 and 564 respectively. We may thus take 1 to 600 as a reasonable figure. In the light of the answer given above, the following figures may be cited as the most plausible answer available for the second part of the question we are considering.

Since the end in view was to furnish answers to administrative questions, the arguments are intentionally brief. It is fitting, however, to be more explicit on certain assumptions. Thus the observed figures serve

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Target percentage fit	Scale of Dental Officers
50	1 to 900
55	1 to 800
60	1 to 750
65	1 to 700
70	1 to 650
75	1 to 600

to fix only the two values of factor (*b*) corresponding to dental scales of 1 : 1,500 and 1 : 2,600; and it is therefore proper to ask with what justification we may legitimately extrapolate therefrom. Clearly, there must be some level at which factor (*b*) drops to zero, and in taking this as the one which corresponds to the 1 : 480 scale we proceed in conformity with a straight line fit for the reciprocal of factor (*b*). That the outcome is reasonable follows from the figures relating to recruits. For the range relevant to the questions posed at the outset, more refined mathematical treatment is of trivial value.

Summary

With due regard to limitations stated, the conclusions derived from the foregoing examination are:

(*a*) If the target is 100 per cent. fitness by the end of a training period of three and a half months, a scale of about 550 trainees p.a. per dental officer is necessary in the United Kingdom. To ensure 75 per cent. fitness the requisite scale is about 630 trainees p.a. per dental officer. One dental officer to 720 trainees p.a. barely suffices to ensure a 50 per cent. standard. A more generous scale might prove to be necessary in an army composed mainly of volunteers.

(*b*) For trained soldiers in the United Kingdom, one dental officer per 900 ensures 50 per cent. fitness, and one dentist per 600 is necessary if the target is 75 per cent.

(*c*) To maintain the 50 per cent. standard overseas the scale is 1 per 1,000. If the target is 75 per cent. fitness, it is 1 dentist to 650 men.

REFERENCES

[1] A.C.I. 574 of 1939 dated August 30, 1939.
[2] Report of Committee on the Medical Branches of the Defence Services, 1933.
[3] A.O. 205 of 1943, dated November 1943 and A.C.I. 1814 of 1943, dated December 11, 1943.
[4] Army Order 199 of 1939, dated October 17, 1939.
[5] A.C.I. 1129 of 1941, dated July 5, 1941.
[6] A.O. 90 of 1942 and A.C.I. 1377 of 1942, dated July 1, 1942
[7] Army Order 45 of 1943.
[8] A.C.I. 625 of 1939 dated September 21, 1939.
[9] A.C.I. 249 of 1940 dated March 20, 1940.
[10] A.C.I. 1300 of 1940 dated October 30, 1940.
[11] A.C.I. 1773 of 1943 dated December 4, 1943.
[12] A.C.Is. 1774 and 1775 of 1943 dated December 4, 1943.

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CHAPTER 10

TRAINING

TRAINING OF OFFICERS: PRELIMINARY

THAT the civilian recruited for service with the armed forces cannot become an efficient fighting man without adequate military training is axiomatic. It is no less true, if perhaps not so obvious, that the medical man transferred from his civil occupation, be it in hospital, in a specialty or in general practice, and appointed to a commission in the Army Medical Services finds himself placed in circumstances for which his previous experience has afforded him little or no preparation and called upon to undertake functions and to exercise authority, entirely beyond his cognisance. He is in need of initiation and training if he is to assume his responsibilities with confidence and success. It was for this reason that, in peace-time, entrants to the R.A.M.C. as lieutenants on probation spent the first six months of their service under instruction at the R.A.M. College where three months were devoted to the study of medicine from the military aspect, and at the R.A.M.C. Depot where another three months were occupied by training in military organisation and administration.

In the early stages of the war the situation was not such as to permit the systematic training of officers appointed to emergency commissions in the R.A.M.C. Throughout the United Kingdom, medical units, already in need of staff to replace those withdrawn for the mobilisation of the expeditionary force, were in process of reorganisation and expansion to meet war conditions; everywhere new units of various kinds were being raised, and training centres were springing up in all directions. The demand for medical officers was therefore great and urgent; no time could be spared for the training of newly commissioned practitioners in whom professional capacity rather than military knowledge was, for the moment, the primary consideration. In any case, the number at that time joining the R.A.M.C. was very much larger than could be dealt with under the then-existing arrangements for the training of new entrants to the Corps. Thus it was that most medical men on receiving their commissions found themselves at once posted either to medical units, such as military hospitals and medical reception stations, or to combatant units and training centres, in medical charge of effective troops, there to acquaint themselves with military custom and procedure as best they might. True, a certain number of medical officers on first appointment were posted to the R.A.M. College or to the R.A.M.C. Depot, but less with the object of their undergoing

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training than of forming concentrations of reinforcements available for reposting at short notice as circumstances required. While there they attended lectures and demonstrations in subjects of particular application to the Army Medical Services, such as military hygiene, but as the period of their stay was usually short and always uncertain, little systematic instruction could be attempted. At a later date when training had become organised, an endeavour was made to ensure that all these officers, or such of them as were still in the United Kingdom, received a course of preliminary military training at one of the R.A.M.C. training establishments.

The officers' wing of the R.A.M.C. Depot at Aldershot continued to function after the outbreak of war, but, intended and constituted to deal with the normal peace-time entry to the Corps, it was incapable of undertaking the training of the large number of officers now being recruited. Moreover, the circumstances of war imposed many changes in the scope and nature of the work undertaken by the depot, of which the officers' wing was but a small part. It was greatly expanded and largely reorganised in order to fulfil its primary commitment in connexion with the training of a vastly increased flow of recruits derived from the periodic army intakes called up under the provisions of the Military Service (Armed Forces) Act. The officers' wing suffered somewhat in the process, and, owing to the concentration of attention upon other and more urgent matters, it had become somewhat ill-defined in organisation and function. It had in fact ceased to exist as a separate entity. No buildings were available for its accommodation; it lacked direction and there was no staff to take charge of its activities. Such teaching as was given devolved upon company officers and instructors already fully occupied in other directions within the depot. Nevertheless, a course of instruction to cover a period of two weeks was devised to meet the requirements of newly commissioned medical officers; it comprised drill, physical training, military law and administration, hygiene, field medical duties, stretcher exercises, map-reading, and anti-gas precautions. There were, however, several factors which precluded effective training. In the first place, the entry of officers to the Corps was not arranged on a basis of regular or scheduled intake as in the case of other ranks R.A.M.C. Newly joined officers arrived singly or in batches almost daily; consecutive teaching was therefore impossible. Secondly, there was no certainty that officers would remain long enough to complete even this short course of instruction, for they were liable to be posted away on temporary or permanent duty at any moment; training was thus subject to interruption or sudden termination. Lastly, the shortage of instructors made it impossible to adhere closely to the prescribed programme. Instructors were often rendered unavailable at short notice, or even without notice, owing to other calls

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elsewhere. Indeed, it was not by any means unknown for classes to assemble only to find that there was no one present to teach them.

This somewhat haphazard state of affairs continued until the end of March 1940, when an officer was appointed to the depot, now redesignated No. 1 Depot and Training Establishment, R.A.M.C., in the capacity of chief instructor to the officers' wing. His first task was to reorganise facilities for the training of officers and to re-establish the wing on a self-contained basis. Within the succeeding few weeks, offices, clerical staff, lecture rooms and a model-room were allotted for its exclusive use; the programme of training was entirely revised and a new syllabus prepared to provide a course of two weeks' instruction, the first of which included essential matter of general application, and the second, subjects of a more technical and special nature. It was not, however, found possible at the same time to eliminate the administrative features that hitherto had proved so inimical to systematic instruction. Officers still arrived at any time and in varying numbers; the length of their stay was as uncertain as ever; and calls upon officers under training, mainly in connexion with trooping duties, were no less frequent than before. In an attempt to overcome these difficulties, the syllabus was arranged in such a way that, instead of being subject to the usual system of progressive teaching, each day's work consisting of seven periods of fifty minutes each, it formed, as it were, an instructional unit complete in itself and independent of the matter taught on the days preceding or following. Thus an officer could begin his training on any day of the week and, after attending all six days of the first, and elementary, half of the course, could similarly pass on at any time to the more advanced subjects included in the second half. On completion of two weeks' instruction, and pending posting, officers were attached, as supernumerary, to one or other of the companies in the depot for instruction in regimental duties.

Towards the end of May 1940, by which time the number of officers attending the officers' wing was rapidly increasing, some ninety-five joining during that month, the course was extended and the syllabus revised to cover three weeks in all. Shortly afterwards arrangements were made to include two days' teaching at the Army School of Hygiene during the third week of the course. These innovations were designed to place the preliminary military training of newly joined officers on a sound practical basis and to afford a comprehensive, if all too short, introduction to the duties and responsibilities they would be required to undertake either as members of field medical units or as regimental medical officers. Such was the intention and such would have been the immediate result but for the course of military events which at this time led to a crisis that directly or indirectly upset all arrangements in this regard. The evacuation of the expeditionary force from France

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occasioned the withdrawal, for special duty in that connexion, of nearly half the officers attending the current course of instruction. Thereafter, the threat of invasion called for the concentration of effort upon the defence of the United Kingdom. In common with other units of every kind, operational and static, the depot was required to furnish large parties of troops for the construction of defence works in the neighbourhood and the services of all available officers, instructors and instructed alike, were required for this purpose. Throughout the summer of 1940 facilities for training at the officers' wing were seriously curtailed and disorganised by operational considerations, a matter of less significance than it might seem because the number of officers available to attend courses of instruction at that time was but a small fraction of the usual intake.

In the following October, with the re-establishment of a relatively normal state of affairs, certain recommendations were put forward with the object of improving the standing arrangements for the preliminary training of medical officers. These, it was suggested, would, if adopted, prove conducive to a saving of time and the attainment of a higher standard of efficiency both in administration and in training. From the administrative aspect it was urged, in the first place, that the existing system, whereby officers joined at any time, rendered organisation difficult and progressive instruction impossible; one day of the week should be fixed as the day for joining the course and the programme of training arranged accordingly. Secondly, it was desirable that longer notice of joining should be given to medical practitioners selected for commissions; the two or three days' warning which they usually received was insufficient to allow their completing their private arrangements, and in some cases no intimation was forthcoming until after the date specified for their arrival at the depot. Thirdly, as a matter of personal convenience, practitioners about to be commissioned should be informed as to the type and pattern of the uniform they were required to obtain, for there was considerable confusion in the minds of many, who were thus at the mercy of their tailors, often equally uninformed, with results that were not always entirely happy; battle-dress was obtainable at the time of joining the depot, and other uniform could be ordered after arrival. As regards the training programme itself, it was contended that the two days then allotted for attendance at the Army School of Hygiene sufficed only for the most cursory instruction; the period should be extended to not less than a week in order to afford time for more detailed study of the subject matter essential in even the most elementary course in military hygiene.

As a result of these representations, arrangements were made whereby all entrants joined on the same day of the week, Thursday. It was held that the notice of joining given to medical practitioners on appointment

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to commissions was as long as was feasible, especially in view of the fact that they were required to hold themselves in readiness as soon as they had been passed medically fit for military service. The suggestions made in regard to uniform were adopted and put into practice, but the recommendation for extending the time allotted to instruction at the Army School of Hygiene, although regarded favourably, was considered impracticable since, in the circumstances of the moment, the urgent need for medical officers precluded any lengthening of the period of training.

The adoption, in November 1940, of a specified day for the arrival of the weekly intake greatly simplified administrative procedure and so afforded some relief to an overburdened instructional staff. Under the new arrangements all officers were interviewed by the chief instructor on the day of joining, Thursday; during the following day, Friday, they were equipped and given some introductory directions; next day, Saturday, they completed their personal documents, they were photographed for the purposes of identity papers, and they underwent medical examination, vaccination, and inoculation; Sunday was prescribed as a rest-day in which to overcome the effects of T.A.B. inoculation. All preparations having been dispatched by the week-end, training began on the following Monday unimpeded by other considerations.

It may be said that by the end of the year 1940 the preliminary military training of officers appointed to emergency commissions in the R.A.M.C. had been thoroughly organised. Fortuitous methods had given place to an established system. Whereas, initially, only a small proportion of new entrants could be afforded the advantages of a course of instruction, it was now the accepted rule that all medical practitioners on being appointed were in the first instance posted to a R.A.M.C. depot for military training. Irregular arrival had been abolished, and periodic intakes at specified times substituted. The duration of the training received by the individual officer, at first uncertain and indefinite, was now almost invariably uninterrupted and occupied at least two weeks. With the stabilisation of these factors, it was possible to develop the form of training given, to abolish the self-contained day unit of instruction and to adopt the normal system of progressive training. Approximately 550 officers passed through the officers' wing of No. 1 Depot, R.A.M.C., during the period of nine months from the time of its reorganisation at the end of March 1940, until the end of the year.

Several changes of greater or less significance took place during the year 1941. In May, it became possible to give effect to the recommendation, made some months before, that the time allotted to attendance at the Army School of Hygiene should be increased from two days to a

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week. In the following September, a further week was added to the duration of the course which thereafter consisted of four complete weeks, of which three were spent at the officers' wing itself and one at the Army School of Hygiene.* Some extension of the training programme thus became possible and the syllabus was again revised to permit of more detailed study in respect of subjects outstanding in importance, and to introduce additional features for which hitherto no time could be found. Among the latter were lectures on the utilisation of man-power with special reference to the employment of other ranks, R.A.M.C., their trades, training, and trade-testing; a demonstration on mess-tin cookery and an exercise in which officers cooked their own dinners in the open; and a demonstration of the use of various machine guns and other weapons. Another innovation brought about shortly afterwards was attendance at the recently established R.A.M.C. School of Instruction in Chemical Warfare, where three days were allocated to the study of war gases, precautionary measures against chemical weapons, unit anti-gas organisation, decontamination, and treatment of gas casualties. From the administrative aspect two changes may be mentioned as occurring at this time: first, arrangements were made to provide the officers' wing with its own staff of whole-time instructors without duties elsewhere; and secondly, the intake of officers took place three-weekly instead of weekly, as heretofore, and was therefore very much larger and suitable for organisation on a squad basis, a squad normally consisting of 20 to 25 officers. In all 711 officers passed through the officers' wing of No. 1 Depot, R.A.M.C., during the year 1941.

Towards the end of the year it was proposed that, on completion of his preliminary military training, every officer should be made the subject of a confidential report to assist the Army Medical Directorate in arranging, where possible, his posting to such duties as seemed best suited to his particular capabilities; for the purposes of these reports an examination should be held at the end of each course. While the idea of the confidential report was welcomed and at once adopted, the suggestion for a formal examination was opposed by those responsible for teaching, on the grounds that it would entail expenditure of time better employed in training and that, in any case, no examination could give an adequate indication of an officer's character, his capacity for leadership, or the possession of initiative and other qualities upon which selection for a position of responsibility in the field was so greatly dependent. For the time being this view prevailed but was overruled some months later whereupon a terminal examination became a regular feature of the training programme.

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* See Army Medical Services. Administration. Volume II, Chapter 2.

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In 1942, the number of officers attending for military training greatly increased, one intake, in February, amounting to as many as 79. Shortly afterwards, however, it was found necessary to revert to the weekly, instead of the three-weekly, intake. This was unfortunate since it reintroduced administrative complications and reimposed restrictions in arranging the training programme to best advantage. In order that the progressive character of the teaching should be maintained it was necessary to provide three separate courses proceeding simultaneously. Even so, it was not possible in all respects to adhere to this principle, for certain of the lectures and demonstrations included in the syllabus, but given outside the depot, such as those at neighbouring hospitals or other units and at the R.A.M.C. School of Instruction in Chemical Warfare could not be arranged more frequently than before, i.e. at intervals of three weeks. The result was that only one-third of the officers under training could receive this instruction in the correct sequence, that is to say during the third week of the course; the remainder were obliged to attend in their first or second week and before they were ready to profit fully from the experience.

Nevertheless, progress was made in other directions. The course was amplified by the introduction of a physical efficiency test at the beginning of the second week, and, in April 1942, intelligence testing was instituted as a part of the training programme, officers under instruction themselves being subject to matrix and verbal tests as a routine, and, on occasions, to assessment by War Office selection boards whose assessment, it is of interest to note, closely corresponded to the conclusions formed independently by the instructors' panel at the time of the terminal class report. In March of the same year, the intake included, for the first time, women medical officers. With the increasingly large number of women now recruited to the Army Medical Services and their employment in a diversity of duties, administrative as well as professional, including those of regimental medical officer to units of the women's forces, it was considered that some military training was necessary for them no less than for men. Hence the decision that whenever possible they should on first appointment undergo a course of instruction at a R.A.M.C. depot. In the main their training was similar to that of male medical officers, but in certain respects the syllabus was modified to meet their particular needs. For example, in place of physical training and drill they received extra instruction in the organisation and conduct of the medical inspection room; instead of engaging in field work and tactical exercises they attended the Louise Margaret Hospital for women and also additional tutorial classes specially arranged for their benefit by the chief instructor. Including both men and women, a total of more than 1,200 medical officers underwent training at the officers' wing of No. 1

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Depot, R.A.M.C., during 1942. To these must be added the output from No. 11 Depot and Training Establishment, R.A.M.C., opened at Leeds in December 1939, and also comprising a special wing for the training of officers. Although later in inception, being a war-time establishment, and always of smaller proportions than its counterpart at Aldershot, the officers' wing at No. 11 Depot, R.A.M.C., was designed for the same purpose and conducted on the same lines. Its organisation, administrative procedure, and training programme were similar to those of the officers' wing at No. 1 Depot and are therefore covered by the description given above.

The experience of three years had now contrived to procure a stabilised system which was well adapted to produce the required results and which continued thereafter fundamentally unchanged until the end of the war. From time to time minor modifications in administrative procedure or in the training programme were effected to accord with altered circumstances or current demands. As new developments occurred in the conduct of military operations and in the application of medical services to tactical requirements so it was necessary to revise the methods taught and to include new subject matter within the range of the curriculum. Indeed, not the least of the responsibilities devolving upon the instructional staff was, by constant vigilance, to obviate any stereotyped adherence to time-honoured doctrine and to ensure that training was essentially practical and in conformity with the precepts of military medical science in process of rapid evolution.

All-important as were these considerations it is to be emphasised that the scheme for the preliminary military training of newly commissioned medical officers was designed not only with the object of instructing them in the military aspects of their profession but also with the intention of assisting them in their transition from civil to military life and in accustoming themselves to the organisation and day to day routine of the Army generally and of the Army Medical Services more particularly. Much time could, with profit to the newly joined officer, have been devoted to so wide a field of study had it not been necessary to impose an arbitrary limit upon the duration of the course of training. Manifestly it was impossible within a few weeks to undertake detailed instruction in the numerous subjects, medical and military, of special significance in the work of the medical services. Some measure of selection on the basis of relative utility was clearly unavoidable. For practical purposes, therefore, it was to be assumed that, being medically qualified, all medical officers on entry to the R.A.M.C. possessed a background of medical knowledge sufficient for their needs at the outset of their military service. On the other hand, as they were in most cases entirely ignorant of military matters, it was

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necessary to provide them with an introduction to the unfamiliar surroundings in which they were placed, the more so because most of them would be employed, in the first instance at least, as general duty officers with medical units or as regimental medical officers to combatant units where soldiering would play as essential a part of their daily activities as would the practice of medicine. Accordingly, they were likely to derive greater benefit from being given a practical insight into military matters in general than from attending a series of lectures, one or two on each of several specialist professional subjects. With this end in view particular attention was paid to the structure and constitution of the Army and to the principles and methods governing its administration as a community of individuals as well as to its functions as a fighting organisation on the field of battle. As an essential feature of their training, therefore, officers under instruction attended the company office to see for themselves the process of administering a unit, including arrangements for documentation, statistical returns, pay, stores and equipment, etc., and also the manner in which the personal affairs, the complaints, and the requests of the soldier were handled. They accompanied the commandant on his tours of inspection and learned from him the routine of the barrack-room, dining-hall, cook-house, regimental institute, stores, etc., and had explained to them the system of rationing and messing and many other matters of military domestic economy.

There can be little doubt that, by affording the greatest possible measure of practical experience to those destined to assume responsibility for advising on the physical efficiency of the troops committed to their medical charge, the course of preliminary training as elaborated by its sponsors was correctly and wisely devised. At the time this was not always appreciated, chiefly because the primary object was not everywhere fully understood and there were occasions when attempts were made to procure alteration of the syllabus in the direction of allocating more time to the study of professional subjects in one form or another. Suggestions of this kind usually derived from consultants and advisers in special subjects who, regarding matters from the more restricted outlook of the specialist and observing what they considered a lack of adequate knowledge in respect of their own particular specialty, pressed for the inclusion within the training programme of additional lectures or demonstrations to supply the deficiency. In doing so they apparently failed to realise that the inclusion of further matter in an already fully occupied period of time could be made possible only by the exclusion of something else of equal, or even greater, importance. These and other proposals of a like nature had therefore to be resisted in order to preserve the more general character of the training it was desired to provide.

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Perhaps the most significant feature in the development of the system of training was one that cannot be reflected in any programme or syllabus. A new object had been conceived and a new means of achieving it devised. As described by the chief instructor at the officers' wing of No. 1 Depot, R.A.M.C., the training as originally undertaken was approached from the aspect of imparting the maximum of information in the time available and was overloaded with detail; gradually there evolved a procedure which was essentially formative and in which detail was reduced to the basic minimum. The principles observed were, first, to eradicate from the newly commissioned medical officer the habit of mind induced by civil medical practice and to assist him in reorientating his outlook to regard medicine from the standpoint of the Army; secondly, to show him how to adjust himself to his new military environment; and thirdly, to teach him how and where to seek information and gather experience in order that he himself could continue his training elsewhere. These changing views, moulded by experience, are reflected in the modifications in the syllabus of training. These progressive alterations are shown in the syllabi of May and September 1940, and September 1941 :

OFFICERS' WING, No. 1 DEPOT AND TRAINING ESTABLISHMENT R.A.M.C.

Syllabus of training—May 1940.

Subject	*Periods of fifty minutes each*	
FIRST WEEK		
Drill	6	
Military custom and procedure	2	
The soldier	1	
Military law	2	
Message writing and operation orders	2	
Map-reading	5	
Organisation and functions of the medical inspection room	2	
Duties of the regimental medical officer at home and on active service	3	
Equipment of the regimental aid post	1	
Thomas' splint	1	
Hygiene	5	
Chemical warfare and passive air defence	9	
	—	39

SECOND WEEK

Subject	Periods	Total
Drill	4	
Administration	2	
Military law—courts martial	2	
Organisation of field formations	1	
Organisation of field medical units	3	
Hospital duties	2	
Medical stores—supplies and replenishment	1	
Thomas' splint	2	
Bandaging	2	
Stretcher exercises	2	
Field exercises	6	
Exercises in map-reading and message writing	3	
Scabies—demonstration at Connaught Hospital	3	
Military psychiatry	2	
Demonstration in model room	1	
Effects of artillery fire	1	
Demonstration of service rifle	1	
Tutorial	1	
	—	39

THIRD WEEK

Reconnaissance, Camouflage, Co-operation with R.A.F., Messing, P.R.I. duties, Animal management, etc.

OFFICERS' WING, No. 1 DEPOT AND TRAINING ESTABLISHMENT, R.A.M.C.

Syllabus of training—November 1940.

Subject	*Periods of forty-five minutes each*	
FIRST WEEK		
General Training:		
Address by Commandant	1	
Drill	6	
Physical training	5	
Military custom and administrative procedure	1	
The soldier as a medical charge, training and morale	1	
Security and censorship	1	
Military law	2	
Map-reading	4	
Chemical warfare and passive air defence	10	
Thomas' splint	1	
Field Service:		
Duties of regimental medical officer	1	
Regimental aid post—function, staff, and equipment	3	
Hygiene and sanitation in the field	2	
Water duties	2	
Field messages and operation orders	2	
Lines of Communication, Base, and Home Service:		
Medical inspection room and medical reception station	1	
Hygiene and sanitation in barracks, camps and billets	1	
	—	44

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Second Week

Subject	Periods	Total
General Training:		
Drill	4	
Physical training	5	
Administration	2	
Military law	2	
Map-reading	3	
Medical stores and equipment	1	
Psychological medicine	2	
Scabies—demonstration at Connaught Hospital	3	
Stretcher exercises	2	
Thomas' splint	2	
Splints—various	1	
Bandaging	1	
Service rifle—demonstration of action, loading, unloading, etc.	1	
Field Service:		
Field medical units—organisation and functions	4	
Field formations and field units of other arms	1	
Tactical exercises in the field	6	
Effects of artillery fire	1	
Lines of Communication, Base, and Home Service:		
Hospital duties	2	
Tutorials	1	
	—	44

Third Week

(for officers remaining unposted after completion of two weeks' course.)

Officers are attached to companies of the Depot for individual instruction in company duties.

They attend parades, tactical exercises, and physical training exercises of the officers' cadre and a lecture daily on one of the following subjects:

- Reconnaissance
- Movement
- Camouflage
- P.R.I. duties
- Messing
- Transfusion
- Medical staff duties
- Correspondence
- Practical work with the Horrocks (water-testing) box.

Arrangements are made during this period for officers to attend courts martial and such demonstrations of the work of field medical and allied units as may be available.

Officers attend a two days' course at the Army School of Hygiene.

OFFICERS' WING, No. 1 DEPOT AND TRAINING ESTABLISHMENT, R.A.M.C.

Syllabus of training—September 1941.

Subject	*Periods of forty-five minutes each*	
Joining Phase		
Address by Commandant	1	
Tutorial on military custom and procedure	1	
Preparation of personal documents	2	
Issue of equipment	2	
Medical examination, vaccination and inoculation	2	
Demonstration of Thomas' splint	1	
	—	9

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First Week

Physical training—6.45 a.m. daily		
Drill	6	
Military Law	1	
Man-management	1	
Training and morale	1	
The soldier as a patient	1	
Organisation of the medical services	1	
Medical boards	1	
Medical stores and equipment, supply and replenishment	1	
Physical training and remedial exercises	2	
Duties of regimental medical officer—the regimental aid post and medical inspection room	6	
Military hygiene	1	
The sanitary diary	1	
Map-reading	3	
Orders and messages	2	
Effects of artillery fire—use of camouflage	1	
Chemical warfare and passive air defence, including passage through gas chamber	10	
Thomas' splint	1	
Service rifle-action, loading and unloading	1	
	—	41

Second Week

Physical training—6.45 a.m. daily		
Drill and stretcher exercises—daily	6	
Company orderly room—daily	6	
Military law—regimental aspects	2	
Administration	2	
Organisation of field medical units	3	
Organisation of regimental aid post, advanced dressing station, etc., in the field	2	
Organisation of field formations and units of other arms	1	
Map-reading	3	
Tactical exercises in the field	6	
Hospital duties	1	
Messing and use of field kitchen	3	
Medical classification by categories	1	
Scabies—demonstration at Connaught Hospital	3	
Psychological medicine	2	
Thomas' splint	1	
Neil Robertson stretcher, splints, etc.	1	
	—	43

Third Week

Routine:		
Physical training—6.45 a.m. daily		
Drill and stretcher exercises—daily	6	
Company orderly room—daily	6	
Lectures:		
Unit censorship	1	
Regimental accounts	1	
Allowances	1	
Movement by road	1	
Reconnaissance	1	
Medical inspection room	1	
Hospital duties	1	
Demonstrations:		
Bren gun, ·38 pistol, Thomson sub-machine gun, etc.	2	
Sanitary inspection of barracks	2	
Exercises:		
Use of ground	3	
Mess-tin cooking	3	
Tactical exercises in the field	6	
	—	35

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TRAINING OF OFFICERS: BATTLE COURSE

A feature of note among the various devices employed in the preparation of medical personnel for active service was the institution, early in 1943, of what was in effect a battle school for officers and N.C.Os. of field medical units. The intention was to contrive a system of training in which the conditions of the battle-field were represented as realistically as possible by natural and artificial means and thus to afford to regimental medical officers and personnel of field ambulances, field dressing stations, etc., practical experience in the collection of casualties, their first aid treatment, and their evacuation from the firing line, under the circumstances they would be called upon to face when in action. To undertake this enterprise the full-time services of a suitable field medical unit were required, and accordingly the task was allotted to a field ambulance whose location provided ideal facilities by reason of the topographical characteristics of the surrounding country. Training took the form of intensive courses of instruction each occupying the greater part of two weeks and including eleven working days. For every course 4 officers and 26 N.C.Os. were selected from medical units allocated for service with a field force. The syllabus of training was comprehensive and consisted of 96 periods of 45 minutes each as follows:

	Periods
Physical training, obstacle course, and unarmed combat	8
Personal care in the tropics	2
Improvised cookery and mess-tin cooking	2
Field dressing station and casualty collecting post	4
Gas casualties	4
Splints improvised from rifles, etc.	1
Litters and bivouacs	2
Knots and lashings	3
Messages	2
Map-reading	10
Radio-telephony with map-reading	8
Camouflage	2
Tactics	2
Small-arms	11
Explosives	2
Mine-fields	1
Cliff-climbing	4
River-crossing by improvised rafts	3
River-crossing and cliff-scaling—combined exercise	4
Assault course	9
Special battle exercise	9
Forced march	3

The programme was a strenuous one, and the energy and manual labour entailed were such as to require that those undergoing training should be in the best of physical condition, for there was no time to permit of a gradual process of hardening. Indeed, the first item on the first day of the course took the form of a forced march, in battle order, of ten miles to be covered in one hour and fifty minutes and to be followed, on arrival at the appointed destination, by an exercise in

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trench digging. Little or no time was occupied with instruction in technical medical subjects included in the routine training undertaken by all field medical units in the normal course of events. Rather was attention concentrated upon providing practical demonstration and personal experience in the organisation and conduct of field operations as applicable to the medical services engaged in the battle zone, and particularly in the correct use of special methods designed to overcome the difficulties encountered in special circumstances. For example, the assault exercise opened with a demonstration of the obstacles included and of the manner in which they might be successfully tackled. The exercise was then performed and subsequently repeated several times under conditions made progressively more arduous: first, in overalls without equipment; again, with personal equipment; next, with full equipment but without casualties; once more, with the addition of casualties; and finally, with casualties and under fire. Similarly, the battle exercise involved, at the outset, the crossing of a deep tidal river by the use of improvised rafts, followed by a long crawl under fire, from Bren gun and grenade, in effecting a simple approach and then the collection and removal of casualties from the battlefield. Evacuation of casualties was then accomplished by hand-carriage over a route necessitating the negotiation of a mine-field, represented by amitol and phosphorus grenade, and finally the scaling of an almost vertical chalk cliff involving a double lift of some 90 or 100ft. The programme of training also included night exercises in which various evolutions such as the assault course, silent approach, casualty sweep, etc., were practised under the special conditions imposed by darkness.

Thus the course was admirably designed to fulfil its primary object, and each item in the syllabus and all training given were planned with that end in view, which was to give those under instruction a practical insight to field medical work under battle conditions and to inculcate a feeling of confidence in themselves and their ability to surmount any obstacle even in the most exacting circumstances.

TRAINING OF OFFICERS: CHEMICAL WARFARE

On the outbreak of war, it was generally accepted as a foregone conclusion that the enemy would inevitably, sooner or later, resort to war gases as a method of attack on the battlefield and in the aerial bombardment of civil centres. Confuted though it was in the long run, this conviction remained fundamentally unchallenged over a period of years, and the threat, real or conjectural, persisted at least up to the time of the landing of the Allied armies in Normandy in June 1944.

Many years before the war, counter-measures and precautionary methods for combating attacks by gas in various forms and by chemical weapons of all kinds were regarded as an essential part of training

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universally applicable to personnel of the Army. Experimental stations and schools of instruction were established, training manuals prepared, and field exercises devised to practise troops in military operations carried out under the conditions imposed by chemical warfare. As regards the effect of these developments upon the R.A.M.C., all personnel were instructed in gas drill and in the use and care of the respirator; lieutenants on probation were taught something of the properties and effects of war gases; the course of study for promotion to the rank of major included a short series of more advanced lectures on the subject; and from time to time R.A.M.C. officers were nominated to attend the general instructional courses held at the Chemical Warfare School. It was not, however, until little more than a year before the declaration of war that, as the result of recommendations put forward by a committee specially appointed for the purpose, there was established a specific organisation for the training of R.A.M.C. personnel in regard to those aspects of chemical warfare of particular interest and concern to the medical services of the Army. Even then it consisted only of one training officer and one sergeant instructor both of whom were attached to the R.A.M.C. Depot, Aldershot. From the date of his appointment in May 1938, the T.O. (anti-gas), R.A.M.C., as he was officially designated, was engaged in encouraging and supervising the routine individual and unit training in precautionary measures undertaken in R.A.M.C. companies and military hospitals, and in devising and directing methods for the collection and disposal of gas casualties practised in field exercises and at training camps. His duties included lecturing to medical officers stationed in home commands and to those undergoing preliminary military training or attending promotion courses at the R.A.M. College.

Adequate though it may have been in peace-time, so small a staff was manifestly insufficient to undertake the systematic training of the large numbers of medical personnel recruited in war. Nevertheless, no expansion of the existing organisation was immediately forthcoming, and, consequently, at first and for some months to come, such training as took place was almost entirely in the hands of unit instructors as a part-time duty and was therefore subject to but little direction or supervision by experts in chemical warfare. The situation was not improved by the loss, early in 1940, of the T.O. (anti-gas) who, unrelieved, relinquished his appointment to take up other duties elsewhere. His successor was not available until March of that year.

Training of all ranks of the R.A.M.C. in chemical warfare had now reached a stage at which, in respect of the tactical side, that is to say, in the matter of general precautionary measures and the protection of personnel, individually and collectively, field medical units, especially

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field ambulances, had attained a fairly satisfactory standard of performance. But static units and more particularly the smaller military hospitals and reception stations had received little or no preparation, largely because their scattered locations and their detachment from their parent R.A.M.C. companies rendered it difficult to control arrangements for training and to supervise the matter taught and the methods employed. As regards the more special implications of chemical warfare from the standpoint of the medical services, i.e. the handling, treatment, and disposal of gas casualties, field units and static units alike were for the most part ignorant. That this was true, not only of units stationed at home but also of those abroad, became evident when the expeditionary force returned to the United Kingdom from France; although much instruction had been given to medical officers while they were overseas, little attention appeared to have been paid to the medical aspects of chemical warfare.

At that juncture it was obvious that the standard of training throughout the medical services must be greatly improved, and it was no less obvious that the training of all medical personnel in the United Kingdom was a task beyond the capacity of the training officer and his exiguous staff themselves to undertake. It was therefore decided to concentrate in the first instance upon the training of instructors. A series of instructional courses was arranged for this purpose at No. 1 Depot and Training Establishment, R.A.M.C. at Aldershot, and suitable officers from all home commands were selected to attend. It was the intention that at least one officer from every medical unit in the United Kingdom should undergo this instruction as soon as possible, priority being given to medical officers of field ambulances. Each course comprised three days devoted to a sequence of lectures on war gases, their properties, recognition, and effects, and on the prevention, treatment, and disposal of gas casualties, followed, on the fourth day, by a demonstration of prescribed methods given by a field ambulance specially allocated for the duty from a division located in the neighbourhood. A series of fifteen courses of this kind was completed and some 350 potential instructors trained. Similar courses were arranged in Edinburgh for officers stationed in Northern and Scottish Commands, and Northern Ireland District. Here the instruction was given by an officer who, although not officially appointed as a T.O. (anti-gas), was nevertheless specially qualified in the subject. Later, arrangements of the same kind were made at the Military Hospital, Lichfield, for officers of Western Command. The primary object of this scheme being the training of a maximum number of personnel in the minimum of time, commands were asked to ensure that officers who had attended these courses should on their return act as instructors to their own, and to other, units. Although promising well at first, this arrangement was

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never fully effective inasmuch as many of those whose services might with advantage have been utilised in an instructional capacity were posted overseas within a short time of having completed the course.

In the intervals between courses held at No. 1 Depot, R.A.M.C., the training officer visited units throughout the country giving lectures and demonstrations and organising the training undertaken locally. Requests for additional staff and proposals for the formation of a special school of instruction were negatived on the grounds that the shortage of medical officers precluded any such steps being taken at that time. It was not until September 1941, that a medical officer was made available for appointment as assistant to the training officer. His arrival made it feasible to accept a larger number of personnel for instruction and to extend the scope of the teaching included in the course; it also provided the means of increasing the number of visits paid to medical units and thus of exercising a greater measure of control over the training they received.

By this time, however, it was becoming more widely recognised that, in spite of what had been achieved in the direction of producing instructors and of raising the standard of efficiency attained by medical units, medical officers in general were still lacking in knowledge, from the scientific and professional aspect, of the effects of war gases upon the human body and consequently were inadequately prepared to undertake the duties devolving upon them in the circumstances of chemical warfare. Time and again during the 1914–18 War ignorance on the part of medical officers had been responsible for incorrect sorting of casualties, and for the subsequent evacuation of large numbers of those who had suffered but little from exposure to gas. On the other hand errors in the handling and treatment of what were regarded as trivial cases had resulted in delayed recovery, in chronic invalidism with pensionable disability, and in the sacrifice of lives that might have been saved. If, as was confidently predicted, chemical warfare were again to be turned to account by the enemy, it would be waged on a far wider and more intensive scale than before; the necessity for adequate safeguards against repeating these mistakes of the past was unquestionable. In addition to the treatment and disposal of casualties due to gas, M.Os. were responsible for directing the collection of wounded from gas-contaminated areas, their protection or decontamination, and therefore for the training of regimental stretcher bearers and other ranks, R.A.M.C., in precautionary measures to this end; they were also concerned with the detection and elimination of poison gas in water supplies and the protection of food from the effects of chemical agents. Apart from the purely professional side of the medical officer's activities, some importance was attached to the possibility of his being of assistance to the intelligence service, for it was considered not unlikely

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that in certain circumstances the first confirmatory evidence as to the use of chemical weapons by the enemy might be derived from medical sources as the result of clinical symptoms or post-mortem changes exhibited by casualties but detectable only by expert observation. All these considerations required that M.Os. should possess a sound knowledge of war gases and a general appreciation of the methods employed in counteracting the effects of chemical warfare.

With the need for adequate training now fully acknowledged, increased facilities were soon forthcoming. Accordingly in November 1941, the School of Instruction in the Medical Aspects of Chemical Warfare, a somewhat clumsy designation later changed to R.A.M.C. School of Instruction in Chemical Warfare, was set up within No. 1 Depot and Training Establishment, R.A.M.C., but as a distinct entity under the direct administration of the War Office. A staff for instructional, clerical, and general duties was provided, and the school was placed in the charge of the T.O. (anti-gas), R.A.M.C., who was also chief instructor. His duties, as now prescribed, were to prepare a syllabus of instruction and to co-ordinate and supervise the training of all personnel of the medical services in the United Kingdom in regard to unit protective measures and all matters pertaining to the reception and treatment of gas casualties in the field or in hospital; to prepare and deliver lectures on these subjects to officers under instruction in R.A.M.C. establishments; to arrange field trials to test measures devised for the purpose of protection against chemical agents and to submit reports on the results observed; to advise on equipment designed for the protection of personnel and the treatment of gas casualties; to revise training manuals and regulations dealing with the medical aspects of chemical warfare and to advise field formations and combatant units in putting them into effect; and to keep in touch with research carried out at experimental establishments and to disseminate the knowledge so gained.

Simultaneously with the opening of the School of Instruction, a more extensive and systematic scheme of training was elaborated. All newly-commissioned officers during their preliminary military training at one or other of the R.A.M.C. depots attended a course of three days' instruction in the medical aspects of chemical warfare. At No. 1 Depot R.A.M.C., Aldershot, this instruction was undertaken by the R.A.M.C. School of Instruction in Chemical Warfare itself; in the case of No. 11 Depot R.A.M.C., Leeds, a course on the same lines was conducted by local instructors. In order to cope with the large numbers awaiting training, similar courses for officers already in the service were instituted at various medical establishments, usually military hospitals, throughout the country. In addition to these arrangements applicable to medical officers in general, the school provided facilities for the

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more advanced and specific instruction required by officers holding specialist appointments in ophthalmology, pathology, and hygiene. All told, more than 3,000 medical officers received training under the auspices of the R.A.M.C. School of Instruction in Chemical Warfare within a year of its inception.

Furthermore, the training staff now available was in a position to undertake very much more in the way of visiting medical units for the purpose of inspection and instruction; generally, field medical units and the larger static hospitals were supervised by the training officers while the instructors dealt with the smaller establishments. As a result, the state of proficiency attained by personnel of the R.A.M.C., as regards both individual and collective training, reached a high standard. The school did not confine its activities to the R.A.M.C.; it supervised the training of the Army Dental Corps and Q.A.I.M.N.S. personnel, and from time to time arranged special courses of instruction for the benefit of medical officers of the Home Guard. Assistance was offered to, and accepted by, the medical services of the forces of the Dominions whose officers attended the routine courses held at the school. Similarly, until the United States Army formations then in the United Kingdom were in a position to make their own arrangements, many American medical officers received instruction from the same source.

Teaching in respect of the effects produced by war gases was at first greatly handicapped by the fact that, since chemical warfare had not been employed by any of the belligerents, there were no battle casualties from this cause and therefore no clinical material to illustrate the subject matter of the lectures. Instruction was therefore largely theoretical until, eventually, the work carried out at the Chemical Defence Experimental Station provided much that was suitable for demonstration purposes. Moreover, gas casualties occurred from time to time as the result of accidents to soldiers during training or among factory workers. The school maintained constant touch with the Chemical Defence Experimental Station and was immediately notified of all gas casualties admitted to hospital; where desirable these cases were visited and photographs were secured. From these sources it became possible to assemble a large collection of drawings and photographs which, with the help of an epidiascope and lantern slides, sufficed to serve as excellent teaching material.

The R.A.M.C. School of Instruction in Chemical Warfare thus devoted itself largely to the professional education of medical officers in the more scientific aspects of gas as a weapon, including the diagnosis and treatment of gas casualties, and also to the training of all medical personnel in general precautionary measures. But it was no less concerned with those aspects of chemical warfare having particular significance for the R.A.M.C. as the organisation responsible for the

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evacuation of casualties from the battlefield. The collection and disposal of gas casualties and of wounded, who, in addition to their wounds, suffered the further complication of contamination by blistering gases, was an eventuality involving new considerations and the employment of methods hitherto untried. A matter of such consequence in effecting the rapid and efficient treatment of battle casualties called for the preparation of a special form of training and for its development to the extent of ensuring a high standard of proficiency on the part of all ranks in field medical units.

With this object the staff of the school sought to evolve a system of field training suitable for adoption by all medical units. In doing so they were faced with the necessity of formulating a procedure which at the same time must prove effective for its purpose yet must not tend to break down through over-complication and too meticulous attention to precepts impossible of application under the stress of battle. Here again, in the absence of practical experience, guidance was to be obtained only from theoretical considerations themselves based on factors largely undetermined. Consequently, the methods of training pursued were for the most part experimental and varied widely from time to time and from unit to unit. An example of the fluctuation in thought and practice which marked this period of transition may be cited in illustration. At the time when the School of Instruction first took up this subject, it was found that the methods of casualty collection and disposal usually taught in medical units recognised little or no distinction between contaminated and uncontaminated wounded. When, subsequently, stress was laid upon the danger, to themselves and to others, of allowing casualties to remain contaminated, and therefore upon the urgent need for thorough decontamination at the earliest possible moment, matters were carried to the opposite extreme, and stretcher bearers were taught that, as one of the first steps in rendering first aid, contaminated wounded should be almost completely stripped of their clothing even in the open, notwithstanding the presumably obvious corollary that the practical application of this doctrine would inevitably result in many of the wounded succumbing to exposure. This misguided zeal was eventually checked, largely, it is thought, by dissemination of the slogan 'better the blistered living than the decontaminated dead'.

By a process of trial and error, methods, theoretically sound but proving too complicated and therefore unlikely to be applied in the field, were eliminated and in course of time a standardised system was devised and brought into operation. Much thought and ingenuity were directed to the design of protective clothing for stretcher bearers and medical attendants in dressing stations, etc. Many were the alterations and modifications necessary to produce an outfit of practical utility, adequate for its purpose but not so heavy or cumbersome as to interfere with

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freedom of movement and general efficiency. Having designed the clothing it was found that considerable training was required by personnel wearing it before they became fully accustomed to its use. The constructional design and arrangement of dressing stations intended for the reception of gas casualties and contaminated wounded, the disposal of contaminated clothing, the preparation and use of prophylactic ointments and other substances, and methods of personal decontamination, for individual employment by wounded or unwounded personnel, were all matters of study, experiment, and application in conjunction with other workers in the field of chemical warfare. The knowledge thus acquired was included in the teaching given in the routine and special courses of instruction held at the school and at other centres and was incorporated in the general scheme of training for the medical services at large. The essence of this training is disclosed in the following memorandum:

COLLECTION, RECEPTION AND EVACUATION OF CASUALTIES IN CHEMICAL WARFARE

Circular memorandum issued by the
R.A.M.C. School of Instruction in Chemical Warfare, December 1942.

In previous circular memoranda the collection of contaminated wounded has been treated as a separate and special problem. The methods recommended for collecting contaminated wounded have been radically different from methods recommended for collecting other casualties.

It is now considered that, in battle, this difference in procedure could not be maintained. Once chemical warfare has started it is necessary to have one method and one method only, for collecting all wounded in the field. Contamination should be regarded merely as a complication.

This implies modification in previous training and these methods are embodied in the following notes :

GENERAL

When chemical warfare starts, gas casualties are not likely to occur singly. Arrangements must be made for considerable numbers.

These casualties will be mixed; some gassed, some wounded, some both.

GASSING WITHOUT WOUNDS

The evacuating medical services are concerned only with casualties—i.e., personnel no longer able to carry out military duties.

Tear and nose gases

These seldom cause casualties for their effects are transient. Unless liquid tear gas enters the eye, men suffering from their effects should not be sent to the medical services.

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Lethal gases

Personnel exposed to phosgene may become casualties after a latent period; so it may be desirable to send them back before symptoms develop. The decision rests with the local commander.

Lethal gas casualties need constant attention from the medical officer and should be evacuated early from forward areas as lying cases.

Blister gases

Casualties are (i) men unable to see; (ii) men with lung symptoms and (iii) men with blisters which prevent them from fighting. No other men should be sent to the medical services.

Personal decontamination is an individual responsibility and every officer and man has the wherewithal to carry out C.O.E.C.D.O.*

The medical services are not the decontaminators of the British Army.

CONTAMINATED WOUNDED

Treatment on the spot

Walking wounded should receive first aid, followed by immediate personal decontamination if this has not been carried out already.

When wounds are more severe (lying cases) the primary duties of stretcher bearers are (i) control of haemorrhage, (ii) prevention of further shock, and (iii) rapid transfer to the dressing station. Any extensive decontamination, with removal of clothing is undesirable because it will increase shock and delay the casualty's arrival at the dressing station. All that should be done, therefore, is to render first aid and remove obvious contamination.

Treatment at the Dressing Station

The reception zone is divided into two areas, "clean" and "dirty". Accommodation may vary from areas marked out on the ground to specially erected buildings. Simple arrangements only are necessary; always use existing buildings if possible. The layout below is a guide to requirements. The "dirty" area may be a short distance away from the "clean":

Dirty		:	Clean		
Entrance → A Dirty Cases	→ B	→ C	→ D	→ E	→
		↑ Entrance Clean Cases			

A. Free ventilation and some cover needed; verandah or lean-to shed ideal. All contaminated outer clothing, equipment and blankets removed. Casualty changed to a clean stretcher and blankets.

B. May be warmed. Underclothes removed, placed in sacks, paper gasproof or bins; remove frequently. Skin treated with ointment, A/G; bleach cream, solvent or soap and water. Ointment preferable if no erythema. Lewisite cases may be treated here if medical officer available.

* The decontamination drill involving Cotton-waste, Ointment, Eyeshields, Clothing, Detectors and Ointment.

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C. Reception. All cases.
D. Treatment. Eyes treated here, resuscitation, etc.
E. Awaiting evacuation.

Efficient sorting is required in A by an officer or a good N.C.O., because serious cases needing urgent resuscitation or operation must by-pass A and B and go to treatment area. Personnel treating these cases must take precautions, e.g. respirators.

Personnel. In A, use stretcher bearers to bring in cases. In some battalions extra men may be detailed. In B, undressers must be provided by the hospital or dressing station.

Care of valuables. Clothing and equipment removed from casualties must be searched. Small valuables, letters, etc., can be placed in the wallet, A/G.

Re-clothing. All units carry pyjamas. These should be used for lying cases. Walking cases must be re-clothed with clothing from divisional reserves. Some clothing and boots may be obtained from clean lying cases.

Collection of the patient

A. *By Stretcher Bearers*—contaminated and uncontaminated wounded are collected by the same method, viz:

Bearers carry, in the folded canvas of the stretcher, two blankets (Nos. 1 and 2) and one stretcher cover.

No. 1 blanket remains with the stretcher. It may soon become contaminated and so may the stretcher itself; but they need not be changed for that reason.

No. 2 blanket and the stretcher cover are replaced each time the bearers set out from the dressing station. No. 2 blanket is wrapped inside the new stretcher cover and is thus kept clean.

The patient is laid on, and wrapped in No. 2 blanket, which is separated from No. 1 blanket by the stretcher cover. His own cape can be put over all. If he is clean he remains clean, if he is contaminated, No. 2 blanket becomes contaminated.

If no stretcher cover is available, the cape can be used instead. The method will work if only one blanket is carried, or none.

B. *By ambulance*—the principle is that, as far as possible, contaminated stretchers, stretcher covers, and No. 1 blankets, should not be taken into the ambulance. The stretchers of ambulances are prepared like those of stretcher bearers.

In picking up contaminated patients from contaminated ground, an extra stretcher cover is placed on the ground to prevent contamination of the stretcher.

In picking up contaminated patients from stretcher bearers, the patient, wrapped in No. 2 blanket, is transferred to the ambulance stretcher, which is protected by a clean stretcher cover. Bearers draw a clean stretcher cover and No. 2 blanket from the ambulance.

Ambulances will need an extra supply of stretcher covers. Capes, A/G can, if necessary, take their place.

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DRILL FOR STRETCHER BEARERS

Method of preparation of the stretcher at the dressing station

Open up the stretcher.

Fold No. 1 blanket lengthways in three and then fold in one end so as to get it the length of the stretcher canvas (head end to a depth of 18 in.)

Roll up No. 1 blanket from head to foot of stretcher.

Lay down stretcher cover on clean ground.

Put No. 2 blanket, opened out flat, on top of the stretcher cover.

Fold edges to the centre, then each new edge to the centre and then fold in two, lengthways. Double the folded blanket in two and then again in two. Place the bundle at the head of stretcher cover and wrap it up by rolling it in the stretcher cover. Turn the stretcher over and put the two bundles in the canvas. Close stretcher and fasten straps.

Procedure when collecting patients

Open stretcher upside down. One bearer picks up No. 1 blanket and the other the stretcher cover bundle (each with the left hand).

Stretcher is turned over (this is an easy manoeuvre as each man holds the stretcher with his right hand so that it is suspended diagonally between them) and placed on the ground by the side of the patient.

No. 1 blanket is unrolled from the foot of the stretcher to the head and then the stretcher cover in a similar manner, leaving the folded No. 2 blanket at the head.

The surgical condition of the patient is attended to and he is placed on the stretcher cover.

No. 2 blanket is placed over him lengthways and unrolled to the sides over him. Over all is placed his cape.

Bearers swab their hands, rub in ointment, put on gloves A/G and transport patient to the dressing station.

PROTECTION AND EQUIPMENT OF STRETCHER BEARERS

The squad consists (as is usual in the field) of two bearers. They must take the normal war risks but good training will mitigate risks from blister gas.

Dress:
1. Cape A/G clipped between the legs (special stretcher bearer capes).
2. Overboots A/G., sandbags, a useful substitute, or protective dubbin on boots.
3. Gloves A/G. to be used only when carrying a stretcher, for other purposes, prophylactic use of ointment, A/G. on hands.

Protection: A respirator should be worn at all times when gas is encountered, this is necessary to preserve the sense of smell and prevent cumulative effects of mustard gas. Ointment, A/G. should be applied to the hands prophylactically.

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TRAINING OF OFFICERS: TROPICAL MEDICINE

Immediately before and after the outbreak of war, reinforcement of garrisons overseas made some demand for officers experienced in tropical diseases, but the number available was small and insufficient to satisfy even these modest requirements. Thus early arose the question of training entrants to the R.A.M.C. in a field of medicine which was to feature so prominently in the world-wide activities of the Army Medical Services. Those medical officers who, at the time of appointment to commissions or later in their service, attended a course of preliminary military training, did in point of fact receive some brief instruction in the more common tropical diseases and in the elements of tropical hygiene, but many months were to elapse before it became possible to make attendance at these courses a routine procedure applicable to all newly commissioned officers, and, in any case, time did not permit of comprehensive or detailed study in any one of the many subjects included in the syllabus of training. Indeed, during the first ten months of the war the only facilities for systematic instruction in tropical medicine were those at the R.A.M. College where short concentrated courses of seven days' duration were held at irregular intervals usually for a particular purpose such as the instruction of specialists proceeding abroad to tropical regions.

Such was the position until the prospect of imminent military operations in the Middle East consequential upon the declaration of war by Italy in June 1940, created a need for large numbers of medical officers with some knowledge of the principles and practice of tropical medicine and hygiene. To supply these requirements and to meet the future calls that would inevitably follow the development of a campaign in tropical or sub-tropical Africa, it became a matter of urgent necessity to organise systematic training in tropical medicine and hygiene for a large proportion of medical officers serving in the Army. For this, the facilities that the Army Medical Services could of themselves then provide were manifestly inadequate, but in July 1940, the London School of Hygiene and Tropical Medicine and the Liverpool School of Tropical Medicine both offered to hold courses of instruction, free of charge, for officers of the R.A.M.C. These offers were accepted and arrangements made for a series of instructional courses, at each of these two schools, beginning in the following August and continuing thereafter at approximately four weekly intervals. Each course occupied two weeks and accommodated some 30 or 40 students; thus provision was made for the training of upwards of 80 officers every month. Only those physically fit for general service and under 40 years of age were selected to attend, and, to begin with, choice was restricted to personnel of field medical units. Officers were sent to London or Liverpool as was most convenient to the location of their units.

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The scope of the instruction given at these courses was such as to afford a comprehensive introduction to the subject of tropical medicine generally and from the practical no less than the theoretical aspect. Lectures on the various tropical diseases were, as far as the material available would permit, supplemented by clinical teaching and the demonstration of cases. It also comprised lectures, demonstrations, and practical work in bacteriology, protozoology, entomology, and helminthology. The principles of hygiene, both personal and environmental, as specially applicable to tropical climates figured prominently among the subjects included, and measures aimed at the prevention of epidemic disease, e.g. malaria, received particular attention. So short a course could not, and was not intended to, furnish a M.O. with all he would need to know in the practice of his profession in the tropics, but the syllabus was admirably designed to serve its main object which was to give him a practical insight into the work in which he would be engaged and to provide him with the foundation upon which to base the knowledge subsequently acquired as the result of his own experience.

With the passing of time, however, the demands for medical officers with some training in tropical medicine exceeded the maximum output possible under the then-existing arrangements even though it had been contrived to obtain an appreciable increment by reducing the intervals between the courses held in London and Liverpool. Steps were therefore taken to supply additional resources by arranging more frequent courses at the R.A.M. College, and the position was still further improved when, in November 1941, the University of Edinburgh undertook to hold instructional courses on the same lines as those already organised in London and Liverpool, thus making provision for the training for another 30 or 40 officers month by month. The additional facilities so occasioned were the more welcome inasmuch as it had been decided that all medical officers of suitable age and medical category should, as a matter of course, receive instruction in tropical medicine. Moreover in the meanwhile, in May 1941, the London School of Hygiene and Tropical Medicine had sustained extensive damage by enemy bombs and, in consequence, it had been necessary as a temporary measure to suspend the courses for R.A.M.C. officers; the series was not resumed until January 1942.

As already mentioned, the authorities of the universities and tropical schools co-operating in the training of R.A.M.C. officers, had at the time of offering their assistance, made it clear that their services would be placed at the disposal of the Army without expense to the public. Early in 1942, however, they represented that, in the absence of the normal entry of civilian students, the courses held for medical officers of the armed forces were involving them in considerable expense. While the work was regarded as a contribution to the national effort and the

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teaching staff sought no financial reward, it was suggested that a small grant should be made towards the cost of materials provided for the use of the classes. This essentially reasonable proposal was supported by the War Office and the Treasury sanctioned the payment from public funds of a fee of one guinea in respect of each officer attending these courses.

Apart from some increase in the scope of the course given at the R.A.M. College and its consequent extension from seven to nine days, no other developments of note occurred during the year 1942, and the system of training outlined above continued in operation until midway through the year 1943 when force of circumstances led to a complete change of procedure. In the first place, one of the civil bodies concerned, the University of Edinburgh, intimated that they were having difficulty in conducting the courses of instruction for R.A.M.C. officers on account of the numerous calls in other directions made upon the time of their teaching staff. They also expressed their desire that the work they were undertaking on behalf of the Army, hitherto on a voluntary basis, should be made the subject of financial adjustment between the War Office and the University in regard to the defrayment of expenses incurred by the latter. It was eventually agreed that arrangements already completed for the holding of courses up to the end of December 1943, should be allowed to stand, but, in the event of further requirements during the coming year, the question of reimbursement should be again considered.

It so happened that, at the time of this discussion, the position as to the training of medical officers in tropical medicine was under general review in regard to the extent of supply and demand in the near future. The situation was influenced by several factors. First, military operation had in the main been transferred from the Middle East to Europe, and it was apparent that there, rather than in tropical or sub-tropical territories, lay the scene of major conflict until the defeat of Germany had been accomplished; as a greater proportion of the medical services came to be employed with forces so engaged, knowledge of tropical medicine, hitherto an indispensable requisite in the professional armament of most medical officers on active service, would cease to have its former significance. Secondly, the sum total of officers awaiting training was now much smaller than in the past, since the remaining number suitable in age and medical category for posting abroad was progressively decreasing, and those so available were required for field medical units destined for service in Europe ; meanwhile the quota of medical practitioners recruited to the armed forces was shrinking rapidly as civil resources became more depleted. Finally, drastic reduction of home establishments, in the interests of economy in medical man-power, made it increasingly difficult to supply medical officers for

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temporary duty in relief of those selected to attend courses of any kind. In the light of the foregoing considerations it was decided that the facilities already existing at the R.A.M. College could be extended to suffice for all needs likely to arise in the near future, and that arrangements for the training of R.A.M.C. officers by the London School of Hygiene and Tropical Medicine, the Liverpool School of Tropical Medicine, and the University of Edinburgh should cease with the conclusion of the courses already scheduled for the remainder of the year 1943.

Despite a marked reduction in the demands to be satisfied, the simultaneous withdrawal of the resources supplied by all three of these schools in the field of training threw a heavy additional burden upon the R.A.M. College, and it remained to provide the means of fulfilling the greatly increased undertakings thus occasioned. Accordingly, the department of tropical medicine was reinforced and reorganised. The staff of instructors and demonstrators was increased, and the services of consultants and specialists from outside the college were enlisted for the purpose of giving lectures on special subjects. Steps were taken to extend the duration of the course, experience having shown that the time hitherto allotted was too short to permit of adequate instruction in all the subjects considered necessary. The system of teaching was therefore revised, the subject matter was rearranged, and, with the co-operation of the department of hygiene, it was found possible to devise a course, comprehensive in scope and intensive in character, to cover two weeks and comprising eleven full working days. The syllabus consisted of more than 60 lectures and demonstrations, including clinical teaching and practical laboratory work, in tropical medicine, hygiene, and parasitology. At this stage of the war recent military developments had availed to facilitate and accelerate the disposal of invalids in the Middle East and the more distant theatres of operations. With the more rapid evacuation of sick to the home base the number of military patients in the United Kingdom actually suffering from tropical disease of one kind or another was greatly increased. Full advantage was taken of the opportunity so provided for practical teaching in the direction of clinical demonstration and pathological diagnosis. Students were thus able to see and examine for themselves cases of disease previously only described to them in lectures and to practise laboratory methods with fresh material instead of studying fixed specimens.

From the beginning of the year 1944 onwards, all training of R.A.M.C. officers in tropical medicine was undertaken at the R.A.M. College on the lines described. Courses of two weeks' duration were held at intervals and as frequently as dictated by circumstances. These measures sufficed to meet all future requirements even when, later on,

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demands for the training of officers in tropical medicine were substantially increased in connexion with preparations for the greatly extended operations projected in South-east Asia as a part of the war against Japan.

The evolutionary history of the courses on instruction in tropical medicine is revealed in the following illustrative syllabi:

COURSES OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE FOR R.A.M.C. OFFICERS

Held at

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE,
LIVERPOOL SCHOOL OF TROPICAL MEDICINE,
UNIVERSITY OF EDINBURGH.

Syllabus of lectures, demonstrations and practical laboratory work with clinical teaching on such cases as may be available.

Diseases of tropical climates:
Enteric fever; dysentery; typhus; cholera; plague; leprosy; malaria; blackwater fever; yellow fever; undulant fever; dengue; phlebotomus fever; pellagra; beriberi; sprue; leishmaniasis; trypanosomiasis; ankylostomiasis; schistosomiasis; filariasis; tropical skin diseases; heat-stroke and insulation.

Bacteriology:
Enteric and salmonella groups; dysentery group; brucella group; cholera; plague; leprosy; rickettsia; viruses.

Protozoology:
Plasmodia of malaria; entamoebae; trypanosomes; leishmaniae; flagellates; coccidia; ciliates.

Entomology:
Anopheles; aedes; culex; phlebotomus; tsetse; house-fly; bugs; fleas; lice; ticks.

Helminthology:
Taeniae; ascaris; hookworm; guinea worm; bilharzia; filaria; oxyuris.

Hygiene:
Physiology of hot climates; personal hygiene; epidemiology; water supplies; disposal of refuse and sullage; conservancy; mosquito control; destruction of rats, molluscs and insect vectors.

COURSE OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE FOR R.A.M.C. OFFICERS

at

THE ROYAL ARMY MEDICAL COLLEGE

Syllabus—1940–41.

First day . .	Malaria (1) Malaria (2) Demonstration of malaria parasites
Second day . .	Malaria (3) Blackwater fever Heat-stroke Demonstration of malaria parasites
Third day . .	Bacillary dysentery Protozoa as causes of disease Enteric group of fevers Laboratory demonstrations

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Fourth day . .	Amoebic dysentery Demonstration of dysentery slides Mosquitoes as vectors of disease Laboratory demonstrations
Fifth day . .	Relapsing fever Typhus group of fevers Yellow fever Laboratory demonstrations
Sixth day . .	Plague Schistosomiasis Cholera Laboratory demonstrations
Seventh day . .	Trypanosomiasis Demonstration of trypanosomiasis slides

COURSE OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE FOR R.A.M.C. OFFICERS

at

THE ROYAL ARMY MEDICAL COLLEGE.

Syllabus—1942

First day . .	Introductory lecture Malaria (1) Malaria (2) Laboratory methods in the tropics Demonstration of malaria parasites
Second day . .	Malaria (3) Blackwater fever Psychology of the soldier Demonstration of malaria parasites Practical work
Third day . .	Heat-stroke Enteric group of fevers Sand-fly and dengue fevers Demonstration of siphonaptera and psychodidae Cholera Demonstration of cholera Revision of malaria diagnosis
Fourth day . .	Entomology of the mosquito Demonstration of mosquitoes
Fifth day . .	Bacillary dysentery Protozoan intestinal parasites Hygiene in the tropics
Sixth day . .	Amoebic dysentery and secondary amoebiasis Cysticercosis Radiology in tropical diseases Clinical cases Demonstrations
Seventh day . .	Relapsing fever Typhus group of fevers Tropical ophthalmology
Eighth day . .	Trypanosomiasis Leishmaniasis Yellow fever Demonstration of protozoa Practical work
Ninth day . .	Schistosomiasis Plague Demonstrations Test

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COURSE OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE FOR R.A.M.C. OFFICERS

at

THE ROYAL ARMY MEDICAL COLLEGE

Syllabus—1943

First day	Commandant's preliminary address Pathology of malaria (1) Clinical features of malaria, and blackwater fever Demonstration of malaria parasites Prevention of malaria (1) Entomology of the mosquito
Second day	Making of blood films Pathology of malaria (2), and blackwater fever Treatment of malaria, and blackwater fever Demonstration of malaria parasites Prevention of malaria (2) Staining of blood films
Third day	The mosquito—revision demonstration Pathology of dysentery Clinical features of amoebiasis Demonstration of intestinal protozoa Prevention of excremental diseases (1) Test—recognition of malaria parasites
Fourth day	Malaria—revision demonstration Pathology of food poisoning, enteric fever, and cholera Clinical features of bacillary dysentery Entomology of the louse, tick, and bed-bug Hygiene of the march Examination of stools
Fifth day	Snakes and snake-bite Helminths Rabies Clinical features of cholera, enteric fever, and bilharziasis Demonstration of helminths The mental health of the Army
Sixth day	Entomology of the sand-fly Spirochaetal diseases Yellow fever Clinical features of relapsing fever, sand-fly fever, and dengue Demonstration of spirochaetes Prevention of excremental diseases (2) Examination of stools
Seventh day	Entomology of the flea Pathology of infective hepatitis and rickettsial diseases Clinical features of typhus group of fevers Demonstration of rickettsia and fleas Prevention of louse-borne diseases General hygiene in hot climates
Eighth day	Malaria—revision demonstration Pathology of plague, trypanosomiasis, leishmaniasis, and tropical ulcer Clinical features of plague, trypanosomiasis, and leishmaniasis Demonstration of plague, trypanosomes, and leishmaniae Tropical eye diseases Radiology in tropical diseases

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Ninth day . .	Malaria—revision demonstration Diagnosis of fevers in the tropics Diseases due to heat Prevention of heat-stroke Tropical skin diseases Venereal diseases in the tropics
Tenth day . .	Class test Pathology of wound infections Military surgery—general Military surgery—orthopaedic Demonstration of clinical cases Medical problems in the East
Eleventh day .	Examination—written and practical Exhibition of films.

TRAINING: OTHER RANKS

On mobilisation, the rank and file of the R.A.M.C. included: soldiers serving with the colours on regular engagement; recruits rejoining on the calling out of the Regular Army Reserve; personnel of the Territorial Army which was embodied at the same time; and members of the Military Hospitals Reserve who, in fulfilment of the terms of their enrolment, were voluntarily enlisted on mobilisation. Of varying degrees of proficiency according to the length and nature of their service, all were to some extent experienced in the functions of the R.A.M.C. and the duties of its personnel; in any case circumstances were such as to require that they should be immediately available for posting to medical establishments without further training.

For its further expansion the R.A.M.C. was dependent upon post-mobilisation recruitment as applicable to the Army at large. With the exception of those obtained by voluntary recruitment, restricted to a few specified occupations, or by direct enlistment of certain tradesmen, reinforcements were derived entirely from succeeding army classes called up for military service by proclamation issued under the authority of the Military Service (Armed Forces) Acts. While some attempt was made to select for the R.A.M.C. such recruits as had some knowledge of, or predilection for, any of the technical subjects included within the range of medical activities, yet the great majority were, at the time of their enlistment, as ignorant of the work of that Corps as they were unfamiliar with military life in general. Thus one of the most formidable, as well as one of the most significant, tasks undertaken by the Army Medical Services during the war lay in developing a system of training whereby many thousands of raw recruits were transformed into highly skilled and efficient technicians.

In peace-time the training of the R.A.M.C. was twofold, individual training and collective training. The first involved the preparation of each man for the technical duties required of him, during peace or war, as an individual member of a corps concerned with the care of the sick and wounded, and with the maintenance of the health of effective

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troops. The second consisted of his instruction in the organisation and functions of the medical services in the field, and in the part played by medical personnel when incorporated in field medical units. Individual training comprised, first of all, recruit training at the R.A.M.C. Depot, Haig Lines, Crookham, Aldershot, and, subsequently, training in one of the several trades applicable to the medical services at a military hospital or other medical establishment. Recruit training at the depot was of six months duration and was divided into two parts each occupying approximately three months. The first half was purely regimental and consisted of drill, physical training, and educational activities, and, after ten weeks of this routine, a short course of musketry, and instruction in methods of chemical warfare. The second half of the course was devoted chiefly to technical subjects including elementary anatomy and physiology, first aid, nursing, and stretcher exercises. At the conclusion of the course the recruit was required to pass an oral and practical examination after which he attended demonstrations at the Army School of Hygiene and was subsequently posted to one of the R.A.M.C. companies for duty in a medical unit, usually a military hospital in the first instance. All recruits, irrespective of the trade or employment for which they were intended, underwent this six months' training, and, as the standard of education required for entry in the R.A.M.C. was reasonably high, nearly all of them on joining their units already possessed a good grounding in the elements of anatomy, physiology, hygiene, and nursing; although almost entirely theoretical, this knowledge stood them in good stead when they were required to give it practical application in the care of patients and in the management of hospital wards.

The introduction of the Military Training Act, in June 1939, necessitated, in addition to the normal recruit training applicable to regular soldiers, a new scheme adapted to suit the special requirements of militiamen allocated to the R.A.M.C. As the statutory period of militia training was but six months in all, it was decided that not more than two of them should be occupied in preliminary training at the R.A.M.C. Depot, leaving the remaining four free for practical work in a military hospital. It was therefore required to concentrate, in two months, the essentials of a syllabus designed to extend over six. Instead of a course split into two parts, regimental and technical, the whole was now combined, and the working day was accordingly divided into one period of drill, one of physical training, one of instruction in chemical warfare, and four devoted to elementary anatomy and physiology.

The outbreak of war and the immediate expansion of the Army by recruits called up under the provisions of the National Service (Armed Forces) Acts completely altered the situation as regards the training of

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other ranks of the R.A.M.C., if only because the number of men entering the Corps was very much larger, while the time that could be allotted to their training was very much shorter. It was estimated that, owing to considerations of man-power in relation to projected military operations, three months at the depot must suffice for the preliminary military and technical training of recruits. Their further training, in respect of corps duties, R.A.M.C. trades, and field medical work, was to be undertaken subsequently by the units to which they were posted after completing recruit training. To meet this change in circumstances, arrangements were made whereby the recruits' course at the depot was reduced to one of three months' duration. A syllabus was prepared to provide for a total of 270 hours' instruction, extending over seven weeks' class work and covering four and a half working days each week, exclusive of fatigues, inspections, recreational training, and route marches which occupied Wednesday afternoons and Saturday mornings. Of the 270 hours' instruction given during the course, 120 hours were allotted to general military matters such as drill, physical training, chemical warfare, and passive air defence, while 150 hours were concerned with medical subjects including anatomy and physiology, first aid, nursing, stretcher exercises, and field work. The syllabus of this course was as follows:

SYLLABUS OF TRAINING FOR WAR-TIME RECRUITS
R.A.M.C. DEPOTS AND TRAINING ESTABLISHMENTS

Period of training—3 months.

Subject		*Time allotted in hours*
Physical training		48
Drill		48
Musketry		4
Chemical warfare:		
Use and care of respirator	2	
Respirator drill	2	
War gases	2½	
Gas chamber	½	
Chemical war weapons	1	
Anti-gas clothing and personal protection	1	
Decontamination	2	
Precautionary measures and gas detectors	3½	
Passive air defence	4	
Revision and examination	1½	
	—	20
Anatomy and Physiology:		
Skeleton	4	
Viscera	2	
Digestive system	2	
Circulatory system	3	
Respiratory system	2	
Excretory system	2	
Nervous system	2	
Locomotor system	2	
Revision	5	
	—	24

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Subject		*Time allotted in hours*
First aid:		
Wounds	2	
Haemorrhage	8	
Fractures	8	
Sprains and dislocations	1	
Shock	1	
Suffocation	1	
Insensibility	1	
Fits	1	
Effects of heat	1	
Effects of cold	1	
Burns and scalds	1	
Poisons	4	
Injuries of eye and ear	2	
Artificial respiration	2	
Treatment of gas casualties	4	
First field and shell dressings	1	
Roller bandage	3	
Triangular bandage	5	
Thomas' splint	7	
Antiseptics	2	
Methods of transport	1	
Improvisation of stretchers	1	
Revision	6	
	—	64
Nursing:		
General nursing	10	
Nursing of infectious cases	1	
Bed-making	4	
Temperature, pulse, and respiration	5	
Administration of medicines	2	
Remedial applications	2	
Special bandaging	1	
Instruments	4	
Sterilisation	2	
	—	31
Stretcher exercises		15
Field exercises		11
Organisation of medical services		1
General, including examination		4

Total instruction—270 hours.*

This syllabus is based on four and a half complete working days each week and is exclusive of fatigues, inspections, recreational training and route marches.

The scheme of mobilisation for the medical services included contingent arrangements for increased training facilities to cope with the large number of entrants to the R.A.M.C. occasioned by war. Provision was made for the redesignation of the R.A.M.C. Depot at Crookham as No. 1 Depot and Training Establishment, R.A.M.C., and for its expansion to hold a total of 2,000 recruits under training. After the declaration of war, and already overflowing into tented camps erected on the adjacent race-course as the result of the influx of reservists and the formation of additional recruit companies, this depot was unable to obtain the extra accommodation necessary to permit expansion to the prescribed extent. In December 1939, it was

* Plates I–XIII following page 312 illustrate certain features of this training.

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moved from Haig Lines to Boyce Barracks, Crookham, where the formation of three more recruit companies became feasible. There was also a project for a second depot, to be called No. 2 Depot and Training Establishment, R.A.M.C., in Scotland, and this was effected by the opening of a new camp at Newbattle Abbey, Dalkeith, in September 1939. Its first intake towards its authorised complement of 1,000 recruits was received during the following month. Thus there were early established two depots, one with a capacity of 2,000 and the other of 1,000, whose monthly output of recruits after three months' training was estimated at 630 and 315, respectively, a total of 945.

However, the position in the autumn of 1939 was that requirements, in connexion with the building up of the expeditionary force in France to the projected strength of seven army corps within the first year of the campaign, included the provision of trained non-commissioned officers and men of the R.A.M.C. to the number of 5,000 before the end of the year 1939, and a further 12,000 by September, 1940. Given an estimated average intake of 2,000 recruits each month it was obvious that the then-existing means of training, with a maximum output of 1,000 per month were inadequate to supply immediate needs. It was therefore proposed to provide a third depot to hold 2,000 recruits who, as an emergency measure, would undergo a course of not more than two months' training in technical subjects only; their general military training would be carried out, not at the depot, but with their units. The original plan was subsequently modified and the capacity of the depot reduced, being fixed at 1,000 instead of 2,000. The scheme was to be applied to personnel intended for general hospitals, casualty clearing stations, and other units where purely technical training was the primary necessity. Personnel of forward medical units, e.g. the field ambulances, whose duties were chiefly those of the collection and evacuation of casualties and concerned almost entirely with field work, could, if necessary, be brought to the required state of proficiency by unit training. Accordingly, No. 11 Depot and Training Establishment, R.A.M.C., was opened at Beckett Park, Leeds, on December 1, 1939, where recruits underwent a special intensive course of training in technical subjects extending over two months.

The syllabus of this intensive course was as follows:

SYLLABUS OF TRAINING FOR SPECIAL INTENSIVE COURSE

at

NO. 11 R.A.M.C. DEPOT AND TRAINING ESTABLISHMENT

Period of training—2 months.

Subject	*Time allotted in hours*
Anatomy and physiology:	
Skeleton	4
Viscera	2
Digestive system	2

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Subject	*Time allotted in hours*	
Anatomy and physiology (*continued*):		
Circulatory system	3	
Respiratory system	2	
Excretory system	2	
Nervous system	2	
Locomotor system	2	
Revision	5	
	—	24
First aid:		
Wounds	2	
Haemorrhage	8	
Fractures	8	
Sprains and dislocations	1	
Shock	1	
Suffocation	1	
Insensibility	1	
Fits	1	
Effects of heat	1	
Effects of cold	1	
Burns and scalds	1	
Poisons	4	
Injuries of eye and ear	2	
Artificial respiration	2	
First field and shell dressings	1	
Roller bandage	3	
Triangular bandage	5	
Thomas' splint	7	
Antiseptics	2	
Methods of transport	1	
Improvisation of stretchers	1	
Revision	3	
	—	57
Nursing:		
General nursing	10	
Nursing of medical and surgical cases	6	
Nursing of infectious cases	4	
Bed-making	8	
Temperature, pulse, and respiration	5	
Administration of medicines	3	
Remedial applications	2	
Enemata	3	
Special bandaging	1	
Instruments	4	
Sterilisation	3	
Feeding of bed-patients	1	
Ward management	4	
Care of patients' kit	2	
Revision	5	
	—	61
Stretcher exercises		16
Field medical equipment		1
Hygiene		3
Organisation of medical services		2

Total instruction—164 hours.

In addition one complete day is allotted to field training and one to tent-pitching.

Thus by the end of 1939, arrangements for the preliminary training of other ranks, R.A.M.C., were completed, and the process itself was already well under way. More than 2,800 recruits, including clerks,

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cooks, etc., attending special courses as well as those completing the normal recruit training, had already passed through No. 1 Depot; at No. 2 Depot there were some 700 in training, half of whom had almost completed the course, while No. 11 Depot had received its first intake of recruits for the special two months' course. In order to supply the number of trained personnel, particularly in respect of N.C.Os., required to complete new units in process of preparation for active service, recourse was made to medical establishments in overseas garrisons which, being staffed by regular soldiers drafted there before the war, constituted a reservoir of highly trained men. A proportion of these was therefore withdrawn and replaced by others, partially trained or even untrained, sent out in relief.

With the return of the B.E.F. from France and the necessity of making up deficiencies in the establishments of depleted units, some difficulty was experienced in utilising the services of personnel who had received only two months' recruit training. As already described, it was the intention that those trained at No. 11 Depot under the special short-term scheme should be posted only to certain units, such as general hospitals and casualty clearing stations, where they could in due course complete their military and field training. Owing to the large numbers of men required it had been found necessary to use them indiscriminately for units of all kinds, including field ambulances which, now having operational duties in connexion with the defence of the United Kingdom against invasion, had no use for any other than fully trained personnel. The Army Medical Directorate therefore urged that the system of training a proportion of recruits for two months only should cease, and that No. 11 Depot should be reorganised and brought into line with the other depots, thus producing a total monthly output of approximately 1,300 recruits all of whom would have received three months' training.

This proposal was sanctioned and brought into effect in September 1940.

Training of other ranks, R.A.M.C., continued at high pressure throughout the remainder of the year 1940. In addition to normal recruit training, all three depots arranged special courses of instruction for personnel in certain specialised occupations, e.g. dispensers, clerks, cooks, sanitary assistants, etc. Courses of four weeks' duration for the training of N.C.Os., senior and junior, and of warrant officers, were held continuously at each depot. At No. 1 Depot alone the number of recruits of one class or another passing through during the year was 11,000. During the following year, 1941, intakes to the R.A.M.C. were smaller and the output of trained men correspondingly lower, being about 6,000 in the case of No. 1 Depot. Owing to the decreased number of entrants there was no longer need for three separate training establishments, and so, in August 1941, No. 2 Depot and Training

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Establishment, R.A.M.C. was disbanded, having trained some 6,000 personnel since its opening in September 1939.

During the course of the war the system of R.A.M.C. training underwent numerous modifications, of greater or less moment, occasioned by altered conditions. Some of these were due to considerations purely medical, others to changes made in the organisation of military training in general. Among the former was the matter of depot staff which during peace-time and the earlier years of the war was almost entirely medical in constitution. Thus from the time of their arrival at the depot recruits, allocated to sections distributed among the several recruit companies, were subject to the control of medical officers who, as company commanders, were responsible for their discipline and administration including accommodation, feeding, clothing, equipping, documentation, and pay. The chief instructor, who directed technical training, and the training officers who assisted him by delivering lectures, conducting demonstrations, and supervising the exercises included in the programme were also medical officers. All N.C.Os. employed as instructors, except those of the physical training staff, belonged to the R.A.M.C. Subsequent events, however, compelled a departure from this policy. As the supply of medical practitioners fell increasingly short of demand, the need for economy in medical manpower became more insistent. Hence the release of medical officers from administrative and instructional appointments in order that they might be made available to undertake duties requiring professional qualifications. During 1941 medical officers as company commanders or training officers at the depots were almost entirely replaced by quartermasters, R.A.M.C. An even more radical change followed in 1943 when officers of combatant arms, and therefore having no connexion with the medical services, were appointed as company commanders in R.A.M.C. depots. Similarly, demands for trained N.C.Os., R.A.M.C., led to the replacement of many of them by instructors drawn from other branches of the service. Whether or not these innovations influenced training from the aspect of its efficiency is perhaps a moot point. Some, themselves intimately concerned with the administration of the system throughout its many vicissitudes and speaking with the knowledge of experience, have asserted that the expedient was not only well-warranted but also vindicated by results. In any event the provision of an adequate and suitable staff of instructors, both officers and N.C.Os., had for many reasons and in many respects, proved difficult and the maintenance of continuity still more difficult owing to continual changes due to promotion, transfer, and demands for officers and men with experience of active service, that is to say precisely those best equipped to ensure the quality of realism in training.

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PLATE I :
The Stretcher Sheet

PLATE II :
The Multi-purpose Stretcher at one time part of the equipment of a Field Surgical Unit

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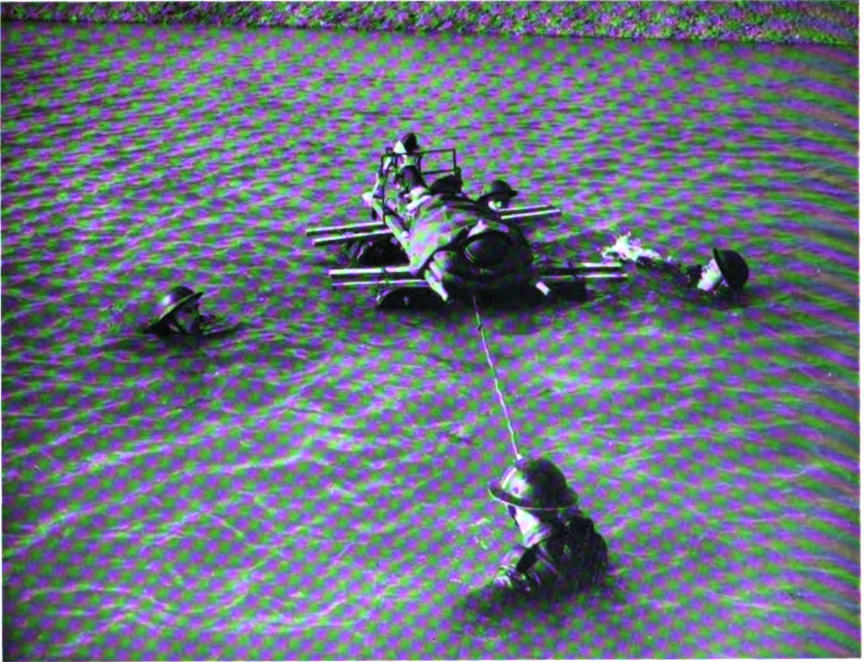

PLATE III : Battle Course 167 Field Ambulance. The Collection of Casualties

PLATE IV : Battle Course 167 Field Ambulance. The Collection of Casualties

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PLATE V : Battle Course 167 Field Ambulance. The Collection of Casualties

PLATE VI : Battle Course 167 Field Ambulance. Camouflage

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PLATE VII : Chemical Warfare. Anti-Gas Clothing

PLATE VIII : Chemical Warfare. Drill for Stretcher-bearers

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PLATE IX : Chemical Warfare. Drill for Stretcher-bearers

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Plate X : A Dummy Casualty for Training in Wound Dressing

Plate XI : A Dummy Casualty for Training in Wound Dressing

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PLATE XII : Realistic Tie-on Model for Instruction in Wound Dressing

PLATE XIII : Realistic Tie-on Model for Instruction in Wound Dressing

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PLATE XIV : The Removal of a Casualty from an A.F.V.
The Harness and Hoist

PLATE XV : The Removal of a Casualty from an A.F.V.
by Harness alone

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THE INTRODUCTION OF THE PRIMARY TRAINING CENTRE

In 1942 a far more drastic alteration was brought about as the result of total reorganisation of the system of military training. Hitherto all intakes to the Army, that is to say men of each succeeding army class called up for military service, had been allocated to specific arms of the service at the time of recruitment although, selection being based upon a brief interview and a rapid survey of a man's more obvious qualities, but little discrimination was possible. From the day of his joining for duty, therefore, every recruit belonged to a particular regiment or corps. Thus entrants to the R.A.M.C. were recruited direct from civil life and, as already described, underwent their general military training, as well as their preliminary technical training, at a R.A.M.C. training establishment.

By the new procedure which came into force in August 1942[1], all intakes to the Army were in the first instance posted to the General Service Corps (G.S.C.) formed to this end in February 1942.[2] The first six weeks of their service were spent at units of a new kind, also specially established for the purpose and known as primary training centres, (P.T.Cs.). Here, recruits completed their basic military training common to all arms, were subject to personnel selection tests with a view to determining the particular branch of the service for which they were best suited, and, finally, were posted to a training establishment of that arm to undergo corps training.

This reorganisation profoundly affected the training of R.A.M.C. personnel in regard to the material available, the methods employed, and the results obtained. P.T.Cs. were located at each of the R.A.M.C. depots, as was the case with most training establishments, and took over a portion of their accommodation. This involved a reduction in the size of the depots and some closing up of the personnel accommodated. Recruit companies were decreased in number, e.g. from eight to four in No. 1 Depot. Intakes were received in alternate months but varied greatly in strength, for, although nominally fixed at 300, they were in fact sometimes as many as 600 and on other occasions as few as 250. As regards the recruits themselves they now joined the depots having completed six weeks' service and having already received their basic military training. In some respects this was an advantage in that they had some experience of life in the Army and had been given the opportunity of becoming acquainted with conditions of military service and of adjusting themselves to their new environment before being called upon to devote their minds towards mastering the intricacies of a technical training. Moreover, in accordance with the principle of allocating a man to the duties for which he was best fitted all had undergone the process of personnel selection and had been subject to intelligence testing and to investigation of personal characteristics,

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aptitude, and inclinations. Presumably then, the recruits now forthcoming were, within the limits imposed by considerations of man-power, likely to prove more suitable for the highly specialised service in which they were to be trained. That this was indeed the case is recorded as the opinion of more than one of those at the time in command of R.A.M.C. training establishments and therefore, to some extent at least, responsible for the results produced.

These benefits notwithstanding there were other features less favourable in their effects. True that recruits now joined the depot having completed the military side of their preliminary training, but, as they had in so doing already expended six weeks of the total period of three months allowed for the whole of recruit training, there remained only six weeks more in which to undertake their instruction in Corps duties and technical subjects. To concentrate into six weeks the normal course of training designed to extend over three months, although, doubtless, in theory unobjectionable, proved in practice unattainable. It was no matter for wonder that the average recruit found his endurance unequal to the strain of attending daily an almost non-stop succession of lectures and demonstrations in what to the tyro must have appeared the highly abstruse subjects of anatomy, physiology, first aid, etc. Efforts to amplify and develop the practical, at the expense of the oral, side of the teaching comprised within the syllabus assisted to a certain extent, but even so it was found necessary to intersperse lectures and demonstrations with outdoor exercises, such as drill, physical training, and other activities outside the scope of a strictly technical programme, thus involving loss of valuable training time until, at a later date, in some measure restored by an extension of the period allotted to corps training.

Personnel selection did not invariably operate with advantage either to the medical services or to the men concerned. Although instrumental in gaining for R.A.M.C. a number of highly eligible men who would otherwise have been absorbed by other arms, it was at the same time responsible for the entry into the Corps of many with personal inclinations in other directions. This factor was increasingly in evidence as the system which aimed at employing every man in the capacity most suited to his qualities, beginning on a more or less voluntary basis, became more and more a matter of compulsion. Thus it was that a not inconsiderable proportion of entrants to the R.A.M.C., regarded by the personnel selection staff as eminently fitted for employment in the medical services, strongly resented posting to a non-combatant corps. As the result of their experiences during their six weeks' basic military training, some had derived intense satisfaction from handling a rifle or a Bren gun and from driving a bayonet through a sack stuffed with straw. After even this modicum of preparation for violent action

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against the enemy, their transfer, for reasons unknown or uncomprehended, to such unexciting tasks as the carriage of stretchers or the administration of enemata appeared an intolerable anticlimax if not a personal affront. Others, having relished the opportunity for strenuous physical exertion in the open air, found incarceration in a lecture-room and application to book-work utterly unendurable. Furthermore, personnel selection did not prevent the allocation to the R.A.M.C. of some men whose education was inadequate for the demands made upon them. Severely handicapped in their attempts to grasp the technicalities of the subjects taught, they derived little profit from the instruction given and were thus incapable of reaching a reasonable standard of proficiency. Formerly the solution to the problem of misfits among recruits lay in their transfer to a different form of employment in another arm of the service offering them greater scope for their particular qualities. Now, however, this outlet was closed; having once been selected for the R.A.M.C., in the R.A.M.C. they must remain, at all events during their period of corps training. The end result was that an appreciable percentage of recruits failed to reach the standard to pass the terminal examination and so qualify for further training in a R.A.M.C. trade after posting. For this rejected remnant there was before them no more glamorous prospect than employment in the prosaic, if useful office of general duty orderly.

By mid-1943 almost the whole of the country's male population available for military service had been absorbed into the armed forces, and resources in man-power were confined mainly to the relatively small periodical increments provided by young men reaching military age and registrable under the National Service (Armed Forces) Acts. Consequently intakes to the Army were much reduced and in the case of the R.A.M.C. dwindled to a monthly average of about 50 only. Thus No. 11 Depot became redundant and was disbanded on August 16, 1943. The falling off in recruits did not leave the one surviving depot idle, for another feature of training was developed at this time in the form of rehabilitation and retraining of protected personnel repatriated after long periods of captivity as prisoners-of-war. In October 1943, some 1,200 men in this category, recently returned from Germany, were received at No. 1 Depot. They included 700 other ranks, R.A.M.C., and 400 regimental stretcher bearers. After three years in prison camps and out of touch with the numerous advances in methods and organisation made during that time, the former were in need of retraining to fit them for resumption of duty, and the latter, being precluded by the terms of the Geneva Convention from re-joining their own fighting units, were given the opportunity of transferring to the R.A.M.C. and of training in medical, instead of in combatant, duties.

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REFLECTIONS ON TRAINING

Study of the system of recruit training in the R.A.M.C., as practised before and during the war, reveals striking contrasts in regard both to the matter taught and to the methods of teaching. Apart from their intrinsic significance, they provided some indication of the trend of development and change of essential function in the medical services under the impact of war. In the first place it is to be noted that all recruits trained in peace-time, being for the most part destined for a military hospital or similar establishment, were required to qualify as nursing orderlies. Not unnaturally, therefore, training centred primarily around nursing and ward management, and the greater proportion of the recruit's time and energies was directed towards acquiring a detailed knowledge of the subjects upon which the efficient care of the sick depends. Great stress was laid upon anatomy, physiology, and the functions of the several systems of the body, upon bandaging, bed-making, personal hygiene, and all matters concerned with the handling of hospital patients. But little attention was, or indeed could be, paid to those subjects that formed the basis of the work undertaken by the medical services in war, such as the collection and disposal of battle casualties. Field training was incidental only, and such as it was, consisted of a few circumscribed exercises unrelated to any comprehensive scheme of casualty disposal and having no obvious reference to the organisation and disposition of medical units in battle. In most respects training tended to be stereotyped and theoretical. Medical equipment of various kinds required for training purposes was inadequate or wholly lacking. Many instruments and articles of equipment, including even the first field dressing and the shell dressing, were known to recruits on paper only, and, although they were required to make elaborate sketches of these things and could usually describe them with complete accuracy, they had in many cases never seen or handled the objects as such. Stretcher exercises in those days constituted a drill, and little more than a drill, calling for a series of strictly prescribed movements, by each member of the squad, executed with smartness and dispatch.

War and its attendant circumstances imposed changes in object and in method. At the outset, reduction in the period of training from six months to three implied a fresh approach to the question of what was sought to teach and how best it could be taught. A limit of three months, little enough for the training of a R.A.M.C. recruit, enjoined concentration upon primary essentials rather than elaboration of detail, and compelled the elimination of much that, while suitable to the parade-ground, was inapplicable to the battlefield. For example, stretcher drill as an almost ceremonial evolution performed by four bearers was discontinued, and instead, recruits were taught a method of stretcher-loading within the capacity of the number of bearers likely to be

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available under conditions of active service, i.e. two. Of first importance was the fact that the duties of the medical services in war were far more comprehensive than those undertaken in peace-time, and the demand was now primarily for personnel to form field units, such as the field ambulance rather than for nursing orderlies to staff military hospitals, the more so on account of the policy whereby a large proportion of military casualties were treated in civil hospitals. For this reason it was desirable that every man in the R.A.M.C. should at an early stage in his service gain a wider, if less particular, knowledge of the many technical matters within his province than had formerly been the case. Training was therefore made more versatile and at the same time less academic. Thus it was that anatomy and physiology and kindred subjects of the more scientific kind yielded pride of place in the syllabus to first-aid treatment of wounds, immobilisation of fractures, arrest of haemorrhage, prevention of shock, resuscitation, etc. In order to afford experience rather than merely to impart information, practical demonstrations were, as far as possible, substituted for oral lectures. Every effort was made to ensure that the recruit himself carried out the various methods and procedures demonstrated to him, that he understood the fundamental principles involved, and that he knew the reasons why he was required to do what he did in the way he did it. So he gained confidence in his ability and, by encouragement in the exercise of his own initiative, became purposeful and self-reliant. Material assistance was provided by an adequate supply of equipment available for training purposes; field medical panniers complete with dressings and bandages, splints, instruments, field medical appliances, tents, and vehicles were there to be examined and handled by the recruit who thus had an opportunity of accustoming himself to the tools of his trade, wherein he enjoyed a great advantage over his peace-time counterpart who derived his knowledge of these things chiefly from diagrams and drawings on a blackboard.

Of the many advances in methods of teaching two are worthy of special attention. One of these was the training film which, from modest beginnings, was increasingly employed in connexion with a greater variety of matter as technique was developed and improved. The efficacy of these films varied in proportion to the skill exercised in their production, but there was no question of their success as a means of teaching technical intricacies, if only for the reason that the presentation of a subject in pictorial and narrative form, utilising the eye no less than the ear as a medium of reception, called for less conscious effort on the part of the learner and made a stronger, and therefore more lasting, impression on his mind. The second of these innovations was the use of models representing wounds of all kinds inflicted upon various parts of the body (Plates X–XIII). The preparation of these models

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showed no lack of ingenuity either in the art of reproduction or in contriving that they could be applied to the body of a living subject for demonstration purposes. Results were thus convincingly life-like; little was left to the imagination and the liberal use of crimson paint ensured that the effect was nothing if not striking. Although somewhat macabre in themselves the models did at least emphasise the nature and extent of wounds as they were to be seen in action and gave a realistic quality to the teaching of first aid quite impossible to attain when the wound or injury under treatment has constantly to be pictured by the eye of faith alone.

It was, perhaps, in regard to field training that the most notable developments were to be seen. Field exercises were now organised on a comprehensive basis and covered the activities of the medical services throughout the battle zone. In addition to instruction in the particular duties assigned to them individually or collectively, recruits were given a description of the general scheme for the disposal of casualties and of the disposition of medical forces along the chain of evacuation from front line to base. Thus they had an opportunity of appreciating the significance of the part they were required to take in the execution of a co-ordinated plan. They were trained and practised in the methods employed in gathering, and rendering first aid to, casualties in the firing-line, in their removal to the nearest regimental aid post and their subsequent concentration in casualty collecting posts, in the reception and treatment of wounded at advanced dressing stations and in their ultimate evacuation from the fighting area. The principles governing the distinction to be made between various classes of casualty, and the selection of cases for resuscitation or urgent surgery were explained and, as far as possible, demonstrated; administrative considerations such as the regulation of ambulance car traffic and the control of motor ambulance convoys all had a place in the practical instruction given during these exercises. Throughout the course of their field training personnel were taught the value of improvisation and the manner in which articles of equipment usually available on a battlefield could be utilised for the provision of splints, transport, shelter, and other adventitious aids to the care and comfort of the wounded. (Plates I–VI).

Lastly, mention must be made of the increasingly prominent place given to field hygiene in the training of R.A.M.C. personnel. The preparation of model grounds illustrating, by full size or scale models, the innumerable sanitary appliances and contrivances required by an army in the field, and the uses to which they were put, was another example of replacement of theoretical, by practical, instruction. In no direction did the use of films prove of greater value than in the teaching of hygiene, concerned as it was with a variety of somewhat complex natural phenomena. Subjects of so great importance as the life-cycle of the mosquito in connexion with the transmission of malaria, or the

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habits of the house-fly in relation to incidence of intestinal disease, were matters difficult to describe orally to an audience not initiated into the elements of biology and unfamiliar with scientific terminology. Visually recorded by photography or micro-photography and projected on to a screen, these processes became self-evident and intelligible to all.

R.A.M.C. TRADES

In peace-time it was incumbent upon every soldier in the R.A.M.C. to qualify as a tradesman; that is to say he was required, after completing the recruits' course, to undergo further training and become proficient in one or more of the technical occupations appertaining to the work of the medical services. In so far as it was feasible to do so, this principle was followed during the war, but in point of fact, as has already been stated, there were among the war-time entrants to the Corps some incapable of passing the recruit class examination, to say nothing of further training and qualification as tradesmen. Normally these men would have been rejected as soon as their incapacity was discovered but in the special circumstances of the time there was nothing for it but to retain them and employ them in general duties outside the scope of any particular trade. These exceptions apart recruits were given every encouragement and opportunity to qualify as tradesmen and in due course to obtain advancement in their respective trades.

R.A.M.C. trades, their number and variety, were subject to modification from time to time in the course of the war, some being suspended and others being introduced as the situation changed or new demands arose. They included the following:

- Trained nurse
- Operating room assistant
- Laboratory assistant
- Optician
- Nursing orderly
- Special treatment orderly
- Clerk
- Storemen (technical)
- Chiropodist
- Hospital cook
- Masseur
- Radiographer
- Dispenser
- Mental nursing orderly
- Transfusion orderly
- Clerk orderly (clinical)
- Sanitary assistant

In accordance with *Standing Orders for the R.A.M.C.* the peace-time procedure governing the classification of tradesmen and their advancement in their trades fell into abeyance, and in its stead the prescribed arrangements for the general training and classification of tradesmen under war conditions came into force. These, subsequently amended as found expedient, were devised to ensure more intensive training and more rapid advancement of tradesmen to meet the requirements of

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individual trades, and also to give wider scope for the acceptance of civil qualifications in substitution for training within the Corps after joining the Army. Possession of a recognised civil qualification entitled a recruit to acceptance as a tradesman on enlistment, provided the commanding officer of the depot or unit which he first joined was satisfied as to his qualifications and general character. Thus a recruit holding the qualifying certificate for first aid and nursing, issued by the St. John Ambulance Brigade, the B.R.C.S., or comparable organisation, could be classified as nursing orderly class III, and so draw the pay of classification, from the date of his enlistment instead of after one month's service as in peace-time. Evidence of suitable higher qualifications, as indicated by the production of a certificate granted by one of the civil registering or regulating bodies fully recognised and scheduled for this purpose, rendered a recruit not only acceptable as a tradesman but also eligible for advancement to class I in his trade after completing six weeks' whole-time employment in that trade, subject to a recommendation by his commanding officer and provided he had satisfactorily undergone his preliminary military training. The qualifications recognised in this connexion included: the certificate of registration as male nurse under the Nursing Registration Acts; the certificate of proficiency granted by the Royal Medico-Psychological Association; the licence of the Pharmaceutical Society; the diploma of membership of the Society of Radiographers; the certificate as sanitary inspector issued by the Royal Sanitary Institute; the fellowship of the Worshipful Company of Spectacle Makers; and many more of a like nature. Holders of these qualifications were thus, under war-time arrangements, able to reach a class I classification within a few months of enlistment, whereas, in peace-time, advancement to class I was conditional upon the completion of at least one year of service. They were also exempt from another peace-time rule, of general application, prescribing that a tradesman should not be advanced beyond class III of his trade until he had also qualified as nursing orderly class III. This provision was enjoined on the grounds that every member of the R.A.M.C. might rightly be expected to have some expert knowledge of ward management and care of the sick. Exception was made in the case of the tradesmen under discussion in order to obviate the delay in making them available for their special work that would have been occasioned by training in other directions, and because the technical nature of their duties restricted their employment within closely circumscribed limits.

A tradesman not eligible for accelerated advancement by virtue of possessing a special civil qualification could, nevertheless, attain a higher classification within his trade after further training in the Army. He was entitled, on the recommendation of his commanding officer, to classification

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in class II of his trade after completing one year in class III and being certified as having reached the prescribed standard of proficiency. Further advancement to class I was contingent upon his completing a year's service in class II and passing the trade test for that class with a recommendation for upgrading from his commanding officer. Advancement above class III in any trade was, as stated above, conditional upon obtaining the qualification of nursing orderly class III. Recruits who possessed no civil qualifications entitling them to acceptance as tradesmen on enlistment were, after a course of training and at the discretion of commanding officers, trade-tested on completing six months' service. If found efficient they were classified in class III of their trades and became eligible for further advancement under the conditions already described.

The training of tradesmen was organised and conducted by all medical units as a part of their normal activities. As regards some trades, such as those of nursing orderly, operating room assistant, and mental nursing orderly, the entire training was given within the appropriate medical unit, e.g. military hospital, general hospital, or casualty clearing station. In the case of others, training within the unit was supplemented by special courses of instruction held elsewhere and arranged to meet the requirements of the particular trade. Thus clerks attended clerical courses at the R.A.M.C. depots, laboratory assistants special courses held for them at command laboratories; sanitary assistants were given technical instruction at the Army School of Hygiene, radiographers at the Army School of Radiography, hospital cooks at the Army School of Cookery, and so forth. Training of tradesmen was emphasised as being one of the primary functions required of every medical unit. It was insisted that training should comprise organised lectures and demonstrations, and that instruction should adhere as far as possible to the syllabus laid down in standing orders, allowances being made for the widely different circumstances in which units were serving in various parts of the world. Wherever it was feasible to do so, trade-testing was carried out by the commanding officer of the unit by which the training was given. When this was not possible arrangements were made for testing elsewhere. Commanding officers were instructed to bear in mind, when carrying out the initial trade-test for class III classification, that recruits accepted as experienced in civil life, although academically or technically qualified, were likely to be unfamiliar with technicalities peculiar to service conditions; tests were therefore to be directed towards ascertaining the candidate's general efficiency in his basic trade rather than demanding an exact and detailed knowledge of methods and procedure as adopted in the R.A.M.C.

Recruitment and training of personnel for some of the more highly technical branches of the medical services were subject to special

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arrangements made necessary by the peculiar circumstances of each, more particularly in regard to the recognition of civil qualifications, the sources of supply available, and the powers exercised by professional associations and trade organisations. In most cases the assistance of civil bodies was a prominent feature of these arrangements, especially in the early stages of the war. At a later date the Army was forced to rely more and more upon its own devices as a result of changing conditions including limitations in man-power, alterations in the schedule of reserved occupations, exhaustion of external resources, and the needs of the civil population.

DISPENSERS

In view of the large demands for qualified dispensers that would be forthcoming from the medical branches of the armed forces and the civil defence services in the event of war, the Ministry of Health, in January 1939, requested the Pharmaceutical Society of Great Britain to constitute a Central Pharmaceutical Emergency Committee which, with the assistance of local committees, would maintain a national register of pharmacists and dispensers and undertake arrangements for the recruitment of those required by the various services should occasion arise. On the outbreak of war this committee, reconstituted as the Central Pharmaceutical War Committee (C.P.W.C.), was informed by the War Office of their immediate requirements in qualified dispensers, and of the terms of service it was proposed to offer. These were regarded as satisfactory, and it was agreed that all demands for dispensers, in so far as the Army was concerned, should be submitted by the War Office to the C.P.W.C. who in return would nominate the required numbers from their register of those willing to serve. It is to be noted that as pharmacists and dispensers were at that time included in the schedule of reserved occupations, as decreed by the National Service (Armed Forces), Acts, their enlistment was entirely voluntary; indeed, at first their recruitment was disallowed and special action to waive this prohibition was found necessary.

In accordance with the terms of service agreed by the War Office and the C.P.W.C., candidates recruited after nomination by the latter were in the first instance sent to one of the R.A.M.C. depots for a course of military training, extending over some six or eight weeks, before being posted to medical units in their specialist capacity. They were enlisted in the rank of private and promoted to the rank of acting sergeant from the day of enlistment. On posting for duty as dispensers they assumed the rank of sergeant dispenser at a special rate of pay from that date; this provision was afterwards revised and pay as sergeant dispenser made applicable from the day of enlistment.

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In spite of arrangements whereby the War Office, month by month, notified the Central Pharmaceutical War Committee of their requirements, and the latter notified those selected for service as to when and where they should attend for enlistment, it was subsequently discovered that in some cases men recruited as dispensers proved in fact to be unqualified, while on the other hand qualified pharmacists found their enlistment deferred pending vacancies in the establishment of dispensers even though they had already been accepted for service and had, in some cases, actually vacated their civil employment in anticipation of joining the Army. Further investigation showed that the time which elapsed between the nomination of a candidate and his joining the R.A.M.C. depot was due to the necessity of submitting each name to the authorities regulating the operation of the schedule of reserved occupations. Eventually steps were taken to eliminate this time-wasting procedure. In order to prevent the recruitment of unqualified persons, recruiting centres were informed that only the following qualifications were acceptable:

(1) Druggist's and chemist's qualification of the Pharmaceutical Society of Great Britain;
(2) Licence of the Pharmaceutic Society of Ireland;
(3) Colonial qualification as pharmacists accepted as registerable by the Pharmaceutical Societies;
(4) Certificate as assistant to an apothecary of the Society of Apothecaries of London; and
(5) Certificate as assistant to an apothecary of the Society of Apothecaries of Dublin.

It was arranged also that at the time of presenting himself at the recruiting centre, a candidate was required to produce a certificate of qualification and recommendation signed by the secretary of the Pharmaceutical Society, the certificate being subsequently forwarded to the R.A.M.C. depot at which the candidate eventually joined for duty.

The procedure outlined above continued to govern the recruitment of all dispensers until April 1941, when the reservation of pharmacists and dispensers was made the subject of a minimum age limit, reservation of the former being restricted to those above 30, and of the latter to those above 35 years of age. In the following November, both were removed altogether from the schedule of reserved occupations. Thereafter the supply of dispensers was maintained through the normal army intake and was regulated by the usual methods of obtaining specialist tradesmen for the various arms of the service; arrangements for recruitment by negotiation with the Central Pharmaceutical War Committee thus came to an end.

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OPTICIANS*

In 1919, the Army entered into an agreement with the Ministry of Pensions whereby soldiers' spectacles were supplied entirely through the Optical Appliance Depot of that Ministry although still dispensed, as formerly, from the prescriptions of military ophthalmologists in all cases. Thus the trade of optician, R.A.M.C., gradually fell into abeyance, and, eventually, the provisions relating to the enlistment and training of opticians were deleted from *Standing Orders for the R.A.M.C.*[3] When, owing to the adoption of a lower standard of vision for recruits, the demand for spectacles increased to an extent beyond the capacity of the Optical Appliance Depot, recourse to other means of supply became necessary. Relief was obtained through the National Ophthalmic Treatment Board. A proportion of soldiers requiring examination, especially in localities where there was no military ophthalmologist conveniently available, was then referred to civil ophthalmologists working on behalf of this organisation, and where necessary spectacles were supplied by dispensing opticians also connected with that body.

The outbreak of the 1939–45 War occasioned a vast additional volume of work in regard to the provision of spectacles for personnel of the Army, and it was not long before the existing machinery proved totally inadequate; in fact arrears accumulated to such a degree that large numbers of soldiers were left in a state of relative inactivity for long periods, often of six or eight weeks and sometimes more, awaiting their spectacles. Early in 1940, with the object of reducing these arrears and expediting future supplies, arrangements were made with the Joint War Emergency Committee representing the sight-testing opticians for assistance by the latter in the dispensing of the large number of prescriptions awaiting execution and in undertaking a proportion of current requirements. Despite the aid so given it was found impossible to keep pace with demands. Dependence upon civil organisations having failed, there was no alternative but to provide resources within the Army itself. To this end it was decided to establish, in connexion with a number of military hospitals in the United Kingdom, military optical centres staffed and equipped both for ophthalmological examination and for the dispensing of prescriptions on the spot. Thus arose the need for military opticians to carry out the fitting of frames, glazing of spectacles, and other optical work of these centres. The trade of optician within the R.A.M.C. was therefore restored, and steps were taken for the mustering in that trade of all suitable qualified personnel already serving in the Corps. At the same time the Board of Registration of Medical Auxiliaries and the Central Emergency Committee for Opticians were

* See Army Medical Services. Administration. Volume II. Chapter 11.

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asked to supply particulars of qualified opticians known to them as serving in other branches of the Army in order that their transfer to the R.A.M.C. might be effected. Provision was made also for the direct voluntary enlistment of civilian opticians, nominations being obtained through the same two bodies.

There was some question as to the qualifications to be required and the relative merits of those granted by various civil bodies, but, after discussion with the several authorities concerned, the following were scheduled as acceptable for entry into the R.A.M.C :

(1) Fellowship of the British Optical Association;
(2) Fellowship of the Worshipful Company of Spectacle Makers;
(3) Membership or Associateship of both these bodies; and
(4) Admission to the National Register of Medical Auxiliaries by full examination.

No distinction was made between dispensing opticians and sight-testing opticians, although it was made clear that the latter would be employed in dispensing only, since it remained the policy of the Army that all refractional examinations and prescribing should be undertaken by ophthalmologists.

All qualified personnel accepted in the trade of optician, whether directly enlisted or previously serving, were subject to the same terms of service. They were enlisted in the rank of private and after a short course of military training at a R.A.M.C. depot were promoted to the rank of acting sergeant with effect from the date of their employment as opticians. Their conditions of service, rank, and rate of pay were thus the same as those applicable to dispensers; the number included within establishments was, however, very much smaller, and when, during 1941, the age of reservation for opticians was raised from 30 to 35 the need for direct enlistment from civil sources almost entirely disappeared.

SANITARY ASSISTANTS*

With the outbreak of war came the urgent necessity of obtaining sanitary assistants for duty in connexion with the large number of new training camps and other military establishments springing up in every part of the country. An approach was at once made to the Royal Sanitary Institute asking that the Army's immediate requirements in respect of sanitary assistants, then amounting to about 130, should be brought to the notice of its members; with this request the Institute at once complied by means of a circular letter addressed to public health departments of local authorities. Simultaneously, action was taken to

* See Army Medical Services. Administration. Volume II, Chapter 2.

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obtain authority for the opening of recruitment, on a voluntary basis, to those holding any of the required qualifications, specified as follows:

(1) Possession of a certificate as sanitary inspector granted by the Royal Sanitary Institute or other competent examining body;
(2) evidence of employment by a civil public health authority and of training in the duties of a sanitary inspector; or
(3) evidence of previous service in a sanitary section of the Regular Army or T.A.

On receipt of nominations from the Royal Sanitary Institute or of direct applications, arrangements were made through local recruiting offices for the recruitment of civil sanitary inspectors willing to serve, and for their enlistment into the R.A.M.C. in the trade of sanitary military assistant. They were then posted to R.A.M.C. depots for preliminary training and subsequently to the Army School of Hygiene for a course of instruction in military hygiene. On completion of training they were allocated to units or to command pools for duty as required. It is to be noted that the terms of special enlistment applicable to sanitary assistants did not include automatic promotion to non-commissioned rank as in the case of certain other trades such as dispenser or optician. This discrepancy was subsequently the cause of much dissatisfaction, the more so because the circular letter issued by the Royal Sanitary Institute in September 1939, contained the statement, based on a misunderstanding of the information given by the War Office, that personnel specially enlisted as sanitary assistants would be posted for duty in the rank of sergeant. It was even asserted that as a result of this mistake many men had joined the Army under a false impression. In point of fact, seeing that the War Office by communication with the Institute and by letter addressed to every recruiting centre in the country, had at once called attention to, and contradicted, the error, it appeared unlikely that there could be many having any misapprehension in the matter.

The rank carried by sanitary assistants was determined by establishments, as in the case of most arms of the service, and varied according to the type of unit or formation to which they were posted. By reason of the inspectorial nature of their functions, non-commissioned rank was in most cases essential to the efficient performance of their duties; consequently the proportion of non-commissioned officers was considerably greater than in many other R.A.M.C. trades and at one time, in home establishments, exceeded 90 per cent. Moreover, with the vast development in the hygiene branch of the Army Medical Services entailed by campaigns undertaken in tropical and sub-tropical regions where preventive medicine assumed paramount importance, opportunities for advancement to those having technical knowledge in this

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direction were manifold. On the institution of the new medical units designated field sanitary sections and commanded by non-medical officers, sanitary assistants became eligible for commissioned rank in this connexion as being essentially those best fitted for the command of these units. Long before this stage of the war had been reached, however, the number of sanitary assistants required by the Army had far outrun the supply of trained sanitary inspectors available from civil sources. Moreover, local public health authorities became more and more averse from releasing any further members of their already depleted staffs. The Army Medical Services were therefore forced to rely to a greater extent than ever upon their own organisation for the training of sanitary assistants and to depend for their material upon suitable personnel drawn from the normal army intake.

CHIROPODISTS*

The prevalence of minor foot defects among recruits was apparent from the earliest days of the war, and as time went on the loss of military efficiency and actual wastage as a direct result thereof became increasingly a matter for concern. Manifestly the situation called for more active measures than those already provided by the somewhat primitive services to be derived from the regimental chiropody orderlies borne on the strength of certain types of combatant unit. Thus arose the necessity of including expert chiropody within the range of medical services available to troops under training. With this object, the introduction of the trade group of chiropodist and its addition to the schedule of R.A.M.C. trades was promulgated by Army Order in August 1940.[4] To ensure that only fully qualified persons should engage in this work, it was decided to accept as tradesmen in chiropody only those whose names were included in the official National Register of Medical Auxiliary Services (Chiropodists) 1940, which was confined to holders of certificates granted by one of the following bodies:

(1) Incorporated Society of Chiropodists;
(2) British Association of Chiropodists;
(3) Chelsea Chiropodists' Association;
(4) Northern Chiropodists' Association.

The personnel required were obtained by the transfer of qualified chiropodists already serving in the Army, whether in the R.A.M.C. itself or in other arms of the service, and also by direct enlistment from civil sources through nominations submitted by the Board of Registration of Medical Auxiliaries who, in response to a request from the Army Medical Directorate, undertook to co-operate in recruitment.

* See Army Medical Services. Administration. Volume II, Chapter 2.

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Qualified chiropodists were transferred or enlisted in the rank of private. Those who had not already done so were required to undergo a short course of military training. On being posted to units for duty they were granted the rank of corporal. The establishment for chiropodists initially authorised was on the scale of one per 1,500 men undergoing training at training centres, holding battalions, etc., and steps were taken to obtain at once 153 chiropodists for attachment to these units. Later on, when the number of men under primary training fell in consequence of reduction in the size of army intakes, chiropodists were no longer posted to particular units but were allocated as command pools available for duty with units of all kinds as circumstances dictated; eventually also, the establishments of certain field medical units were amended to include a corporal chiropodist. Finally, it may be mentioned that in order to prevent confusion between the qualified chiropodist, R.A.M.C., and the unqualified regimental chiropody orderly, the designation of the latter was changed to that of foot orderly.

LABORATORY ASSISTANTS, RADIOGRAPHERS AND MASSEURS

The trades of laboratory assistant, radiographer, and masseur or masseuse were included within the scope of the scheme for the employment of voluntary aid detachments with the armed forces in event of war. It was largely from the personnel of the V.A.D., therefore, that it was hoped to obtain the technicians required to supplement R.A.M.C. tradesmen and so to provide for the necessary expansion of these auxiliary branches of the medical services. On mobilisation of the V.A.D., volunteers with these particular qualifications were immediately forthcoming, but at no time was the number thus made available in any way adequate, chiefly because the rates of pay offered were far below those obtainable in civil employment and had therefore failed to attract members of those admittedly highly skilled occupations. With the expansion of the medical services came increasing demands for men, and still more for women, already qualified in this direction. The shortage, always marked, became progressively more acute with the passage of time, and before very long the situation became still worse owing to the dissension that arose among personnel of the V.A.D. on account of discrimination made between different groups of members in the matter of status and privileges. Whatever may have been the merits of the case, the fact remained that many of these technicians severed their connexion with the V.A.D., and it became impossible to rely on that organisation either for their replacement or for the supply of reinforcements. After much discussion, the trades of laboratory assistant, radiographer, and masseur or masseuse were removed altogether from the ambit of the voluntary aid detachments scheme, and in April 1941, authority was obtained for special arrangements whereby tradesmen

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and tradeswomen of these classes, in the numbers required, might be employed in an entirely civilian capacity. In the event, however, these special arrangements were implemented almost solely in respect of masseuses, alternative measure sufficing for the provision of laboratory assistants and radiographers.

Attempts had been made at the beginning of the war to recruit laboratory assistants by direct enlistment. It was found, however, that the designation, laboratory assistant, was misleading, and many of the men offering their services, although certainly laboratory assistants or technicians of some kind, were not in fact laboratory assistants within the medical definition of the term and had not, of course, received training in bacteriological or pathological methods. In any case this source of supply was soon exhausted and promised little in the future. Direct recruitment was therefore abandoned, and a training scheme evolved whereby suitable R.A.M.C. personnel were selected for instruction in the larger laboratories of home commands. On completion of training these men were mustered as tradesmen in the group Laboratory Assistant class III and were eligible for further advancement in accordance with standing regulations.

As regards radiographers, acceptance of tradesmen continued on normal lines, and the Army School of Radiology at the R.A.M. College continued to function throughout the war.* The school was expanded and its activities extended in such a way as to ensure a greatly increased output of technicians sufficient to meet demands in almost every respect in each theatre of war.

REFERENCES

[1] A.C.I. 495 of 1942, dated March 7, 1942.
[2] A.O. 19 of 1942.
[3] Standing Orders for the R.A.M.C., 1937, Amendments No. 2, 1939
[4] A.O. 148 of 1940.

* See Army Medical Services. Administration. Volume II, Chapter 12.

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CHAPTER 11

MEDICAL CLASSIFICATION BY CATEGORIES

OTHER RANKS*

At the time of the outbreak of war, all soldiers serving on a regular engagement were already physically classified according to the standards in force during peace-time. These standards permitted of some gradation in reference to the different demands made by the various arms of the service. Although every recruit was required to reach a standard of physical fitness sufficient for the carrying out of his duties on active service in any part of the world, the nature of those duties and the conditions under which they were performed were not the same in all branches of the Army. Personnel of mechanised units were not normally called upon to undertake long marches, hence it was permissible to adopt a lower standard of physical efficiency in respect of feet and legs than was necessary for the infantryman. Similarly, personnel of the administrative services, whose work lay in offices, hospitals or workshops, and those employed in the handling or maintenance of mechanical transport were not required to become expert shots; a lower standard of visual acuity than that applicable to the fighting soldier was therefore acceptable. Units of the Army were divisible into four main groups: (*a*) infantry and horsed field units; (*b*) mechanised field units; (*c*) mechanical transport, (M.T.) units; and (*d*) other units on lines of communication. On this basis there were four classes of physical fitness according to which all recruits were classified on enlistment: (*a*) horse and foot class; (*b*) mechanised class; (*c*) M.T. class; (*d*) lines of communication class. A record of the class for which he had been found fit was made in each recruit's attestation papers and medical history sheet.

On mobilisation, all regular reservists and personnel of the T.A. and auxiliary forces were medically examined at their place of assembly and placed in one of the following medical categories:

A—fit for general service at home and abroad;
B—unfit for general service abroad but fit for base or garrison service at home and abroad;
C—fit for home service only;
D—unfit for any form of military service.

* For data relating to recategorisation, see the Statistical Volume in this series.

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It will be seen that this classification was largely geographical in its implications and took but little account of the multiplicity of functions within the scope of the numerous units constituting an army either at home or overseas, nor of the diversity of duties performed by different personnel within the same unit. Thus the same physical standards were applicable to all units of a fighting formation, artillery, infantry or administrative services, and also to every man in any one unit, no matter whether rifleman, cook, clerk, or batman.

Civilians joining the forces after mobilisation, whether as volunteers or as persons liable to military service under the provisions of the National Service (Armed Forces) Act, 1939, were medically examined by civilian medical boards subject to the direction of the Ministry of Labour and National Service. These boards were in fact originally appointed to examine militiamen for service under the Military Training Act, 1939; on the outbreak of war they were reappointed under the National Service (Armed Forces) Act when they became responsible for the examination of all men entering the three Services. The composition and functions of C.M.Bs. were regulated by a code of instructions which was first issued in May 1939, but which continued in force until revised in 1940 as the result of the recommendations of a special committee appointed to advise the Minister of Labour on this subject. The duty of C.M.Bs. was that of investigating the physical and mental condition of those referred for medical examination on the order of the Ministry of Labour and subsequently classifying them, by methods and tests prescribed in considerable detail in the code of instructions, in four grades defined as follows:

Grade I — Men who, subject only to such minor disabilities as can be remedied or adequately compensated by artificial means, attain the full normal standard of health and strength, and are capable of enduring physical exertion suitable to their age.

Grade II — Those who, while suffering from disabilities disqualifying them for grade I do not suffer from progressive organic disease, have fair hearing and vision, are of moderate muscular development and are able to undergo a considerable amount of physical exertion not involving severe strain. Where a man has been placed in this grade solely on account of either defects of visual acuity or deformities of the lower extremities, or both, in accordance with the instructions in the appropriate paragraphs of this code, this will be signified by the letter (a) followed by the words vision or feet in brackets, e.g., grade II(a) (vision) or grade II (a) (feet).

Grade III — Those who present such marked physical disabilities or evidence of past disease that they are not fit for the amount of exertion required for grade II.

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Grade IV Those who suffer from progressive organic disease or are for other reasons permanently incapable of the kind or degree of exertion required for grade III. These men are unfit for any form of service.

It is to be noted that C.M.Bs. were responsible only for the classification of a man in one of the four grades quoted, and for entering their findings in the Medical Examination Record and History Sheet[1] a Ministry of Labour document forwarded in due course to the unit receiving the recruit and thereafter maintained as a permanent record of his medical condition throughout his service. C.M.Bs. were not concerned with the posting of a recruit to any particular arm of the service nor for specifying the form of employment suitable to his physical condition as indicated by his medical grading; this was a matter for the appropriate service authority, by which individual postings were determined.

From the outset it was apparent that the classification of recruits according to the three grades prescribed for the use of C.M.Bs. did not suffice to fulfil the requirements of the Army. Within the first few weeks of its application the War Office received numerous complaints from commanding officers that their intakes of recruits included men physically incapable of performing the duties appropriate to their units. For example, some of those posted to field training units were found to be suffering from hernia. That this occurred, implied no error in grading nor in posting for, as reference to the definitions quoted above will show, the presence of a hernia, fully controlled by a truss and therefore regarded as a minor disability remediable or adequately compensated by artificial means, did not preclude a man's classification in grade I. The Army Medical Directorate initiated discussions with the Ministry of Health and the Ministry of Labour in order to clarify this and other similar anomalies, but in the meantime agreed that no man with a hernia was suitable for posting to units of the 'Horse and Foot' or 'Mechanised' groups and advised that posting officers should be so instructed. This suggestion, however, did not provide a remedy, since posting officers did not see medical history sheets and therefore had no knowledge of medical details beyond the grade to which a man had been allocated. Moreover, it was contended, with good reason, that a grade I man must be assumed to be physically fit for any form of service and therefore available for posting in any capacity; if he were not thus fit, then he ought not to be classified as grade I. Further discussion led to the conclusion that, as no fundamental alterations could be made in the code of instructions to C.M.Bs., the only solution lay in devising a series of military medical categories interpreting civil medical grading in terms of military employment and correlated to the needs of the various arms of the service. All men on joining the Army could then be placed in one

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or other category, and the type of service for which they were medically fit would thus be automatically determined and errors in posting obviated in so far as initial grading was concerned.

A committee was duly appointed to prepare a scheme of medical classification on these lines and with all speed seeing that there was a large number of men awaiting re-examination, including some 39,000 of the T.A., stated to be fit for home service only, and many regular soldiers and reservists reported unfit for general service, in addition to recruits called up under the National Service Act and considered by their commanding officers to be wrongly graded. At the same time the committee was concerned to elaborate a comprehensive system of medical classification nicely adjusted between, on the one hand, so many grades and subdivisions as to be administratively impracticable, and, on the other, so few as to result in the loss of many men well able to perform duties of a more restricted nature, and under less exacting conditions, than those of general service. Draft proposals to this end were completed before the end of December 1939; it then remained to assess the requirements of the various branches of the service and their constituent units in relation to the proposed series of medical categories and thereafter to seek authority for promulgation.

Final sanction, however, was not immediately forthcoming. The Adjutant General expressed his doubts as to the feasibility of implementing the proposals on the grounds that the scheme was complicated and confusing, the number of categories was large and their application to an army of one and a quarter million men likely to prove impossible, and he questioned the necessity for any such measure. The Director of Recruiting and Organisation, however, explained that the adoption of the scheme was essential because the economical use of man-power was impossible unless men could be classified in a manner indicating the duties they were physically able to perform. The methods then in use differed as between regular soldiers, militiamen, etc; none of them met existing requirements and the situation was chaotic. A unified and comprehensive system of medical classification was required by the Ministry of Labour in order to regulate intakes to various arms of the service and to units, by the Directorate of Mobilisation for posting purposes, and by the Army Medical Directorate for the guidance of medical officers and medical boards. The four medical grades used by C.M.Bs. working under the direction of the Ministry of Labour did not supply information sufficient for the posting of a man in accordance with his physical capacity. The greatest difficulty was found in respect of grade II where it was essential that subdivisions should be made to distinguish between men placed in this grade for a variety of reasons. For example, a grade II man with poor physique and flat feet but with good vision could be employed as a driver in the R.A.S.C., but not for heavy work, whereas

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a man with good physique but bad vision was suitable for labour but not for driving. The number of medical categories proposed was eight for effective troops and two for those temporarily or permanently unfit. This number was the minimum necessary to permit effective selection and economical use of the men available, and to prevent the constant reposting entailed by removing those incorrectly allocated in the first instance. The Director of Recruiting and Organisation urged that the labour of initial classification, though great, must be faced and that it would be no greater and no more difficult employing eight categories than using a smaller number which would unquestionably yield less satisfactory results. He added that the scheme was welcomed as a practical solution to an admittedly difficult and complicated question by all those most closely concerned, and further, that the Ministry of Health and the Ministry of Labour had been consulted and had agreed that the code of instructions for C.M.Bs. should be amended and amplified in such a way as to facilitate the translation of civil grades into military categories.

These arguments sufficed to overcome misgivings and, after minor changes in connexion with nomenclature and the letters and numbers used to indicate the various categories, the scheme was accepted and brought into effect by publication on February 29, 1940, as an A.C.I. entitled *Instructions for the Medical Classification of Soldiers by Categories.*[2]

The preamble to these instructions emphasised that conservation of man-power was the primary object of the new system of classification and that the medical categories contained therein would be used for all purposes in describing a soldier's degree of physical fitness for service. The prescribed categories, their medical interpretation, and their operational implications were then set out in detail as follows:

Army Category	*Army standard as regards physique and capabilities*	*Locality in which men may normally be employed*
A1	See to shoot or drive Can undergo severe strain Without defects of locomotion With only minor (remediable) disabilities.	Any area in a theatre of war.
A2	See to shoot or drive Can undergo severe strain With slight defects of locomotion With only minor (remediable) disabilities.	Any area in a theatre of war.
B1	See to shoot or drive Can undergo considerable exertion not involving severe strain Without defects of locomotion With moderate degree of disabilities.	L. of C., base, or garrison service at home or abroad.

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Army Category	*Army standard as regards physique and capabilities*	*Locality in which men may normally be employed*
B2	See to shoot or drive Can undergo considerable exertion not involving severe strain With defects of locomotion With moderate degree of disabilities.	L. of C., or base, garrison service at home or abroad.
B3	See for ordinary purposes Can undergo severe strain Without defects of locomotion With only minor (remediable) disabilities.	L. of C., base, or garrison service at home or abroad.
B4	See for ordinary purposes Can undergo severe strain With slight defects of locomotion With only minor (remediable) disabilities.	L. of C., base, or garrison service at home or abroad.
B5	See for ordinary purposes Can undergo considerable exertion not involving severe strain With or without defects of locomotion With moderate degree of disabilities.	L. of C., base, or garrison service at home or abroad.
C	See for ordinary purposes Unfitted for considerable exertion With marked physical disabilities or evidence of past disease.	Home service only.
D	Temporarily unfit.	
E	Permanently unfit.	

There were thus four main criteria in assessing physical capacity: acuity of vision in relation to shooting and driving; general soundness of constitution in relation to physical endurance; the state of feet and legs in relation to ability to march; and other manifestations of disease likely to affect performance of military duties. The grouping of categories under A or B was however somewhat confusing, for there appeared to be no primary differentiation between the two groups, nor did it seem that there was any logical basis for the allocation of some of the categories to one group rather than the other. For example, in so far as vision was concerned, categories B1 and B2 were similar to A1 and A2; as regards general constitution, the requirements of A1 and A2 were no higher than those of B3. Thus neither vision, constitution, nor locomotion could be said to be the governing factor in separating the A categories from those of B. This fault was afterwards rectified by one of the numerous amendments made in the schedule of categories during the course of the war.

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The Army categories applicable to each arm of the service were then enumerated:

Arm	*Army Category*
Household Cavalry	A1
Cavalry of the Line (Horsed)	A1
Yeomanry (Horsed)	A1
R.A.C.	A1, A2.
R.A.	
C.D. and A.A. (Home and Overseas)	A1, A2, B1, B2.
Anti-tank and all other units	A1, A2.
R.E.	
All field units except survey, postal and works services, and drivers I.C.	A1
Survey	A1, A2, B1, B2.
Postal and works services	A1, A2, B1, B2, B3, B4.
Transportation—	
Operating and constructing units	A1, A2.
Stevedores	A1, A2, B1, B2, B3, B4.
All others	A1, A2, B1, B2.
Drivers, I.C.	A1, A2, B1, B2.
R. Signals	
Linemen and dispatch riders	A1, A2.
Drivers, I.C. Electrician, signals Fitters, signals	A1, A2, B1, B2.
Operator (wireless and line)	A1, A2, B1, B2, B3, B4, B5.
Infantry:	
Foot Guards	A1.
Infantry of the Line	A1.
Overseas Defence Battalions	A1, A2, B1.
Home Defence Battalions	A1, A2, B1, B2.
R.A.S.C.	
Drivers, I.C.	A1, A2, B1, B2.
Others	A1, A2, B1, B2, B3, B4.
R.A.M.C.	
Nursing Orderlies	A1, B1, B3.
Clerks	A1, A2, B1, B2, B3, B4, B5, C.
R.A.O.C.	A1, A2, B1, B2, B3, B4, B5.
R.A.P.C.	B1, B2, B3, B4, B5, C.
R.A.V.C.	A1, A2, B1, B2, B3, B4.
A.D. Corps	A1, A2, B1, B2, B3, B4, B5, C.
C.M.P.	
Field Security Police	A1, A2, B1, B2, B3, B4.
Others	A1, A2, B1.
A.M.P.C.	A1, A2, B3, B4.

Officers commanding units which received recruits enlisting, or called up for military service under the National Service Act were made responsible for ensuring that the civil medical grading of each recruit was translated into the corresponding army category, and that this category was entered in the man's medical history sheet and pay book.

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To assist medical officers in the interpretation of civil medical grading, the definitions of the four civil grades as set forth in the relevant paragraph of *Instructions for the Guidance of Medical Boards*, issued by the Ministry of Labour, and already quoted above, was reproduced verbatim in *Instructions for the Medical Classification of Soldiers by Categories*. As a further measure of assistance, chairmen of C.M.Bs. were instructed by the Ministry of Labour to amplify their findings at the medical examination of recruits, by remarks entered upon the Medical Examination Record and History Sheet, in all cases where information in addition to that conveyed by an unqualified statement of grade was necessary to indicate the appropriate army category.

In order to provide a guide for the translation of civil grading thus elaborated, the instructions included a table correlating civil grades, amplifying remarks by medical boards, and army categories thus:

Grading by Civilian Medical Board	*Remarks by Chairman to be entered on Medical Examination Record*	*Equivalent Army category*
Grade I	Nil	A1
	Hernia present	B1
Grade II(a) (vision)	Binocular vision	A1
	Monocular vision	B3
Grade II(a) (vision and feet)	Binocular vision	A2
	Monocular vision	B4
Grade II(a) (feet)	Nil	A2
Grade II	Nil	B1
	Foot defects	B2
	Binocular vision	B1
	Monocular vision	B5
	Binocular vision plus foot defects	B2
	Monocular vision plus foot defects	B5
Grade III	Fit for grade I except for defects of vision	B3
	Fit for grade II(a) (feet) except for defects of vision	B4
	Fit for grade II except for defects of vision	B5
	Nil	C
Grade IV	Nil	E

Foot defects included deformities of the lower extremities such as club-foot, flat-feet, hallux rigidus, hallux valgus, hammer-toes, knock-knee, pes cavus. The terms 'binocular vision' and 'monocular vision' were intended to distinguish between men of grade II(a) (vision) or grade II having fair vision, after correction, in both eyes, and those having good vision in one eye, respectively.

The standards of vision applied to army categories were the same as those used by C.M.Bs. in the grading of recruits:

Grade I. (1) Vision without the aid of glasses 6/24, or better, in each eye.
(2) Vision without the aid of glasses 6/6 in one eye, and not less than 6/60 in the other eye, the worse eye being correctable to at least 6/12 with glasses.

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Grade II.	(1) Unaided vision below 6/24 but not below 6/60 in each eye, and correctable to at least 6/12 in each eye with glasses.
	(2) Unaided vision of one eye not less than 6/12; and vision in the other eye less than 6/24 without the aid of glasses and incapable of correction to 6/12 with glasses, or lost, or practically lost and investigation as to the cause of loss satisfactory.
Grade III.	Other degrees of defects of vision.
Grade IV.	Loss of sight of both eyes or vision so defective as to preclude the earning of a living in any occupation for which eyesight is essential.

In so far as acuity of vision was concerned, civil grades and army categories were correlated as follows:

Civil Grade	*Equivalent Army Category*
Grade I Grade II (a) (vision)—binocular	A1, A2, B1, B2.
Grade II (a) (vision)—monocular Grade III	B3, B4, B5, C.
Grade IV	E.

This system of medical classification by categories brought into operation by A.C.I. 184 of February 29, 1940, was made applicable not only to recruits but also to soldiers already serving. The latter were to be examined without delay and placed in their appropriate army categories by the medical officers of their units, medical boards would not be assembled for the purpose. Recruits were to be examined and given their army categories immediately on arrival at their units; this examination also was to be undertaken by unit medical officers. A recruit considered unfit for the army category corresponding to his civil grading would be referred to a medical board to determine his appropriate category. Once classified, a soldier retained his category which could not be lowered except as the result of a recommendation made by a medical board and confirmed by the A.D.M.S. convening the board. On the other hand the medical officer in charge of a unit was authorised to transfer, and was made responsible for ensuring the transfer of, a soldier to any higher category for which he was found suitable. Copies of A.C.I. No. 184—*Instructions for the Medical Classification of Soldiers by Categories* were distributed to all medical officers in the United Kingdom and in the B.E.F. in France.

Very soon after the adoption of the new system of classification it became apparent that large numbers of men were being placed in categories lower than those appropriate to their physical condition and were thus debarred from employment in a capacity for which they were qualified. Any such unnecessary reduction in the numbers available for general service with field units was not without threat to the full use of the total man-power of the Army and therefore called for immediate

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remedy. The root of the matter was found to lie in the failure of medical officers when assessing physical capacity, to distinguish clearly between, on the one hand, the mere existence of a physical defect and, on the other hand, the presence or absence of any functional disability arising directly as the result of that defect. This tendency to confusion of thought was particularly marked in regard to minor defects of the lower limb. The Army Medical Directorate therefore issued a directive calling for the exercise of common sense in classification and insisting that no man should be placed in a low category solely because of a defect which did not interfere and was not likely to interfere, with the performance of his duties. A defect of this kind might be disregarded, since it was the degree of defect and its probable consequences from the functional aspect that were of importance, not the fact that the defect was present. This guiding principle was to be borne in mind and followed not only at the time of initial classification but also on the occasion of any subsequent reclassification. With the object of rectifying the errors that had been made it was ordered that all men who had been given army categories lower than their civil grading, were to be re-examined by a senior officer of the R.A.M.C., not below the rank of lieut. colonel, assisted by the D.A.D.H., if available, or by one other medical officer.

Doubts were expressed also in regard to the suitability of the schedule of categories in their application to the various arms of the service. It was felt that in some cases men of the categories prescribed for certain units were physically unequal to the demands made upon them by the form of their employment, whereas, on the other hand, there were instances where the physical standard of the category allocated was higher than that necessary for the efficient performance of the duties required. The suggestion that all men employed forward of divisional headquarters should be of categories A1 or A2 was dismissed as too restrictive, but, at the same time, it was essential to avoid the flooding of fighting units with men of the B categories. After consultation with the personnel branches concerned, the schedule of categories applicable to the various arms was revised, and a new A.C.I. amending *Instructions for the Medical Classification of Soldiers by Categories* was published in April 1940.[3]

The opportunity was taken to insert in the revised instructions a new paragraph, on the lines of the directive referred to above, intended to emphasise the distinction which should be made between physical defect and functional disability. Another matter which the amended instruction sought to clarify was the interpretation to be placed upon the remarks, appearing in the schedule of categories, restricting the employment of certain categories to specified localities, i.e., 'any area in a theatre of war'; 'L. of C., base, or garrison service at home or abroad'. A note was added to the effect that the locality prescribed for each category referred,

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in general, to cavalry, R.A.C., R.A., R.E., and Infantry. In the case of other arms and branches of the service men in categories appropriate to their arm, and lower than A2, might be employed as required in any theatre of war. There had also been some confusion as to the disposal of men already posted to units and serving in a capacity for which a higher category was prescribed. It was now laid down that such a man should not necessarily be transferred to another branch of the service if employment in his own branch could be found for him in circumstances, or in a locality, where his particular category was permissible. For example, men in field force units might be re-posted to training regiments, establishments at home, or to extra-regimental employment for which they were suitable and physically fitted. Similarly, in order to obviate excessive transfer from one arm to another, a tradesman below the categories specified for his trade in his own arm of the service should be removed from that trade and employed within his own arm in some other trade to which his category was applicable. If, however, by reason of his low category, he was not employable within his own arm in any capacity, he must be transferred to another arm of the service for which he was technically and medically eligible. In the case of initial allocation to a trade, no man might be so allocated were his category lower than that prescribed by instructions on the subject; if therefore he were found unfit for allocation to a trade within his own arm of the service he must be transferred to some other arm. In this and in other respects the relation of medical categories to the various trades and forms of employment in different branches of the service continued to be a matter of difficulty in practical application. Adjustments and re-adjustments proved necessary from time to time, on each occasion requiring the publication of an A.C.I. to amend the schedule specifying the medical categories from which the personnel of various regiments, branches and trades were to be drawn.

In August 1940, the question of revising the series of army categories arose as the result of changes in civil grading about to be made by the Ministry of Labour who proposed to adopt, as a standard of vision for drivers of vehicles, the minimum standard required by the London Passenger Transport Board. This standard of vision ensured sufficiently good eyesight for driving purposes and also for shooting up to a distance of not more than 200 yards; it thus represented a higher degree of vision than that indicated by the term 'see for ordinary purposes' in the lower army categories but did not attain the standard 'see to shoot and drive' required by the higher categories. New categories were therefore needed to give effect to this intermediate standard of visual acuity. Provision was made by the addition of a new category, A3, and by re-arrangement of the B group of categories. Changes in civil grading included also the introduction of four standards of hearing, and in this connexion it was

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decided to institute a new category, B6, for men whose defective hearing would otherwise have necessitated their relegation to category C despite constitutional qualities suitable for a higher grade. These amendments were incorporated in revised instructions issued in November 1940.[4]

Amendments to the schedule of army categories included the addition of three new categories:

A3.	See to drive . . . . . Can undergo severe strain With or without slight defects of locomotion With only minor (remediable) disabilities.	Any area in a theatre of war.
B2a	See to drive . . . . . Can undergo considerable exertion not involving severe strain With or without slight defects of locomotion With moderate degree of disabilities.	L. of C., base, or garrison service at home or abroad.
B6.	Physique and standard of vision are good enough for a higher category but the man is placed in this category because of defective (standard 3) hearing.	L. of C., base, or garrison service at home or abroad.

The physical standards applicable to categories B3, B4, and B5 were amended by substituting the words 'see for ordinary purposes but not shooting or driving' instead of 'see for ordinary purposes' as formerly.

The new visual standards were:

- Standard 1. Unaided vision is not less than 6/6 in one eye, and not less than 6/9 in the other.
- Standard 2. Unaided vision is less than in standard 1, but is either not less than 6/12 in each eye, or is not less than 6/6 in the right eye and not less than 6/36 in the left eye.
- Standard 3. Unaided vision is less than in standard 2, but vision can be corrected to at least standard 2.
  Note. In those cases where unaided vision is below 6/60 in either eye the man will be referred to an ophthalmologist and where myopia of more than minus 7 in any meridian is found he will be placed in standard 7.
- Standard 4. Unaided vision is less than in standard 2, and vision cannot be corrected to standard 2, but can be corrected to at least 6/12 in one eye and 6/36 in the other.
  Note. This standard included those men whose left eye is the "master" eye and whose vision, with or without correction is not less than 6/12 in the left eye and not less than 6/36 in the right eye.
- Standard 5. The condition in standard 1 to 4 cannot be attained, but vision can be corrected to at least 6/24 in each eye.
- Standard 6. Vision in one eye, with or without glasses, is not less than 6/12, and in the other is less than 6/36 with or without glasses, or has been lost, or practically lost, and investigation regarding the cause of the loss is satisfactory.
- Standard 7. Vision is below standards 1 to 6.

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The following were the standards of hearing:

Standard 1. A man can hear a soft whisper with each ear separately; when testing, the examiner should himself occlude the ear not under test and whisper towards that ear. Where it is considered that failure to reach standard 1 may be due to the presence of wax, this should be removed and the hearing re-tested.

Standard 2. Hearing is less than in standard 1, but the man standing with his back to the examiner and using both ears can hear a forced whisper from 10 feet away.

Standard 3. Hearing is less than in standard 2, but the man can easily hear a speaking voice under the conditions specified in standard 2.

Standard 4. Hearing is less than in standard 3.

The adoption of these numbered standards of vision and hearing, and their insertion in the recruit's medical examination record by the C.M.B. made the correlation of civil grades and army categories more precise and the translation of one to the other more simple. As amended, the correlation appeared thus:

Grading by Civilian Medical Board.	*Remarks by Chairman to be entered on Medical Examination Record. NS(MC)14.*		*Equivalent Army category*
Grade I.	V.S. 1, 2 or 3	H.S. 1 or 2	A1.
	V.S.4	H.S. 1 or 2	A3.
Grade II(a) (vision)	V.S. 5 or 6	H.S. 1 or 2	B3.
Grade II(a) (vision and feet)	V.S. 5 or 6	H.S. 1 or 2	B4.
Grade II(a) (feet)	V.S. 1, 2 or 3	H.S. 1 or 2	A2.
	V.S. 4	H.S. 1 or 2	A3.
Grade II.	V.S. 1, 2 or 3	H.S. 1 or 2	B1.
	V.S. 1, 2 or 3	H.S. 1 or 2 (Plus foot defects)	B2.
	V.S. 4	H.S. 1 or 2	B2a.
	V.S. 5 or 6	H.S. 1 or 2	B5.
	V.S. 1 to 6	H.S. 3	B6.
Grade III.	V.S. 1 to 6	H.S. 1 to 3	C.
Grade IV.	V.S. 1 to 7	H.S. 1 to 4	E.

It was not proposed that the whole Army should be reclassified in conformity with the categories as now revised. Personnel who were already enlisted at the date when the amended instructions were published retained their categories unchanged unless, in the ordinary course of events, they were brought up for reclassification which was then subject to the amendments described. All men called up for service after that date were classified in accordance with the revised instruction.

Assessment of the physical state of the Army, as indicated by analysis of the results obtained from the application of the system for the medical classification of soldiers by categories, revealed the disturbing fact that

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an unduly large number of men had been assigned to category C. That so high a proportion of the available military man-power should be employable only at home, and in a restricted capacity at that, was a matter of grave concern from the aspect of finding personnel to complete field force units. Early in 1941 arrangements were made for the re-examination, by medical boards, of some 27,000 category C personnel. Several months were occupied in accomplishing this task and when the results were analysed it was found that those remaining in category C after re-examination were divisible into three main classes: (*a*) men of first or second grade constitution with good hearing, and vision sufficient for all purposes including shooting, but with marked defects of locomotion; (*b*) men of first or second grade constitution with fair hearing, with vision sufficient for driving and ordinary purposes but not for shooting, and with marked defects of locomotion; and (*c*) men of third grade constitution with various degrees of hearing and vision and, in some cases, with defects of locomotion in addition. Of the total number, 25 per cent. were in (*a*); 6 per cent. in (*b*); and 69 per cent. in (*c*). Thus 25 per cent. of category C men were really fit for some kind of duty in a L. of C. area, base, or garrison, while the remaining 75 per cent. were fit only for sedentary duties at home. In July 1941, a new category, B7, was introduced to provide for the former of these two groups. The physical standards of this category were:

1st or 2nd grade constitution.
Good hearing, i.e., H.S. 1 or 2.
Shooting standard of vision, i.e., V.S. 1 to 3.
Marked defects of locomotion.

Men placed in category B7, which was a category only for soldiers already serving, were required to take their place with troops of units on lines of communication or at a base overseas and for that reason must be capable of marching a distance of at least two miles in fighting order.

Attacking the same problem from another aspect the Army Council called the attention of all commanders to the fact that, whereas in the past it had been found necessary to post men to units and various forms of employment without precise regard to their medical categories, the situation had undergone so radical a change and the man-power question become so acute as to make it imperative that men selected for posting to any unit or for employment in any capacity should in no case be those of a higher category than necessary for the efficient performance of the duties involved. Only by making full use of men in lower categories would it be possible to ensure an adequate supply of high category personnel for field force units. Men of lower categories than those authorised were to be removed from field force units; all non-field force units, headquarters and establishments at home were to report the appointments

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held and posts filled by men of higher category than their duties warranted, e.g., no category A men were to be employed except as instructors, and then only where absolutely necessary. It was pointed out that men of categories B3 and B4 were constitutionally equal to those of categories A1 and A2 and were therefore suitable for any employment not requiring the standard of vision necessary for shooting or driving. Full use was to be made of category C men, there being no less than 88 trades or forms of employment available to them and some 42 different kinds of unit by which they might be absorbed.

In the meantime, and as a further safeguard to ensure that men incorrectly classified were subject to readjustment before, rather than after, their final posting, two important innovations were made in routine procedure.[5] The first was that recruits, having been classified on entry, were re-examined after completing one month's training and again, if training continued for a further period, before being posted to an operational unit; if, at either of these re-examinations, it appeared that the recruit was not fit for service in the category to which he had been assigned, arrangements were made for his reclassification by a medical board. The second emendation provided for the re-examination with a view to reclassification if necessary, of all soldiers about to return to duty after having been non-effective on account of sickness, i.e., in category D—temporarily unfit.

The position of the low category man in relation to military requirements remained a vexed question. While it was essential that the best use should be made of all men available, there was yet some doubt regarding the degree of disability that warranted discharge on the grounds of unfitness for any form of military service. An A.C.I. issued in January 1942,[6] made it clear that every man capable of doing a day's work was to be retained in the service provided there was suitable occupation for him; on the other hand it was undesirable to keep those who, on account of their disabilities, were frequently absent from duty and were thus only in part-time effective employment. Commanding officers were required to record the number of hours lost by category C men who were employed in duties suitable to their category but, nevertheless, consistently failed, for medical reasons, to complete a full day's work. In any case where, over a period of about a month, the time lost on account of recurrent sickness or attendance at sick parades, etc., exceeded one seventh of the time that should have been spent on duty, the man was to be sent to an examination centre with a view to his discharge. Some two months later another A.C.I.[7] was published in reference to the disposal of category C personnel, the number of whom was now in excess of requirements, despite the fact that no further grade III recruits were being enlisted, a surplus likely to increase as more members of the A.T.S became available for duties previously performed by men. This excess

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consisted partly of recruits who had been classified in category C by medical boards, and partly of serving soldiers who were surplus to the war establishments of their units or, in the case of a holding unit or training centre, did not form part of the permanent staff and, by being in category C, could not be suitably employed. It also included warrant officers and N.C.Os. who, for the same reason, were unable to perform the duties of their rank. All these were to be discharged from the Army as no longer required. In point of fact these instructions were never fully implemented and shortly gave place to a scheme more discriminating in purpose and less sweeping in effect.[8] It was now appreciated that the economical employment of men in category C had hitherto been precluded by the absence of precise information as to each man's capabilities within the limits of his physical shortcomings. To remedy this defect, it was now required that every non-tradesman of category C, not employed in duties suitable to his disabilities or having capabilities greater than those required by his form of employment, should be examined by a medical officer of special experience in such matters and by an officer of the personnel selection staff, in order that his physical condition and occupational capacity might be accurately assessed and correlated. As a result of this examination, each man considered capable of useful service was to be recommended, according to his capabilities, for employment in one or other of a variety of occupations, mostly of a clerical or domestic kind, indoor or outdoor but all of a more or less sedentary nature, specially scheduled as suitable for men in category C. Men whose retention appeared unlikely to be profitable were to be discharged from the Army.

During the year 1942, several amendments were made to the general scheme of medical classification by categories. It was thought desirable that there should be some means by which a soldier's category should indicate whether he was below or above the age of 41. This was achieved by providing for the insertion of the letter X, in brackets, between the letter and the number of the category in the case of a soldier over that age, e.g., A(X)1, B(X)3, etc.[9] This distinction was to be used only in reference to the A and B groups of categories and was not therefore applicable to categories C, D or E; the standards of physique required and the nature of employment implied by each category remained unchanged. In the light of evidence suggesting that frequently men were retained in categories either higher or lower than those for which they were suitable, and that in consequence there was an appreciable loss of man-power, directions were given[10] for the re-examination of all other ranks in categories below A1 in order that their categories might be reviewed; a similar review was to be made at three-monthly intervals thereafter. Shortly before the end of the year, categories B3 and B4 were redesignated A4 and A5 respectively.[11] The physical standards

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remained unchanged but the personnel concerned were now no longer subject to the restrictions in regard to employment imposed by a B group category; that is to say, they were now available for service in any area in a theatre of war. It is to be noted that the physical standards of categories B3 and B4 had always denoted a first class constitution but a low degree of visual acuity. Men in these categories were therefore constitutionally comparable with those of categories A1 and A2, and their relegation to B3 and B4 was due solely to defective vision rendering them unable to shoot or drive. They were none the less physically fit for service in the field in any other capacity. That men of first class constitution were included in the B group of categories was something of an anomaly, albeit inherited from the code prescribed for civil grading, since it was, perhaps, but reasonable to infer that only in the A group of categories were men of first class constitution to be found and, conversely, that the very fact of a man's inclusion in one of the B categories might itself be taken to indicate a constitution of a lower order. Be this as it may, there is no doubt that much confusion had arisen in this regard for, as already stated above, it had been found necessary to call attention to the high physical capabilities of men in categories B3 and B4 in order to prevent their rejection for duties which they were quite able to perform. However, the redesignation of these categories as A4 and A5 served to give them their rightful place in the series. Moreover, as the result of this alteration, the several categories were now arranged in groups differentiated one from the other primarily by the factor of general constitutional fitness; thus a more rational basis was imparted to the scale of categories as a whole.

These amendments were incorporated in a revised edition of instructions issued in May 1943, under the title *Medical Categories for Other Ranks*, 1943.[(12)] These instructions took much the same form as that of previous editions already described. The various degrees of physical fitness were now divisible into no less than fourteen different categories exclusive of the subdivision in each A and B category made in respect of soldiers over 41 years of age. The schedule enumerating the categories applicable to the different branches in the various arms of the service had now become elaborated to the extent of occupying four pages of print instead of some thirty lines as in the original version. An explanatory paragraph indicated that the categories specified for each regiment or corps referred only to field force units; greater latitude was permissible in regard to static establishments. The visual and hearing standards remained unaffected except in one minor particular, but the changes of designation and the additions made in the series of categories entailed numerous readjustments in the table of correlation between constitution, visual and hearing standards, and category. This now appeared in the following form:

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Grading by Civilian Medical Board	*Remarks by Chairman to be entered on Medical Examination Record*		*Equivalent Army category*
Grade I.	V.S. 1, 2 or 3	H.S. 1 or 2	A1.
	V.S. 4	H.S. 1 or 2	A3.
Grade II(a) (vision)	V.S. 5 or 6	H.S. 1 or 2	A4.
Grade II(a) (vision and feet)	V.S. 5 or 6	H.S. 1 or 2	A5.
Grade II(a) (feet)	V.S. 1, 2 or 3	H.S. 1 or 2	A2.
	V.S. 4	H.S. 1 or 2	A3.
Grade II.	V.S. 1, 2 or 3	H.S. 1 or 2	B1.
	V.S. 1, 2 or 3	H.S. 1 or 2 (plus foot defects.)	B2.
Grade II.	V.S. 4	H.S. 1 or 2	B2a.
	V.S. 5 or 6	H.S. 1 or 2	B5.
	V.S. 1 to 6	H.S. 3	B6.
Grade III.	V.S. 1, 2 or 3	H.S. 1 or 2. (Grade III on account of marked foot defects only) .	B7.
	V.S. 1 to 6	H.S. 1 to 3	C.
Grade IV.	V.S. 1 to 7	H.S. 1 to 4	E.

No alteration was made in the administrative procedure governing medical classification except to require that the classification of recruits must be completed in time to permit their posting, in their correct categories, at the end of their six weeks' stay at primary training centres. Appended to the pamphlet *Medical Categories for Other Ranks*, 1943 were explanatory notes for the guidance of those concerned with the allocation of army categories and the interpretation of those categories in terms of employment. It was explained that the object of this elaborate and detailed scheme of classification was the economical distribution of total man-power in conformity with the needs of the Army and the physical attributes of the men available. The system was based on the allocation of men to various groups according to their physical efficiency as soldiers. The state of a man's physical efficiency from the military aspect was determined by four primary qualities: (*a*) his constitution, which for practical purposes might be said to consist of freedom from organic disease, soundness of heart and lungs, and adequate mental and muscular development combining to produce the condition of mind and body that in a soldier enables him to withstand severe strain; (*b*) acuity of vision; (*c*) acuity of hearing; and (*d*) ability to march. Every soldier in every category exhibited all these qualities to a greater or lesser extent, but the degree to which they were present differed widely; army categories were designed to include in the same group all soldiers who possess these qualities in the same degree. As regards the first of these qualities, i.e. constitution, three degrees were recognised; those who could undergo severe strain, that is to say, army category A corresponding to civil grade I; those who could undergo considerable exertion not

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involving severe strain, that is to say, army category B corresponding to civil grade II; and those with marked physical disabilities or evidence of past disease, that is to say, army category C corresponding to civil grade III. Acuity of vision was also divisible into three degrees; sufficient to shoot, using the right eye, and to drive, i.e. visual standards 1, 2 or 3; sufficient to drive, i.e. visual standard 4; and sufficient for ordinary purposes, i.e. visual standards 5 or 6. It was to be noted that, although the army required only three different standards of vision, C.M.Bs. examined men for other services with various requirements for specialised duties; hence the multiplicity of visual standards. Only two degrees of hearing were employed, i.e. good, as indicated by hearing standards 1 and 2, and defective, as indicated by hearing standard 3, applicable only to category B6, specially provided for men with this disability, and category C. The fourth quality, ability to march, was dependent chiefly upon the absence or presence of certain well-defined defects of the feet already enumerated in the official instructions. A soldier's category in respect of his marching ability was therefore determined by the extent of the disablement, if any, due to those deformities. Here again three degrees of efficiency were prescribed, first, that of being without defects of locomotion, equivalent to civil grade I in so far as the condition of the lower limbs was concerned; secondly, that of possessing slight defects of locomotion as in civil grade II (a) (feet) and grade II; and, thirdly, that of possessing marked defects of locomotion equivalent to civil grade III. Thus the scheme of classification was based on a series of categories divided primarily into three main groups A, B, C, in respect of three degrees of constitutional fitness; these main groups were then further divided into sub-groups to distinguish various degrees of vision, of hearing, and of locomotor efficiency. The explanatory notes contained an analysis of army medical categories indicating briefly the determining factors as follows:

A1. First degree constitutionally; V.S. 1, 2 or 3, i.e., shooting standard of vision; H.S. 1 or 2; no foot defects.
A2. As for A1 except that slight foot defects are present.
A3. First degree constitutionally; V.S. 4, i.e., driving standard of vision; H.S. 1 or 2; slight foot defects may be present.
A4. First degree constitutionally; V.S. 5 or 6, i.e., too slow for shooting or driving but sufficient for ordinary purposes; H.S. 1 or 2; no foot defects.
A5. As for A4, except that slight foot defects are present.
B1. Second degree constitutionally; V.S. 1, 2 or 3; H.S. 1 or 2; no foot defects.
B2a. Second degree constitutionally, otherwise as for A3.
B5. Second degree constitutionally; V.S. 5 or 6; H.S. 1 or 2; slight foot defects may be present.
B6. Has defective hearing (H.S.3), otherwise fit for higher category.
B7. First or second degree constitutionally; V.S. 1, 2 or 3; H.S. 1 or 2; marked foot defects are present.
C. A category not sub-divided but consisting of:
    (a) men with V.S. 4, 5 or 6; H.S. 1, 2 or 3; and fit for a higher category but for marked foot defects.
    (b) men of third degree constitution; with V.S. 1 to 6; and H.S. 1 to 3.

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Meanwhile there was a continuous and indeed a growing shortage of young men in category A1 available for the completion of field force units including the infantry. In the case of field force units at home, it had been necessary to utilise men of lower categories for temporary employment until such time as the unit was mobilised for service overseas. It had been found that many of these men were satisfactorily performing duties of a specialist and technical nature, particularly vehicle driving, despite the presence of slight disabilities necessitating their medical classification in categories B1 and B2. In the normal course of events, these men would have been discarded on unit mobilisation as being below the prescribed category, and the units concerned would thus have lost valuable personnel capable of rendering efficient service. It was therefore agreed that in almost all field force units there was an appreciable number of personnel who normally travelled in unit vehicles and whose duties did not demand a standard of physical fitness in all respects as high as that of category A1. Thus there was room even in front line units for a proportion of men drawn from categories B1 and B2. Before giving effect to this decision it was necessary to amend existing instructions as regards the locality in which men of the B group of categories might be employed by providing that in addition to L. of C., base, or garrison service they should be available for other employment of a limited kind either at home or abroad. Much the same considerations applied to category C. Many men downgraded to this category by medical boards overseas had, in fact, remained abroad and had proved capable of useful employment in spite of their low category. It was thus obvious that the physical defects represented by category C did not in themselves necessarily preclude employment elsewhere than at home; hence there was good reason for modifying existing restrictions in regard to the employment of category C men and, at the same time, regularising the position which had come about in respect of those already overseas, category C was accordingly subdivided, rather vaguely it is true, into C1, comprising men who, in spite of third degree constitution and marked physical disabilities, were yet fit for employment abroad according to their medical and physical capabilities; and C2, for those who on physical or psychiatric grounds must be regarded as suitable only for home service. These amendments were brought into operation in November 1943.[13] In July 1944, yet another, and, as it was to prove, the final, edition of the instructions for the classification of soldiers by categories was published under the title *Medical Categories for Other Ranks*, 1944.[14] This pamphlet included and amplified the distinction between the two subdivisions of category C described above; as usual, numerous changes and additions were made in the schedule of categories as applied to various arms; and the periodical review of category for men below category A1 was now to be carried out at six-monthly intervals instead of every three months as heretofore.

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Although subject to continued revision and amendment, the system of medical classification by categories still suffered from a defect which was responsible for much loss of man-power in that the scheme of correlation between a soldier's medical category and his employment lacked any comprehensive or precise reference to geographical considerations and the diversity of climatic conditions applicable to the several campaigns that were being undertaken concurrently. Hitherto no such distinction had been made except as between service at home and service in any theatre of war; thus a man of any category other than C2 was presumably to be regarded as fit for service overseas in any part of the world. Consequently, in the case of a man suffering from even a slight disability likely to be aggravated by certain climatic conditions, the only way of ensuring that he was not posted to a theatre of war subject to those conditions was to classify him as category C2, i.e. home service only. Thus a man unable to serve in the tropics was automatically restricted to employment in the United Kingdom even though he might well be fit for service with a field force unit in a non-tropical climate such as that of North West Europe. In this way appreciable numbers of soldiers who were afflicted with certain conditions of the skin, or who had in the past suffered from such diseases as renal calculus, amoebic dysentery or other tropical infections, were debarred from overseas service of any kind; moreover, by reason of their being given C2 category they were relegated to a medical classification, and therefore to employment, of a kind intended for men of third degree constitution. Similarly, many men of first or second degree constitution were ineligible for service anywhere abroad on account of recurrent or chronic disabilities, particularly chronic disease of the eye or ear, asthma, bronchitis, or psychiatric conditions, which while not so severe as to warrant invaliding, were nevertheless unlikely to remain quiescent under the less favourable conditions of operational service overseas. In these circumstances, C2 was the only category applicable, but this designation failed to give any indication that men so classified might be equal to employment in a capacity equivalent to categories A or B provided they remained at home.

In order to eliminate this incongruity and so to widen the field of employment open to a not inconsiderable body of useful personnel, it was agreed that a soldier should not be placed in category C2 merely as a means of preventing his employment overseas or under climatic conditions which might prove detrimental to him. In future every man was to be classified strictly in accordance with his physical capacity and placed in the corresponding category irrespective of other considerations. If, owing to the nature or degree of any particular disability or for any other reason, he was to be regraded as unfit for service in a tropical or sub-tropical region but fit for employment in a temperate

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climate, the fact would be indicated by the addition of the letters N.T., i.e. non-tropical, to his category whatever it might be, e.g. A.1(N.T.), B2(N.T.), etc. This in effect would authorise his employment in accordance with his physical condition while restricting his service to a non-tropical theatre of war, which for practical purposes was to denote North-west Europe only. Similarly, a man who, on account of a specific physical or psychiatric disability, was considered unfit for service anywhere overseas would nevertheless be allocated to the category that correctly represented his general physical condition, and the letters H.S., i.e. home service, would be added to his category, e.g. A1(H.S.), B2(H.S.), etc., to indicate that, although employable in accordance with his category, he was to be retained in the United Kingdom. All men then in category C2 were to be re-examined with a view to reclassification, where permissible, in a higher category qualified by a non-tropical or home service reservation; thenceforth category C2 was to include only those of third grade constitution, with or without other marked disabilities, who were on that account unquestionably fit only for home service. This reclassification was held to be within the competence of regimental medical officers and there was no intention of assembling medical boards for the purpose. It was expected that the effect of these innovations would be to assist towards economy in man-power by producing a significant increase in the number of troops available for the replacement of casualties in North-west Europe, while at the same time protecting the individual soldier from employment under conditions likely to aggravate his disability. It happened, however, that fighting had ceased both in Europe and in the Far East before the changes were brought into operation in the form of an amendment to *Medical Categories for Other Ranks*, 1944, published in September 1945.[(15)]

This then, may be regarded as the final effective stage in the evolution of medical classification of soldiers by categories reached during the war. Whereas at the outset there were but four categories used to indicate, albeit inadequately, the physical capacity of all soldiers of all arms, the system was developed and elaborated throughout the course of the succeeding six years until, in the end, its various permutations and combinations of physical characteristics necessitated a series of categories which, including subdivisions in respect of men over 41 years of age and qualifications as regards non-tropical service and home service, numbered no less than 72. That the scheme was itself inherently complicated, the administrative procedure cumbersome, and the underlying principles never fully grasped by many concerned with their medical and operational application, is clearly indicated by the stream of amendments, revisions and instructions which poured forth unceasingly from first to last; that it never fully succeeded in accomplishing

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its primary object in the direction of the most economical use of manpower, largely owing to difficulties in attaining complete correlation between physical condition and aptitude for employment, is evident from the attempts made at a relatively early date to devise some alternative system likely to prove more flexible in application and more promising in results.

Something has been said of the continuous efforts made to retain the highest possible proportion of personnel in the higher categories, and to obviate progressive downgrading, with consequent lowering of morale among those of less vigorous constitution, a process due chiefly to lack of adequate machinery for the re-allocation of low category men to employment of a kind within their physical capacity. Mention has been made also of the steps taken to dispose of the large number of men that had gravitated to category C, and to prevent the accumulation of a further surplus by a three-monthly review of all men in categories below A1 and by discontinuing recruitment of men in civil grade III. None of these measures was more than palliative and so, in an endeavour to arrive at the root of the trouble, the various factors operating in connexion with the downgrading of personnel generally were made the subject of a special investigation by the Directorate of Medical Research at the end of 1942.[16]

This investigation comprised a study of statistical returns during the previous six months, and personal visits by the investigators to representative units, training centres, battle schools and field exercises in one of the home commands. Statistical analysis revealed that: (*a*) the rate of downgrading in the command as a whole remained fairly uniform from month to month and averaged 6·7 per 1,000 per month; (*b*) downgrading occasioned by treatment in hospital accounted for only 15 per cent. of the total; (*c*) the rate of downgrading was higher in training centres and static units than in field force units, being 8 and 5·8 per 1,000 respectively; (*d*) infantry contributed most heavily to the total; but, in proportion to a strength, R.A.S.C. and A.A. units showed the highest rates, being 9 per 1,000 as against 5·8 per 1,000 for the infantry; (*e*) the principal causes of downgrading for all arms expressed as percentages of total downgradings were: locomotor defects, 43 in field force units and 41 in static units; psychological disabilities, 9 in field force units and 19 in static units; diseases of the ear, 12 in field force units and 9 in static units; (*f*) locomotor defects showed a high percentage in all field force units, e.g. R.A.S.C. 52 per cent., infantry 48 per cent., and artillery 37 per cent.; and (*g*) the number of downgradings in a unit invariably rose after receipt of orders for mobilisation.

Investigation of the circumstances responsible for downgradings of personnel revealed a variety of factors. The chief cause appeared to arise from a desire to ensure the requisite state of physical fitness in the unit

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as a whole, and to eliminate all personnel who were unable to attain the required standard. During the preparatory period before their mobilisation, units practised physical training as a means of improving the general condition of their men, but it was frequently the case that men who complained of a disability on vigorous exertion were excused from this training although they were still retained with the unit owing to their usefulness or proficiency in other directions, that is to say they were subject to occupational readjustment instead of medical reclassification. On mobilisation, however, all these men were required to undergo intensive training and to take part in strenuous exercises from which they had previously been exempt. They were therefore at a double disadvantage as, in addition to their original disabilities, they had now become soft and out of condition. Downgrading was therefore inevitable. At depots, downgrading was especially heavy, partly because some postings to depots were made for this very purpose, but also because many men posted thither from field force units as superfluous to establishment were in fact transferred because they were medically unsuitable having been classified in a category higher than that warranted by their physical capacity. The mixed character of these centres precluded the arrangement of training programmes suitable for all types; conditions thus favoured physical and mental deterioration and consequent progressive downgrading. At P.T.Cs. the rate of downgrading was as high as 50 per 1,000 intake. This was due not so much to physical strain as to difference in the assessment made by C.M.Bs. and by medical officers. Defects of the lower limb were the cause of a high proportion of downgradings, some of which appeared unwarranted having regard to the standard of performance reached by many infantrymen in spite of gross deformities of the feet. Indeed, even admitting that defects which carried no apparent disability might do so under conditions of active service, there was nevertheless far too great a tendency on the part of medical officers to recommend lowering of category solely on account of the mere presence of physical defects and irrespective of whether or not a disability was, or was likely to be caused thereby. This was due largely to lack of knowledge as to the nature of the various forms of military employment and was more noticeable where medical officers were only temporarily in charge or frequently changed. The tendency was not corrected by referring cases to specialists or medical boards. On the contrary, specialists, although experts in their own professional field were for the most part insufficiently experienced in the stresses and strains of military life, and being guided by considerations of pathological abnormality rather than operational incapacity, were prone to recommend reclassification in categories unnecessarily low, while medical boards accepted without question the opinions of specialists and almost invariably confirmed their recommendations.

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In addition to the foregoing, there were faults of an administrative kind usually attributable to the absence of co-operation and mutual understanding between M.O.s and training officers. For example, many field units included in their establishments men of categories below A1 suffering from minor disabilities of one kind and another. Provided some latitude were permitted, they were able to perform satisfactorily all that was required of them. If, on the other hand, as frequently happened through lack of insight or imagination, the same demands were made upon all men of the unit irrespective of category, the less physically capable were subjected to the same strain as those of category A1 and were liable to aggravation of their disabilities and finally complete breakdown. Similarly, training units often insisted that all men in the unit, including those of low category in technical occupations, should be capable of the same physical performance in regard to training, exercises, etc. The end result was still further downgrading of these low category men and consequent loss to the unit of men technically proficient and satisfactory, as far as their actual employment was concerned, but inadequate physically when judged according to standards which they should not have been required to attain, a state of affairs which was as absurd as it was gratuitous.

The conclusion drawn from this investigation was that excessive downgrading and consequent wastage of man-power were directly attributable to a cardinal defect in the basic principles governing medical classification. However comprehensive and precise the medical standards, from the point of view of their practical application each category was related, not to any one prescribed form of employment, but to a multiplicity of occupations widely diverse in nature and requirements. In determining a man's category, especially on the occasion of review or reclassification, a medical officer specialist, or medical board had to decide, not as to a man's physical fitness to perform the job in which he was then engaged, but rather as to his capacity to perform all the numerous jobs which a man of his category might from time to time be called upon to undertake. Ability to carry out certain duties could not be regarded as evidence of fitness for any specified category. In practice men were frequently classified in accordance with their occupations at the time; this however was but to ignore the implication of their category whereby on some future occasion they might be subject to greater physical strain than they could withstand and so become casualties.

In the opinion of those conducting the investigation the solution lay in closer correlation between physical capacity and operational requirements. This was to be achieved only by devising a system of functional or occupational grading in conjunction with medical categories; the combination of these factors would serve to indicate the nature of the

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duties for which the soldier was suitable as well as the arm of the service for which he was eligible. Under a system of this kind the preliminary classification of recruits in occupational grades could be undertaken at P.T.Cs. by the medical officer and training officer in consultation. Final grading could be carried out by the same means at a later stage, i.e. during corps training, when men had been subjected to conditions more closely resembling those to be encountered in the field. Doubtless it might be objected that this method of grading rested entirely on individual assessment, a fault which the existing system of classification by categories had been designed to prevent; in point of fact this object had not been achieved, and reclassification and downgrading were manifestly very much at the mercy of widely diverse personal opinion. Occupational grading would at least have the advantage of being a combined judgment derived from both military and medical opinion; moreover, being based on actual performance, it would rest on a more secure foundation. Any suggestion of extending, in field units, the employment of men in categories below A1 would certainly evoke strong opposition on the grounds that all personnel of those units must be 'fighting fit.' If this were to be taken as meaning the ability of every man to perform his job under the most exacting conditions of modern warfare, it was a legitimate demand, but its attainment necessitated an appreciation of the fact that different jobs require different kinds of endurance and physical capacity which are best developed by purposeful training. If, on the other hand, it were to imply, in addition, ability to perform long marches as required of marching personnel in infantry units, on the grounds that the personnel of any unit may be separated from their transport, then the reply must be that specialised training, e.g. that of gunners or crews of armoured fighting vehicles, did not allow the time necessary to achieve and maintain so high a degree of proficiency in marching, and that, in any case, the reserve of first grade personnel was no longer adequate to satisfy such exacting demands in respect of all field units. The fact that minimum standards were prescribed for all duties in all arms did not entail a general lowering of standards; on the contrary, the general adoption of occupational grading should release from other forms of employment sufficient men of first grade physique to ensure that all personnel, including specialists, in front line units would reach a higher standard than before.

So much for this investigation and its conclusions which were embodied in a report submitted to D.G.A.M.S. in February 1943. While there was general concurrence in regard to the defects revealed there was less disposition to accept the remedy proposed. In the first place medical opinion was by no means persuaded that the category system was to blame for all the evils attributed to it. For example, it appeared

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difficult to understand why there should be a shortage of men for front-line units seeing that more than 80 per cent. of the Army was included in categories A1, A2 and A3. If, as appeared to be the fact, fighting units were compelled to accept men of category B while lines of communication and base were full of category A men, then the fault must lie in methods of selection and not in the system of medical classification. In any case, it was doubtful if functional or occupational grading would prove any more successful. The principal difficulty was to be found in arriving at a correct assessment of potential functional capacity, the more so because it was insisted, on the ground of operational and administrative necessity, that recruits must be classified and graded within their first two weeks at primary training centres. In these circumstances nothing more than a provisional assessment would be possible, for functional capacity could not be accurately gauged so early; physical training and subsequent testing might bring to light latent and hitherto unsuspected defects. Moreover, functional capacity was dependent upon physical attributes which were not necessarily permanent but liable to change as the result of various influences. The possibilities of error in this connexion could be demonstrated statistically; of all downgradings 40 per cent. were due to defects of locomotion; 41 per cent. of men so downgraded had completed a period of from two to five years' service; 61 per cent. had never complained of their disabilities until the occasion that had led to their downgrading. On the other hand when two first-class line battalions, battle trained, were inspected after undergoing a severe test, it was found that 25 per cent. of them had defects of the feet that should have placed them in categories below A1; yet not one man had failed to complete the test and none had complained of any disability. It appeared that occupational grading would be no less liable to differences of medical opinion than was the existing system, if only because there were some 6,000 different jobs in the Army, and it was unlikely that any medical officer, be he ever so experienced, would possess an intimate knowledge of the physical requirements demanded by all of them.

Notwithstanding these misgivings and forecasts of the inevitable confusion consequent upon so radical a change in the system of medical classification, there was a strong desire at the War Office for some means by which to link physical capacity with functional aptitude and for this purpose to associate medical classification with the selection testing procedure carried out at primary training centres. The proposal was that in future the category of a recruit should be based not solely on his medical classification but on a combination of medical classification and training recommendation. It was suggested that the use of not more than three medical groups in conjunction with a series of six different training recommendations would suffice to classify all men according to both

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their physical and their mental capacity. The proposal thus entailed an increase in the number of primary effective categories to eighteen in the place of the twelve as then existing; it was also subject to the same fundamental defect that classification within the first six weeks of a recruit's service could take no account of potential changes in physical efficiency, either in the direction of improvement as the result of further training, or in deterioration due to the stress of military service; a category so determined was no less likely to need revision at a later date than had been the case under the old system.

THE PULHEMS SYSTEM

Although not practicable in the form originally suggested, the principle of incorporating occupational grading with medical category continued to find favour with those responsible for making the best and most economical use of the Army's limited resources. Eventually, after consideration of a variety of suggestions to this end, an entirely different scheme of medical classification, which had the support of D.G.A.M.S., the Director of Organisation, the Director of Man-power Planning and the Director of Selection of Personnel, was submitted for the approval of the Army Council by the Adjutant General in August 1943. The system now put forward was in fact a modified and extended application of the procedure already adopted by the Canadian military authorities. As stated in an accompanying explanatory memorandum it was based upon the truth that modern warfare made ever-increasing demands, both qualitative and quantitative, upon the soldier; first, in physical ability varying in nature and degree according to the exigencies of his particular employment; secondly, in the level of intelligence required to grasp the technicalities of military operations; and thirdly, in temperamental stability as a primary factor in determining conduct under conditions of battle. The growing complexities of military service and the widely diverse occupations which it comprised called for the application of more precise methods in the selection of personnel, from both the physical and the mental aspects, since success in any undertaking depended upon the capacity of each man adequately to fulfil the task assigned to him. Moreover, conservation of man-power implied the employment of every soldier in his proper capacity so that a maximum of working efficiency and a minimum of wastage might be ensured.

The new system differed from previous methods inasmuch as it correlated two essentials; a detailed qualitative assessment of the individual soldier, and a qualitative analysis of occupational requirements. As regards the former, every man would be assessed in respect of seven primary physical qualities designated thus:

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(a) Physical capacity—symbolised by the letter P
(b) Upper extremity ,, ,, ,, ,, U
(c) Locomotion ,, ,, ,, ,, L
(d) Hearing ,, ,, ,, ,, H
(e) Eyesight ,, ,, ,, ,, E
(f) Mental capacity ,, ,, ,, ,, M
(g) Stability of emotions ,, ,, ,, ,, S

It will be observed that the symbols denoted by the initial letter of these seven physical qualities formed the word 'pulhems' from which the system derived its name. Each of these seven primary qualities was assessable in five degrees of efficiency indicated by the figures 1 to 5, and, when each was assessed in these terms and the figures placed in sequence, a series of seven ciphers was obtained. This series was termed the 'pulhems profile' and formed the basis of the system of classification. Thus a profile of 1111111 denoted the highest class of physical and mental vigour, being of first degree in each of the seven primary qualities; on the other hand, a profile of 4444444, or fourth degree in each, indicated the poorest physical and mental equipment employable in the Army, since a fifth degree in any respect was tantamount to unfitness for military service. Between these extremes there were numerous variations of profile representing the manifold combinations of characteristics to be found in any large group of human beings. For example, the profile 2332221 indicated physical capacity of the second degree in conjunction with efficiency of the upper extremity in the third degree, locomotor efficiency in the third degree, hearing of second degree, vision of second degree, mental capacity of the second degree and emotional stability of the first degree. By the use of this method the physical and mental characteristics as assessed at medical examination could be expressed in terms of a profile.

The qualitative analysis of occupational requirements was approached from the same standpoint. Every recruit was allocated to whatever military duty he was considered most fitted as the result of a 'training recommendation' determined by the staff engaged in the selection of personnel. All trades and other forms of employment in the Army were the subject of training recommendations which were arranged in employment groups comprising occupations of a similar kind; for example, T.R.1 consisted of drivers, T.R.2 maintenance personnel, T.R.3 signallers, and so forth. For the purposes of the system, these training recommendations were further divided into sub-groups composed of occupations requiring similar physical and mental qualities, that is to say, having the same profile. Thus while the training recommendation T.R.1 comprised drivers of all kinds, T.R.11 indicated subgroup No. 1, consisting of drivers of vehicles engaged in the fighting

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zone, whereas T.R.12 was sub-group No. 2 consisting of drivers in lines of communication areas. The duties of the former were of a far more exacting nature than those of the latter, and consequently the minimum standard of qualities necessary for training recommendation sub-group T.R.11 was higher, and therefore had a different profile, from that which sufficed for training recommendation sub-group T.R.12 All occupations demanding similar physical and mental qualities being related to the profile representing those qualities, every man could be placed in suitable employment merely by allocating him to one or other of the occupational sub-groups corresponding to his profile. Moreover, the system was so arranged that if, as a result of training, a recruit were to improve to such an extent as to warrant a higher assessment of his capacity, he could be raised in the scale of employment within the same group.

It will be evident that the new system effected an occupational classification rather than a medical category as hitherto understood. In this connexion it was held that the effect would be beneficial, partly by laying emphasis on performance instead of on defects, and partly because the loss of morale and self-respect attaching to a low medical category and the process of downgrading from one category to another would be obviated, since all men properly placed could regard themselves as A1 for the purposes of those duties to which they had been allocated. It was generally agreed that the information provided by the series of numbers constituting the profile supplied a much more comprehensive and detailed indication of a man's physical and mental value than did the existing designation of medical category. Further, the linking of profile with training recommendation sub-group was conducive to a more accurate and complete utilisation of man-power.

There were, however, certain difficulties in application. In the first place, it was not feasible at that juncture to make the new procedure generally operative. To bring all serving soldiers within the scope of the change would have presented a formidable administrative task. It was therefore proposed that for the time being the application of the pulhems system should be limited to recruits and to personnel passing through army selection centres. From the more strictly technical point of view also there were obstacles yet to be overcome. Formerly, medical classification had in effect been undertaken by civilian medical boards, and the duty of medical officers in examining recruits joining for military service had amounted to little more than translating civil grade into military category. Now new considerations were involved in medical classification, and examination was therefore more extensive, occupied more time, and called for much wider experience of medical requirements in relation to military needs. Heavier demands would therefore be made upon the medical services entailing the provision of additional

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personnel. The time-honoured objection to attempting an estimation of medical qualities at an early stage in the recruit's career applied to the new, no less than to the old system, and it was again urged that in the first instance assessment should be provisional, final assessment being postponed for three months until the completion of corps training. As on previous occasions this objection was met by the counter-objection that a man could not be permitted to undergo training on the strength of a merely provisional assessment subject to a revision at a later date since alteration, when he had completed training, might involve a man's transfer to a totally different arm of the service and complete re-training in some other direction, thereby incurring waste of time and additional expense.

Eventually in September 1943, it was agreed that a series of trials should be arranged in order to test the system. The army intake for the current month was to be made the subject of an experimental and theoretical application of the pulhems procedure. Medical officers specially trained in physical medicine would conduct the initial physical assessment and would make a reassessment at the conclusion of the intake's corps training. Functional efficiency tests would be arranged and the results of these, as well as any physical changes, would be noted. These records were to be regarded as experimental only and would not be implemented; indeed, during the experimental period no alterations would be made in the normal methods of dealing with recruits who would undergo their training and posting in accordance with regulations already in force. Subsequently all records would be examined with a view to determining the differences in posting and occupational allocation that would have resulted under the pulhems system as contrasted with those actually effected under the existing category system. Three other experiments of a similar kind were to be made: at an army selection centre in order to determine the effect on selection procedure; at a physical development centre with the object of observing the changes in a man's profile brought about by intensive physical training; and in application to a trained infantry battalion of one or two years' standing in order to ascertain the variety of pulhems profile exhibited by an integrated unit functioning as such and consisting entirely of A1 personnel already trained and performing their appointed duties.

During the next six months a series of experiments of this nature was carried out at P.T.Cs. and army selection centres, also at physical development centres (P.D.Cs.) and other units concerned with training and rehabilitation. As the result of observations made at the time, and of records afterwards submitted to statistical analysis, it was ascertained that the condition of recruits at the end of their training showed close approximation to the estimate formed on the occasion of the initial assessment early in the period of primary training. The value of the

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system was most evident in relation to personnel among the lower categories inasmuch as, by providing a finer screen to gauge personal characteristics it made possible a wider range of employment for men of more limited capabilities. On the other hand, it was found that about 13 per cent. of personnel that would have been classified A1, and therefore fit for service in front line units under the old category system, were relegated to less active duties largely on account of a low degree of assessment in respect of mental and emotional capacity, i.e. the M. and S. factors. As far as it was possible to judge from these experiments, the application of the system would present no great difficulty from the purely medical aspect, although there was no question but that it would entail a heavy additional burden of work upon the medical services and therefore the provision of an appreciably augmented staff to undertake it. Experience suggested that the time occupied in carrying out the medical examination required to complete a pulhems assessment varied widely according to the class of personnel examined. In a field force unit of high medical category, a R.M.O. having an intimate knowledge of his men, could complete the medical examination, exclusive of the psychiatric section, of as many as twenty-five men per hour; in a low category unit not possessing a medical officer of its own the number would probably not exceed ten. As regards recruits, the estimate was fifteen per hour when dealing with the higher grades; in the lower grades the limit was put at eight or ten. These figures, and the medical man-hours they represented, were to be considered in conjunction with the time to be expended in the psychiatric examination necessary for the investigation of the mental and emotional qualities as required by the full assessment. This time factor apart, experience gained during these trials had shown that the practical application of the system was a highly technical and complicated matter. Medical officers in general were as yet unversed in the principles and methods involved. Individual teaching by specialists in hygiene and by specialists in physical medicine, selected and themselves trained for the purpose, would be essential. It would be necessary to arrange special courses of instruction in all commands at home and to send instructors overseas in order that all medical officers might become fully acquainted with the subject as soon as possible. Experiment had thus sufficed to demonstrate that the application of the system to the whole Army implied, from the standpoint of the medical services alone, a stupendous undertaking.

In April 1944, the Adjutant General informed the Army Council that the tests carried out had afforded sufficient evidence to warrant the introduction of the system, since there appeared to be no insuperable difficulty in administering it concurrently with the existing category system, and great benefit was to be derived from its application

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to all new intakes, to personnel undergoing selection testing, and to those requiring reclassification and revision of medical category. As had been expected, the outstanding advantage of the pulhems method of assessment was its emphasis upon the positive rather than the negative aspect of a soldier's capacity. Thus it was possible to reduce the existing shortage in particular trades by drawing upon material previously considered inferior, and, on the other hand, to obviate waste of time hitherto spent in attempting to train those not adaptable to the purpose in view.

Accordingly, in May 1944, the Secretary of State for War gave his approval to the introduction of the system and its use, in conjunction with the existing system, for all new intakes, for personnel passing through selection centres, and for those whose medical categories were subject to review. Nevertheless, much yet remained to be done in the direction of administrative organisation including the co-ordination of the various, and sometimes divergent, aims deriving from the medical, occupational, training, and other aspects of this very comprehensive question. For example, a code of instructions was required for issue to medical officers as a guide to the interpretation of medical findings in terms of the pulhems assessment, and there were still to be settled many details of procedure outside the strictly medical purview, such as arrangements for documentation and the maintenance of essential records. It was not until the following November that the system was officially introduced by the issue of an A.C.I.[17] and by the publication of a pamphlet[18] explaining the scheme, its objects and the methods by which it was to be effected. As now authorised, its scope was still further restricted in that the classification was made applicable only to certain classes of soldiers undergoing full personnel selection procedure, and even these, while subject to assessment by the pulhems method, were also to be given the usual medical category which alone would be used for determining their posting and for other general purposes. Moreover, application, although only to this limited extent, was to be held in abeyance pending further instructions. These, issued two months later, directed that the pulhems classification would be brought into force as regards dersonnel of the General Service Corps on March 1, 1945. This classification which would be in addition to the usual classification by medical category might be carried out at any time during the period of primary training, but as no extra M.Os. could be made available for this work, it would not be possible to accomplish the classification of all men of the G.S.C. before their transfer to other arms of the service. Medical officers at P.T.Cs. would examine as many men as they conveniently could within the time at their disposal, and every endeavour should be made to complete the examination of the remainder while undergoing corps training. It was expected that the time occupied in medical

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examination would in no case exceed fifteen minutes, and that the process of classification should therefore cause little interference with training. In the meantime arrangements had been made whereby all medical officers detailed for these duties would be adequately instructed in the subject by command specialists in physical medicine.

So at long last, after nearly two years' discussion and preparation, the pulhems system of classification was brought into effect, albeit in attenuated form and to a limited extent. The policy of piecemeal application was undoubtedly a matter of necessity rather than choice and was determined by various administrative difficulties, including shortage of medical man-power. Nevertheless, from the medical point of view it denoted, if not a work of supererogation, certainly an unprofitable expenditure of time and energy. For not only was the scope of the system restricted to relatively small numbers among a few classes of soldier, but even within this narrow range there was no means of giving practical expression to the implications of this method of classification, nor of utilising the information so obtained when arranging posting and employment, matters still determined by the allocation of the ordinary medical category. The system being but partially operative, it followed that no real indication of its efficiency or general feasibility could be forthcoming. All that emerged was a multitude of assessments recorded but never put into application. Thus the scheme was to all intents and purposes rendered nugatory and resolved itself into a mere paper exercise of doubtful usefulness for medical officers already overtaxed.

In the circumstances, the Army Medical Directorate questioned the wisdom of continuing a procedure that offered such little return for the labour entailed, and they emphasised, as a point of some consequence, that it was an invidious task to stimulate an interest in the system, and a desire to take advantage of its merits, in the absence of any tangible evidence of its purposeful execution. It was further suggested that figures should be obtained to show the numbers of men actually classified by pulhems methods since the operative date two months before. This suggestion was adopted and progress reports were obtained from all primary training units. From these it was ascertained that the total intake of G.S.C. personnel received between March 1, and May 17, 1945, and therefore eligible for pulhems classification, was 59,770; of this number 14,633 had been so classified. The proportion of men classified varied widely among the several units. A few of the smaller units had managed to reach 100 per cent., whereas, on the other hand, the larger units had not been so successful, either because of insufficient medical staff or on the grounds of interference with training; some appeared to have made no progress whatever. Taken over all, the average number classified was 20 per cent. for each intake. As regards

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prospects for the future, it was clear that in the majority of units under the then-existing arrangements, the medical staffs were quite inadequate for the purpose and, having regard to their numerous other duties, a classification of 50 per cent. of the total intake was the best that could be expected.

Despite these discouraging facts, which lent support to the view of the medical authorities, it was contended that there was still much to be done before the pulhems system could be used universally as a guide to posting and to employment in units, even in respect of men already subjected to assessment by these methods. Nevertheless, the arrangements already in being, limited in scope though they were, provided information and experience of the greatest value. As a result, it was now possible to see the future more clearly to mark out the successive stages in practical application and to define the conditions necessary for each stage. It was thought wise to concentrate upon the preliminary work of educating those concerned in administering the scheme and to defer application of the system to the Army at large, even as regards those already classified, until an appreciable proportion of the Army, say one-tenth, had been similarly classified. Nothing would be more prejudicial to the ultimate acceptance of the system than its premature application.

As no further developments took place during the next few months, this was the situation when military operations ceased both in Europe and in the Far East. So it came about that the system was never subject to the supreme test of general application; in the absence of such evidence there remains more than an element of speculation in any estimate of its practical merits in relation to the Army at war, and in any conclusion as to whether or not it would have provided the solution to what was, perhaps, the most urgent and perplexing problem in military man-power. This much may be said. In December 1944 an inter-departmental committee, consisting of representatives of the Royal Navy, the Army, the Royal Air Force, the Ministry of Labour and the Ministry of Pensions, was appointed to 'inquire into the desirability of the adoption of a uniform system of medical categories by the three service departments after the war, on the lines of the pulhems system of medical classification recently introduced by the Canadian Army. In July 1945, this committee unanimously recommended that a common basis of medical classification for the armed forces was highly desirable, and that the pulhems system, as adopted by the Army but modified to meet the disparate requirements of the three services, should be used for the purpose.

The preparation of a draft scheme and the elaboration of the technical and administrative details involved were to be undertaken by another committee entrusted with this aspect of post-war planning. With the

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object of providing a modicum of basic information to assist in the formidable administrative task entailed by so fundamental a change in organisation, it was considered desirable that the experimental application of the system in the Army should be continued and extended as circumstances would permit.

OFFICERS

The question of medical categories for officers was one which arose soon after mobilisation and had its origin in the fact that many officers of the R.A.R.O., the S.R., and the T.A. were, on joining for duty, found unfit for general service. The regulations governing mobilisation gave no clear indication of the correct disposal of these officers, and there was some doubt as to whether they should be sent home on sick leave or retained by their units with reservations concerning their future employment. Peace-time rules prescribed that regular officers temporarily unfit for general service could draw full pay for a limited period only and could not remain at duty without sanction of the War Office. Those permanently unfit for general service were required to retire, but, if fit for home service, they might subsequently be given employment in the capacity of retired officers provided suitable appointments were available for them. They had, however, no prescriptive right to further employment of any kind. The circumstances of war, however, gave rise to an entirely different situation and involved special considerations to meet unprecedented needs. The disposal of officers temporarily unfit but likely ultimately to become fit for general duty presented no problem; manifestly they should be retained at home with home service units until re-examination by a medical board and passed fit for general service. In point of fact this was already being done in many instances. As regards those permanently unfit for general duty, there could be no doubt that a large number of officers was already required for duty in the United Kingdom only, and more would be required in the future to release trained and physically fit officers for active service. These home service officers could be usefully employed in administrative appointments, training units, home defence units, the A.A. arm, etc. Moreover, as time went on, wounded or sick officers from the expeditionary forces would in many cases be graded as fit for home service only. These officers having first-hand knowledge of war conditions would be invaluable as training instructors and their retention must be ensured. Nevertheless in view of then existing regulations it was necessary to obtain sanction whereby officers not fit for general service could be employed in the Army for the duration of the war.

To this end it was proposed to issue an A.C.I. prescribing medical categories and corresponding fields of employment for officers. At that time, the end of 1939, a system of medical classification by categories

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for other ranks was in course of preparation. The Army Medical Directorate was insistent that, to facilitate administration, medical categories for officers should, as far as possible, be correlated with those for other ranks and also with the grades in use by the civilian medical boards of the Ministry of Labour. A draft A.C.I. embodying this principle was then submitted for comment by the various authorities concerned. General agreement by all personnel branches of the War Office was readily forthcoming, the approval of the Adjutant General was obtained and the draft was ready for publication in February 1940. Notwithstanding the urgency of the matter, final promulgation was delayed by objections raised from the financial angle. Exception was taken to any action that would imply relaxation of the rules which restricted the maximum period of sick leave for officers temporarily unfit for general duty, and which enjoined the removal from full pay of those permanently unfit for more than administrative or sedentary duties at home. There appeared to be grave anxiety on the part of the financial advisers lest a large number of temporarily or permanently unfit officers would remain indefinitely on sick leave or performing merely nominal duties the while they were in receipt of full pay. Eventually, after some three months' contention on the subject, it was agreed that medical categories for officers, and the disposal of officers unfit for general service, were two distinct questions open to separate treatment; concurrence was obtained to the extent of proceeding at once with the former while leaving the latter for further examination and subsequent action. This course was duly adopted, and an A.C.I. prescribing the medical classification of officers by categories was published in June 1940.[19]

These instructions were drawn up in much the same form as that of the instructions for the medical classification of soldiers by categories issued earlier in the year. The schedule of categories, the sphere of employment implied, and the corresponding categories applicable to other ranks were set out as follows:

Category	*Standard*	*Corresponding generally to other rank categories.*
A.	Fit for general service	A1 and in certain circumstances A2, B1, B2, B3.
B.	Unfit for general service, but fit for all ordinary duties at home, and for garrison, base or L. of C. duties abroad, or for specially selected employment abroad.	B1, B2, B3, B4, B5
C.	Unfit for categories A and B, but fit for administrative or sedentary duties at home only.	C.

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Category	*Standard*	*Corresponding generally to other rank categories*
D.	Temporarily unfit for service in categories A, B, or C. (Officers will be placed in category D when they are under medical care or supervision until such time as they are medically boarded or re-boarded and placed in category A, B, C or E.)	D.
E.	Permanently unfit for any form of military service.	E.

The inclusion of the corresponding medical categories for other ranks was a matter of convenience, partly as a guide to classification in view of the details in physical standards prescribed in respect of each, and partly because many officers had already during their service in the ranks, been medically examined and classified according to those categories. It is to be noted that no attempt was made at that time to subdivide categories A and B, as had been done in the classification of other ranks, because as regards officers every posting was considered individually, whereas the posting of other ranks was more in the nature of a bulk transaction. Moreover, at the time of deciding an officer's posting, the personnel branch concerned was in possession of the full medical history of the case. Further, on account of the difference in the functions performed by officers and other ranks, and of the marked distinction between the medical standards sufficient for a commander or administrator and those essential in an officer required to carry out executive duties, the standards for category A in the case of an officer might in certain circumstances overlap with those ascribed to category B in the case of other ranks.

The correlation with civil grades allotted civilian medical boards was indicated by the following table:

Category	*Grade*
A.	I, II(a) (feet), and II(a) (vision) where the visual acuity is not below 6/60 in each eye and is correctable to at least 6/12 in each eye with glasses.
B.	II, and II(a) (vision), where there is loss or practical loss of one eye and the visual acuity in the remaining eye is at least 6/12 without correction.
C.	III.
E.	IV.

With the object of bringing the system into immediate effect all officers serving at home were to be examined forthwith and placed in their appropriate categories by unit medical officers, and any officer found unfit for the duties in which he was engaged was to be brought before a medical board as soon as possible. Thenceforward, whenever a medical board examined an officer, their findings would include the

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allocation of a medical category in conformity with his physical condition. Headquarters of commands were made responsible for ensuring that officers placed in category D, or in categories B or C temporarily, should be re-boarded before the expiry of the estimated period of temporary unfitness. Other administrative matters covered by the relevant A.C.I. included directions for the entry of an officer's category in his record of service and other documents, and also an explicit statement that officers placed permanently in categories B or C would be retained in the service only if suitable employment were available for them.

In March 1941, the instructions described above were revised.[20] As a result of the amendments then introduced the correlation between categories for officers and those for other ranks were made more precise. Categories now corresponded as follows :

	Officers	*Other Ranks*
A.	Fit for general service at home or abroad .	A1, A2, A3.
B.	Unfit for general service abroad but fit for all ordinary duties at home, for garrison, L. of C. duties abroad or for special duties abroad.	B1, B2, B2a, B3, B4, B5, B6.
C.	Unfit for categories A and B but fit for sedentary or other selected employment at home.	C.
D.	Temporarily unfit (i.e. under medical care or supervision pending reclassification.	D.
E.	Permanently unfit for any form of military service.	E.

The overlap between category A for officers and category B for other ranks previously existing was thus eliminated; categories C, D and E remained as before. It was now specifically laid down that the physical standards for officers' categories were the same as for those of other ranks. Consequent upon the revision of these standards, a review of categories of all officers below category A was to be undertaken by regimental medical officers and all officers regarded as suitable for upgrading were to be referred to medical boards. One other provision of importance was the dictum that once an officer had been given a medical category, that category could be changed only by a medical board, that is to say, a medical officer had not the authority to upgrade the categories of officers as he could the categories of other ranks.

Towards the end of 1942, redesignation of other ranks' categories B3 and B4, i.e. those indicating a first class constitution but low degrees of visual acuity, as A4 and A5 necessitated corresponding alteration in the category of officers who had been placed in category B solely on account of visual defects. A directive was therefore issued authorising a new category, viz. category A (defective vision), to which these officers might be upgraded on the recommendation of a military opthalmologist supported by a certificate from a medical officer stating that the officer concerned had been re-examined and found fit for category A in all respects save that of vision.

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Shortly afterwards attention was called to what had now become the general practice of adding qualifications or reservations in connexion with categories allocated to officers brought before medical boards for examination and report. The reservation most frequently employed was a statement of unfitness for tropical service, and, in consequence, appreciable numbers of officers were placed in categories A or B subject to the qualification that they should not be posted to tropical or sub-tropical theatres of war. As already mentioned in the discussion of this subject in regard to other ranks, medical categories as then in force took no cognisance of the differences in service conditions pertaining to various parts of the world overseas. From the aspect of his medical category an officer or man was either fit for service anywhere, or fit for service only in the United Kingdom; if, therefore, he suffered from any disability to which service in a particular part of the world was likely to be inimical, there was no alternative but to place him in category C. It was to avoid undue restriction of this kind that medical boards amplified their findings in the manner described. The question then arose as to whether it was desirable and possible to regularise this procedure, and, if so, how far the principle might be extended in application to other considerations. At the time, there was a grave shortage of officers available for general service, and an increasing number of officers who, having served in tropical climates, had acquired disabilities necessitating their being placed permanently in category C unless some category permitting service overseas in non-tropical areas were authorised. After thorough discussion it was agreed that a non-tropical A category was impracticable, first, because category A should be regarded as implying eligibility for duty anywhere without reservation, and, secondly, on account of the administrative difficulty involved in ensuring the removal and replacement of an officer correctly posted to a category A unit serving a non-tropical area should that unit be subsequently moved to a tropical theatre of war. Eventually it was decided that one new category viz. B (non-tropical), would suffice. It was not considered feasible to review the categories of all officers who had been allocated permanently to category C, since this would have entailed the inundation of medical boards with a volume of work, much of it to no purpose, quite beyond their capacity to undertake. It was, however, the intention that personnel branches should put forward for re-examination any officer of that category capable of useful service overseas in a temperate climate. These proposals having been approved, the new category B (non-tropical) for officers, and the procedure for giving it effect, were brought in operation in December 1943, by instructions which prescribed that the officers to be considered as eligible for this new category were those, of either first or second class constitution, liable to break down if sent to a tropical or sub-tropical country although able to perform all

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the duties applicable to category B anywhere outside those regions. For the guidance of all concerned, the Army Medical Directorate prepared a list of disabilities which, while precluding service in tropical or sub-tropical areas, did not necessarily contra-indicate posting for active service elsewhere. These included a previous attack of blackwater fever, a history of chronic malaria, chronic dysentery, asthma or renal calculus; chronic inflammatory conditions of the ear; and various diseases of the skin such as dermatitis, eczema, prurigo and psoriasis. It was emphasised that this list was to be regarded not as an indication of the appropriate category for officers suffering from these disabilities irrespective of their severity, but merely as a guide to assist in the selection of officers for re-examination.

Eighteen months later occasion arose for the publication of a new A.C.I. to amend and consolidate the mass of regulations that had accumulated in regard to officers' medical boards, their sick leave, the disposal of officers unfit for duty, etc. As the instructions for the medical classification of officers by categories, promulgated in March 1941, had never been subject to officially published amendment since that date, the opportunity was now taken to insert in the new A.C.I. a revised schedule of medical categories, and to incorporate the various modifications, in the categories themselves, and in the conditions pertaining to them, that had come in operation either by authority or by custom and usage during the previous two years. Among these was the innovation by which many officers, medically boarded in certain operational commands overseas and placed in category C, continued to serve in theatres of war, in spite of their home service category, if there were available for them duties which were compatible with their physical disabilities and for which they were suitable.

These amendments were brought into force in September 1944.[21] The same schedule of categories was now made applicable both to male and to female officers of all arms, the only distinction in designation being the addition of the letter W to the index letter of the category in the case of women officers. The conditions of service denoted by the several categories also applied equally to men and women. The medical standards determining the categories for male officers were prescribed as being those referring to other ranks in the pamphlet '*Medical Categories for Other Ranks*, 1944', subject to the provision that certain modifications might be acceptable in individual cases having regard to the duties which the officer was required to perform. Similarly, the standards for women officers were the same as those for auxiliaries of the A.T.S. Officers commissioned from the ranks were deemed to be of the officers' category corresponding to their other ranks' category. Those commissioned by direct entry were to be placed in the medical category equivalent to the grade in which they were classified by

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C.M.Bs. As before, the medical category of an officer was subject to revision only by a medical board or by the War Office.

The schedule of categories as thus amended was set out in the form shown below. It continued in force unaltered throughout the remaining period of hostilities :

Category	*Standard*	*Corresponding generally to other rank categories.*
A. AW.	Fit for general service at home or abroad	A1, A2, A3, AW1, AW2.
A. (defective vision) AW. (defective vision.)	Fit for all duties, in any part of the world, which do not necessitate direct dependence on visual acuity for the preservation of the officer's own life or the lives of others.	A4, A5. AW3, AW5.
B. BW.	Unfit for general service, but fit for all ordinary duties at home and for garrison base, or L. of C. duties abroad, or for special duties abroad.	B1, B2, B2a, B5, B6, B7. BW1, BW2, BW3, BW4, BW5.
B. (non-tropical) BW. (non-tropical).	As for category B, but such officers must not be posted to tropical or sub-tropical climates.	

Officers placed in category B (non-tropical) were those of first or second class constitution who were regarded as likely to break down if sent to a sub-tropical or tropical climate for service but who were considered fit to perform all duties in category B outside these areas. Such officers could be posted to fill any category B vacancies in units which were known to be serving, or about to serve, in the geographical areas allowed.

C. CW.	Unfit for categories A and B, but fit for sedentary or other selected employment at home, or for employment overseas, subject to the following conditions: an officer serving in the United Kingdom in category C will not be sent overseas without W.O. sanction, but an officer placed in category C while already serving in a command or theatre of operations overseas may be retained for further service in that command or theatre provided that: (a) suitable employment within the limits of his category can be found for him, and (b) the medical board certify that continued service in that command or theatre is not likely to aggravate his disability.	CW.
D. DW.	Temporarily unfit (under medical care or supervision) or on sick leave pending reclassification.	D. DW.
E. EW.	Permanently unfit for any form of military service.	E. EW.

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A.T.S.*

Medical examination of recruits to the A.T.S. was at first in the hands of the military authorities, and officers of the Army Medical Services attended at recruiting centres for this purpose. These arrangements continued until May 1941, when, in anticipation of the extension of compulsory military service to women, the Ministry of Labour assumed responsibility for examination of female, as well as male, entrants to the forces. Thereafter women recruits were subject to a procedure little different from that applying to men. They were examined by the same standing C.M.Bs. while the methods of examination and assessment adopted, the standards used, and the form of grading employed to denote physical capacity were similar to those laid down for male recruits. The need of the A.T.S. for a system of medical classification comparable to that already in force for soldiers had long since been apparent; alteration in arrangements for recruiting and medical examination provided a suitable opportunity for its introduction. Accordingly a scheme of classification, designed to meet the special requirements of a military body composed of women employed in a variety of occupations, was prepared and brought into operation towards the end of the year 1941. The issue of a pamphlet on the subject was notified in A.C.Is. in January 1942.[(22)] Eight effective, and two non-effective categories sufficed, for the time being at least, to provide the requisite medical classification of the A.T.S., and, in order to prevent confusion between the categories of male and female personnel of the Army, those referring to women were differentiated by the insertion of the letter W between the index letter and number of the category. The total number of categories used for the A.T.S. was smaller than that required for male personnel, chiefly because ability to perform long marches was not demanded of women and was not therefore a criterion of their physical efficiency. Hence it was unnecessary to make a sharp distinction in category between auxiliaries whose lower extremities were without defects of any kind and those in whom slight locomotor defects were present; in fact the latter were not excluded from the highest category as was so in respect of soldiers. In effect the series of categories was divided into three divisions indicating first, second or third degree constitution; the first and second of these three divisions were further divided into three sub-divisions dependent upon acuity of vision. A special category was included to make provision for defective hearing, and there were categories for the temporarily, and the permanently, unfit as in the case of men. The characteristics ascribed to the various categories were as follows:

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* For data relating to the recategorisation of A.T.S., other ranks, see the Statistical Volume in this series.

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A.T.S. medical category	*Characteristics*
AW1.	First grade constitution; visual standards 1 to 3; hearing standards 1 or 2; with or without slight defects of locomotion.
AW2.	First grade constitution; visual standard 4; hearing standards 1 or 2; with or without slight defects of locomotion.
AW3.	First grade constitution; visual standards 5 or 6; hearing standards 1 or 2; with or without slight defects of locomotion.
BW1.	Second grade constitution; visual standards 1 to 3; hearing standards 1 or 2; with or without slight defects of locomotion.
BW2.	Second grade constitution; visual standard 4; hearing standards 1 or 2; with or without slight defects of locomotion.
BW3.	Second grade constitution; visual standards 5 or 6; hearing standards 1 or 2; with or without slight defects of locomotion.
BW4.	First or second grade constitution; visual standards 1 to 6; hearing standard 3; with or without slight defects of locomotion.
CW.	A woman may be placed in this category because of third grade constitution or marked defects of locomotion.
DW.	Temporarily unfit.
EW.	Permanently unfit.

It will be apparent that this schedule of categories was more rational and straightforward in design, and therefore more easily comprehended and interpreted, than the corresponding categories at that time prescribed for soldiers. A further advantage derived from the fact that, in the application of medical categories to forms of employment, it was necessary to consider the former in relation not to different arms of the service, as in the case of male personnel, but only to the various occupations within the A.T.S. Here again, the number of trades and duties for which auxiliaries were eligible being much smaller, less difficulty was experienced in effecting correct occupational assignment.

The following was the schedule of occupations in relation to categories :

Duties	*Medical categories applicable*
Height finder number Identification telescope number Operator, fire control Predictor number	AW1. BW1.
Driver I.C. Instrument mechanic Machinist, metal Motor-cyclist Operator, keyboard Operator, kine-theodolite Operator, switchboard Projectionist, cinema Radio mechanic *Telephone orderly Turner Wireless mechanic	AW1. AW2. BW1. BW2.

* These duties might also be performed by auxiliaries of category CW.

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Duties	*Medical categories applicable*
Driver Mechanic Operator, cypher Operator, comptometer Operator, special (Royal Corps of Signals) Photographic developer	AW1 to BW2.
*Clerk *Draughtswoman Linguist *Shorthand typist *Shorthand writer Storewoman (R.A.O.C. duties)	AW1 to BW3.
*Chiropodist Cook Cook, hospital Cycle repairer Equipment repairer Hairdresser Mess steward Modeller, camouflage Officers' servant Orderly, general duty Orderly, house Orderly, mess Orderly, office Orderly, medical Orderly, post Painter and decorator Plasterer, camouflage Sanitary duties Tailoress Textile refitting Tinsmith and whitesmith Vulcaniser Watchmaker Woodturner and machinist	AW1 to BW4.

* These duties might also be performed by auxiliaries of category CW.

The standards of vision and of hearing used for the medical classification of women were the same as those applicable to soldiers, that is to say the standards contained in the code of instructions for the guidance of C.M.Bs., and the same arrangements were made whereby the grading of a recruit was amplified in certain circumstances by remarks entered in the medical examination record by the chairman of the medical board. The table of correlation between civil grade and army category was as set out below:

Grading by civilian medical board	*Remarks by Chairman to be entered in Medical Examination Record*		*Equivalent A.T.S. medical category*
Grade I	V.S. 1 to 3	H.S. 1 or 2	AW1.
	V.S. 4	H.S. 1 or 2	AW2.
Grade II(a) (feet)	V.S. 1 to 3	H.S. 1 or 2	AW1.
	V.S. 4	H.S. 1 or 2	AW2.
Grade II(a) (vision)	V.S. 5 or 6	H.S. 1 or 2	AW3.

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Grading by civilian medical board	*Remarks by Chairman to be entered in Medical Examination Record*		*Equivalent A.T.S. medical category*
Grade II(a) (vision and feet)	V.S 5 or 6	H.S. 1 or 2	AW3.
Grade II	V.S. 1 to 3	H.S. 1 or 2	BW1.
	V.S. 1 to 3	H.S. 1 or 2 plus foot defects	BW1.
	V.S. 4	H.S. 1 or 2	BW2.
	V.S. 5 or 6	H.S. 1 or 2	BW3.
	V.S. 5 or 6	H.S. 1 or 2 plus foot defects	BW3.
	V.S. 1 to 6	H.S. 3	BW4.
Grade III	V.S. 1 to 6	H.S. 1 to 3	CW.
Grade IV	V.S. 1 to 7	H.S. 1 to 4	EW.

Administrative arrangements in connexion with the medical classification of auxiliaries of the A.T.S., including the procedure for review of category at the end of a recruit's period of training, for revision of category in the direction either of upgrading or downgrading, and for reclassification on account of sickness, etc., conformed generally to the system already applicable to soldiers, only minor adjustments being made to meet special conditions pertaining to the women's forces.

Generally speaking, the scheme proved satisfactory in practice, and little in the way of alteration was subsequently found necessary. From time to time adjustments between categories and occupations were made in the light of experience gained. Later, as the scope of the A.T.S. was widened, many other trades and duties were added to the forms of employment undertaken by auxiliaries, and these were correlated to medical categories in accordance with the physical attributes demanded. It was not until February 1944, that the schedule of medical categories was itself amended.[23] Two more categories, AW5 and BW5, were now introduced as a means of separating visual standard 5 from visual standard 6, both of which had previously been allocated to the same categories, i.e. AW3 in the case of first degree constitution, and BW3 in the case of second degree constitution. Moderate, as well as slight, defects of locomotion were now included even in the highest categories and the term 'degree' instead of 'grade' was used in describing differences in constitutional efficiency.

This revised schedule of categories, which remained in operation until the end of the war, was as follows:

A.T.S. medical category	*Characteristics*
AW1.	First degree constitution; visual standards 1 to 3; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
AW2.	First degree constitution; visual standard 4; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.

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A.T.S. medical category	*Characteristics*
AW3.	First degree constitution; visual standard 6; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
AW5.	First degree constitution; visual standard 5; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
BW1.	Second degree constitution; visual standards 1 to 3; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
BW2.	Second degree constitution; visual standard 4; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
BW3.	Second degree constitution; visual standard 6; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
BW4.	First or second degree constitution; visual standards 1 to 6; hearing standard 3; with or without slight or moderate defects of locomotion.
BW5.	Second degree constitution; visual standard 5; hearing standards 1 or 2; with or without slight or moderate defects of locomotion.
CW.	A woman may be placed in this category because of third degree constitution or marked defects of locomotion.
DW.	Temporarily unfit.
EW.	Permanently unfit.

THE PHYSICAL DEVELOPMENT CENTRE*

Among the various measures devised for the more complete utilisation of man-power available in the Army was the institution of the physical development centre. The object was to provide a means whereby serving soldiers and recruits suffering from certain remediable disabilities could be subjected to a process of physical improvement thus raising their efficiency and rendering them fit for employment in a more active and strenuous capacity. It was hoped in this way to obtain the transfer of an appreciable number of men to higher medical categories than those in which they had previously been placed, and in this way to reduce the already alarmingly high proportion of personnel in the lower medical categories.

The application of these measures was of necessity limited and was restricted to certain physical conditions amenable to a reasonably short course of remedial training. Hence it was unprofitable to attempt the

* For data relating to recategorisation in Physical Development Centres see the Statistical Volume in this series.

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treatment of men in any but the higher range of medical categories i.e. A2., B1., and B2., that is to say, those including minor defects of locomotion or of general constitution. The disabilities regarded as particularly suitable for remedial training were those of poor physique due to under-development or malnutrition; abnormalities due to postural, occupational, or environmental causes; and local skeletal defects not associated with rigid deformity. On the other hand, there were many conditions which were responsible for low medical classification but which did not lend themselves to amelioration by such methods. Among these were temporary disabilities due to wounds or accidental injuries; congenital deformities; cases of organic disease such as recurrent hernia, chronic middle ear disease, and arthritis; and also cases of neurosis.

Although the scope of this endeavour was much wider, its aims and objects were comparable to those of the special P.D.C. opened at Aldershot in 1936 for the development of the sub-standard peace-time recruit, a venture which had proved a marked success in preserving for the Army a large number of recruits who would otherwise have been rejected and who, as the result of remedial treatment, eventually reached a satisfactory physical standard.

The first war-time P.D.C. with accommodation for 450 beds was opened at Kingston-on-Thames in July 1941, and provided a course of remedial treatment limited to two months' duration and restricted to men of categories A2, B1, and B2, of not more than 35 years of age and suffering from the disabilities mentioned above. As the course could not be extended over more than two months it was of the greatest importance that every care should be exercised in the selection of cases in order to ensure that only those likely to derive substantial benefit were sent to the centre. In the first instance cases were selected by medical officers in charge of units and training centres; they were then collected for examination by the command specialist in physical medicine with whom lay the final decision as to suitability for treatment. On arrival at the P.D.C. men were examined by a specialist in physical medicine and classified into groups according to their disabilities, photographs and radiographs being taken where necessary, and were then placed in sections each with its own instructor. The object of the centre being to improve individual function and performance, the course of training combined physical, recreational, and educational development based on the principle that the mind, by the exercise of intelligence, should control the development of the body, and that medical and physical treatment, even of the very best, cannot themselves suffice to cure a disability but must be reinforced by effort and co-operation on the part of the patient who must work in harmony with his instructors. Physical training was carried out under the instruction of officers of the Army

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Physical Training Corps (A.P.T.C.) and was supervised by specialists in physical medicine; it included remedial exercises designed to overcome such conditions as muscle atrophy, lack of balance between antagonistic muscle groups, limitations of movement of joints, and habitual abnormalities of posture and gait. Recreational training consisted largely of games purposefully selected with the knowledge that during an exciting game a minor disability tends to be forgotten, and the sufferer thus performs a considerable degree of unconscious movement in the affected part. Particular attention was paid to relaxation and prevention of fatigue; the more strenuous activities were alternated with less vigorous recreational periods, and the midday meal was followed by a rest of half an hour in the recumbent position. Assistance in obtaining physical relaxation combined with mental stimulation was given by the staff of the Army Education Corps (A.E.C.) The subjects taught, while retaining a popular appeal, were chosen with the object of increasing military efficiency and included current affairs, map reading, mathematics, and military geography. Technical books were provided, and discussion groups and debates were arranged with the same purpose in view. Heavy demands being made upon the physical energy of those under training, their diet was supplemented by an additional of 500 calories mostly in the form of fat and carbohydrate, while particular attention was paid to the cooking and serving of meals. Importance was attached to the effects of skin stimulation; in the open, a minimum of clothing was worn; and in the gymnasium, where the men worked with bare feet, nothing more than shorts. During the winter months a course of actino-therapy was given, more particularly for the benefit of recruits of the anaemic and undernourished types.

In the light of experience which had shown that defects of the feet were the cause of the breakdown under training of a large number of men enlisted into the Army, and that these disabilities were responsible for a very high proportion of those subsequently lowered in medical category, special measures were directed towards care of the feet and the remedy of minor foot defects discovered among the men under development training. During the first week a boot and foot inspection was held. All misfitting or badly worn boots were replaced, and where necessary special alterations were made by the bootmaker in accordance with prescriptions given by the medical officers. All cases of blisters, corns, ingrowing toenails, and other abnormalities were referred to the chiropodist who also gave general instruction in hygiene of the feet. Postural abnormalities were corrected individually, the ultimate aim being the balancing of bodyweight so that no undue tension was thrown on any weight-bearing joints and no excessive load thrown on any one group of muscles. This was attainable only by constant repetition of

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selected exercises; many of these were performed by the weight and pulley method which could be adjusted as required and had the advantage of affording visible evidence of improvement as increasing loads were successfully manipulated.

At the end of the third week of the course each man underwent a second medical examination. As a result of this examination it was possible to decide what progress had been made and what further progress might be expected. Opportunity was then taken where necessary to transfer a case from one group to another, or to make such minor adjustments in his programme of treatment and training as appeared advantageous. On the other hand those who had failed to respond to treatment and who were considered unlikely to derive benefit from its continuance were returned to their units immediately. On the completion of the course a final medical examination was made and each man's medical category determined. In the absence of any physiological or anatomical tests to assess physical fitness or to measure physical improvement, the regrading was based entirely upon performance tests of a fixed standard and systematically carried out.

A second centre of approximately the same capacity was opened at Skegness a year later and subsequently a third at Hereford to accommodate 1,500 cases. Certain minor modifications were made as the result of experience gained. In the first place, it was found that the class of case deriving most benefit from physical development was the young soldier and particularly the recruit immediately on entering the Army. Preference in admission to the centres was therefore given to newly-joined recruits in the younger age groups. Secondly, arrangements were made whereby a man who, after a course of two months' training, had shown improvement, although not to the extent of warranting a rise of medical category, and who gave promise of being fit for a higher category after further training, could be retained at the discretion of the specialist in physical medicine to continue his training for a period not exceeding four weeks. A follow-up system was devised in order to obtain some record as to the permanency of improvement made at the development centres. A report upon each man was furnished to his commanding officer by the commandant of the centre, and particulars of any upgrading of medical category were entered in the man's documents. Conversely, the man's commanding officer was required to notify the commandant of the centre as to the man's condition and his ability to maintain his new medical category, two, later altered to six, months after his return to his unit. Similar notification was made whenever recurrence of the condition for which he was sent to a development centre rendered subsequent reduction of medical category necessary. As might have been expected, such circumstances as posting, reposting, transfer from one unit to another, mobilisation of units and their

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dispatch abroad, rendered the system only partly effective and resultant records incomplete.

In so far as the work of the physical development centres is concerned, encouraging results were obtained. Of the first 4,059 soldiers admitted to one centre 81 per cent. were raised in medical category at the end of the course; and of these, 85 per cent., or 69 per cent. of the total admitted, were placed in category A1. At another centre, of the first 1,786 cases the percentages were 83, 77, and 64 respectively.

The success attending the adoption in physical development centres of the principles and methods described above led to a desire for their application, if in modified form, to training centres, corps training units, and field force units where there was unquestionably a need for the institution of measures of this kind. Both general experience and special investigation had indicated beyond doubt that whereas a fairly uniform degree of efficiency was obtained within certain age limits, yet complete efficiency was dependent upon the kind of training given and upon the rate of its progress, both of which required to be controlled in accordance with the physique and constitution of the individual man and with his previous occupation and environment. By collaboration between unit commanders, medical officers, physical training instructors, and specialists in physical medicine arrangements were made for the closer medical supervision, not only of the men under training, but also of the methods of training employed, in order to ensure that the latter were regulated and adapted to suit the capacity of the many different physical types encountered, and in order to obviate the risk of impairing physique by the severity of the training intended to improve it. The system of training was accordingly organised in such a way as to provide for the segregation of similar types into groups for special training graduated to suit their physical capacity. The rate of progression was varied in relation to age, the older men advancing less rapidly than those in the younger age groups. Men of sedentary occupations and unaccustomed to active muscular effort were not subjected to undue strain until they had become inured to a more rigorous way of life. The correction of physical disabilities of a minor or local kind was undertaken at the unit without recourse to the P.D.C. which was reserved for more complicated cases.

Methods of a more special character were employed in connexion with the training of personnel of special arms of the service, e.g. paratroops, armoured units, etc., where experience had shown that the application of anatomical and physiological principles was instrumental in reducing accidents incidental to the nature of the tasks performed. For example, it had been found in the early days of training paratroops that rupture of muscles caused by sudden extension of the head in leaving the aeroplane, and injuries to ankles and knees on landing were

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of frequent occurrence. Special instruction in the exercise and development of the appropriate muscles and in the correct methods of landing and falling were therefore included in the programme of training for these troops; as a result these injuries were substantially reduced both in number and in severity.

In addition to men undergoing the normal process of training, there was ordinarily a large class of personnel with their units for whom it was desired to make special provision in order not only to obtain the upgrading of men capable of attaining a higher medical category but also to prevent the downgrading of cases where this appeared likely to occur. These included men in category A1, returned from reserve but not fit to undergo full training; men returned from hospital; surgical cases, e.g. wounds or fractures, where the man had been lowered in medical category and excused general and physical training; cases of sprains or minor fractures returned to their units for light duty; medical cases such as bronchitis, dyspepsia, rheumatism, and neurosis; men of more than 30 years of age and therefore inadmissible to physical development centres. For these cases reconditioning courses of remedial training were instituted within the unit. The length of the course was made suitable to individual requirements but was limited to a maximum of eight weeks. During the course the soldier was placed completely under medical control and was not required to perform regimental duties. The courses were conducted under the supervision of the command specialist in physical medicine who visited each unit at intervals to advise on the remedial training given.

The scheme was highly successful in its results. Men of low medical category remained continuously under the eye of the medical officer, while, on the other hand, sick parades were much reduced in size and confined to those in real need of medical treatment or advice. The number of men upgraded was increased; conversely the number previously referred to medical boards with a recommendation for downgrading was considerably decreased. There was also a marked improvement in morale as indicated by a general desire to attain and retain a high medical category.

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CHAPTER 12

HOSPITALS, CONVALESCENT DEPOTS; MEDICAL EMBARKATION AND DISTRIBUTION, MEDICAL DOCUMENTATION; REHABILITATION, INVALIDING

HOSPITAL ACCOMMODATION

THE policy governing war-time military hospital accommodation was finally determined by a Cabinet decision in April 1939.* By this decision, the War Office was precluded from acquiring or building more military hospitals except by special sanction of the Treasury and was thus restricted, in the first instance at least, to such additional accommodation as could be obtained from the expansion of existing military hospitals, first, by increasing the number of beds to the utmost capacity of which the buildings were capable, and secondly, by supplementing buildings with huts built on such space as was available within the grounds of the hospitals. For further hospital accommodation the military authorities were required to rely on provision made from the resources at the disposal of the Emergency Medical Services, a hospital service brought into being primarily to meet the needs of the civilian population in respect of casualties arising from enemy air raids.

When war was declared there were thirty-two military hospitals providing 3,514 beds in all, and four general hospitals of the Territorial Army intended not as field force units but as static hospitals for service at home only and due to mobilise with a capacity of 600 beds each immediately on the outbreak of war. All these hospitals were situated in the greater towns or larger garrisons. Certain medical reception stations were expanded on general mobilisation and raised to the status of small military hospitals. There were also field medical units such as field ambulances, casualty clearing stations and general hospitals in process of mobilisation, but as these units were intended for the expeditionary force they were chiefly engaged in training and preparing themselves for active service; moreover, the accommodation they occupied was in most cases sufficient only for their own personnel. In these circumstances field medical units were negligible from the standpoint of providing hospital accommodation and treatment, except in regard to small numbers of cases of a trivial kind. Manifestly, therefore, the Army was from the very outset largely dependent upon the hospitals

* See Emergency Medical Services, Volume I, Chapters 1 and 2.

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of the E.M.S. for the accommodation and treatment not only of battle casualties evacuated from the expeditionary forces overseas, but also of the sick and injured among the military forces at home.

When the sub-committee appointed by the Committee of Imperial Defence in 1936 to consider the co-ordination of medical arrangements in war had examined the question of accommodating military patients in civil hospitals, they had foreseen so many and such grave difficulties inherent in the system that they had advised against its adoption. Within a very short time of its being put into practice, that is to say, within a few weeks of the outbreak of war, these difficulties began to make their appearance in no uncertain manner.

The Emergency Medical Service hospitals were not intended for the treatment of all types of disease; it was therefore necessary to provide in military hospitals accommodation for all mental and venereal cases, while for infectious diseases the Army had to rely upon the infectious diseases hospitals of local public health authorities.* These hospitals were outside the central control of the E.M.S. and were administered direct by local county or borough councils, and thus, in seeking to obtain admission of military infectious cases, the Army Medical Services were entirely in the hands of these bodies and their officials who were not invariably co-operative. During the early days of the war, therefore, delay in disposing of infectious cases was not infrequently experienced. In this connexion, however, it is to be remembered that except in large towns infectious diseases hospitals are usually small with limited accommodation restricted to the treatment of the more serious infectious diseases, e.g. enteric fever, cerebro-spinal fever, diphtheria and scarlet fever. Cases of the milder infectious diseases, e.g. measles, chicken-pox, mumps, influenza and scabies, which constituted the bulk of infectious cases in the Army are not normally admitted to civil infectious diseases hospitals. Here again, therefore, civil hospital facilities were inadequate and special arrangements were required within the medical services in the Army.

Time and experience were sufficient to provide a satisfactory solution to these questions, but more serious difficulties arose through the innate differences in the civil and military concepts of what constituted the hospital case and of what was comprised within the administration of a hospital. Civil hospitals are intended to deal with those who are seriously ill or who require treatment of a sort which cannot be obtained elsewhere. As most sickness is of a minor kind, it follows that in civil life the vast majority of sick people are treated, with more or less satisfactory results, in their own homes, and particularly in those homes where accommodation and facilities are available for the simple treatment, nursing and

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* See Emergency Medical Services. Volume I, Chapter 3.

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dietary which is all that most of them require. Only when something more is required are they sent to hospital. In the Army, however, the position is quite different. For obvious reasons the barrack-room or the tent is in every way an unsuitable place in which to treat even a trivial case of sickness. Only in an emergency or when no other accommodation is available can they be so used and then only at the cost of delaying recovery. The invariable military practice is, therefore, to send the soldier requiring medical treatment, nursing or sick-dieting to a hospital or other medical establishment where these things are available rather than to retain him in his unit where no such facilities exist. This fact was not at first appreciated, and military cases of a trivial kind were on occasions refused admission to E.M.S. hospitals until the Director-General of that service drew the attention of his hospital officers, i.e. regional executive officers of the Emergency Medical Services, to the facts that service cases must not be refused admission even if such cases, as judged by civil standards, were not of the kind to demand hospital treatment and that military units were not organised for the retention of sick even though of a mild nature and short duration.

Complications also arose in regard to the partially convalescent military patient. In civil hospitals, patients who have ceased to require active medical treatment and nursing, are usually discharged to convalesce at home even though they may not have passed the stage of partial helplessness. The soldier, on the other hand, having no one to wait upon him in his unit, must be retained in hospital until convalescence is well established and until he is capable of looking after himself. Thus the E.M.S. hospitals found themselves in the unaccustomed position of having a considerable proportion of partly able-bodied men among their military patients. The hospital authorities being inexperienced in such matters, frequently made the mistake of attempting to apply to such men the restrictions in action and in diet suitable only to patients still in bed, or, alternatively, despatched them to their homes on sick leave without notifying their units. In both directions results were disastrous for in the first, dissatisfaction gave rise to complaints and breaches of discipline, and in the second, large numbers of men passed completely out of the knowledge and control of the military authorities, with inevitable confusion in regard to pay, dependents' allowance, etc.

More troublesome, however, were the problems of a more administrative kind inevitable in the admission of military cases to E.M.S. hospitals. These hospitals, like all civil hospitals, had no responsibilities to their patients beyond those of treatment, nursing and feeding; patients relied upon their relations and friends to supply their other personal needs. On the other hand, as a patient in hospital, the soldier requires not only medical treatment and diet, but also pay, clothing and

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necessaries; the same administrative machinery to which he is subject when with his unit must be made applicable to him when he is in hospital, indeed for the time being, the officer commanding the hospital becomes, for all practical purposes, his commanding officer. It was soon obvious that in E.M.S. hospitals there were no means by which essential military administration could be conducted, nor had the civilian hospital authorities the power or the experience to undertake it even had it been possible to provide the facilities for them to do so. No more convincing evidence was necessary than the valiant efforts made by superintendents or matrons of small hospitals in struggling to master the intricacies of Army forms and pay-sheets. It was decided to provide E.M.S. hospitals with a military medical officer as registrar and a small staff of other ranks of the R.A.M.C. to undertake duties in connexion with pay, records and general administration, to supervise the issue of hospital clothing and to maintain stores for the clothing and equipment of military patients while in hospital.*

The application of this project, while still having regard to the need for economy in medical personnel, implied the concentration of military patients in selected E.M.S. hospitals, and thus raised from another aspect the same question that had developed on somewhat controversial lines in another connexion. Shortly after the outbreak of war and the despatch of the expeditionary force overseas, the War Office approached the Ministry of Health and referred to the undertaking which had been given by the Minister of Health before the war, and by which he had agreed to hand over, at forty-eight hours' notice, hospitals or portions of hospitals for the reception and treatment of military casualties. Convoys of sick and wounded up to the number of 300 daily were expected to arrive from the Continent at any moment, and it was therefore requested that six blocks of 300 beds each, in such E.M.S. hospitals as the Minister might choose, should be placed at the immediate disposal of the Army. It was realised that all six blocks would not be required within the specified forty-eight hours, but it was considered desirable to give as long notice as possible.* The Ministry of Health, while agreeing to receive the numbers expected, stated that it was not possible to hand over blocks of beds in particular hospitals exclusively for military purposes. The uncertainty as to where air raid casualties might occur made it undesirable that specific accommodation in specific areas should be withdrawn from the general pool. The reply of the War Office was to the effect that for facilities in administration and for economy in expenditure and man-power it was essential to concentrate military casualties with a military staff to look after them. If specific accommodation were not allotted, the accommodation given would vary from day to day and with

* See Emergency Medical Services, Volume I, Chapter 3.

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every convoy arriving from overseas, a situation which would prove utterly impossible from an administrative standpoint. By this time the administrative difficulties inseparable from dealing with military patients in civil hospitals had become apparent to all concerned, and the Ministry of Health therefore agreed to the principle of reserving at certain hospitals, blocks of approximately 300 beds for military patients, and accepted the proposal of the War Office to attach small military staffs for administration, clerical and storekeeping duties as already described. It was proposed and agreed that in the meantime the allocation of beds should be on a temporary basis but as the scheme for expanding hospitals by the building of huts progressed, accommodation for the Army should be reserved on a permanent footing. Certain obstacles had arisen in regard to hospital accommodation in Scotland where restrictions imposed in regard to the admission of certain cases had to a certain extent discounted the accommodation normally made available. A request for the allocation of blocks of beds as had been done in England was negatived on the grounds that it was not possible to allocate blocks of beds for the exclusive use of the military authorities.

At the end of January 1940, there were some 8,000 military patients in E.M.S. hospitals, approximately one-quarter of these being accommodated in six hospitals where blocks of 300 beds had been allocated for convoys of sick and wounded arriving from overseas. The remainder was scattered in smaller groups throughout the country. The appointment of military medical officers as registrars to the larger hospitals had only partly solved the administrative problems that had already risen; in the smaller hospitals without a registrar the situation was becoming worse as the number of military patients became greater. The maintenance of discipline in non-military surroundings presented something of a dilemma necessitating the raising of military registrars to field rank in order to invest them with adequate disciplinary powers. In small hospitals where there was no registrar it was not always possible for officers commanding units to maintain contact with their men and so ensure that they received their pay with regularity. Military patients were still discharged from hospital without notification to their units, and, on the other hand, some were retained longer than necessary because the hospitals did not know the whereabouts of their units or where they should be sent when ready for discharge. There were complaints by the hospitals of delay on the part of the military authorities in arranging medical boards for soldiers considered unfit for further service, while in other cases the hospitals failed to notify the military medical authorities that patients were ready for medical boards or insisted on keeping them under treatment long after they were fit for discharge.

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* See Emergency Medical Services. Volume I, Chapter 3.

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Questions of sick leave granted without the concurrence of commanding officers, withholding or delaying passes out of hospital for urgent compassionate reasons, the issue of travelling warrants, notification to relations of patients dangerously ill, and other comparable matters all gave rise to confusion, complaint, and not a little friction. All these difficulties arose not from an absence of goodwill nor from lack of any desire to co-operate, but were the unavoidable concomitant of attempts to combine two incompatible systems and to hand over highly technical executive functions to those who were neither empowered nor trained to exercise them.

Bearing on this matter is a commentary included in the report of the investigational team of the Directorate of Medical Research, which in the summer of 1943 carried out a survey of the work of the Army Medical Services at home.

Here it is affirmed, after a comprehensive study of their many and various activities, that military hospitals performed two functions distinct one from the other but each indispensable to an efficient military organisation. In the first place they provided for officers and other ranks of the R.A.M.C. a training ground for which there could be no substitute. Their personnel included highly skilled specialists, many of whom had experience of active service, continuously engaged in training the potential specialist and technician. Instruction imparted and knowledge gained in these circumstances had a military realism impossible to obtain elsewhere except in a theatre of war.

Secondly, military hospitals provided a hospital service for troops in the United Kingdom very much greater in extent and wider in scope than that suggested by their mere number of beds. This was true more particularly in regard to their almost unlimited out-patient facilities organised to deal with the vast number of cases referred to them by regimental medical officers seeking specialists' opinion, a service for which the usual in-patient hospital resources, e.g. X-ray, pathological laboratory, massage department, were essential and for which in-patient accommodation was required for patients undergoing clinical investigation.

The conviction was expressed that the admission of soldiers as patients to civil hospitals involving as it did surrender of military control, even though only temporarily, placed the Army at a serious disadvantage. A civil organisation, in the nature of things, could not be expected fully to appreciate the military standpoint nor to realise the significance of the principles governing procedure in the Army Medical Services. All over the country there was indisputable evidence that military patients suffering from comparable conditions were retained for a longer period in hospitals of the E.M.S. than in military hospitals.

A specific inquiry by the Directorate of Medical Research into this particular matter produced the following figures:

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Mean Stay in Military and E.M.S. Hospitals in the United Kingdom in 1943

(The figures relate to male O.Rs.)

Disease	I Treated exclusively in Military Hospitals	II Treated exclusively in E.M.S. Hospitals
Common cold and coryza	8·7 days	12·1 days
Influenza . . .	10·7 ,,	13·2 ,,
Scabies . . .	13·4 ,,	18·1 ,,
Impetigo . . .	18·5 ,,	21·3 ,,
Tonsillitis . . .	11·8 ,,	14·9 ,,
Dyspepsia and Gastritis	16·0 ,,	20·9 ,,
	Excess of II over I in days	Excess of II over I (as percentage)
Common cold and coryza	3·4 days	39%
Influenza . . .	2·5 ,,	23%
Scabies . . .	4·7 ,,	35%
Impetigo . . .	2·8 ,,	15%
Tonsillitis . . .	3·1 ,,	26%
Dyspepsia and Gastritis	4·9 ,,	31%

Thus where reasonably valid comparison could be made it appeared that the mean stay in E.M.S. hospitals was about 25 per cent. higher than in military hospitals.*

Thus the Army was subjected to a serious and entirely unnecessary drain upon its man-power and one which the medical services were constantly striving to eliminate. Another factor in causing loss of military efficiency was the process of demilitarisation which soldiers underwent during their stay in E.M.S. hospitals as a result of their removal from a military atmosphere and the normal discipline of Army life.

The investigators stated that they were interested to hear, in the course of their discussions with specialists who had joined the Army from the E.M.S., the frank admission frequently expressed by these specialists that a different and wider outlook towards their patients had followed their entry into military service with the added responsibility that it entailed. When working in civil hospitals they had not sufficiently realised the necessity of restoring a military patient to health in the highest possible medical category and in the shortest possible time, nor had they understood the implications attaching to the fact that a man retained in hospital for longer than twenty-one days was struck off the strength of his unit, and that the unit therefore suffered because its

* See Emergency Medical Services, Volume I, Chapter 5.

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fighting efficiency depended in no small measure upon maintaining the permanence and cohesion of its personnel.

It was for reasons such as these that medical officers in charge of troops sought to send their patients to military rather than to civil hospitals whenever possible. In very many cases the medical officer looked for something more than clinical erudition; he asked for advice as to a patient's capacity to carry out his duties or for guidance in regard to his medical category, that is to say, for the help of a specialist whose professional knowledge was applied to the peculiar circumstances of a military calling and who possessed an insight into, and an appreciation of, the problems that confronted the regimental medical officer and his patient. So it was that the civil hospital, no matter how efficient, and the civilian specialist, be he ever so skilful, could not take the place of the military hospital and its staff.

In February 1940, the War Office reviewed the question of hospital accommodation for military casualties and prepared an estimate of the beds which would be required to meet possible demands by the Army up to the end of that year. Requirements were estimated as follows:

(*a*) Normal sick of a force of 1,000,000 in the United Kingdom with a margin for possible epidemic disease, was computed at a total rate of 2½ per cent. requiring 25,000 beds.

(*b*) Within a year of outbreak of war, beds with the expeditionary force in France were expected to amount to 40,000. Normally, only 20,000 would be occupied, the remainder being kept empty for a sudden influx of battle casualties, but before an offensive it might be necessary to clear all these beds as a preparatory measure and thus provision must be made in the United Kingdom for the 20,000 cases requiring evacuation.

(*c*) The normal number of cases of sick and wounded evacuated from the expeditionary force was estimated at a ratio of 350 to 400 per 1,000 per year. With an expeditionary force of 1,000,000 this represented 392,000 cases and, allowing a month in hospital for each case, 32,000 beds.

(*d*) An addition of 75 per cent. to the number under (*c*) was necessary to deal with casualties that might arise during periods of heavy fighting, that is to say, a further 24,000 beds.

These items may be summarised thus:

(*a*) The Army at home	25,000	beds
(*b*) Cases specially evacuated from the expeditionary force before the offensive	20,000	,,
(*c*) Sick and wounded normally evacuated from the expeditionary force	32,000	,,
(*d*) Additional provision for periods of heavy fighting	24,000	,,
	101,000	,,

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A total of 100,000 beds was therefore adopted as the estimated requirements of the Army for the year 1940. It is to be understood that this total was in addition to the 15,000 beds already provided by military hospitals and reception stations which had been expanded to the utmost but which were required chiefly for the accommodation of cases of the kind not admissible to Emergency Medical Service hospitals.

In March 1940, a conference took place between the War Office and the Ministry of Health for the purpose of examining the Army's requirements in relation to the hospital accommodation available for the population as a whole. The position as it then appeared was that in an emergency, 100,000 beds could be made available for casualties of all kinds, both military and civil, in civil hospitals throughout the country. Beds to this number had in fact been cleared on the outbreak of war and could again be cleared if the emergency were acute, but they could not be retained indefinitely as they would again be needed for the normal sick of the civil population. In addition to the 100,000 beds available by the evacuation of patients occupying them, there were another 100,000 beds which had been introduced into existing hospitals and which could be set up for the reception of patients in an emergency. A further 45,000 beds were being provided by the building of huts, most of them as extensions to existing hospitals, and these were expected to be completed by May of that year; Treasury sanction had been obtained for the provision of yet 45,000 more beds by the building of huts mostly as independent hospitals with a capacity of 600 to 1,000 beds each.

Finally, some 10,000 beds could, if necessary, be found by further crowding in the accommodation already mentioned. There were thus 300,000 beds available from all sources to meet all needs. The Ministry was therefore of the opinion that from this total they would be able to provide accommodation for the sick and wounded of the Army up to the number of 100,000 unless available beds had already been taken into use owing to heavy civilian casualties.

At this conference, it was frankly admitted that there were not, and could not be, sufficient hospital accommodation, medical staff and nurses in the country to provide for an influx of military patients from heavy fighting overseas and at the same time to deal with the maximum number of air raid casualties then considered within the bounds of possibility. It was also agreed that wherever possible either complete hospitals should be reserved for military needs or blocks of beds of not less than 300 in number should be allotted in existing E.M.S. hospitals for military patients, and in the latter case that military medical registrars and military administrative staff should be attached to the hospitals concerned. At that date some eighteen blocks of 300 beds had been allotted to the Army and a further five were almost ready. In the event of a sudden demand, some 5,000 or 6,000 beds in this form could be handed

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over in hospitals where there was already a military registrar, but for the future it was agreed that, as about a month was required to bring such accommodation under effective military control, the Ministry would furnish the War Office with details of their programme as to the hospitals or blocks of beds which they proposed to hand over to the military authorities on completion of the new scheme for an additional 45,000 beds in huts then under construction. It was confirmed that where blocks in civil hospitals were allotted to the military authorities the medical and nursing staff would be provided by the civil authorities, while the military medical registrar and administrative staff would be supplied by the Army. On the other hand where complete hospitals were transferred to the Army, they would, for all practical purposes, become military hospitals staffed and administered by the Army Medical Services.

Opportunity was taken at this time to clarify the situation in regard to various administrative problems outstanding between the Army and the E.M.S. One of these related to the conveyance of military cases to civil hospitals. The E.M.S. had some 1,200 ambulances of its own and full control over 5,000 ambulances belonging to local authorities. The E.M.S had also the right to make use, part-time, of a further 5,000 ambulances belonging to local authorities. The number of Army ambulances was also increasing, so that it had become unlikely that any difficulty in respect of transport would arise in the future. It was also made clear that civil hospitals to which military casualties had been allotted were entitled to call upon local military resources for assistance in conveying patients from ambulance trains to hospital, both in regard to stretcher bearers and ambulances.

During the following month, April 1940, the Ministry of Health notified the War Office that during the months of April, May and June it was proposed to allot convoys in turn to 112 specified hospitals. Assuming the average size of the convoy to be 300 cases and one convoy to each hospital, this represented some 30,000 beds, but as the total number of casualty beds in these hospitals amounted to 75,000, a very much larger number of military patients could be accepted if need arose.* A further 4,000 to 5,000 beds were available in Scotland. The Ministry, however, declined to allot beds for the exclusive use of military patients. In the event of serious civilian casualties arising from air raids they would regard all beds then vacant in E.M.S. hospitals as available for these casualties. On the other hand, in the absence of severe civilian casualties they would regard all vacant beds as available to receive military casualties in case of necessity. In other words, the Ministry insisted that the allocation of all beds within E.M.S. hospitals must remain fluid for military or civil cases as circumstances demanded.

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* See Emergency Medical Services, Volume I, Chapter 3.

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Doubtless this attitude was essentially reasonable when regarded solely from the aspect of convenience. No fault is to be found with the Ministry in desiring to have the maximum number of beds immediately available for all purposes in every part of the country. But the fact remains that the adoption of this principle yielded nothing towards meeting the objections of the War Office by whom it was contended, no less cogently, that only by the reservation of hospital accommodation exclusively for military cases could administration be simplified, disposal of patients expedited, length of stay in hospital reduced, and economy in man-power ensured. Nevertheless, for the time being at least, the position was accepted, and arrangements were made for the appointment of military registrars and medical administrative staffs to all the 112 Emergency Medical Service hospitals mentioned in the communication from the Ministry of Health.

While the appointment of military registrars to E.M.S. hospitals provided the solution to many of the administrative difficulties which had arisen through placing military patients under a civil organisation, the problems of delay in disposal of patients and of excessive length of stay in hospital were but temporarily relieved and before long became as acute as ever. Owing to the shortage of medical officers becoming apparent towards the end of 1940, it was proposed, as an experiment, to post a few non-medical officers as registrars to E.M.S. hospitals. Combatant officers, suffering from some physical disability rendering them fit only for sedentary duty, but otherwise suitable, were selected for these duties and attached for instruction at the hands of experienced medical registrars before being appointed to E.M.S. hospitals.*

Most of the duties performed by military registrars were of a purely administrative kind and called for no technical medical knowledge, but the particular matters now under discussion unquestionably called for such knowledge on the part of the military administrative officer. Civil medical staff while jealous of anything suggestive of military interference did not sufficiently appreciate the military or man-power point of view which sought the discharge of a soldier to a convalescent hospital or convalescent depot within the minimum time compatible with physical fitness. A medically qualified registrar was frequently able to impress this aspect of the question upon the civil staff, to indicate obvious examples of unduly delayed discharge and to obtain marked reduction in the average stay in hospital. In the absence of practical knowledge of the subject, the non-medical registrar was unable to exert such influence. Moreover, there was frequently long delay in bringing soldiers in hospital before a medical board to determine their fitness or the degree of their

* See Emergency Medical Services, Volume I Chapter 4.

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fitness for further military service. This was largely because medical boards could not be undertaken by the staff of a civil hospital as in the case of a military hospital, but required the services of a military president and at least one other military medical officer who constituted the standing medical boards which visited E.M.S. hospitals at intervals.* A medical registrar in an E.M.S. hospital was in a position not only himself to arrange much of the preliminary work in connexion with these boards and so hasten the despatch of their business but, by watching the condition and progress of patients, also to anticipate action by the civil staff in recommending patients for medical boards and if necessary, to call attention to the necessity for such action. As a result, an earlier decision as to a patient's disposal was obtained with advantage to all concerned. In this respect also the non-medical registrar was gravely handicapped by his absence of medical knowledge. These drawbacks apart, however, the appointment of combatant officers as military registrars were considered successful and, in view of the necessity of conserving medical man-power for wholly medical work, the system was generally adopted, and ultimately all medically qualified registrars were replaced and withdrawn from the Emergency Medical Service hospitals.

In June 1940, the position as regards hospital accommodation for military patients was entirely changed and very much for the worse. The expeditionary force had been withdrawn from France, and the number of men called up for service had greatly exceeded that originally intended. The force requiring hospital provision in the United Kingdom was now approximately 2,000,000. Moreover, the hospitals which had formed part of the expeditionary force, and which had provided a part of its hospital requirements, although also withdrawn, consisted mainly of personnel having for the most part lost their equipment. Above all, invasion of the British Isles appeared to be imminent with the prospect of fierce fighting and heavy casualties in this country. In fact, the Ministry of Health estimated that in the event of heavy attack on aerodromes, factories and ports, casualties might amount to 10,000 hospital cases daily and that this casualty rate might possibly be sustained over a period of forty days resulting in 400,000 casualties requiring some 250,000 beds; were concentrated and continuous attacks to be made upon urban areas, casualties might be twice this number, requiring 500,000 beds. By this time the Ministry had notified the War Office of their intention to set aside blocks of 300 beds in 136 E.M.S. hospitals, 122 in England and 14 in Scotland, subject to the usual stipulation as to their use for civilian casualties if necessary; the War Office proceeded to arrange for the posting of military registrars to each of these hospitals

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* See Emergency Medical Services, Volume 1, Chapter 3.

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as soon as the blocks of beds were made available for military cases. Meanwhile restrictions as to the expansion of military hospitals and reception stations had been to some extent lifted and building programmes were in progress. Additional accommodation of the kind supplied only by military hospitals had been necessary, while beds in medical reception stations on the scale of one-half of 1 per cent. of total strength of troops had been found inadequate, the scale being based on the peace-time standard for summer training camps. More generous provision was necessary partly on account of winter epidemics and also because it was desired to reduce as far as possible the number of mild cases sent to E.M.S. hospitals even where such cases were admissible. It had therefore been agreed that the scale of accommodation in reception stations should be raised to one per cent. where the units concerned were within ten miles of a military or E.M.S. hospital and to one and a half per cent. where the distance was greater. The number of potential hospitals was further increased by the use of field medical units in that capacity wherever suitable buildings could be obtained and allocated for the purpose; for example, general hospitals, while awaiting dispatch on active service overseas had been organised to function as 200-bed hospitals in addition to continuing their training.

After June 1940, the question of the amount of hospital accommodation required for military purposes was largely confused by the ever present menace of invasion, the effects of which it was difficult to foresee in terms of hospital beds required for military purposes, or of hospital accommodation available at any given time. It was impossible to estimate with any accuracy the probable number of military casualties and the demands which would be made upon the E.M.S. hospitals, and it was no less impossible to estimate the number of beds that the E.M.S. would be able to provide after fulfilling their commitments in respect of civilian casualties. As far as it was possible to arrive at any estimate, it was thought that with a force of 2,000,000 in the United Kingdom, the average number of beds likely to be required could be placed at 50,000, based on a total sick rate of 2½ per cent. while the maximum number of beds necessary in the event of invasion and heavy fighting on land was placed at 10 per cent. of the total force, that is to say, 200,000, admittedly a very high figure.

In December 1940, there was a total of 41,000 military patients in hospital, of whom 15,000 were in military hospitals and 26,000 in E.M.S. hospitals. Beds in military hospitals had been increased to 21,000 while equipment for 30,000 additional beds had been distributed to commands for issue in case of epidemics or other emergency, and authority had been given to commands for the reservation and, if necessary, requisition and equipment of buildings as hospitals to deal with epidemic sickness. For all possible eventualities the War Office estimated

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that they would have at their disposal 21,000 beds in military hospitals and the 100,000 beds which the Ministry of Health had agreed to provide. Of the latter, about 30,000 were available in blocks of 300 at hospitals to which military registrars had been attached; the remaining 70,000 would be found in the other E.M.S. hospitals. The total number of beds available for the Army in the event of active operations in the United Kingdom was thus placed at 121,000 or 79,000 below the estimated maximum requirements of 200,000. D.G.A.M.S., however, was then of the opinion that, in the light of actual experience, previous estimates of casualties among the civil population resulting from air raids had been much too high and that therefore the beds available in E.M.S. hospitals should suffice for both civil and military casualties in any event, except perhaps in certain small areas poorly supplied with hospitals.

But it had been found necessary to restrict the building plans for a further 45,000 in huts referred to at the conference in March 1940, and already mentioned in that connexion. This scheme originally included the provision of approximately 30,000 beds in sixty to seventy independent hutted hospitals some of which were to be allotted to the Army. The Works and Priority Committee of the Cabinet, owing to shortage of labour and other causes, had subsequently reduced the scheme to less than half of its former dimensions and it seemed unlikely that more than about fifteen hospitals containing some 9,000 beds would be transferred to the War Office. The decision to limit this building programme was conveyed to the War Office in November 1940, but does not appear to have been taken into consideration by D.G.A.M.S., when in December 1940, as described above, he expressed the opinion that beds available in E.M.S. hospitals were sufficient for military casualties.

The position was once more reviewed by the War Office in order to clarify a situation which seemed to indicate that there was now a deficit in the number of beds upon which the Army relied for military casualties. During the discussions which followed the General Staff advised that in the event of invasion the intensity of fighting, including three or four days of intense bombardment from the air, would quickly reach its peak, probably within a period of a few days, during which all reserves would be engaged. Thereafter, the battle would decline and fighting would probably have ceased within a month. Large scale provision for casualties was therefore essential for a short time only; it was not necessary to anticipate similar demands over a period of months. In view of this pronouncement it was decided to reduce maximum requirements in hospital beds from 200,000 to 150,000. The Ministry of Health was then requested to arrange a conference on the subject with representatives of the three fighting services; meanwhile in view of what appeared to be a grave shortage in hospital accommodation for the Army it was agreed

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that the provision of new military hospitals might proceed without prior reference to the Treasury.

The conference with the Ministry was held on May 8, 1941, when the question at issue was fully examined in relation to the needs of the fighting services and the resources at the disposal of the civil authorities. The maximum requirements of the Army were, as recently amended, placed at 150,000 beds; at that date the number of beds available in military hospitals and reception stations was put at 25,000 thus leaving a remainder of 125,000 to be supplied by the Ministry of Health and the Department of Health for Scotland. In addition, there were the needs of the Royal Navy and the Royal Air Force, amounting to 19,000; the total demands by all three services were therefore 144,000 beds.

The resources of the Ministry and the Department were as follows:

ENGLAND AND WALES*

First-class hospitals, beds empty and ready	72,290
First-class beds in "Reserve A" i.e., empty and ready on "crowded" standard	21,811
"Discharge" beds ready in 24 hours by discharge of patients to their homes	43,088
Beds empty and ready in auxiliary hospitals	5,659
Beds already occupied by service cases	22,345
Beds in "Reserve B" i.e., beds in upper disused floors of hospitals and not fully staffed	31,700
Beds in reserve hospitals not staffed	70,000
	266,893

SCOTLAND

First-class hospitals, ready	18,000
Beds in store in first-class hospitals equipped and ready	2,000
Beds in first-class hospitals to be cleared at short notice	3,000
Beds ready and empty in convalescent hospitals	4,150
Beds in first-class hospitals already occupied by service cases	3,250
Beds in shadow hospitals not staffed	8,000
	38,400

So against the estimated peak demand of 144,000 beds by the three services throughout the country, the civil departments could produce at least 195,000 beds already fully equipped and staffed. It was estimated that the number could probably be raised to 212,000 by still greater evacuation of less seriously ill patients. In addition, there were 31,000 more beds for which sufficient staff could be found for a short emergency and finally, in the background as it were, a reserve of 78,000 beds and 10,000 more represented by huts in the final stages of construction, available to replace any hospitals destroyed by, or evacuated as the result of, enemy action.

* See Emergency Medical Services, Volume I, Chapter 4.

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The position may be summarised thus:

Maximum requirements for the Army .	150,000 beds	
Available in military hospitals . . .	25,000 „	
Required by the Army from civilian departments	125,000 „	
Maximum requirements of the Navy .	6,000 „	
„ „ „ „ Army .	125,000 „	
„ „ „ „ Air Force .	13,000 „	
Gross peak estimate of service requirements		144,000 beds
Accommodation immediately available and fully staffed at disposal of Ministry of Health and Department of Health for Scotland	195,000 „	
Additional accommodation available by discharge of patients	17,000 „	
Available for short emergency. . .	31,000 „	
Total accommodation available . .		243,000 „
With further reserve of 88,000 beds for replacement.		

Thus the two civilian departments had available 243,000 beds to meet any emergency; of these, the three services might require 144,000, leaving almost 100,000 for civil casualties and other needs. In view of the revised and very much reduced estimates of probable casualties from enemy action, as regards both air raids and fighting on land, the position in respect of hospital accommodation was regarded as satisfactory. The War Office still objected that in the absence of any arrangements for the exclusive reservation of hospital accommodation for military patients there was no definite guarantee that beds would be available in the number and in the places required. However, as the Ministry maintained their insistence on the principle that accommodation in E.M.S. hospitals was open to service or civilian patients as the needs of the moment required, the situation had, perforce, to be accepted.

During the subsequent months of 1941, further reductions were made in the accommodation at the disposal of the E.M.S. On the one hand the receding prospect of heavy air raid casualties had removed the necessity for holding vacant large numbers of beds for this account; on the other hand there was an increasing demand for hospital accommodation to meet the requirements of the civil population both as regards their normal needs and also in respect of special demands which had arisen through transfer of war-workers, civil defence personnel and evacuees to districts away from their homes. It was therefore necessary to withdraw or suspend from the control of the Emergency Medical Services a considerable number of hospitals or parts of hospitals in order that beds might be released and returned to general use. At the same time, increasing calls on medical and nursing staff made it desirable to put into reserve beds which had previously been maintained in the category of ready and available. The War Office, however, was informed early in 1942 that these reductions and the further reductions then being

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contemplated, in no way affected the number of beds at the disposal of the Army, and which remained unchanged at 125,000.

In the course of 1942, several of the special independent hutted hospitals, the scheme for which had been referred to at the conference in March 1940, but subsequently reduced and delayed, came into effective operation and six of these hospitals had been assigned to the War Office, with the exception of one, all these were subsequently handed over for the use of Dominion and Allied troops. During the same year, extension of military hospitals and the provision of new military hospitals proceeded until, in December 1942, there were available more than 23,000 beds in military hospitals, some 2,300 beds in medical reception stations and, in addition, approximately 12,000 beds for light cases of sickness in camp reception stations and similar establishments including those for the anti-aircraft arm and for the Auxiliary Territorial Service.

So far from there being any extension of the programme for increasing accommodation in military hospitals or adding to their number during the following year a diametrically opposite policy was pursued on account of an acute shortage of medical officers becoming apparent early in the year and necessitating complete revision and much modification of many a project for expansion within the medical services. One of the expedients perforce, although reluctantly, adopted with the object of saving medical officers was the reduction of staff employed in static medical units and the transfer to field medical units of those so released. With fewer officers available it was not possible to maintain as many military hospitals or to continue to undertake the volume of work previously performed. By agreement with the Ministry of Health, E.M.S. hospitals undertook further obligations in respect of the accommodation and treatment of military patients; they also extended the scope of their activities to providing certain services formerly available only at military hospitals. These included the in-patient treatment of mild cases of sickness hitherto not admissible to civil hospitals. In the course of the year, therefore, six military hospitals were disbanded and closed, four more were reduced to the status and function of reception stations and three were handed over to the United States forces. Ten of the remaining military hospitals were taken over, as a temporary measure, by personnel of field medical units pending the time when these units would be required for service overseas. By the end of December 1943, accommodation in military hospitals in the United Kingdom had been reduced by some 1,400 beds to a total of 22,200; beds available in reception stations and camp reception stations remained at approximately the same numbers as in the previous year.

Towards the close of 1943 and during the early months of 1944, the subject of hospital accommodation in the United Kingdom once more

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became a matter of supreme importance, this time from the aspect of ensuring adequate provision for the reception and treatment of casualties occurring in the course of forthcoming operations in North-west Europe.

More than eighteen months having elapsed since the assurance given by the Ministry of Health in regard to the question of E.M.S. hospital beds available for military patients, it was thought well to obtain confirmation that the situation remained substantially unchanged and that reliance could still be placed in the ability of the E.M.S. to provide hospital accommodation sufficient for the needs of the Army in the near future. The War Office therefore approached the Ministry in these terms and received a full statement of the circumstances then prevailing in December 1943, as compared with the position in May 1941. The total number of beds available in E.M.S. hospitals showed a reduction of some 18,500. This reduction, however, was to a great extent nominal rather than real, for it included 12,000 beds which were provided in new hutted hospitals constructed under the Ministry's building scheme and which had already been handed over to the service departments and to the Canadian and U.S. military authorities. A further 1,300 beds in permanent hospital buildings had been taken over by the Canadian forces. All these beds were therefore available for military casualties although no longer under the control of the E.M.S. It was none the less true that there was in fact some reduction owing to the transfer of 1,600 beds to the category of reserve beds. This had been rendered unavoidable owing to shortage of staff. The Ministry took the opportunity of emphasising the fact that the number of beds in commission in E.M.S. hospitals, being governed by the medical and nursing staff available, was likely to decrease progressively as more medical practitioners were withdrawn for service with the armed forces. Moreover, in the event of E.M.S. hospitals being called upon to receive battle casualties more or less direct from a theatre of war in Europe, hospitals so employed would be required to provide surgical and nursing facilities on a more intensive and continuous scale than that appropriate to hospitals in normal use. Additional help would therefore be necessary and would be obtained partly by increasing the staff of medical officers and nurses at the hospitals concerned and partly by the use of mobile surgical teams. In any case these reinforcements could be supplied only by depleting staff elsewhere and consequently by reducing the number of beds available at other hospitals. The extent to which these factors would operate was dependent upon circumstances still unknown.

This, then, was the position in England and Wales as revealed by the Ministry of Health; comparable reductions of proportionate dimensions and similar staff considerations were mentioned in a statement supplied by the Scottish Department as to the position there. Nevertheless, the information thus forthcoming indicated that there was still at the

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disposal of the Emergency Medical Services a large reserve of hospital beds which could be made available should circumstances require, and there appeared no reason to fear any inadequacy in meeting contingent military needs. Indeed, the situation was to be regarded as generally satisfactory and reassuring from the aspect of preparatory planning for military operations.

From the more circumscribed standpoint of military hospitals, however, the situation continued to deteriorate during the year 1944, being complicated by the increasing difficulty of obtaining the number of medical officers necessary to meet all demands. The establishments, and indeed the number, of static medical units were therefore reduced so as to make adequate provision for the field force. Advantage was taken of the presence in the United Kingdom of the general hospitals belonging to the expeditionary force, and their personnel was used to staff and operate some ten or twelve military hospitals. While this measure permitted the retention of as many military hospitals as possible, for as long as possible, and sufficed to postpone the inevitable closure of those for which permanent establishments could no longer be found, it was but a temporary expedient attended by many disadvantages. General hospitals being field medical units, their operational needs, e.g. training, took priority of other considerations including their static commitments. Frequent moves and transfer from one hospital site to another affording better training facilities were therefore unavoidable. Moreover, the services of these general hospitals could be made available in respect of military hospitals only until the dates upon which they were due for release in order to join the expeditionary force on the Continent. Arrangements were therefore made for the closure of a number of military hospitals during the months of July, August and September, by the end of which time all the general hospitals of the expeditionary force would have gone overseas. As it happened the departure of some of the latter was delayed, and, subsequently, the extent to which airborne casualty evacuation was developed made it possible to reduce the number of general hospitals required with the field force, whereupon some of them returned to the United Kingdom and resumed, temporarily, their former static functions. The result was that certain of the military hospitals previously scheduled for closure remained in being.

Nevertheless, in the course of the year the number of beds in military hospitals was considerably reduced. Some of the hospitals taken over by the War Office from the Ministry of Health, under the programme for hospital expansion already mentioned above, were handed back; several war-time military hospitals were reduced to the size and status of reception stations; the Royal Victoria Hospital at Netley was placed at the disposal of the forces of the U.S.A. (for sentimental reasons a hospital of smaller capacity was subsequently opened in what had previously been

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a convalescent depot at Westbury and given this name.) At the end of December 1944, the number of equipped beds in military hospitals was some 4,000 less than at the close of the previous year. The total was now 18,155 including 1,180 for enemy prisoners-of-war (P.o.W.). Beds in reception stations and C.R.Ss. showed a reduction of 1,100.

In 1945, however, additional hospital accommodation was required in respect of prisoners-of-war. Wounded P.o.W. evacuated from the Continent to the United Kingdom were subject to the same system of casualty reception and disposal as that applicable to British and Allied personnel, but as soon as possible they were transferred to accommodation retained for them either in military or in E.M.S. hospitals. This accommodation was neither adequate nor conveniently disposed to meet the needs of the large number of P.o.W. housed in camps scattered throughout Great Britain, consequently it became necessary to provide hospitals and reception stations exclusively for the treatment of P.o.W. By the end of June 1945, six hospitals and forty-seven reception stations with a total of 4,164 beds had been allocated for this purpose. (see Table 18)

The position in regard to hospital accommodation available in military medical establishments in the United Kingdom at the time of the cessation of hostilities in Europe may be summarised as follows:

Military hospitals—beds equipped for officers		1,267	
„ „ „ other ranks		14,585	
„ „ „ A.T.S.		1,043	
„ „ „ P.o.W.		2,593	
			19,488
Reception stations	beds equipped		2,481
Camp reception stations	„ „		6,086
Camp reception stations (A.A.)	„ „		1,294
Camp reception stations (A.T.S.)	„ „		1,571
Camp reception stations (P.o.W.)	„ „		1,571

TRANSFER OF MILITARY AND E.M.S. HOSPITALS TO U.S. FORCES*

The arrival in the British Isles of troops of the U.S.A. involved modifications in the arrangements made in regard to the provision of hospital accommodation for military patients.

At first when the numbers were small the situation required only that the facilities provided for British and Dominion troops be extended to personnel of the United States. For this purpose instructions were issued to D.Ds.M.S. of commands that medical attention would be afforded as and where necessary to officers, nurses, warrant officers and men of the U.S. Forces on the same basis of entitlement as that applying to the British Army. Medical attention was to cover specialist examination, out-patient treatment including provision and repair of spectacles and

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* See Emergency Medical Services, Volume I, Chapter 6.

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TABLE 18

Military Hospitals in the United Kingdom, June 1945

		No. of beds	
EASTERN COMMAND:			
Barming Heath	Military (General) Hospital	200	Including 14 for A.T.S.
Colchester	Military Hospital	446	Including 7 for A.T.S.
Langley	Military Families Hospital, Rumwood Court	25	Available for A.T.S.
Maidstone	Military Hospital	40	For infectious diseases.
Northampton	Military Hospital	120	For female psychotic cases.
Penshurst	Military Hospital, Swaylands	200	For skin Cases—14 for A.T.S.
Sevenoaks	Queen Elizabeth Nursing Home, Carrick Grange	50	For officers.
Shoeburyness	Military Hospital	19	
,,	Military Families Hospital	12	Available for A.T.S.
SOUTHERN COMMAND:			
Arborfield	Military Hospital	72	
Aldershot	Cambridge Hospital	603	
,,	Military Isolation Hospital	177	Including 26 for A.T.S.
,,	Louise Margaret Hospital	75	For families and A.T.S.
Bovington	Military Hospital	125	
,,	Military Families Hospital	14	Including 10 for A.T.S.
Bulford	Military Hospital	50	
Camberley	Military Hospital, Royal Military College	35	Including 10 for A.T.S.
Exeter	Military Hospital	315	For psychotic cases
Isle of Wight	Military Hospital, Totland Bay	130	Including 13 for A.T.S.
Knaphill	Connaught Hospital	615	Including 15 for A.T.S.
Moretonhampstead	Military Hospital, with 50 beds at Watcombe House, Torquay	300	Including 45 for A.T.S.
Netley	"D" Block, Royal Victoria Hospital	100	For psychotic cases.
Oxford	Ashhurst Military Hospital, Littlemore	240	For psychotic cases.
,,	Military (General) Hospital, Examination Schools	150	
,,	Military Hospital (Head Injuries) St. Hugh's College	300	Including 8 for A.T.S.
Shaftesbury	Military Hospital	600	Including 28 for A.T.S.
Southampton	Military Isolation Hospital	100	
Tidworth	Military Families Hospital	60	Including 10 for A.T.S.
Westbury	Royal Victoria Hospital, Victoria College	650	Including 63 for A.T.S.

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Location	Hospital	Beds	Remarks
NORTHERN COMMAND:			
Catterick	Military Hospital with wing at Hauxwell Hall	768	
„	Military Families Hospital	37	Available for A.T.S.
Lincoln	Military Hospital	530	Including 50 for A.T.S.
York	Military Hospital, with wings at Askham Grange and Carlton Towers	356	Including 30 for A.T.S.
„	Clifton Military Hospital	150	For psychotic cases
WESTERN COMMAND:			
Birmingham	Military Hospital, Northfield	800	For psychoneurotic cases
Bwlch	Military Hospital, Buckland House, with wing at Allt-y-Ferin	240	Including 17 for A.T.S.
Chester	Military Hospital, Liverpool Road	760	Including 144 for A.T.S.
Chepstow	Military Hospital	60	
Haverfordwest	Military Hospital, Picton Castle	50	
Isle of Man	Military Hospital, Douglas	174	Including 15 for A.T.S.
Lancaster	Military Hospital, Bowersham Barracks	17	Including 5 for A.T.S.
Preston	Military Hospital, Fulwood Barracks	300	
Shrewsbury	Military Hospital, Copthorne	380	Including 50 for A.T.S.
Talgarth	Military Hospital	315	For psychotic cases.
SCOTTISH COMMAND:			
Carstairs	Military Hospital	200	For psychotic cases.
Drymen	Military Hospital	600	Includes 35 for A.T.S.
Dumfries	Military Hospital	80	For psychotic cases, officers.
Edinburgh	Military Hospital	250	Includes 23 for A.T.S.
Glasgow	Military Hospital	150	
Inverness	Military Hospital, Fort George	70	Includes 12 for A.T.S.
Inverary	Military Hospital	76	Includes 8 for A.T.S.
Larbert	Military Hospital, Bellsdyke	300	For psychoneurotic cases
Onich	Military Hospital, Fort William	50	
Orkney	Military Hospital, North Dawn	40	
„	Military Hospital, Kirkwall	106	
Peebles	Military Hospital	350	
Shetland	Military Hospital, Lerwick	100	
Stirling	Military Hospital	54	Including 9 for A.T.S.

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Station	Hospital	Beds	Remarks
LONDON DISTRICT:			
London	Military Hospital, Harrow Road	200	For skin and V.D. cases.
Millbank	Queen Alexandra Military Hospital out-patient wing		
Shenley	Queen Alexandra Military Hospital	800	Includes: 75 for A.T.S.; 15 for psychotic cases, officers; and 140 for psychoneurotic cases, other ranks
Sutton	Banstead Military Hospital	400	For psychotic cases.
Windsor	Household Cavalry Hospital	36	
Woolwich	Royal Herbert Hospital	510	
NORTHERN IRELAND DISTRICT:			
Bangor	Military Hospital	600	Including 171 for A.T.S.
Belfast	Military Hospital, Campbell College	700	
,,	Grahamholm Military Hospital	127	For psychotic cases.

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dentures, and in-patient treatment in military hospitals or in E.M.S. hospitals. Medical equipment was to be handed over to the U.S. military authorities if required by them for their use and expendable medical supplies such as drugs and dressings were to be supplied from command resources if necessary although normally the U.S. forces would supply their own. Arrangements were also made for notifying the Surgeon at U.S.A. Forces Headquarters in regard to admissions and discharges to hospital among U.S. personnel and for forwarding relevant progress reports, X-ray films, clinical records, etc.

These were but temporary arrangements designed to meet initial needs for it was intended that, when the U.S. forces in the United Kingdom reached substantial proportions, complete hospitals would be handed over to the U.S. medical services to be staffed and administered by them for their own troops. The hospitals required for this purpose were to be forthcoming from two sources. In the first place it was proposed to select certain existing military hospitals and to transfer them complete to the U.S. medical services, and secondly, a number of the E.M.S. hutted hospitals specially constructed under the Ministry of Health building programme and previously intended for transfer to the War Office would on completion be diverted to use by the U.S. authorities.

Detailed plans for effecting transfer or re-allocation were prepared by the War Office in conjunction with the commands concerned in the case of military hospitals and with the Ministry of Health in regard to the E.M.S. hospitals. Arrangements for the transfer of military hospitals provided that there should be no sudden handing over but that the process should be a gradual one and should take the form of infiltration of U.S. staff into the hospital with a corresponding release of British personnel. In this way interruption in administration and consequent interference with the efficiency of the hospital and its patients was avoided, and at the same time occupation of hospital beds in order to accommodate duplicate staff was prevented. In accordance with a request to that effect made by the U.S. authorities, transfer of military hospitals to their control did not involve discharge or transfer of British patients under treatment. Arrangements were made whereby British personnel were retained until fit for discharge in the normal way; pending their disposal after transfer of the hospital, their pay, documentation and general administration were undertaken by the nearest or most conveniently situated E.M.S. hospital group registrar. Medical and ordnance stores and equipment were handed over with the hospital under arrangements made with representatives of the medical, engineer and barracks services. Documents having military significance, e.g. those in connexion with local defence were also handed over; clinical and historical records were removed for disposal in the usual way.

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The transfer of new hospitals built by the Ministry of Health under the E.M.S. hospital construction programme was a more complicated matter, for it was decided to adopt a standard procedure whereby specified hospitals were in the first instance handed over to the Army as tenants of the Ministry of Health, the War Office subsequently making arrangements for the occupation by the U.S. forces. The War Office and especially the Army Medical Directorate thus became an intermediary between the Ministry of Health, as owners, and the U.S. military authorities, as ultimate tenants. The methods employed in equipping these hospitals were also extremely involved and required whole-time attention over prolonged periods by R.A.M.C. personnel who could ill be spared. While the Ministry of Works and Buildings was responsible for providing the general and domestic furniture and equipment for these hospitals, the Ministry of Health supplied medical and surgical stores and equipment on the normal E.M.S. hospital scale. This scale did not, however, include equipment of a special nature, i.e. that required by an X-ray department, ear, nose and throat or dental unit, etc. Any additional requirements of this kind called for direct arrangements between the War Office and the U.S. Army. Moreover, as the War Office in their capacity of tenants of these hospitals were in the first instance responsible for the medical and surgical equipment supplied by the Ministry of Health it was necessary to post quartermasters and storemen R.A.M.C. to each hospital for the purpose of receiving and checking equipment and reporting deficiencies before any of this equipment could be handed over to the U.S. medical authorities. As certain articles were in short supply it followed that the process of providing the complete scale of equipment was sometimes protracted, and R.A.M.C. personnel were therefore retained over a period of months awaiting odds and ends of equipment which they were required to check on arrival, receipt on behalf of the War Office and hand over to the U.S. authorities. It therefore became necessary to modify the system to the extent that when most of the equipment had been received and the hospital was able to function the R.A.M.C. personnel were withdrawn after preparing lists of deficiencies which, on subsequent supply, were checked and dealt with under arrangements made by the D.D.M.S. in the command concerned.

The transfer of hospitals to the U.S. forces began in July 1942, and by the end of that year three military hospitals, representing 934 beds, and six new E.M.S. hospitals containing 3,850 beds due to expand to a total of 6,000 had been handed over in the manner described. During 1943 approximately 3,500 additional beds were placed at the disposal of the U.S. Army by the transfer of more military and E.M.S. hospitals, chiefly the former, including the Royal Victoria Hospital, Netley, which was formally handed over in January 1944.

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CONVALESCENT AND AUXILIARY HOSPITALS*

During the emergency of September 1938, the B.R.C.S. received numerous offers from private persons willing to place their houses at the disposal of the military or civil authorities for use as auxiliary or convalescent hospitals. A list of properties suitable for these purposes was in course of preparation by the Society for the information of the War Office when the crisis passed and no need for further immediate action remained. Nevertheless, in the succeeding months of precautionary activity on the part both of official and of voluntary bodies, the Society continued to receive a large number of new offers of the same kind as well as further enquiries in regard to the acceptance or rejection of offers already made. These developments appeared to be not unconnected with the fact that the civil authorities were engaged in making a comprehensive survey of houses suitable for the reception of children and others whom it was proposed to evacuate from the towns in the event of war.

At this time, the future policy in regard to hospital accommodation for military patients in war-time was still under discussion and as no final decision had yet been made known it was impossible for the War Office to do more than ask the B.R.C.S. to forward, for record purposes, particulars of any buildings which were both available and suitable for use as auxiliary or convalescent hospitals. It was emphasised that at that stage no definite commitments could be made nor could there be any indication of future financial arrangements in regard to properties ultimately accepted.

Later the position was clarified when the Government finally decided upon the policy to be adopted in the disposal of military casualties. This policy, of which an account has already been given, restricted the provision of hospital accommodation by the War Office to certain well defined categories. Among these were auxiliary and convalescent hospitals for officers. Special provision in this direction was necessary because in the first place the E.M.S. hospitals of the Ministry of Health did not include any accommodation suitable for the purpose, while on the other hand within the military organisation there was nothing for officers comparable to the convalescent depots it was proposed to establish for other ranks. In addition to the question of accommodation there remained the still greater difficulty of supplying the medical, nursing and administrative staff to conduct such hospitals of this kind as might be established, for the personnel of the Army Medical Services were already more than fully committed and the demands made on the civil medical and nursing professions by the casualty service of the Ministry of Health precluded the supply of staff from E.M.S. sources.

* See Emergency Medical Services, Volume I, Chapter 4.

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On the outbreak of war it was therefore decided that the B.R.C.S. should be asked to undertake responsibility for staffing and administering these hospitals. It was visualised that recourse would be necessary to privately owned buildings of the larger country-house type capable of providing some fifty to a hundred beds. Suitable houses of this kind could be taken over, on requisition if necessary, by the War Office and thereafter handed over to the Society for alteration or adaptation, equipment and maintenance as convalescent hospitals under financial arrangements mutually acceptable to the War Office and the Society.

Accordingly at the beginning of October, an approach was made to the B.R.C.S. who were asked to undertake the provision of auxiliary and convalescent hospital accommodation for officers of the Army. The conditions submitted for the Society's consideration however differed in one important respect from those previously decided and described above. Owing partly to the fact that some of the offers made to the Society had included not only the use of the property for hospital purposes but also a contribution to the subsequent upkeep of the hospital when established, it was considered advantageous to leave the provision of suitable buildings, including negotiations with the owner as to terms and conditions, entirely in the hands of the Society, rather than to adopt the official procedure of formal requisition of the premises by the War Office on behalf of the Society. While there was something to be said for this view and for accepting what was offered in the way it was offered time was to show that the system had its disadvantages, for it could not prevent the exercise, by the owners, of restrictions limiting the purposes for which the hospitals were to be used, restrictions which were sometimes open to question as to their propriety and which tended to warrant the maxim that even a gift must be paid for.

The B.R.C.S. at once agreed in principle to the suggestion and undertook that the joint War Organisation of the B.R.C.S. and the Order of St. John would be responsible for the provision and administration of convalescent hospitals for officers subject to acceptance of proposals which would be made in regard to financial arrangements. These proposals, which were received by the War Office in November, included a capitation rate of £50 per bed in respect of equipment and a daily maintenance rate of 15s. per patient based on the assumption of an average of 75 per cent. occupied beds, the rates to be subject to review and readjustment after six months in accordance with experience as to actual costs incurred.

While the capitation rate of £50 per bed in respect of equipment was considered equitable, the maintenance rate of 15s., after consideration by the War Office, was regarded as unduly high. Prolonged discussion and negotiations then ensued in an endeavour to find a financial

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basis satisfactory to both parties. In the meantime, arrangements had been concluded for the opening, in the following June, of a convalescent hospital for officers providing 25, expanding to 50 beds at Dutton Homestall, East Grinstead. Preparatory action in regard to the establishment of other hospitals was, however, suspended.

It was not until March 1940, that the stage was reached when concrete proposals were made to the Society by the War Office with the approval of the Treasury. The War Office undertook to meet the cost involved in the provision and adaptation of selected buildings and for their reinstatement at the end of the war. The grant in respect of approved equipment up to a maximum of £50 for each bed was confirmed, and an offer was made by which a maintenance charge of 8s. a day would be paid for each occupied bed on the basis of an average occupancy of not less than 75 per cent. It was also proposed to pay a charge, afterwards fixed at 4s. 6d. a day, in respect of all unoccupied beds over the number of 25 per cent. In April the War Organisation of the Society and the Order replied that although they did not consider it possible to meet the cost of maintenance on the capitation rate suggested, nevertheless they were prepared to accept the conditions offered, including that rate, for an initial period of six months.

These financial arrangements were finally and satisfactorily settled early in May 1940, whereupon matters in regard to the provision of convalescent accommodation began to take practical form. During the same month the War Organisation of the Society and Order were asked to open a convalescent hospital in the vicinity of Oxford to take convalescent cases from the special hospital for head injuries established at St. Hugh's College, Oxford. The total accommodation required was 100 beds in the proportion of 25 for officers and 75 for other ranks. This was the first occasion on which proposals had been put forward for the provision of convalescent hospital accommodation for other ranks by voluntary bodies. Accordingly in July, a convalescent hospital for the special needs of cases of head injury was opened at Middleton Park, Bicester, with accommodation for 65 beds but capable of expansion to 100 or more as required. Later, in the same month, convalescent hospitals for officers were opened at Apley Park, Shropshire, and at Harewood House, Leeds, another at Somerly, Ringwood, in August and yet another at Kildonan House, Ayrshire, in December. Each of these hospitals was established to provide 50 beds but was opened when in a position to accept some 15 patients. By the end of 1940 there was thus, in addition to the special hospital at Middleton Park, an officers' convalescent hospital in each of the Eastern, Southern, Northern, Western and Scottish Commands. For administrative purposes these hospitals were affiliated to the military hospital most conveniently situated for the purpose.

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As time went on experience showed that full use was not being made of the accommodation provided in convalescent hospitals for the number of beds occupied was consistently far below total capacity. The Army Medical Directorate therefore drew the attention of D.Ds.M.S. in commands to the facilities and advantages provided by these hospitals. It was emphasised that the hospitals were staffed and equipped sufficiently to deal with the simple treatment, as well as the mere accommodation, of convalescent patients and that it was desirable in most cases of illness to arrange for the transfer of an officer patient to one of these hospitals to complete his convalescence, for to retain him during this period in a military or E.M.S. hospital involved his occupying a bed which might be required for an acute case, while to send him on sick leave to convalesce at home denied him the benefits of the medical care and attention which were available in a convalescent hospital. It was therefore to be impressed upon all concerned that officer patients no longer in need of the more active forms of medical or surgical treatment but still requiring hospital care and skilled nursing were to be sent to the convalescent hospitals provided for them.

The establishment and opening of convalescent hospitals for officers was followed within a short time by demands for similar provision in regard to other comparable categories of military personnel. There then ensued a controversy which continued with but short intermissions over a period of no less than eighteen months until terminated by a somewhat belated if conclusive declaration of policy.

The Army Medical Directorate considered it necessary to make some provision for convalescent cases among members of the Queen Alexandra's Imperial Military Nursing Service and therefore, in August 1940, requested the War Organisation of the B.R.C.S. and Order of St. John to make the required accommodation available to nursing members either by reserving a few beds for them in each of the officers' convalescent hospitals or by selecting one such hospital, preferably the hospital at Somerley, and reserving there a proportionately larger number of beds. The War Organisation did not favour the proposal in either of its alternatives. They pointed out that in these hospitals accommodation was already limited and the reservation of any part of it, including dining room, sitting room etc., for the special use of nursing members would involve at the same time structural difficulties and still further restriction in the accommodation available for those for whom the hospitals were primarily intended.

The War Organisation suggested that more satisfactory results would be obtained by establishing a separate hospital for the needs of nursing members. While the Army Medical Directorate was prepared to adopt this suggestion, it was found to be impracticable on financial grounds. It appeared that no authority existed for any

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expenditure in this connexion and that therefore sanction could not be given.

The War Organisation was therefore again approached and asked to reconsider the matter. It was urged that the number of nursing members to be catered for did not warrant a special hospital; on the other hand reservation of accommodation for them in existing hospitals, even if it did involve some reduction in total accommodation, would not be prejudicial to the work of the hospitals in view of the fact that at no time had a number of beds occupied approached the number available. In reply the War Organisation reiterated their objection and stated that the owners of the properties in which the convalescent hospitals were established had been consulted in the matter and had all, with one exception, refused to permit their homes to be used for any purpose other than that originally arranged, i.e. for use as convalescent hospitals for officers. To this there was neither answer nor remedy. Had the properties been officially requisitioned by the War Department no restriction as to their use could have been maintained. But they had not been, nor could they have been, requisitioned except for occupation by the Crown. As it was, the premises had been taken over by negotiation between the owners and the War Organisation, and the former were therefore entitled to insist on the strict observance of any conditions that had been imposed, no matter how arbitrary or inequitable such insistence might appear to be in the circumstances.

A.M.D. was thus in a quandary. On the one hand, there was more than sufficient convalescent accommodation in existence but none of it could be made, or at all events was being made, available for this particular purpose. On the other hand, while the existing accommodation was in excess of that in actual use, further provision, no matter for what purpose, could not be sanctioned.

In April 1941, arrangements were made to use Askham Grange, an annexe to York Military Hospital, as a convalescent hospital for nursing sisters, but the beds thus made available numbered only eight, while the increase in the Auxiliary Territorial Service now added a further demand for convalescent hospital accommodation for officers of the women's services. During the year a few beds for this purpose had been obtained at the officers' convalescent hospitals at Apley Park and at Kildonan House but even so the number was still considered insufficient.

The deadlock continued in spite of efforts made on more than one occasion by D.G.A.M.S. to obtain revision of previous decisions. Throughout these discussions he was handicapped by the fact that full use was not being made of the existing convalescent hospitals which were often as much as half empty. Irrelevant as this was to the question at issue, nevertheless it provided a pretext for opposing any additional commitments in that direction. Matters were, however, brought to a

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head in February 1942, by an offer which was made to the War Organisation of the Society and Order, and which would have placed at their disposal a country house eminently suitable as a convalescent hospital for women officers.

The Director-General's recommendation that this offer be accepted met with no success. On the contrary, it was maintained that provision for convalescence in the case of an officer was not a normal responsibility of the Army in peace-time nor had it been contemplated that it should become so in time of war. It had, however, been visualised that, as the result of active military operations overseas and the arrival of a large number of wounded in this country coincident with heavy air raid casualties among the civilian population, the hospital accommodation of the country would be strained to the utmost. It had therefore seemed essential to make some provision by which wounded officers when no longer in need of active hospital treatment could continue their convalescence under medical supervision and assisted by such skilled nursing as might be necessary. It was solely with this object in view that the scheme for the provision of officers' convalescent hospitals had been brought into effect. At no time had it been intended that these hospitals would be used largely for convalescence after sickness. In point of fact the demands made upon these hospitals for the reception of cases of wounds had been small and in the circumstances there was no objection to the use of available accommodation by officers convalescing after illness provided they were still in need of some form of medical treatment. This fact, however, did not warrant the provision of more hospitals for that purpose. Indeed, there was some doubt as to whether there was authority for the maintenance of any such hospitals at public expense. As a solution to the difficulty it was even suggested that B.R.C.S. and affiliated bodies might be persuaded to maintain convalescent hospitals for women officers entirely from their own resources and at their own expense, a suggestion which, when unofficially approached on the subject, the Society politely but firmly declined.

In the end it was financial rather than medical considerations which prevailed and which eventually determined future action in this highly contentious question. In March 1942, D.Ds.M.S. in commands were informed that the general policy of the War Office was that convalescent accommodation would not normally be supplied in respect of cases of sickness among officers, and no further provision would be made in this respect. Accommodation already in existence might be used for cases of sickness subject to certain conditions: the use of convalescent hospitals by sick cases would continue only while the accommodation was not required for cases of wounds; the cases admitted would be only those which would otherwise require retention in hospital to complete treatment; cases not requiring further treatment, but needing only rest and recovery of strength, would not be admitted.

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In accordance with this declaration of policy no expansion of convalescent hospitals for officers of either sex was undertaken. The number of beds available at the end of 1942 amounted to a total of 245 in five of the six hospitals already mentioned, the hospital at Dutton Homestall having been closed in November of that year.

Meanwhile the scope of convalescent hospitals administered by voluntary bodies had been greatly widened and extended beyond the restricted field originally contemplated. Circumstances had caused them to become more closely associated with, and indeed to form an essential part of, the national hospital services. In June 1940, the Ministry of Health was somewhat anxiously concerned with the urgent question of increasing to a maximum the hospital accommodation available for both civilians and military throughout the country. As one means towards this end it was proposed to establish, within the Ministry's emergency medical organisation, what were to be known as auxiliary hospitals and military convalescent homes provided and administered by the War Organisation of the B.R.C.S. and the Order of St. John. Some 10,000 beds were to be provided in the immediate future and supplemented later as necessity arose. It was intended that these hospitals should be used primarily to increase the number of beds available for serious cases by relieving E.M.S. hospitals of patients no longer in need of active medical or surgical treatment. Accordingly the provision of such hospital accommodation for military patients convalescing but not sufficiently convalescent to warrant their transfer to a military convalescent depot devolved upon the joint War Organisations of the Society and Order. As in the case of the ordinary E.M.S. hospitals, it was decided that these auxiliary and convalescent hospitals would be used for civil or military cases as occasion demanded, but it was expected that at first they would be required for service patients only. The governing factor in determining the form to be taken by convalescent hospitals was that of accommodation available and thus it was that for the most part they consisted of small units containing from fifty to a hundred beds established in buildings formerly used as private houses and therefore suitable only for post-operative, convalescent or other comparatively mild cases. No facilities were available for elaborate or surgical treatment, medical attention being provided by a visiting general practitioner and nursing by one or two trained nurses assisted by V.A.Ds.

Emphasis was laid upon this fact in the instructions which were issued by the War Office to D.Ds.M.S. in commands when, in the course of a few weeks, the arrangements here described were completed and the scheme brought into operation. For although it was considered probable that most cases sent to convalescent hospitals would be those from E.M.S. hospitals, yet officers commanding military hospitals were also authorised to send such patients as they considered suitable for

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admission to hospitals of this kind. It was also agreed between the War Office and the Ministry of Health and laid down in the instructions issued by both authorities that no military patient was to be retained in an auxiliary or convalescent hospital longer than 21 days. If, at the end of this time a case was considered unfit for discharge to his unit or to a military depot, he was to be returned for treatment at the hospital from which he had originally come. In order that a close check should be maintained in this regard, D.Ds.M.S. were instructed that their representatives should make periodical visits to all convalescent hospitals situated in their commands and that on these occasions opportunity should be taken to advise commandants on such questions of military administration as might arise.

The maintenance of discipline among military patients in convalescent hospitals was a matter which exercised the minds of all those concerned with the administration of the scheme. It was realised that the presence of some 50 to 100 patients, well on the road towards complete recovery of health and strength and removed from all military influence, might present a problem difficult to handle in a hospital staffed entirely by women unless some special provision were made to preserve discipline and to enforce observance of regulations. The War Organisation of the Society and Order had from the beginning urged the necessity of posting to each convalescent hospital a non-commissioned officer for this purpose. This view was shared by the military authorities and steps were taken to obtain authorisation for the posting of a corporal (clerk) R.A.M.C. to each convalescent hospital for clerical, administrative and disciplinary duties in connexion with military patients.

By the middle of October 1940, the number of convalescent hospitals opened was 26, providing nearly 1,400 beds; others were being organised and the number rapidly increased until at the close of the year 1940 there were in existence 90 hospitals including a total of 4,879 beds.

In the meantime one of the difficulties foreseen in the accommodation of military patients in these convalescent hospitals had come to pass. It was evident that there was a falling off in morale and discipline among men sent to these hospitals, partly because of the purely civilian atmosphere with which they were surrounded and partly because their time was insufficiently occupied. Moreover in the absence of physical exercise it was found that the condition of most patients tended to become unduly softened during their convalescence. The Consultant in Physical Medicine to the Army represented that, in the interests of good treatment, apart from any other consideration, an instructor in physical training should be made available to the convalescent hospitals for the purpose of organising the recreation and supervising the physical rehabilitation of patients and thus aiding and expediting their recovery.

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While the advantages to be gained from the adoption of this recommendation were obvious, there was some difficulty in finding the number of instructors required. In the first instance instructors in physical training were posted to six selected convalescent hospitals largely as an experimental measure, but later authority was sought for the appointment of an instructor to each convalescent hospital numbering 50 or more beds. This step was approved by the Army Council in March 1941, and was put into effect as instructors became available. Thus at convalescent hospitals of 50 beds and upwards, two non-commissioned officers were supplied, the instructor in physical training and the corporal (clerk) R.A.M.C.; but in the smaller hospitals the corporal clerk remained unassisted. In the latter it was found that the rank of corporal was insufficient for disciplinary purposes, but, on the other hand, in these small hospitals there appeared to be no reason why the N.C.O. should be required to possess the technical qualifications pertaining to R.A.M.C. personnel. It was subsequently arranged, therefore, that in the small hospitals of less than 50 beds the corporal R.A.M.C. should be replaced by a sergeant of a combatant arm and of low medical category.

For general administrative purposes, such as medical records, and the pay, clothing, leave and disposal of patients, auxiliary and convalescent hospitals were affiliated to military hospitals in the same way and under the same conditions as those applicable to other E.M.S. hospitals not provided with a military registrar. Administrative problems and difficulties closely akin to those described in reference to E.M.S. hospitals arose in dealing with military patients in these auxiliary and convalescent hospitals. In some respects these difficulties were greater and their solution more perplexing owing very largely to the intrinsically semi-official nature of the organisation providing the hospitals and to the complicated system of control entailed thereby. For while E.M.S. hospitals were administered directly by the Ministry of Health and the Department of Health for Scotland through their R.H.Os., the auxiliary and convalescent hospitals, although a part of the E.M.S. scheme, were in fact administered through the War Organisation of the B.R.C.S. and the Order of St. John and through the joint county committees of those bodies. Moreover, the commandants of these hospitals were not usually persons with wide experience in hospital administration as were the superintendents of E.M.S. hospitals, and their knowledge of military affairs was, as might be expected, often negligible. The disadvantages inherent in this state of affairs were aggravated by the adoption of an exceedingly cumbersome administrative procedure.

When auxiliary and convalescent hospitals were established and ready to receive patients the joint county committee informed the headquarters of the Organisation. Notification was then given, sometimes by the Ministry of Health and sometimes by the War Organisation of the

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B.R.C.S. and Order of St. John to the hospitals branch of the Army Medical Directorate. D.Ds.M.S. in commands were then informed and the personnel branch of the Army Medical Directorate requested to arrange for the posting of N.C.Os., R.A.M.C. to the hospitals in accordance with the arrangements already described. This request was then referred to the officer in charge of Records, R.A.M.C., for action. So elaborate a chain of communication inevitably involved some delay and it frequently happened that in the meantime the hospitals concerned had received military patients but not the R.A.M.C. personnel to administer them. The result was that the joint county committee, hospital officers of the E.M.S. and commandants of individual hospitals sent urgent demands, either through the central war organisation or direct to the War Office for administrative action which had already been initiated. Not infrequently these requests and others in reference to admission of patients, medical supplies, etc., were addressed to administrative medical officers of the commands or areas in which the hospitals were situated. These officers not yet having been notified of recently completed arrangements made between the War Office and the War Organisation were unable to assist without authority and accordingly applied to the War Office for instructions. In much the same way misunderstandings arose in regard to such matters as the authority of military medical officers to determine the disposal of patients and of the functions and scope of several of these hospitals chosen to undertake special functions. These troubles were usually attributable to the difficulty under the circumstances of maintaining an accurate and up-to-date exchange of information between the various central and local representatives of the Army and of the War Organisation of the B.R.C.S. and Order of St. John. Much correspondence, some of it of a very trivial nature, was therefore entailed in connexion with matters which could with advantage have been settled on the spot by those personally concerned and without reference to higher authority. From time to time suggestions were made by D.Ds.M.S. in commands that matters of military administrative detail in respect of the opening of convalescent hospitals and such questions as the posting of non-commissioned officers for clerical and disciplinary duties should be undertaken by the medical staff of commands rather than by the War Office. These proposals for decentralisation were not adopted, and arrangements regarding auxiliary and convalescent hospitals from the military aspect remained largely in the hands of the central authorities.

At the end of May 1941, that is to say within a year, the War Organisation of the B.R.C.S. and Order of St. John had established and opened 181 auxiliary and convalescent hospitals with a potential bed capacity of 9,785. The number of beds actually equipped was 8,802; in addition, 33 more hospitals with a capacity of 1,821 beds were in

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process of establishment. At that time these hospitals were accommodating a total of 3,770 service patients. Some of the hospitals were converted from a general to a special function and were used to provide facilities for specific medical or surgical needs, for example the convalescent treatment of head injuries and of orthopaedic, ophthalmic and neurotic cases; others were allocated for the accommodation of particular categories of personnel, such as nurses, auxiliaries of the A.T.S., or nationals of the several allied forces. With the evolution of a policy which prescribed more active measures in the treatment of the sick and injured during the stage of convalescence, auxiliary and convalescent hospitals became more closely associated with the Army Medical Services and played an increasingly important part in the machinery for facilitating the restoration of the soldier to physical efficiency. Equipment and staff were developed in that direction as shown by the fact that in September 1941, ten auxiliary hospitals were provided with equipment for massage and physiotherapy and had a full-time masseuse appointed to their staffs. Equipment of the same kind was available at other hospitals where a masseuse was attached on a part-time basis. Several joint committees had organised a physiotherapy mobile unit with masseuses to visit the hospitals under their jurisdiction. Steps had been taken to extend these facilities throughout the country as soon as supplies would permit.

At that time the accommodation in military convalescent depots was much below that required for the needs of the Army. The auxiliary and convalescent hospitals of the B.R.C.S. and Order of St. John were therefore indispensable and it was essential that the best use should be made of the facilities they provided. D.G.A.M.S. called the attention of all senior administrative medical officers to the excellent work that was being done, particularly in respect of orthopaedic cases at the convalescent hospitals and desired that those in charge shall be encouraged to even greater efforts by administrative and specialist officers paying frequent visits and interesting themselves in these hospitals and their activities.

At the beginning of 1942 the total number of beds provided by auxiliary and convalescent hospitals was approximately 12,000, of which some 5,600 were occupied by patients of the fighting services. It was apparent, however, that there was a tendency to scatter military patients among a number of small hospitals rather than to concentrate them in greater numbers and in the larger hospitals. The object appeared to be that of providing all hospitals with at least some patients and equalising the work among the staff employed. There was, however, a serious disadvantage in this method of allocation inasmuch as instructors in physical training were available only at hospitals of fifty or more beds. Unnecessary dispersal therefore resulted in a large number of patients

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being deprived of the benefits of physical training. It was therefore proposed and agreed that the allocation of patients to auxiliary and convalescent hospitals, the number to be accommodated in any given hospital, and the particular use to which any hospital should be put were matters to be arranged direct between the hospital officer of the E.M.S. and the local military administrative medical officer, an important step in the direction of decentralisation.

In the course of the same year, the auxiliary and convalescent hospitals of the B.R.C.S. and Order of St. John were called upon to perform yet another function on behalf of the Army Medical Services, this time in connexion with new arrangements made for the rehabilitation of military patients. The development of this undertaking is discussed later, so suffice it here to say that as a part of the scheme it was necessary that certain hospitals should be reserved to act in the capacity of what were styled long-term rehabilitation centres. These centres were to accommodate cases in which the process of recovery was likely to be prolonged and in which medical supervision was still required, but which had progressed beyond the normal convalescent hospital stage and were sufficiently advanced for a certain amount of hardening without being ready for the more vigorous regimen of a military convalescent depot.

The hospitals best suited to this use were the auxiliary hospitals established by the War Organisation of the Society and Order who were accordingly asked to allot accommodation at some of the larger auxiliary hospitals for the reception of these cases. In the first instance, six such hospitals, conveniently situated to serve the needs of the several commands, were selected for this purpose. Additional military staff, consisting of a company sergeant-major, a physical training instructor and a junior N.C.O. was authorised for each of them. All of these hospitals were soon working at full capacity and subsequently others were selected for use as rehabilitation centres, some of them for cases of a special kind, e.g. orthopaedic, dermatological, etc.

By the end of the year 1942, the number of auxiliary and convalescent hospitals had risen to 226 with a total of 12,900 equipped beds; thereafter expansion was less rapid. During the following year a few more of these hospitals were established, bringing the total equipped beds up to 13,500 including those provided specifically for members of the women's services; of these beds, some 6,000 to 7,000 were in constant occupation by personnel of the armed forces. Thereafter the position remained virtually unchanged, and at the termination of hostilities in Europe, auxiliary hospitals in the United Kingdom numbered 210, including 6 for officers, 195 for other ranks, and 9 for A.T.S.; beds available in these hospitals amounted to 12,168, of which 297 were for officers, 11,323 for other ranks and 548 for A.T.S.; the number of beds then occupied was 6,726, viz. 157 by officers, 6,371 by other ranks, and 198 by A.T.S.

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MILITARY CONVALESCENT DEPOTS

The scheme of mobilisation for the Army visualised the establishment of military convalescent depots (Con. Depots) immediately after the declaration of war and authorised the opening of one such depot, with accommodation for 1,000 men, in each of the commands in Great Britain and one depot for 750 men in Northern Ireland. Suitable buildings in the form of colleges, hotels or large country mansions, with sufficient land to provide space upon which to build additional accommodation were provisionally reserved for this purpose.

The acute shortage of accommodation for troops which was one of the outstanding problems in the earlier stages of the war, made it essential to use all available buildings to best advantage, and so the needs of the Army in general perforce took precedence over those of convalescent patients who were then but small in number. Thus, buildings intended for convalescent depots were in some cases diverted to other uses. As time went on, however, the necessity of providing accommodation for military convalescents became more urgent as hospital beds were being occupied by patients who might well have been discharged to convalescent depots had there been accommodation for them in the latter. This state of affairs had a twofold disadvantage, in the first place, the number of beds available in hospitals was needlessly reduced, and secondly, military patients suffered in physical efficiency and in morale by being retained under hospital conditions for an unnecessarily long period. In the meantime the paucity of labour and material in relation to the enormous military building programme which had been undertaken made the construction of hutted camps a lengthy process and at the close of the year 1939, the accommodation available for convalescent cases was far below the authorised scale in all commands; indeed in the Eastern and Aldershot Commands there was none.

Early in 1940, efforts were made to find suitable buildings for convalescent depots in these two commands. Intensive search failed to discover any which would yield, or which by reasonably restricted building could be expanded to yield, accommodation for 1,000 patients. There were thus two alternatives: first, the construction of hutted camps, complete in all respects, of the size required, or secondly, the adaptation of smaller buildings to provide a larger number of convalescent depots of smaller size thus multiplying staff and complicating administrative arrangements. The first of these was rejected partly because of the expense involved, but even more on the grounds that no addition could then be made to the building programme, and the construction of any new depot was therefore likely to be indefinitely delayed. It was accordingly decided to form convalescent depots of 250 to 500 beds but it was not without difficulty and delay that suitable buildings were obtained and adapted even for those numbers, the more so because

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the return of the B.E.F. from France made still further demands on such accommodation as was available. Indeed, during the summer of 1940, it was found necessary as a temporary measure to use tented camps to supplement existing accommodation for convalescent patients. At the end of 1940, there was still a deficiency of nearly 3,000 beds in the total of 6,750 originally authorised.

In July 1941, the requirements in respect of convalescent depots in Great Britain and Northern Ireland were reviewed and a new scheme devised to provide accommodation for 12,000 patients including 3,500 at medical examination centres (M.E.Cs.), establishments intended for the reception and observation of soldiers in reference to their fitness for further service and examination by medical boards. This scheme made provision for re-allocating accommodation in the several commands and for increasing it partly by new construction and partly by the conversion of certain infantry training centres, which, being no longer needed for training purposes were therefore available and admirably suitable for use as convalescent depots. By the following October, more than half of this additional accommodation was ready for the reception of patients, the total number of beds being raised to 8,750.

With this development, the procedure governing the admission of patients to convalescent depots was revised and new instructions on the subject issued. D.Ds.M.S. were made responsible for allotting accommodation in convalescent depots to the various hospitals of all kinds within their commands. In the event of all accommodation at their disposal being occupied they were required to arrange for the reception of patients by convalescent depots in other commands for, although these depots were intended primarily for convalescents of the command in which they were situated, yet it had not been possible to allot accommodation exactly in accordance with the requirements of each command. Consequently the closest co-operation between the medical authorities in the various commands was essential to make the best use of the existing accommodation and to ensure that none of it was wasted.

It was now prescribed that in the normal course of events, patients in military or E.M.S. hospitals and in auxiliary or convalescent hospitals should pass through a convalescent depot before return to their units although direct return from hospital to unit was not precluded where the patient was considered fully fit for duty. After admission to a convalescent depot, a patient was retained there until his physical condition was such as to render him fit for duty at least in medical category C, no man being returned to his unit while still in medical category D, that is to say, while still needing medical care and attention.

At the same time it was sought to clarify the distinction in scope and function between the convalescent hospital on the one hand and the convalescent depot on the other, a matter in which there had been much

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confusion in the past. Patients were admissible to a convalescent depot only if they were able to walk, to attend to their own needs and to take ordinary diet and provided also that they were likely to be fit for regimental duty within approximately one month after admission. A patient who did not fulfil these conditions, even though not requiring active medical treatment and therefore fit for discharge from hospital, was not a suitable case for admission to a convalescent depot. It was for cases of this kind that the convalescent hospital had been provided and it was there that they should be sent rather than to a convalescent depot. Patients, who after admission to a convalescent depot were found unfit for the duties and training required of them, were returned to hospital or to convalescent hospital as appropriate.

Certain classes of case were made inadmissible to convalescent depots on the grounds that they were unsuited to the conditions pertaining there and were unlikely to derive benefit from the routine followed. These cases included those of a contagious kind with active lesions, chronic respiratory or cardiac complaints, acute and subacute rheumatoid conditions, orthopaedic case with limbs immobilised in plaster and requiring supervision by an orthopaedic surgeon, fractures where splints prevented the use of the fingers, chronic disabilities of the feet, chronic middle ear disease and psychiatric cases with unresolved symptoms.

The scope of convalescent depots was still further extended during 1942 by the development of a more comprehensive system for the rehabilitation of military patients, a process which was undertaken for the most part at convalescent depots. Meanwhile, accommodation also continued to increase, until by the end of that year it had reached a total of 11,600 beds in fourteen depots distributed throughout the several commands or districts as follows: Eastern, 1,500; South-eastern, 1,250; Southern, 2,500; Northern, 1,350; Western, 1,500; Scottish, 2,000; London, 1,000; and Northern Ireland, 500. Moreover, there was an addition to the accommodation actually available as the result of the abolition of the medical examination centres. These had not proved successful, and on their disbandment the 3,500 beds which had been reserved for them now reverted to their original use as accommodation for convalescents.

During 1943, further changes were made; some depots were closed for various reasons and others opened elsewhere while the allocation among the commands was modified. At the close of the year the number of convalescent depots had been reduced to ten while the total accommodation had been increased to the authorised number of 12,000.

Early in 1944, the question of an increase in accommodation for convalescent patients arose in connexion with preparations being made for the forthcoming operations in North-west Europe. In the first place it was expected that casualties would be heavy and that hospitals might be

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put to some strain in regard to both staff and accommodation. It was essential, therefore, to provide sufficient convalescent depots for the reception of all patients no longer in need of in-patient treatment and thus to ensure a maximum number of beds being available for those actually requiring accommodation in hospital. Secondly, the nature of the projected operations on the Continent made it unlikely that the convalescent depots belonging to the field force would be established overseas during the first month or more of the campaign, a time when casualties might be at their highest and when almost all of them would be evacuated to the home base and so be dependent upon the facilities available in the United Kingdom.

It was accordingly decided to add a further 5,000 beds to the 12,000 already equipped and thus make provision for a total of 17,000 convalescent patients. Steps were therefore taken to enlarge the existing convalescent depots as far as local conditions would permit, and to obtain the remainder of the required accommodation by taking over barracks or camps hitherto used as training centres, etc., and converting them for use as convalescent depots. By the end of June 1944, the number of beds equipped exceeded 13,000; further additions in huts or in tents were in course of preparation and another depot of 1,700 beds was about to be opened. Within the next three months all these depots were functioning and were already occupied to an extent which appeared to confirm the necessity of completing the scheme for 17,000 beds in all. This was accomplished towards the end of October. Attention was then directed towards rendering tented expansions suitable for occupation during the winter months. To some extent, however, it was found possible to transfer convalescent depots complete to other localities where more extensive permanent quarters were available. These alternative arrangements served to obtain better conditions for convalescent patients and to obviate expenditure of works services in connexion with improvements to temporary accommodation.

As it turned out, the casualties incurred by the forces on the Continent proved lower than was estimated, consequently the convalescent depots were at no time filled to their total capacity, the average number of occupied beds being about 12,000. Moreover, the occupation of tents by convalescents during winter gave rise to adverse criticism and the use of tented expansions was almost entirely discontinued. During the spring of 1945 proposals were made for a reduction in the total accommodation authorised. Tented expansions including 829 beds and temporary, and somewhat unsatisfactory, huts to the extent of a further 550 were therefore relinquished and the total equipped convalescent accommodation reduced to 15,621 beds. This reduction was not, however, effected until after the termination of hostilities in Europe.

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MEDICAL EMBARKATION AND HOSPITAL DISTRIBUTION HEADQUARTERS

In June 1939, it had been decided that should war occur, a special medical organisation would be required to administer the arrangements made for the reception and distribution of casualties brought to the United Kingdom from theatres of war overseas. Accordingly, in October 1939, an organisation known as the Medical Embarkation and Hospital Distribution Headquarters (M.E.H.D.H.Q.) was brought into being.

M.E.H.D.H.Q., which closely approximated a similar organisation employed during the 1914–18 War, was situated in London in close touch with, but distinct from, the Army Medical Directorate. It consisted of a D.D.M.S. with a staff of officers and clerks, etc., numbering thirteen in all and was made responsible:

(*a*) For arranging the disembarkation of sick and wounded from hospital ships at ports of arrival and, in conjunction with the War Office and the Ministry of Health, the distribution of these casualties by ambulance train or ambulance car to hospitals, military and civil, within the United Kingdom ;

(*b*) For advising on scales of equipment and personnel for ambulance trains, hospital ships and hospital carriers, and for the issue of Standing Orders for the guidance of these units;

(*c*) For the collection of statistics in relation to casualties disembarked at ports in the United Kingdom.

M.E.H.D.H.Q. had authority—

(*a*) To call direct for information as regards beds available in military hospitals at home;

(*b*) To issue instructions to administrative and executive M.Os. concerned with embarkation and disembarkation;

(*c*) To inspect medical arrangements made at home ports for the embarkation and disembarkation of military personnel.

In peace-time, Southampton was the chief port of disembarkation for military invalids, but it was considered necessary to supplement this port by others on the outbreak of war. Newhaven and, later, Liverpool were therefore included within the plans made for the disembarkation of casualties from overseas, Newhaven in respect of casualties from France, and Liverpool for those from more distant theatres of operations. At each of these ports there was an A.D.M.S. with a staff of medical officers who undertook the executive work of disembarkation and entrainment of casualties from hospital ships and hospital carriers in accordance with the instructions issued by the H.Q. organisation. Included within the medical personnel for embarkation duties was No. 3 Company, R.A.M.C., stationed at Southampton and functioning to all intents and purposes as a depot for the supply of personnel to hospital ships and ambulance

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trains. Ambulance trains within the United Kingdom and hospital ships and hospital carriers based on home ports each had its ' home station', but they, and the embarkation staffs referred to above, were responsible only to M.E.H.D.H.Q. in London. They had no responsibility to the military authorities of the locality in which they were stationed and were not subject to the authority of the medical staffs at command or district headquarters except for purposes of discipline and local administration.

The primary responsibility of the Medical Embarkation and Hospital Distribution Headquarters was to ensure that all ambulance trains, hospital ships and carriers were maintained in a state of readiness, to keep abreast of developments in the design of equipment of ships and trains used for the transport of casualties, and to arrange for effecting such alterations and improvements as had been determined in consultation with the Army Medical Directorate and other branches of the War Office. In this respect, therefore, this H.Q. acted as technical advisers to the War Office in all matters pertaining to hospital ships and ambulance trains.

The actual movement of ships was no concern of this organisation. Movements were arranged by Movement Control in accordance with the requirements of the military authorities in the theatre of war concerned. The Medical Embarkation and Hospital Distribution Headquarters was, however, kept informed of all such movements in order that the whereabouts of ships might be known and statistics maintained. Advance notice of the arrival of incoming ships was also given to them so that arrangements could be made for the distribution of casualties from ship to hospital. As a very large proportion of the casualties disembarked was distributed among the E.M.S. hospitals, this distribution was arranged in conjunction with the Ministry of Health by whom specific accommodation in E.M.S. hospitals was selected and allocated as circumstances required. Similarly, movements of ambulance trains were arranged by Movement Control in accordance with the requirements of the Medical Embarkation and Hospital Distribution Headquarters which, however, was concerned only with the movement of casualties between the port of arrival and the hospital to which they were initially despatched. M.E.H.D.H.Q. were not concerned with the movement of casualties between one hospital and another in the United Kingdom and when provisional arrangements were made for the evacuation of hospital cases in the event of invasion, the Medical Embarkation and Hospital Distribution Headquarters were not involved, for it was agreed that in those circumstances all such movements were to be undertaken by the Ministry of Health or their regional representatives, even though military ambulance trains were employed.

While military operations were proceeding in France, the organisation for medical embarkation and hospital distribution was operating to full

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capacity, but on the withdrawal of the expeditionary force and the occupation of the Channel ports by the enemy, the situation changed. The use of Southampton as a port of disembarkation became impossible and eventually in December 1940, the embarkation staff from that place, including No. 3 Company, R.A.M.C., was moved to Liverpool, which became the only port provided with a medical embarkation staff. When disembarkation took place at any other port, personnel from the Liverpool establishment were temporarily allocated to the port concerned. At the same time responsibility for medical arrangements in connexion with the increasing flow of outgoing troop transports from Liverpool had involved the embarkation medical staff in more and more work additional to that concerned with the disembarkation of casualties from hospital ships. It was therefore decided that the A.D.M.S. (Embarkation) Liverpool should undertake duties only in reference to troop-transports and that his responsibility for disembarkation and distribution of casualties from hospital ships should be taken over by the A.D.M.S. recently transferred to Liverpool from Southampton.

No further developments of an administrative kind were contemplated until the end of 1941, when the whole organisation came under review as regards both the central Medical Embarkation and Hospital Distribution Headquarters and the local medical embarkation staff at Liverpool. The need for economy in man-power necessitated the reduction in administrative staff wherever possible. Moreover, the situation with which medical embarkation organisation was now required to deal was very different from that obtaining when the organisation first came into existence. With the transfer of military activity to distant theatres of war all hospital ships were stationed in eastern waters and were administered by the medical authorities overseas. Though M.E.H.D.H.Q. in London now had no responsibilities in the administration of these ships, they still reserved the right of appointing commanding officers and no diversion of ships to uses other than those of hospital ships could be made without their authority, and periodical reports and statistical returns were still rendered to them by the officers commanding hospital ships. In the absence of any large numbers of incoming casualties and the detachment of all hospital ships to authorities overseas, the work of the headquarters was restricted to dealing with the comparatively few casualties transported in home-based hospital carriers and in keeping in touch with developments in design and equipment concerned with the hospital ship and ambulance train service.

These were the facts that impressed a committee of investigation appointed early in the year 1942 to examine these matters:—that the organisation itself was essentially unsound, that no reason existed for a separate headquarters beyond the precedent established during 1914–18 and that better results with the employment of fewer personnel could

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be obtained by other means. In the first place, the work of the headquarters involved the closest contact with the War Office and indeed, to a great extent was dependent upon, and subject to, the overriding authority of the Army Medical Directorate. The existence of an independent headquarters could only result in extravagance in personnel and accommodation and in delay and inconvenience in working. Secondly, it was considered that the centralisation in one headquarters of the control of units spread over the country involved inadequate supervision and administrative difficulty and delay; the records maintained in regard to personnel by this H.Q. merely duplicated work which was of necessity already performed by the Army Medical Directorate and by the Officer-in-charge of Records, R.A.M.C. In many respects the headquarters could be nothing more than a 'post office' between units and the War Office, in matters which normally would be dealt with directly by the medical authorities in commands. Lastly, many of the functions of the headquarters were already exercised by branches of the Army Medical Directorate, for example, the compilation of statistics, the evolution of improvements in technique and equipment, and the dissemination of information.

This committee recommended that as hospital ships, hospital carriers and ambulance trains were in effect nothing more than mobile hospitals their administration should be placed on the same basis as that of military hospitals, and they should be controlled by the command in which their home stations were situated. The functions of the Medical Embarkation and Hospital Distribution Headquarters should be allocated to the appropriate branches of the Army Medical Directorate, i.e. responsibility for personnel to A.M.D.1., policy and advisory matters to A.M.D.2., statistics to A.M.D.2. (Stats.), stores to A.M.D.3., and operational aspects to A.M.D.8. In addition, a small sub-branch, preferably in A.M.D.2., as the hospitals branch of the Directorate, would be required for central co-ordination and for co-operation with the Ministry of Health. While the number of incoming casualties remained small, this sub-branch would not be burdened with a vast amount of work nor require a large staff. The functions of the headquarters having been disposed of in this way, no further purpose would be served by the maintenance of that organisation. Its abolition was therefore recommended.

In the light of probable events and the great increase to be expected in the work involved in the reception and distribution of casualties, it was not possible to accept in their entirety the recommendations of this committee. It was, however, decided to effect changes in so far as the central organisation was concerned, and to remove the disabilities implied by the existence of a separate headquarters. The Medical Embarkation and Hospital Distribution Headquarters was therefore

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abolished in August 1942, and its functions transferred to a new branch formed for the purpose within the Army Medical Directorate. This change had the desired effect in regard to closer co-ordination in administration; it also facilitated planning for future requirements and at the same time made possible some economy in staff.

Meanwhile the local medical embarkation staff at Liverpool was also subject to investigation. As already described there were in being two distinct organisations, each under an A.D.M.S., in the rank of colonel, the first to deal with the disembarkation and distribution of casualties arriving at the port, and the second concerned with medical questions in relation to troop-carrying transports and medical arrangements for the troops carried. As the result of reorganisation brought into operation in August 1942, the whole establishment at Liverpool was combined and designated the Medical Embarkation Pool (United Kingdom and Northern Ireland) and headquarters No. 3 Company, R.A.M.C., and placed in the charge of an A.D.M.S. (Embarkation) in the rank of lieut. colonel. This establishment covered embarkation and disembarkation at all ports in the United Kingdom and provided medical stores for all troop transports as well as an organisation for the disembarkation and distribution of all invalids arriving from overseas. The pool of medical personnel for duty in troop transports previously forming part of No. 11 R.A.M.C. Depot at Leeds was transferred to Liverpool and attached to No. 3 Company, R.A.M.C.

MEDICAL DOCUMENTATION DURING THE WAR*

Before the war, army medical statistics were based on two main forms:

(*a*) a personal medical record of each case treated in hospital (*A.F. I.* 1220).

(*b*) a consolidated monthly return from hospitals showing bedstate figures and admissions and numbers remaining by diagnosis (*A.F. A.*31).

This simple peace-time system proved ill-suited to the fundamentally different situation which arose after the outbreak of war, and it is, perhaps, not surprising that the change over to a more appropriate system was neither smooth nor rapid since no pre-prepared scheme was ready to be put into operation. The statistical department which was set up was allocated to a branch primarily responsible for problems of hospital administration; and inadequate technical staff combined with shortage of clerks, geographical moves and the inevitable preoccupation with immediate administrative requirements did not allow the necessary attention to be paid to the much-needed overhaul of the documentary system.

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* The substance of these notes was supplied by Dr. Richard Stalbow, Statistician on the staff of A.M.D.5 and during the war-years a member of the Directorate of Medical Research.

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The following notes outline the changes that did take place in the field of medical documentation. They deal only with returns and records used primarily for statistical purposes, and not with the many reports received by consultants and others at the War Office, nor with the documents used in the internal administration of hospitals. It is convenient to deal with the problem under two main heads: (*a*) personal medical documents, and (*b*) consolidated returns from medical units :

(*a*) *Personal Medical Documents*

The main difficulty with regard to these records arose from the fact that after the outbreak of war a high proportion of military patients in the United Kingdom was treated in civil hospitals, which were under no obligation to use military medical documents. In the absence of the military hospital record card (A.F. I.1220) from civil hospitals it was necessary to make use of such forms as were available; these were *E.M.S. Form* 105 in England and Wales and *HO*4 in Scotland. They were not medical, but administrative reports used to notify records offices of the admission, transfer or discharge of a military patient, and they contained little medical information except a diagnosis which was frequently unreliable. Furthermore, since they were submitted separately on admission, transfer and discharge, it was necessary to collate centrally the several forms relating to a single hospital case—a formidable task with several thousand documents arriving every day and regimental details often incorrectly completed. However, in the absence of any alternative source of information, these two forms, together with their military counterpart (A.F. W.3017) were used as the raw material for Hollerith analysis of hospital cases in the United Kingdom in the early stages of the war. It is not surprising that little of value emerged from this source. In theory, no similar difficulty should have existed with respect to records of cases treated overseas, but in fact the interruption of overseas communications in general and the establishment of a separate medical statistical section in M.E.F. restricted the flow of A.Fs. I.1220 and *A.Fs. W*.3118 (field medical cards) to the War Office. An alternative source of information for overseas cases—a nominal roll of admissions and discharges in expeditionary forces (*A.F. W*.3034) proved unsuitable for statistical analysis.

It was obvious that no reliable statistical information could be derived from such unsatisfactory raw material and late in 1941 negotiations were opened with the Ministry of Health with a view to arranging for A.F. I.1220 to be taken into use by civil hospitals. With the co-operation of the Ministry of Health, this was achieved in 1942 and the record office reports were discarded as a source of medical statistics. However, even after A.F. I.1220 was officially introduced into civil hospitals, records were still far from complete owing largely to the impossibility

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of exercising effective control over the documentation of civil hospitals in the United Kingdom, and to the highly mobile conditions of warfare, the lack of experience of many military medical officers and the loss of documents in transit from overseas. Though deficient as a complete enumeration of hospital cases, these records have proved most valuable as raw material for sample analysis as well as providing vital information for the Ministry of Pensions and details of previous treatment for the benefit of medical officers treating a patient. Indeed, they supplied the basic data for a considerable proportion of the material included in the *Statistical Report on the Health of the Army*, 1943–5.

An improved method of routing the hospital records was also introduced in 1942. Formerly, A.F. I.1220 was sent direct to the War Office as soon as a soldier left hospital whether he was discharged to duty or transferred to another hospital. In 1942 a follow-through system was brought in, whereby A.F. I.1220 accompanied the patient from hospital to hospital or convalescent depot until final discharge. This achieved the double advantage of supplying clinical details of previous treatment all along the line and at the same time ensuring that the complete record of a hospital case arrived at the War Office together.

Side by side with the basic hospital records, a separate form—the Infectious Disease Notification Form (*A.F. A.*35) was used in the United Kingdom throughout the war to notify certain specified diseases to the responsible administrative medical officer. Consolidations based on this form were prepared in different ways at different times but whatever its value as an administrative report, A.F. A.35 proved most unreliable as a source of statistical information. Indeed, the deficiencies in the number of forms received were demonstrated only too clearly when the notification of infectious diseases, in common with other diseases, was brought on to a more satisfactory basis by the introduction of A.F. W.3166 (see below).

An important development in the recording of medical discharges also took place in 1942. *A.F. B.*3978, a small statistical form which was originally used to report only cases in which an Army medical board considered that a serious error of grading had been made by the civilian board which examined the man on enlistment, was extended to cover all medical discharges from the Army. This made it possible to set up a comprehensive index in the War Office of all men medically discharged from the Army after the end of 1942.

No further major changes with regard to personal medical records took place in the later war years but shortly before the end of the war, when the release of large numbers of soldiers became imminent, it was decided to introduce special documentary machinery for notification of syphilis cases. A *Central Syphilis Register* was set up with the following forms of reference:

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(i) To ensure continuity of treatment and surveillance of all army syphilitic patients and hence to minimise the risk of soldiers leaving the army in an infectious state.
(ii) To provide easily accessible detailed records of syphilis cases.
(iii) To provide research facilities, especially in relation to the new therapeutic measures.

The register was built up from a series of notifications (on A.F. I.1220) not only for in-patient treatment but also for each long-term course of treatment as an out-patient and after each serological test during surveillance. These notifications formed a reservoir of information about army syphilitics and provided the basis for an audit devised to ensure satisfactory treatment and surveillance.

(*b*) *Consolidated medical returns*

In addition to the detailed information contained on personal medical records (which of course cannot be completed until the patient has been discharged from hospital) it is necessary to have a "fast news service" to provide rapid and up-to-date information on the incidence of diseases, especially infectious diseases, and bedstates. Before the war, much of this information was provided on *A.F. A.*31 but unfortunately this return was cancelled early in the war in an over-enthusiastic attempt to save paper work and no adequate substitute was provided. From the cancellation of A.F. A.31 to the final introduction of *A.F. W.*3166 and 3167 after the end of the war, a whole host of returns was introduced, modified and finally discarded. A.F. A.31 was succeeded in 1940 in military hospitals by *A.F. A.*2024, a weekly return showing admissions broken down into a limited number of diagnoses and arms of service. At the same time, convalescent depots used *A.F. W.*3018 which provided primarily bedstate information, and *A.F. A.*2023, which was simply a nominal roll of all admissions by diagnosis, was introduced in 1941 for reception station cases. The establishment of military registrars to administer military patients treated in civil hospitals made it possible to introduce in mid-1942 a simple consolidated return (*A.F. W.*3182) of Army patients admitted to and discharged from these hospitals. All these returns were sent direct to the War Office with no intermediate checks and hence no guarantee that all the appropriate returns had in fact been submitted. In short, the system had all the defects to be expected of one improvised step by step to meet a changing situation without reference to a coherent underlying plan. In late 1941, as a result of discussion between D.G.A.M.S. and D.I.S. (Director of Investigation and Statistics) a committee was set up to review the existing arrangements for medical documentation. This committee issued its report in mid-1942, and its recommendations led to considerable improvement. The forms referred to above were all retained but

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their design was altered and in general simplified. In fact, they became primarily bedstate returns showing beds equipped, total admissions and numbers of patients remaining in medical units in the United Kingdom. A new unit medical return (*A.F. W.*3181) was introduced to replace the many others previously in circulation. This showed numbers reporting sick and placed on light duty, numbers in hospital or reception stations, new cases of certain selected diseases, vaccination and inoculation state and details of medical recategorisation. Apart from the revision of the forms themselves, the fundamental change introduced by this committee concerned the routing of the returns. Instead of the highly unsatisfactory system of all returns being sent direct to the War Office, they were sent to the A.D.M.S., for his information and for consolidation of all figures required to be passed on to higher formations. The A.D.M.S. included in his consolidated return information regarding the number of cases of infectious disease which he received on A.F. A.35 from the M.O. who first diagnosed the case. He then passed his consolidation to the D.D.M.S., who in turn consolidated all the figures received from his A.Ds.M.S. together with certain returns received direct, and submitted a single comprehensive return covering the whole of his command to the War Office. In this way each authority was aware of what was happening in the area under its jurisdiction and was in a position to check that returns were in fact submitted by all appropriate units. (In practice, however, while reporting by medical units was reasonably satisfactory, there are good grounds for believing that figures obtained via the unit medical return (A.F. W.3181) were deficient). At the same time the War Office received a single consolidated statement for each command instead of a mass of different returns from different units. This new weekly consolidated medical return rendered by districts and commands in the United Kingdom came into force in December 1942. It was designated *A.F. W.*3180 and embodied information received from military hospitals (A.F. A.2024), civil hospitals (A.F. W.3182), convalescent depots (*A.F. W.*3018), reception stations (A.F. A.2023) and units (A.F. W.3181). It also incorporated information regarding infectious diseases based on A.Fs. A.35. A separate and more detailed bedstate return (*A.F. I.*3213) submitted by military hospitals direct to War Office was retained for the benefit of the branch responsible for hospital accommodation.

This reorganisation undoubtedly represented a great improvement on the earlier arrangements, but it did not go far enough. While it provided basic information on total admissions and numbers remaining in hospital, medical recategorisation etc., in the United Kingdom it did not provide any morbidity figures except for V.D. and a limited list of infectious diseases, and even these, owing to the method of collection, could not be considered reliable. Furthermore, the whole scheme applied

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to the United Kingdom alone and although various overseas commands introduced some of the new returns there was in general little information available in the War Office about commands overseas. A monthly cable served to provide certain figures concerning bedstates and total admissions, but no uniform morbidity return existed. In the absence of such an official return, most overseas commands introduced their own and these varied greatly both in quality and in content. An additional complication in the case of A.L.F.S.E.A. was that this command was responsible to India and not direct to War Office, with the result that very little statistical information was forthcoming until after D.M.R's tour towards the end of the war.

The state of affairs outlined above continued with minor modifications until in mid-1945, A.F. W.3180 and its feeder forms were re-designed in the light of a clearer appreciation of the data relevant to the construction of a true bedstate budget. The method of notifying V.D. cases was also changed to conform with the new administrative arrangements for treating these diseases, and various other items were simplified or amended. It was not until the war was over, however, that the general overhaul of medical documentation which followed the reorganisation of the Army medical statistical section in 1943–4 led to the introduction of a uniform system both in the United Kingdom and in all overseas commands. This new system was based on two comprehensive returns, one relating to morbidity A.F. W.3166 (*a*) in the United Kingdom and A.F. W.3166 Overseas, and the other to bedstates A.F. W.3167(*a*) in the United Kingdom and A.F. W.3167 Overseas. These replaced almost all of the returns previously used.

REHABILITATION*

One of the most interesting as well as one of the most important advances in military medicine arising out of the experience of the Army Medical Services during the war was the development of an organisation specially contrived to undertake the management of the convalescent patient. Hitherto convalescence had been tacitly regarded as a process by which the natural recuperative powers of the body, largely unaided save by the expenditure of time, would of themselves bring about a return to normal in so far as the normal was capable of attainment. The attitude towards the convalescent, when further active medical or surgical treatment became unnecessary, was therefore mainly of a negative kind. The calls of man-power, however, were insistent in obtaining a more active and scientific approach to what was indeed a problem of some magnitude.

Owing in part, at least, to the fact that a large number of military patients was treated in civil hospitals, the average length of a soldier's

* See Emergency Medical Services, Volume I, Chapters 5 and 13.

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stay in hospital was prolonged beyond what was regarded from the military standpoint as the essential minimum. Moreover, the longer the stay in hospital the longer was the period necessary for convalescence, a factor which still further lengthened the time during which a sick or injured man was rendered ineffective. It became urgently necessary therefore to devise a means of reducing the sick wastage if only in terms of time by expediting the recovery and return to duty of those affected.

There was another and no less important aspect of the same question. Experience had shown that after a stay in a military or in an E.M.S. hospital followed by a period of convalescence in an auxiliary hospital a large proportion of patients arriving at military convalescent depots were not only in poor condition physically but were also in a state of lowered morale and impaired discipline due to a lack of mental and physical activities organised and directed towards recovery both of physical health and of military efficiency.

It was with these several objects in view that the system of rehabilitation was subsequently brought into being. Rehabilitation was defined as the restoration of a sick or injured person to his previous state of health and physical efficiency. To achieve this as rapidly and completely as possible necessitated consideration not only of the patient's specific disability but also of his general physical condition and involved a continuous restorative process beginning early, at the moment when the patient was fit to take an active interest in his progress, continuing through the ambulant stage and ending with a course of strengthening and hardening to the requirements of his original or new occupation. It was thus concerned with all cases, medical as well as surgical, other than those of a trivial or transient kind, that is to say, all in which the course of the disease or subsequent period of convalescence was protracted.

Rehabilitation as an established procedure in the management of the hospital or convalescent patient in the Army had its origin in two distinct, and to begin with, limited activities developed under special circumstances and for special purposes. In the first place the work of the hospital for head injuries at St. Hugh's College, Oxford, necessitated special measures in the after-treatment of its patients. Early in 1940, steps were taken to obtain a convalescent hospital in the neighbourhood of Oxford where patients no longer in need of active surgical treatment could be retained under the supervision of the neurosurgeon during the process of restoration to function of those parts of the body which had suffered as the result of injury to the central nervous system. In this process, two forms of treatment were essential; first, physiotherapy including massage, movement, both passive and active, and application of heat, light and electricity; and secondly, occupational therapy designed to exercise, strengthen and restore the affected parts. In due

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course an auxiliary hospital of the Joint War Organisation of the B.R.C.S. and the Order of St. John was opened at Middleton Park, Bicester, and specially equipped and staffed to undertake this work.

In the meantime affairs were developing on different lines but tending in the same direction at the military convalescent depot, Harrogate, where cases convalescing from injuries or diseases of the bones, joints or muscles were sent to the Royal Bath Hospital and Pump Room a few miles away to receive physiotherapy including massage and treatment by heat, light, electricity and baths. In July 1940, D.G.A.M.S. requested an eminent civilian consultant in physical medicine to visit this establishment, to report on the work performed there and to advise on the question of its extension and the institution of similar arrangements elsewhere. The report submitted clearly indicated that the work undertaken at Harrogate was of the greatest value in assisting and expediting the recovery of convalescent patients and recommended that physiotherapy, occupational therapy and remedial exercises should constitute a part of the normal routine in all convalescent depots and should be utilised as far as applicable in the treatment of patients in hospitals and convalescent hospitals. It was suggested that a specialist in physical medicine be appointed to each command to supervise remedial measures employed in convalescent depots and other medical establishments, that the staff of convalescent depots and the larger convalescent hospitals should include an instructor of the Army Physical Training Corps specially trained in medical gymnastics and remedial exercises and that masseuses, occupational therapists and handicraft workers should be made available at military and E.M.S. hospitals and at auxiliary and convalescent hospitals.

These recommendations were accepted and subsequently carried into effect. A consultant in physical medicine to the Army was appointed in September 1940, and specialists in physical medicine were posted to commands shortly afterwards. As they became available, instructors from the Army Physical Training Corps were given a special course of training in elementary physiology, applied anatomy and remedial exercises and thereafter attached to hospitals, convalescent depots, convalescent hospitals, and to take charge of physical training, organised games and the other out-door activities of convalescent patients. Members of the Chartered Society of Massage and Medicinal Gymnastics, afterwards the Chartered Society of Physiotherapy, were added to the staff of hospitals, etc., as required; occupational therapists were also obtained and to make good an inadequate supply of these specialists from civilian sources, arrangements were made to train personnel of the R.A.M.C. for this work. Equipment and apparatus were procured as supplies became available, and improvisation was employed to the fullest possible extent. Nevertheless, all these things were matters of

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time dependent upon such factors as availability of staff, accommodation and supplies during a period when all were subject to the simultaneous demands of a variety of no less compelling interests. Moreover, for reasons described elsewhere, there was considerable delay in establishing military convalescent depots on the scale required and officially authorised, thus it was not until well into 1942, that is to say, more than eighteen months after its inception, that the project was brought into full operation.

The system of rehabilitation as eventually elaborated was designed to ensure that each case received remedial treatment as early as possible in the course of his recovery and continued it without interruption until the end of his convalescence, for unnecessary delay in initiating treatment and lapses in the continuity of treatment once begun tended to lengthen the period of convalescence and to prejudice final results. The process was divisible into three stages suited to the needs and capacity of the patient in his three steps towards recovery, first in hospital, then in the auxiliary or convalescent hospital and finally in the convalescent depot. In the first of these, at military or E.M.S. hospitals, no elaborate methods were necessary. It was desirable that there should be some occupational therapy of a diversional kind carried out with the cooperation of the medical officer, nursing sister, education staff and voluntary handicraft workers. The making of baskets, rugs, camouflage netting and similar manual employment was found most beneficial in this respect. Physiotherapy carried out by qualified masseuses was all-important and necessary not only as a remedial measure i.e. for an affected limb, but as an aid to the maintenance of general physical fitness.

In the second stage, at auxiliary hospitals and especially at those selected to serve as long-term rehabilitation centres for the reception of cases requiring prolonged convalescence with constant medical supervision, occupational therapy of the kind mentioned above, demanding as it did little mental or physical effort, was required only by patients confined to bed or by those for whom it had a specific remedial value, e.g. those suffering from injuries to the hand or fingers. Ambulant patients required occupation of a more active and useful kind graduated according to their disabilities. It was considered important that a daily programme of fatigues, games and lectures should be prepared in consultation with the surgeon or appropriate specialist and followed by all convalescents who were encouraged to undertake light duties inside and outside the hospital, including gardening, the sawing and chopping of wood and other work useful to the community. Organised games, marches and physical training under the supervision of a A.P.T.C. instructor were included as essential features in the treatment of convalescents. Physiotherapy was continued as and when necessary; qualified staff and the necessary apparatus, much of it

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of a simple type, e.g. weights, pulleys, etc., were available for the purpose. In all these auxiliary hospitals and particularly in the rehabilitation centres it was sought to avoid as far as possible the hospital atmosphere, but rather to produce conditions more conducive to discipline and more in conformity with military life.

The third and final stage in rehabilitation was at the military convalescent depot. Here, it was neither desired nor intended to make provision for active medical or surgical treatment. Patients still in need of such treatment were cases for the convalescent hospital rather than the convalescent depot and were not admissible to the latter. Nevertheless, the physical capacity of patients admitted to, and fit for, the convalescent depot varied within wide limits and was dependent upon the nature of the disease or disability for which they had been treated, the length of stay in hospital and the personal, mental and physical constitution. The first duty, therefore, of the medical staff of a convalescent depot was to classify incoming patients and to place them in appropriate grades according to their physical capacity, irrespective of their original medical categories. Four such grades were found both convenient and sufficient.

In the first grade were placed all cases still requiring individual remedial treatment, massage and physiotherapy. Classes were formed for physical training given by A.P.T.C. instructors who had undergone the special course of instruction already mentioned. The exercises employed were designed for the class instruction of men suffering from similar disabilities but arranged on a regional basis suitable to the various types of disability, e.g. defective joints, post-operative hernia, plaster cases, respiratory diseases, etc. It was impressed upon instructors that the rate of progress varied greatly and was dependent upon many factors including the age of the patient, the duration of the disability, the kind of operation performed and the patient's mental outlook. Each case was watched individually and medical officers were informed of any failure to progress or of the development of symptoms such as exhaustion, pain, swelling or increasing stiffness in a joint.

In the second and third grades into which patients were placed after passing through the first, or immediately on admission if considered physically fit, the physical training was progressively stepped up but still had particular reference to the affected part of the body. Games which had previously been a simple gymnastic kind were now made more robust. Route marches of increasing distance, and cross-country runs were introduced. In addition to physical training, the programme included educational periods, while intercompany sports and competitions, swimming, gardening and other outdoor activities were pursued as circumstances permitted.

In the final grade patients underwent the same training as that applicable to all men of medical category A1 when rejoining their units.

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This training included long route marches, obstacle courses, unarmed combat, boxing and wrestling, and in addition to its remedial and hardening value, served as a necessary test of physical efficiency, for it was desirable that should any weakness develop or breakdown occur, it was better for either to be detected while the man was still at the convalescent depot, rather than after his return to his unit. A patient was placed in the final grade only if he were considered likely to attain a high medical category.

During the whole process of rehabilitation, it was necessary to pay regard to each man's personality no less than his disability. Restoration to health and physical efficiency being influenced to a marked degree by social, educational, psychological and environmental factors, all these had to be studied and provided for by the staffs of convalescent depots and by all concerned with the work of rehabilitation. It was essential that the patient should never be allowed to become bored with his doings or his surroundings and that his interest should be continuously maintained and his will towards self-improvement assured. Therefore while remedial treatment and physical training received the first consideration nevertheless the activities selected for each person were designed to be purposeful and the daily programme diversified as far as it was possible to do so.

INVALIDING

Peace-time procedure for the discharge of soldiers on medical grounds was governed by *King's Regulations*[1] as amplified by *Regulations for the Medical Services of the Army*.[2] With the exception of recruits of less than six months' service, no soldier was discharged as physically unfit for further military service save on the recommendation of a medical board, consisting normally of a president and two other members subject to the approval of the D.D.M.S. of the command. In the ordinary course of events, proceedings for the invaliding of a soldier 'ceasing to fulfil army physical requirements' were initiated from a military hospital by the commanding officer who submitted to the D.D.M.S. a formal report, including a statement of the case from the medical officer in charge, supported, when necessary, by the opinion of a specialist, by radiological or pathological findings, and by other relevant documents. Subject to his being in agreement, the D.D.M.S. then returned the documents to the hospital with an order for the assembling of a medical board to examine the soldier who, if not already an in-patient, was admitted to hospital for the purpose. If, on examination, he was found to be unfit for further service, the medical board recommended his discharge as being either: (*a*) 'physically unfit for army service under existing standards'; or (*b*) 'physically unfit for any form of army service'. The final decision now lay with the D.D.M.S.

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In the event of his disagreeing with the findings of the board he issued instructions for the man's further treatment or return to his unit as the circumstances demanded; if he concurred in the recommendation, the soldier's discharge was then officially 'authorised' and 'carried out', in the case of (*a*), above, by the officer commanding the man's unit, and in the case of (*b*), by the D.D.M.S. and by the officer commanding the military hospital, respectively. Discharge was carried out immediately on receipt of the papers containing the findings of the medical board, duly approved and became effective twenty-eight days later.

While the principles underlying the procedure of invaliding remained substantially unchanged, various administrative modifications became necessary to meet war conditions. In the first place, the special provisions relating to recruits with less than six months' service were suspended. Further, the discrimination between soldiers unfit under existing standards and those unfit for any form of service, that is to say, between, on the one hand, those unfit for service under normal conditions but capable of military service of some sort in time of national emergency, and, on the other hand, those permanently unfit for any kind of service at any time, ceased to have practical significance. For the duration of the war, therefore, this distinction was held in abeyance, and all invalids were discharged as 'permanently unfit for any form of military service'.[3] In all cases the competent officer to authorise discharge was primarily the D.D.M.S. of the command. For obvious reasons it was no longer practicable to admit to hospital every soldier requiring examination by a medical board with a view to his discharge, and the peace-time rule in this regard was therefore abrogated. Thus, in the case of men physically unfit for service but not in a condition to require hospital treatment, the initiation of proceedings for their invaliding lay, not with officers commanding hospitals, but rather with regimental medical officers.

Administrative convenience and efficiency precluded a continuance of the system by which invaliding procedure was subject to the direct control of the medical staff of the headquarters of commands; thus arose the necessity for some measure of decentralisation entailing the delegation of powers and duties in connexion with the assembling of medical boards, with the confirmation of their findings, and with the authorisation and carrying out of the discharge of soldiers found unfit for further service. The first step in this direction was made possible by the war-time subdivision of commands and the consequent increase in the number of administrative areas each with a headquarters staff including an A.D.M.S. D.Ds.M.S. were thus able to delegate to these officers authority to assemble medical boards and to confirm their recommendations. In the early days of the war, however, the machinery for invaliding was subject to extreme pressure because, over and above normal wastage, many reservists recalled for duty and large numbers of men

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who had joined the Territorial Army shortly before the war proved to be unfit for active service. All military hospitals, and indeed most medical units, were empowered to hold medical boards as required, and, in addition, standing medical boards were appointed in all commands, one of their functions being to deal with military patients treated in civil hospitals, including those of the Emergency Medical Services where no military medical officers were available for the assembling of a medical board. In order to expedite the work involved in disposing of the large numbers awaiting examination, and at the same time to economise in the staff thus engaged but urgently required for other duties, it was decreed that a medical board might properly be constituted by only two medical officers, including the president, when the services of a third were not conveniently available.

As all recommendations for invaliding involved reference to the A.D.M.S. of the appropriate area, these officers were inundated with work entailed by the scrutiny and signing of documents on two occasions in respect of each case, first, to approve of the man's being brought before a medical board, and, secondly, to confirm the board's findings. Being by the nature of things little more than automatic in operation, this convention served no useful purpose from the aspect of supervisory control; at the same time the transmission of documents backwards and forwards occasioned much unnecessary clerical labour and no little delay in effecting the discharge of invalids. Nevertheless, the anachronism persisted until January 1941, when, in order to speed the process of invaliding, instructions were issued[(4)] for the further delegation of powers in this connexion to the extent of rescinding the rule for the submission of recommendations of medical boards to the deputy director or assistant director of medical services for authorisation of a soldier's discharge, a duty which now devolved upon the officer commanding a military hospital, a field ambulance or a convalescent depot, the military registrar of an E.M.S. hospital; or the president of a standing medical board. Some months later still further simplification was achieved when the necessity of obtaining the approval of the D.D.M.S., or A.D.M.S. before proceeding to invalid patients in hospital or in a convalescent depot was eliminated by giving sanction[(5)] for the holding of medical boards and the authorisation of discharge in these cases at the discretion of the following:

(*a*) presidents of standing medical boards;
(*b*) officers commanding military hospitals;
(*c*) officers commanding convalescent depots; and
(*d*) officers commanding medical examination centres.

Meticulous as they were in regard to the rules of procedure for medical boards, *Regulations for the Medical Services in the Army* contained

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no specific direction as to the point at which an officer commanding a hospital, or an officer in medical charge of a unit, should initiate the invaliding of a soldier who had reached a state of permanent unfitness for military service. Nor was there any prescribed limit to the time during which a man might remain under treatment, either as an in-patient or as an out-patient, irrespective of any likelihood of his ultimate recovery. Strange as this omission may appear, it is no less remarkable that the war had been in progress for more than a year before attention was focused upon the deficiency and the need for its remedy. Even then the matter was raised from the financial rather than the medical aspect. Whatever may have been the implications of the former, there was no doubt that many beds in military hospitals, and still more in military wings of E.M.S. hospitals, were occupied more or less indefinitely by patients whose physical condition manifestly precluded their ever again becoming efficient soldiers. There were also many others who, continually in and out of hospital or attending as out-patients over prolonged periods, were for all practical purposes non-effective and thus constituted a military liability rather than an asset. The necessity for some measure of control having been accepted, discussion centred upon the limits that might reasonably be set upon the time allowed for the completion of treatment and rehabilitation. The upshot of the matter was that *Regulations for the Medical Services of the Army* were amplified in such a way as to provide detailed instructions covering the points at issue.[6] First, it was prescribed that as soon as, in the opinion of the M.O. in charge, it appeared doubtful if a soldier were likely to become fit for further service, arrangements would be made to refer the case to a medical board for a decision. Secondly, it was provided that a soldier suffering from a disease or injury requiring prolonged treatment would be brought before a medical board not later than immediately before the end of a period of five months' continuous absence from duty, and, if found unlikely to become fit for further military service, would be discharged from the Army on medical grounds at the expiry of six months' continuous absence from duty. If, however, in the opinion of that medical board, the soldier were likely to become fit within a total period of nine months' absence from duty, he would be boarded again three months later, and, if then considered unlikely to become fit by the end of the following month, he would be discharged at the expiry of nine months' continuous absence from duty. In this connexion it was subsequently found necessary to emphasise that the determining factor in thus bringing a patient before a medical board was not the length of time spent in any one hospital, but the period of continuous absence from duty on account of the particular disability.[7] As regards soldiers invalided home from overseas, all were in any case re-examined after arrival in the United Kingdom to determine their fitness for further

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service;[8] in respect of those who had already completed nine months' continuous absence from duty, the prescribed time limit was eventually extended by three months, provided the medical board which examined them considered that there was a reasonable prospect of their becoming fit for duty within that time.[9]

For their success, these measures were dependent upon close association in the work of medical officers, hospital registrars, and presidents of standing medical boards, and so the results obtained varied in accordance with the degree to which these conditions were fulfilled. In military hospitals, where integration of administrative and clinical activities was a basic feature of the organisation, it was a relatively simple matter to achieve the regular observance of the formula laid down. On the other hand in E.M.S. hospitals, and more especially in those with a non-medical military registrar, the greatest difficulty was experienced in establishing the co-operation necessary to ensure the prompt and systematic disposal of long-term cases, chiefly because those responsible for their treatment, as patients, had little knowledge of, or interest in, the purely military considerations attaching to them as soldiers. Despite all regulations to the contrary and much effort to bring about their execution it was by no means an uncommon occurrence to discover patients retained in E.M.S. hospitals over prolonged periods of a year or more. As a means of facilitating control of these cases, all military hospitals and all military wings of E.M.S. hospitals were required to render, to the D.D.M.S. of the command, a monthly statement giving full particulars of all soldiers remaining as in-patients longer than three months. These cases were then referred to the appropriate president of a standing medical board for examination as required.

The procedure described above was not applicable to cases of tuberculosis or mental disease, all of which were discharged from the Army as soon as the diagnosis was established.[10] Amputation cases also were governed by special provisions.[11] A soldier who had lost a limb was subject to invaliding unless retained under express sanction of the War Office, sanction which was conditional upon there being suitable employment for him and upon his own desire to remain in the Army. But in any event, he was not brought forward for invaliding until the stump was healed and ready for the fitting of an artificial limb, nor was his discharge carried out until the limb had been provided. After examination by the invaliding medical board, the soldier was sent on indefinite leave; meanwhile the documents in the case, including the proceedings of the medical board, were sent to the Ministry of Pensions by whom arrangements were made for the supply and fitting of the required limb. It was not until the receipt of a certificate from the Ministry of Pensions stating that the limb had actually been satisfactorily fitted that steps were taken to carry out and confirm the soldier's discharge.

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The introduction of regulations requiring the invaliding of a soldier after six or nine months continuous absences from duty involved his discharge at the appointed time even though he were still in hospital or attending as an out-patient. Special provision was therefore necessary to ensure continuation of such treatment as he might require after discharge. Hence the issue of instructions[12] whereby a patient in a military hospital at the time of invaliding, and in need of further in-patient treatment for a condition presumably attributable to, or aggravated by, war service, was transferred to a hospital of the Ministry of Pensions before the date on which he was due to be discharged. A patient similarly situated but suffering from a non-surgical condition, or from a surgical condition not regarded as attributable to, or aggravated by, war service, was transferred to an E.M.S. hospital, and to one near his home whenever possible. A soldier already in a hospital of the Ministry of Pensions or the E.M.S. and requiring continued in-patient treatment was normally retained in that hospital. On the other hand, a soldier who at the time of discharge did not require further treatment as an in-patient returned to his home in the usual way when any out-patient treatment or supervision necessary was arranged by a representative of the Ministry of Pensions. In order to facilitate these arrangements, every case of invaliding was notified to the Ministry by means of a report containing an abstract of the findings of the medical board concerned in the case.

There were other respects in which invaliding procedure was influenced by considerations in regard to the grant of disability pensions. For example, experience showed that the information derived from the proceedings of medical boards was often insufficient for the purposes of the Ministry of Pensions in deciding entitlement where it was claimed that disablement was due to exposure or to infectious disease. Consequently it was frequently found necessary to make further inquiries entailing delay in settling the claim and sometimes hardship to the claimant. In an endeavour to overcome the difficulty and to ensure that the Ministry was placed in possession of all the facts, in so far as they were ascertainable, steps were taken to supplement the medical board's findings by such evidence of causative conditions as could be elicited by direct investigations in each case.[13] With this object, every soldier, who, when about to be brought before a medical board for invaliding, claimed that his disability was attributable to, or aggravated by, exposure or other adverse conditions of his service, was required to make a statement including full details of the date, place, and nature of the circumstances he considered responsible. Whenever practicable to do so, the case was then referred to the unit with which the man was serving at the material time, and the commanding officer was asked to verify the accuracy of the statement and to add any details likely to be

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helpful in arriving at a decision. When the disability was due to infectious disease, inquiry was addressed to the commanding officer of the appropriate unit with the object of obtaining information as to possible sources of infection, the existence of an epidemic in the unit or locality, the man's absence on leave or otherwise, and any other factor of assistance in determining whether or not the disability was to be held attributable to military service. The statements obtained in these cases were included with the soldiers' documents for transmission to the Ministry of Pensions.

Throughout the course of the war, the frequency of the discharges from the Army of those who were deemed medically unfit for further military service was a matter of grave anxiety. From time to time attempts were made to test the propriety of this heavy wastage, and to devise some means of checking further loss in man-power. In June 1941, it was suggested that, as far as practicable, all men recommended for discharge on medical grounds should be concentrated in one or more centres for examination before final disposal. Presumably a more uniform and regularised system must permit of stricter control; at the same time conditions would be such as to facilitate closer medical observation and therefore more accurate assessment of physical capacity in doubtful cases.

It was eventually decided(14) to give the proposal a trial and to set aside certain convalescent depots to be called convalescent observation depots, for the reception of soldiers of two classes: first, those who, while still serving with their units and not requiring admission to hospital, were nevertheless recommended by a medical officer for examination by a medical board with a view to invaliding; and, secondly, those who were reported by a specialist in psychological medicine to be dull and backward and emotionally unstable to the extent of being unsuitable for transfer to the Pioneer Corps. Personnel sent to these convalescent observation depots were to be retained for a period of not more than fourteen days during which they would be treated on lines normally followed in convalescent depots but would be subject to observation specially directed towards determining their fitness for further service. On completion of the period of observation, men considered permanently unfit for military service were to be brought before a medical board and their discharge from the Army carried out at the depot; those regarded as fit for further service were to be returned to their units with such alteration in medical category or such recommendations in regard to future employment as the medical board saw fit to make. With the object of ensuring consistency in disposal from the medical aspect, a president of a standing medical board serving in the appropriate command was to preside at all medical boards held in the depot. These instructions came into effect in July 1941.(15)

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The scheme as outlined above was modified later in the year.[16] In place of the convalescent observation depots previously authorised, of which in point of fact only one had materialised, five medical examination centres, with accommodation for 3,500 men in all, were established as independent units in connexion with certain convalescent depots. Whereas, formerly, the system of observation in special centres as a preliminary to invaliding had been confined to personnel recommended for discharge while still serving with their units, its scope was now extended to include those similarly recommended while in hospital, provided they were not in need of active medical treatment, did not require special diet, and were not unable to travel by ordinary means; on the other hand, cases of neurosis or psychoneurosis and soldiers described as dull and backward were specifically excluded. With the concurrence of the senior administrative medical officer of the corps, division, or area concerned, cases were admitted to these M.E.Cs. by arrangements made direct between the officer commanding the centre and the medical officer in charge of the case. On his arrival there the soldier was immediately examined by a standing medical board who thereupon decided whether the case was one that could be disposed of at once, or one requiring further investigation. If the latter, the soldier was kept under observation by the staff of the medical examination centre in order to ascertain his capacity for further service. At the end of the period of observation, which in no case exceeded seven days, he was once more brought before the medical board when his disposal was again considered having regard to the further information obtained. In accordance with the findings of the board he was then returned to his unit with a recommendation as to his future employment or, alternatively he was discharged as unfit for any form of military service.

In April 1942, it was thought desirable to review the position and to assess the value of the system in the light of nine months' experience of its working and the results that had been obtained during its operation. As already stated, the chief reason for the establishment of the medical examination centre was to ensure that no soldier was discharged on medical grounds if actually able to perform military duty of any kind. On analysis of statistical returns now available, it was evident that no great saving in man-power had in fact accrued from the institution of the examination centres. Indeed, in computing the results of medical boards, it was found that the number of men recommended for discharge, per cent. of those examined, was approximately the same under the new system as under the old. True, there had been some saving in personnel of medical category C, if little in other categories, but in any case this was of little moment in view of the recent ruling that no soldier recommended by his medical officer for discharge was to be

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retained unless the medical board could classify him higher than category C. Having regard to all the circumstances, therefore, it might be said that the considerations which had brought about the inception of the M.E.C. had ceased to operate. Moreover, there being but one centre in each command, the system entailed much long-distance travelling on the part of personnel referred to them, an undesirable feature from the point of view of the interests of the patients themselves, many of whom were in poor health, and also from the aspect of transport restrictions generally. All things considered, nothing was to be gained by the retention of the M.E.Cs. which were therefore disbanded in August 1942. Their abolition signified a return to previous methods.[17]

The disposal of soldiers found to be feeble-minded or mentally deficient was effected by methods that differed in many respects from those applicable to the physically unfit although the two questions were closely related and had much in common with each other. In peacetime, great care was taken during the medical examination of potential recruits to investigate their mental capacity and to reject any who appeared unsatisfactory in this regard. Recruits who, despite these precautions were afterwards discovered to be feeble-minded, or, as in some cases, to have been subject, before enlistment, to an order under the Mental Deficiency Acts were at once discharged from the Army under the authority of the War Office.[18] They were not dealt with under the usual procedure for the discharge of recruits with less than six months' service as 'unsuitable for military service on medical grounds', nor were they liable to invaliding by a medical board and subsequent discharge as 'unfit for any form of army service' as were all soldiers suffering from mental disease irrespective of their length of service.

This was the system in force at the declaration of war, and no immediate change was contemplated. Nevertheless, in the course of a few months, it became apparent that successive army intakes included an appreciable number of mentally deficient recruits who had escaped detection by the examining civilian medical boards. As these men were manifestly incapable of becoming efficient soldiers, steps were taken by the medical authorities concerned to procure their discharge without delay. But it appeared that, with this end in view, many of them had, incorrectly, been brought before medical boards for invaliding as physically unfit for any form of army service. Moreover, some, in the process, had been made subject to the special provisions referring to the disposal of soldiers of unsound mind, and in consequence, had been accompanied to their homes by an escort, while their relatives had been required to sign the officially prescribed certificate accepting full responsibility for the care of the patient. Something of a sociological problem had thus arisen in regard to these men, for, mentally deficient

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though they might be, they were none the less capable of leading a more or less normal existence in civil life but were inevitably branded in the eyes of their neighbours and potential employers on account of the reason for their leaving the Army and the circumstances in which they left it. Indeed, in some cases, relatives, alarmed by the phraseology used in the official documents, regarded them as lunatics, and therefore perhaps even dangerous, and refused to receive them.

As soon as this state of affairs was appreciated, prompt action was taken to put an end to it by a directive which prohibited the invaliding of mentally deficient soldiers and required that every case should be referred to the War Office for guidance as to disposal. A few weeks later this order was amplified by more detailed instructions. In the first place, the application of provisions relating to mental deficiency was restricted to cases of congenital mental defect in one of several degrees, to be indicated in the diagnosis, as follows: (*a*) idiocy; (*b*) imbecility; (*c*) feeble-mindedness; and (*d*) dullness and backwardness. As regards procedure, a soldier in any one of these categories would be dealt with only by the War Office to whom all recommendations for discharge on the grounds of mental deficiency would be submitted with a statement from the medical officer in charge and a report on the man's military efficiency from his commanding officer. In each case arrangements were to be made for examination by a specialist in psychological medicine who was required to give an indication of possibilities for future employment in military service of one kind or another. Attention was called to the necessity of investigating and dealing with any concurrent physical condition before recommending discharge on account of mental incapacity, and also to the clear distinction which must be observed between, on the one hand, congenital mental deficiency the subject of this special procedure, and, on the other hand, pathological conditions included within the psychotic or psychoneurotic groups of diseases already covered by existing regulations.

Soldiers suffering from congenital mental defect and dealt with in the manner described were discharged, not on medical grounds, but under the designation of 'his services being no longer required'. Thus no stigma of mental abnormality was attaching to the official cause of discharge, and the invidious position in which men of this type had formerly been placed was now obviated.

A few months' experience of the new system sufficed to show that it entailed the handling of a large volume of additional work by the War Office, particularly in the Army Medical Directorate, as witness the fact that the number of mental defectives discharged each month in home commands at that time averaged 0·18 per 1000 total strength. Some measure of decentralisation was clearly desirable. Moreover, as the work was of a purely routine nature and, for the most part, within the

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competence of the authorities at headquarters of commands nothing was to be lost in the way of efficiency by the delegation to them of certain functions. General officers commanding-in-chief in home commands were accordingly empowered to authorise discharges in respect of almost all classes of mentally deficient soldiers. Consequently reports and documents in these cases, previously forwarded to the War Office were now submitted to the D.D.M.S. of the appropriate command for consideration and action at his discretion. There was, however, one exception to this general rule. Soldiers who, before enlistment, had been subject to an order under the Mental Deficiency Acts were excluded from the jurisdiction of command H.Q. and were dealt with direct by the War Office in the same way as in the past.

At a later stage, dull and backward personnel came within the scope of the convalescent observation depots which, as already described, were instituted in July 1941, for the reception and observation of men recommended for discharge as permanently unfit for military service. The experiment was not a success, the general opinion being that the procedure followed there was not altogether suited to those whose shortcomings were due to mental incapacity rather than physical disability, and so, when, some months later, the convalescent observation depot gave place to the medical examination centre and the whole system was completely revised, dull and backward cases were specifically omitted from its application. Instead, they were included in a new and comprehensive scheme dealing meticulously with the disposal of all classes of soldiers regarded as temperamentally or mentally unsuited to the employment in which they were engaged.(19) Under the new arrangements, a soldier who should not have been accepted or called up for service, on account of his being subject to an order or supervision under the Mental Deficiency Acts, was discharged from the Army on the authority of the War Office as hitherto. Any other man who, in the opinion of his commanding officer, appeared to be of the dull and backward category or unlikely, for psychiatric reasons, to become efficient in his duties was referred for examination by a psychiatrist. If regarded by the latter as capable of employment in some other direction he was transferred to other duties within his capacity, but, if his mental condition was found to be such as to render him incapable of any useful service, even of a routine manual kind, he was recommended for examination by a medical board assembled by authority of the D.D.M.S. of the command or, as later prescribed, of the A.D.M.S. of the district or formation concerned. Subject to the concurrence of the medical board he was then discharged as permanently unfit for any form of military service, i.e. on medical grounds. Thus the discharge of certain classes of mentally deficient personnel was eventually brought within the compass of the normal invaliding procedure.

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DISCHARGES FROM THE ARMY ON MEDICAL GROUNDS*

In 1943–5 psychiatric disorders accounted for between one-third and two-fifths of all discharges on account of disease among male other ranks. Of these disorders, anxiety neurosis constituted 50 per cent.

Psychiatric disorders, peptic ulcer, tuberculosis and bronchitis together made up about 60 per cent. of all these discharges.

In the Auxiliary Territorial Service, psychiatric disorders and tuberculosis accounted for about 60 per cent. of all discharges on account of disease during these years.

Disease, as opposed to injuries, accounted for more than 85 per cent. of all discharges on medical grounds among male other ranks in 1943 and for more than 80 per cent. in 1944.

In 1944, discharges for the Auxiliary Territorial Service on account of pregnancy accounted for about 80 per cent. of all discharges from this Service on medical grounds and for about 95 per cent. of all discharges of married auxiliaries on medical grounds.

In the age-group under 28 and among males, psychiatric disorders accounted for nearly half of all discharges. Together with peptic ulcer, tuberculosis, bronchitis, otitis media and asthma, they accounted for nearly 75 per cent. of all discharges within this age-group.

In the 40–45 age-group, psychiatric disorders accounted for one-third and peptic ulcer together with bronchitis for one-quarter.

Among the over 45s, bronchitis alone accounted for about one-fifth of all discharges.

Thus, if in an army the younger age-groups predominate, the major causes of wastage (on medical grounds) will be psychiatric disorders and tuberculosis. If the middle age-groups predominate, the major causes will be psychiatric disorders and peptic ulcer. If the oldest age-groups predominate, they will be bronchitis and psychiatric disorders. As a protracted war continues and as the mean age of the army rises progressively the major causes of wastage will change.

The major causes of wastage, by discharge on medical grounds, among British Army ex-prisoners-of-war from Europe were similar to those among such as had not endured capture and incarceration. But tuberculosis contributed over 14 per cent. to ex-prisoners-of-war discharges as compared with 6 per cent. among non-prisoners-of-war. Tuberculosis was more common and psychiatric disorders less common among those prisoners-of-war who were repatriated than among those who were liberated at the end of the war.

Among the ex-prisoners-of-war from the Far East, the main causes of discharge were malaria, beriberi and other deficiency diseases, psychiatric disorders and optic neuritis and other eye conditions. A high

* For the actual statistical data, see the Statistical Volume in this series.

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proportion of those so discharged were suffering from two or more of these diseases.

The psychiatric disorders, when broken down, showed the following distribution:

	Non-P.o.W.	P.o.W. ex Europe	P.o.W. ex Far East
Manic-depressive psychosis	3·9	1·7	3·1
Schizophrenia	6·3	5·6	6·3
Anxiety Neurosis	45·5	76·2	62·3
Hysteria	19·3	10·2	6·8
Psychopathic personality	16·3	2·8	1·0
Mental deficiency	6·5	0·5	0·5
Other psychiatric disorders	2·2	3·0	19·5
	100·0	100·0	100·0

It is of interest to note that whereas the ratio of anxiety neurosis to hysteria among the non-prisoners-of-war was about 2 : 1, among the ex-prisoners-of-war ex Europe it was about 7 : 1 and among those from the Far East it was more than 9 : 1.

MORBIDITY AND MAN-DAY WASTAGE IN RESPECT OF HOSPITALISED DISEASES AND ACCIDENTS

The data presented in the *Statistical Report on the Health of the Army*, 1943–5 show that:

1. On the average each soldier in the United Kingdom in the course of a year spent eleven days, or 3 per cent. of his total time, in a hospital or convalescent depot, eight days on account of sickness and two and a quarter as a result of accidental injury.

On the average, each auxiliary of the Auxiliary Territorial Service spent five and a half days away from duty for the same reasons, five days on account of sickness and half a day because of accidental injury.

For every day spent in these ways by the auxiliary the male spent one and three-quarter days.

2. Of all the hospitalised sick in the United Kingdom in 1943, approximately

one half were treated exclusively in military hospitals
one quarter ,, ,, ,, Emergency Medical Service hospitals
one quarter ,, ,, ,, a combination of these and in a convalescent depot

In military establishments there tended to be congregated:

Common colds and coryza
Venereal diseases
Skin diseases (some two-thirds of all such)
Eye diseases (some two-thirds of all such)

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The conditions which most commonly involved transfers between military and E.M.S. hospitals and between hospital and convalescent depot were:

Internal derangement of the knee
Infective hepatitis
Appendicitis
Pneumonia
Hernia

3. The most frequent causes of hospitalisation in 1943 on account of sickness were:

Among male other ranks		*Among A.T.S. other ranks*	
Psychiatric disorders	6 per cent.	Tonsillitis	8½ per cent.
Gonorrhoea	5 ,, ,,	Appendicitis	6 ,, ,,
Tonsillitis	5 ,, ,,	Psychiatric disorders	4 ,, ,,
Hernia	4 ,, ,,		

4. Among male other ranks, accidental injuries accounted for no less than one-seventh of all hospitalised cases.

5. The major sources of wastage (man-days in hospital and convalescent depot on account of sickness) were:

Among male other ranks		*Among A.T.S. other ranks*	
Hernia	10 per cent.	Appendicitis	9 per cent.
Psychiatric disorders	8½ ,, ,,	Tonsillitis	6 ,, ,,
Internal derangement of the knee	4 ,, ,,	Psychiatric disorders	6 ,, ,,
Appendicitis	4 ,, ,,		

The male wastage rates for hernia (25 days to the female's 1), peptic ulcer (4 to 1), impetigo (5 to 1) and gonorrhoea (2 to 1) exceeded the female rates. The female rates for appendicitis, scarlet fever and tonsillitis exceeded the male rates by about 12 per cent.

6. The peaks of prevalence of certain diseases were as follows:

Anxiety neurosis had its peak in	summer
Asthma	autumn
Bacillary dysentery	summer and autumn
Measles and mumps	late winter and spring
Otitis media	mid-winter
Rheumatic fever	spring (but earlier than that of scarlet fever)
Rubella	late winter and spring
Scarlet fever	spring
Typhoid	summer and autumn

LOW-GRADE MORBIDITY

Reception stations, as contrasted with hospitals and convalescent depots, catered for a different and milder constellation of diseases and

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for the less severe forms of accidental injury. The data presented in the *Statistical Report on the Health of the Army*, 1943–5, show that:

1. The bulk of the cases accommodated and treated in these reception stations were instances of:

Skin diseases
Scabies
Tonsillitis and related conditions
Gastro-intestinal disturbances
Common colds

These in 1942 accounted for two-thirds of all the cases treated both among male other ranks and A.T.S. other ranks.

2. Accidental injuries constituted 10 per cent. of all admissions among males and 5 per cent. among females.

3. The absolute admission rate of A.T.S. other ranks was two and a half times that of male other ranks. The threshold of admission into a reception station was certainly not the same for male and female.

4. Wastage in reception stations averaged one day for each male other rank a year, and for each auxiliary two and a quarter days. The wastage in hospital, convalescent depot and reception station, therefore, was twelve days a year for the male and eight days a year for the female.

WASTAGE FROM INJURIES RECEIVED DURING TRAINING

As training became progressively more realistic and strenuous, it was noticed that a proportion of those exposed to it made their way to a convalescent depot rather than to a battle-front. In order to determine exactly what this proportion was, the Directorate of Medical Research,

TABLE 19.

Causes of Injury

Cause	Total No. injured	Percentage of total
Assault Course	95	31·4
Physical Training	54	17·9
Schemes	34	11·3
Trade injuries	24	8·0
Skiing	24	8·0
Organised Games	20	6·6
	(Association foot-	ball 18)
Parachute	17	5·6
Street fighting	12	4·0
Motor cycle	7	2·3
March fracture	6	2·0
Arms drill	5	1·6
Wounds (secured during training)	4	1·3
	302	100·0

TABLE 20.

Nature of Injuries

	Assault Course	P.T.	Schemes	Trade Injuries	Ski	Organised Games
Knee I.D.K.	17	10	5	2	1	14
Knee sprain or synovitis	11	9	5	3	8	—
Malleolar fractures and dislocations	17	7	7	6	8	—
Forearm fractures	6	6	2	3	—	1
Fracture of metatarsals	5	4	1	3	—	—
Fractured tibia and tibia and fibula	12	2	—	—	2	1
Sprained ankle	3	3	2	—	2	1
Fracture of tarsal bones	4	—	3	2	—	1
Soft tissue injuries	1	1	3	—	—	—
Fractured vertebrae	7	—	—	1	—	—
Sprained and dislocated shoulder	2	2	—	—	1	—
Carpal scaphoid fracture	2	2	1	—	—	1
Fractured patella	2	1	3	—	—	—
Fractured clavicle	2	—	—	1	—	1
Fractures of humerus	2	—	—	—	—	—
Fractures of metacarpals	—	1	—	1	2	—
Sprained and dislocated elbow	—	2	—	—	—	—
Fractured toes	—	2	—	—	—	—
Fracture of femur	1	—	1	—	—	—
Sprain of back	—	1	—	—	—	—
Fracture of fingers	—	—	—	2	—	—
Fracture of ribs	1	—	—	—	—	—
Fracture of pelvis	—	—	1	—	—	—
Dislocated patella	—	1	—	—	—	—
Prolapsed intervertebral disc	—	—	—	—	—	—
Loss of eye	—	—	—	—	—	—
Hernia	—	—	—	—	—	—
Totals	95	54	34	24	24	20

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Table 20—continued.

	Parachute	Street-Fighting	Motor-cycle	March Fracture	Arms Drill	Wounds	Total per cent. of all injuries	
Knee I.D.K.	3	2	1	—	2	—	101 { 57	18.8 } 33.4
Knee sprain or synovitis	4	2	1	—	1	—	44	14.6
Malleolar fractures and dislocations	3	2	2	—	1	—	53	17·5
Forearm fractures	—	1	—	—	1	—	20	6·6
Fracture of metatarsals	—	—	—	6	—	—	19	6·3
Fractured tibia and tibia and fibula	—	1	—	—	—	—	18	6·0
Sprained ankle	—	1	—	—	—	—	12	4·0
Fracture of tarsal bones	—	1	—	—	—	—	11	3·6
Soft tissue injuries	—	—	—	—	—	4	9	3·0
Fractured vertebrae	—	—	—	—	—	—	8	2·6
Sprained and dislocated shoulder	1	—	1	—	—	—	7	2·3
Carpal scaphoid fracture	1	—	—	—	—	—	7	2·3
Fractured patella	—	—	—	—	—	—	6	2·0
Fractured clavicle	—	—	1	—	—	—	5	1·7
Fractures of humerus	2	—	—	—	—	—	4	1·3
Fracture of metacarpals	—	—	—	—	—	—	4	1·3
Sprained and dislocated elbow	1	—	—	—	—	—	3	0·9
Fractured toes	1	—	—	—	—	—	3	0·9
Fracture of femur	—	—	—	—	—	—	2	0·7
Sprain of back	1	—	—	—	—	—	2	0·7
Fracture of fingers	—	—	—	—	—	—	2	0·7
Fracture of ribs	—	—	—	—	—	—	1	0·3
Fracture of pelvis	—	—	—	—	—	—	1	0·3
Dislocated patella	—	—	—	—	—	—	1	0·3
Prolapsed intervertebral disc	—	—	1	—	—	—	1	0·3
Loss of eye	—	1	—	—	—	—	1	0·3
Hernia	1	—	—	—	—	—	1	0·3
Totals	17	12	7	6	5	4	302	100·0

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on behalf of the Consultant in Physical Medicine, undertook an investigation into the incidence, nature, cause and prognosis of injuries received during military training. The command specialists in physical medicine surveyed the populations of the military convalescent depots and sent in their reports. During April and May 1944, there were, in these convalescent depots, 302 men suffering from such injuries.

TABLE 21.

Percentage Distribution of Site of Injuries in the Six Chief Categories of Injuries

Site of injury	Assault course	P.T.	Schemes	Trade injuries	Ski	Organised games	Percentage of total in this category
Knee	29·5	35·2	29·4	20·8	37·5	70·0	84·2
Ankle & foot	30·5	29·6	38·2	45·8	41·7	10·0	82·7
Leg & Thigh	15·8	7·4	11·8	0	8·3	5·0	96·3
Upper Limb	14·7	24·1	8·8	29·2	12·5	15·0	82·7
Other Parts	9·5	3·7	11·8	4·2	0	0	66·6
	100·0	100·0	100·0	100·0	100·0	100·0	

The knee, with 33·4 per cent. of all injuries would appear to be the most vulnerable part of the human frame. The case of hernia was alleged to have occurred as a result of a parachute jump.

TABLE 22.

Distribution by Arms

Arm of Service	Number of Injuries
Infantry	100
Gunners	44
Sappers	30
Ski Troops	24
Paratroops	21
General Service Corps	18
Drivers and Fitters	18
Signalmen	10
Armoured Corps	9
Medical Corps	5
Police	5
Pioneers	5
Cooks	4
Intelligence Corps	4
O.C.T.U.	4
Physical Training Corps	1
	302

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When these figures were weighted to give incidence rates, proportionate to the strength of each arm of the service, it was found, as would be expected, that paratroops, ski troops, personnel of the Intelligence Corps and of the O.C.T.U. had an exceptionally high incidence of injuries. Similarly, when these figures were properly related to the age composition of the Army, it was found that the youngest age-group (17–19) had the highest incidence of injuries.

TABLE 23.

Medical Category and Disposal

Cause	Total No. of injuries	No change in category	Category lowered
Assault course	95	50	45 (47%)
Physical Training	54	32	22 (41%)
Schemes	34	26	8 (23%)
Trade injuries	24	16	8 (33%)
Ski	24	24	0
Organised games	20	12	8 (40%)
Parachute	17	10	7 (41%)
Street fighting	12	7	5 (42%)
Motor cycle	7	5	2 (29%)
March fracture	6	4	2 (33%)
Arms drill	5	3	2 (40%)
Wounds	4	2	2 (50%)

TABLE 24.

Arm of Service in relation to Assault Course Injuries

Arm	Number Injured	Relative incidence
Infantry	37	6·4
Gunners	14	1·8
Sappers	14	4·4
G.S.C.	6	7·8
Drivers and fitters	5	2·3
R.A.C.	4	2·6
O.C.T.U.	4	30·0
Police	3	6·9
R.A.M.C.	2	2·2
Signalman	2	1·5
A.P.T.C.	1	1·9
Intelligence corps	1	1·2
Cooks	1	3·0
Pioneers	1	0·3
	95	100·0

Of the whole 302 men, only 3 had not belonged to medical category A1 before injury.

In 191 cases (63 per cent.) there was no ultimate change in medical category.

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In 111 cases (37 per cent.) there was down-grading.

Though the injuries among ski troops were no less severe than among others it was noteworthy that among these ski troops there was no instance of downgrading. The power of the will of the individual is a factor of considerable importance in moulding the judgment of the assessor of fitness.

Nearly half of these injuries were sustained during the first attempt to complete the course.

Up to 12 ft., the danger of injury increased proportionately with the height of the jump from the ramp.

Conclusions

The element of risk of injury cannot be excluded from training for warfare. The incidence of injury could not be regarded as unduly high when the size of the population at risk was considered. During the war years it was not possible to ensure that the pre-assault course training of the younger age groups was sufficiently gradual and graduated.

REFERENCES

[1] King's Regulations, 1935, paras. 383, 392–400, 403–6a.
[2] Regulations for the Medical Services of the Army, 1938, paras. 527–47.
[3] Guide to Discharge Procedure, notified in A.C.I. 450 of 1940, dated May 8, 1940.
[4] A.C.I. 66 of 1941, dated January 15, 1941.
[5] A.C.I. 2329 of 1941, dated November 26, 1941.
[6] A.C.I. 758 of 1941, dated January 15, 1941 and A.C.I. 2612 of 1942, dated June 19, 1942.
[7] A.C.I. 2090 of 1941, dated October 25, 1941.
[8] A.C.I. 1428 of 1941, dated August 9, 1941.
[9] A.C.I. 935 of 1943, dated June 19, 1943.
[10] Regulations for the Medical Services of the Army, paras. 541 and 546.
[11] A.C.I. 1505 of 1941, dated August 20, 1941; A.C.I. 991 of 1942, dated May 9, 1942; A.C.I. 750 of 1943, dated May 12, 1943 and A.C.I. 1208 of 1944, dated September 9, 1944.
[12] A.C.I. 474 of 1942, dated March 4, 1942.
[13] A.C.I. 1454 of 1941, dated August 13, 1941.
[14] A.C.I. 1253 of 1941, dated July 19, 1941.
[15] A.C.I. 1253 of 1941, dated July 19, 1941.
[16] A.C.I. 2148 of 1941, dated November 1, 1941.
[17] A.C.I. 1634 of 1942, dated August 5, 1942.
[18] King's Regulations 1935, para. 406a.
[19] A.C.I. 84 of 1942, dated January 14, 1942.

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CHAPTER 13

THE MEDICAL SERVICES IN THE FIELD

At the time of the dispatch of the expeditionary force to France in September 1939, the organisation of the medical services for dealing with battle casualties and sick in the field differed little in principle from that in being at the end of the War of 1914–18. Although advances had been made and developments had taken place in respect of the training of personnel, the methods used, the equipment provided and the transport supplied, yet the system of collection, evacuation and distribution of casualties remained much the same and the medical units employed similar in name, function, scope and relation to one another. The medical units constituting the chain of casualty evacuation from fighting zone to home base were: the field ambulance, the motor ambulance convoy, the casualty clearing station, the general hospital, the convalescent depot, the hospital ship and the hospital carrier. Other field medical units included in the force but not concerned with the disposal of casualties were the field hygiene section, the mobile bacteriological and the mobile hygiene laboratories and the advanced and base depots of medical stores.

The medical establishment of such combatant units as the battalion of infantry or the regiment of artillery still consisted of the regimental medical officer with stretcher bearers and medical orderlies provided by the unit and attached to and trained by the medical officer for the purpose of collecting casualties in battle, of giving them first-aid and carrying them to the regimental aid post (R.A.P.) for attention by the medical officer himself. Except in special circumstances, there were no R.A.M.C. personnel employed in advance of the R.A.P.

The medical unit nearest the fighting line was the field ambulance, a divisional unit provided on the scale of three to the division. It consisted of a headquarters and two companies. Each company was equipped and staffed to provide stretcher squads for the clearance of casualties from the R.A.P., and to establish an advanced dressing station to which these casualties were brought for treatment and evacuation. The A.D.S. was intended to afford treatment of the most urgent kind only, i.e. the arrest of haemorrhage, the treatment of shock and the immobilisation of fractures. It was not intended to retain patients but to function chiefly as a casualty collecting centre from which all cases should be evacuated as rapidly as circumstances permitted. The headquarters of the field ambulance held more elaborate equipment and was designed to form a main dressing station (M.D.S.) some few miles behind the A.D.S.

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Casualties passed from A.D.S. to M.D.S. by means of ambulance transport belonging to the field ambulance. At the M.D.S. all casualties were inspected, urgent treatment being given when necessary (e.g. resuscitation, readjustment of splints), their disposal determined and their medical documentation completed. Thereafter, serious cases or any cases requiring surgical treatment were sent to the casualty clearing station. The disposal of the less serious casualties varied with circumstances. Where the forces were relatively static, patients suffering from trivial wounds or minor ailments were retained at the M.D.S. or transferred to a rest station; when conditions were less stable all cases, serious or mild, were evacuated. Where heavy casualties were to be anticipated, and in order to prevent congestion at the M.D.S., it was the function of one of the field ambulances of a division to open a walking wounded collecting post (W.W.C.P.) for the reception and disposal of the less serious cases from the A.D.S. or even direct from the R.A.P. It is to be emphasised that a field ambulance was essentially a mobile unit whose first duty was to maintain close touch with the division to which it was attached in order to ensure the collection, urgent treatment and evacuation of casualties from the fighting line. It was not intended and was not equipped to provide other than the simplest treatment and accommodation. Cases needing surgical operation and post-operative treatment required evacuation to medical units in the rearward areas organised for the purpose and provided with the requisite facilities. The field ambulance, being a divisional unit, was under the administrative and operational control of the A.D.M.S. of the division. Of the field ambulances allotted to an expeditionary force, in addition to those serving with the divisions, there was one allotted to each corps and under the orders of D.D.M.S. corps and at least one that was held in reserve at Army G.H.Q.

The motor ambulance convoy (M.A.C.) was a medical transport unit commanded by an officer of the R.A.M.C. It consisted of a medical wing and a transport wing and included, in addition to its headquarters, three sections of 25 motor ambulances each. The chief function of the M.A.C. was that of conveying casualties by road from the M.D.S. of the field ambulance to the C.C.S. situated behind the fighting zone. It was also used to transport patients from the C.C.S. to the ambulance train for evacuation to the base. A M.A.C. was provided for each corps included in an expeditionary force and was placed under the control of the D.D.M.S. of the corps to which it was allotted.

The C.C.S. was the first unit on the line of casualty evacuation capable of affording full facilities for medical and surgical treatment, including operative surgery, and of providing accommodation for the retention of serious cases. On its staff there were specialists in medicine, surgery, radiology and anaesthetics, also sisters of the Q.A.I.M.N.S. and operating

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room assistants. The organisation was such that when dealing with large numbers of casualties the staff could be reinforced by the temporary attachment of mobile surgical teams from general hospitals. The C.C.S. was thus designed to afford comprehensive medical and surgical treatment for the wounded and the sick at a point as near the scene of battle as possible. Nevertheless these units were, as their name implies, clearing stations rather than hospitals and, except during periods of relative inactivity, the guiding principle was the evacuation of patients at the earliest opportunity and the retention, only for so long as they were unfit to travel, of cases whom it was considered undesirable or impossible to move. Whenever feasible the C.C.S. was established in a position conveniently accessible to main road and rail communications in order to accelerate the reception of casualties from the fighting zone and to facilitate their evacuation to the base by means of ambulance train. The establishment and equipment of the C.C.S. was devised to allow for the formation of a light section to be sent forward to assist or take over from a M.D.S. The equipment of the light section provided full loads for ten 3-ton lorries, whereas the whole unit required twenty-two 3-ton lorries for its medical and surgical equipment and another three for its personnel. The unit possessed no transport of its own; when required to move, it was dependent upon transport supplied by the formation to which it was attached. C.C.Ss. were provided in the proportion of one for each division in the force and, as G.H.Q. troops, were under the control of the D.M.S.; they were usually, however, allotted to D.Ds.M.S. corps for administration and operational control.

The ambulance train, like the M.A.C., was a medical transport unit and was organised to staff either a train specially constructed for the carriage of sick and wounded or a train made available from ordinary rolling stock by the addition of the required fittings. The military personnel of an ambulance train consisted of officers and other ranks R.A.M.C. and sisters Q.A.I.M.N.S., accommodated in the train, which included, in addition to ward coaches, staff coaches, kitchen coach, dispensary, etc., and was therefore equipped for the treatment and feeding of patients in transit. Ambulance trains were used for the evacuation of casualties from C.C.Ss., through railhead to the base for distribution to general hospitals. The scale of provision was one for every division in the force; the personnel were included among lines of communication troops, and were under the administrative control of the D.D.M.S., L. of C. The movement of ambulance trains was controlled by the transportation branch of the staff.

British general hospitals were of two types, the smaller of 600 beds and the larger of 1,200 beds. They were mobilised in numbers sufficient to provide hospital beds in the ratio of 6 per cent. of the strength of the force. Normally, general hospitals were established at the base and on

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the L. of C. and, to some extent at least, grouped in a special medical base sub-area conveniently accessible to a port of embarkation. They were in all respects fully equipped hospitals provided with complete facilities for the diagnosis and treatment of every kind of disease or injury. Each general hospital was organised in two divisions, medical and surgical, in the charge of an experienced physician and surgeon respectively. The medical staff included, in addition to the officers in charge of the two divisions, specialists in medicine (2 in the 1,200-bed hospital), surgery (2), pathology, otology, ophthalmology, radiology and anaesthetics, as well as an administrative medical officer or registrar, general duty officers and quartermaster. The British general hospital (B.G.H.) was the unit to which all casualties, save only trivial cases not evacuated from the forward area, were ultimately admitted for treatment. Where the injury or disease was likely to lead to recovery in a few weeks the case was retained until fit for discharge or transfer to a convalescent depot. Cases in need of prolonged treatment were retained only so long as was necessary to fit them for evacuation by hospital carrier or hospital ship to the United Kingdom. No hard and fast time limit in regard to the probable duration of the case was attempted. In deciding which cases should be retained and which evacuated to hospitals at home, consideration was given to attendant circumstances such as the amount of hospital accommodation available and the incidence of casualties. As a general rule, approximately half the total number of beds was kept unoccupied in order to allow for a sudden influx of casualties, but when heavy fighting was imminent, the number of vacant beds would be increased by evacuating all patients not likely to recover within the course of a week or two.

The convalescent depot, normally organised to hold 1,000 men, was used for the reception and accommodation of sick and wounded no longer in need of hospital treatment but not yet sufficiently recovered in health to warrant their return to their units. Physical and military training under medical supervision was the chief activity of this unit which, although a medical unit, had only a small complement of R.A.M.C. officers and other ranks, the greater part of the staff consisting of combatant personnel to undertake duties in connection with the training and rehabilitation of the convalescents. The convalescent depot thus served, on the one hand, to free hospital beds for the accommodation of patients requiring active treatment, and on the other hand, to provide a means of restoring the erstwhile sick and injured to a state of physical efficiency compatible with resumption of military duty. Provision of convalescent depots in the theatre of war obviated the necessity of evacuating to the United Kingdom large numbers of mild cases of sickness and of the less seriously wounded and so was instrumental in reducing wastage of manpower in the force.

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Hospital carriers and hospital ships were vessels specially adapted for the transport of casualties between an overseas base and home ports. The hospital carrier differed from the hospital ship in that the former was used to operate on L. of C. involving only a short sea passage during which there would be no necessity for more than emergency treatment. The hospital carrier in function was thus comparable with the ambulance train. The hospital ship, however, was a vessel of greater tonnage intended to serve more distant theatres of war and, being required to undertake longer voyages with a larger complement of patients, was provided with complete hospital facilities and specialist staff.

The remaining units included within the medical component of an expeditionary force were the field hygiene section, to provide various sanitary services and to exercise supervisory control over the environmental conditions of the force, the mobile bacteriological and the mobile hygiene laboratories (Mob. Bact. Lab.; Mob. Hyg. Lab.), to carry out laboratory investigations in the field, and the advanced and base depots of medical stores (Adv. Depot Med. Stores; Base Depot Med. Stores), to receive drugs, dressings and medical equipment in bulk and to issue them in detail as required by the various medical units. The advanced depot was usually placed at ambulance railhead or in the neighbourhood of a group of C.C.Ss. and so supplied all units in divisional and corps areas. Base depots situated conveniently near the base ports were used for the supply of advanced depots of medical stores and of all medical units on L. of C. and at the base.

The personnel, transport and equipment of the various medical units here described were provided on the scales prescribed by the war establishments authorised for each.

This system of casualty evacuation is shown diagrammatically in Figure 4.

During the years immediately preceding the outbreak of war in 1939 there was an increasing body of opinion within the Army Medical Services in support of the view that the medical organisation of the field Army, as then constituted, was not best adapted to the changed and still changing conditions of modern war. To those of this opinion it appeared that medical units of the field force, and more particularly units whose duties lay in the battle area, were not being developed as far or as fast in the direction of mechanisation and mobility as were units of the combatant arms. However well suited to fulfil the requirements of positional warfare, heavily equipped and imperfectly mobile units were not conducive to rapid tactical handling and therefore entailed loss of that flexibility, in function and disposition, essential in an organisation charged with the evacuation of casualties under the conditions of open warfare likely to occur in an encounter with highly mechanised forces.

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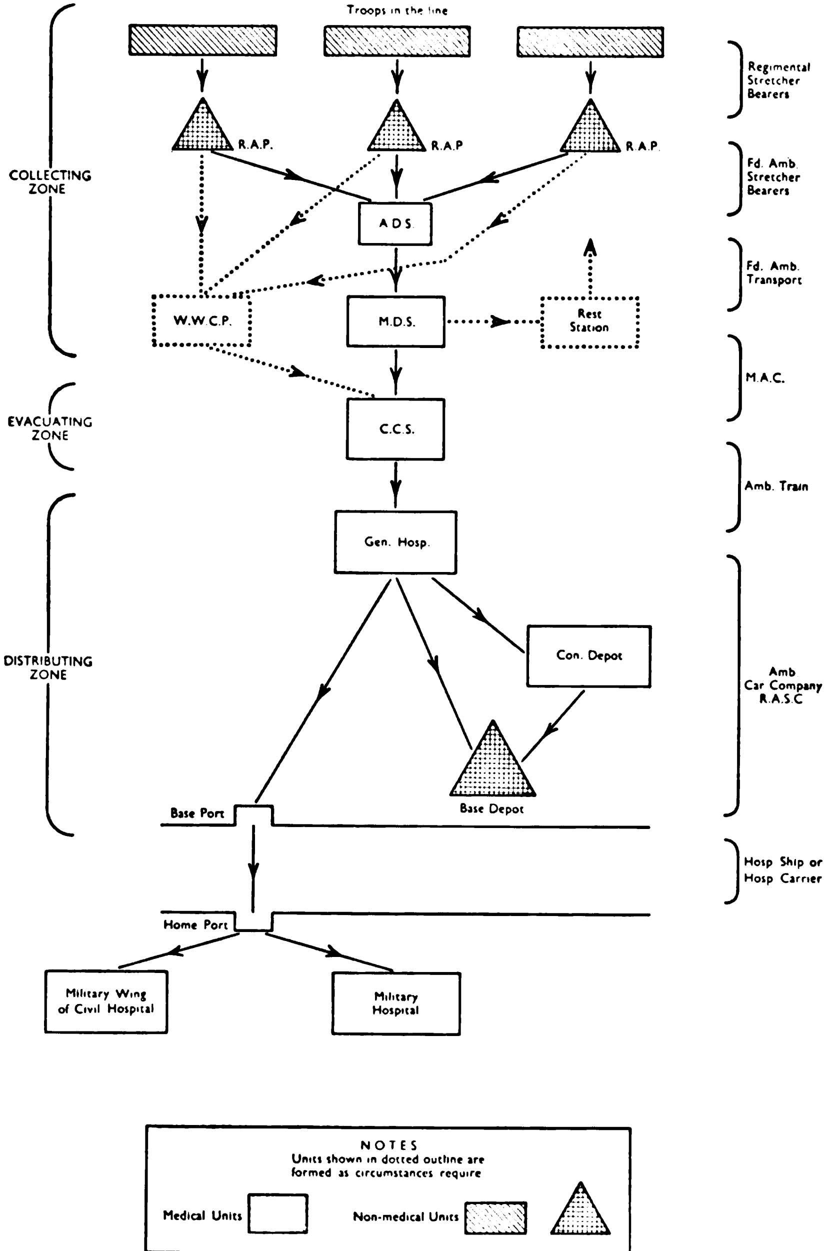

FIG. 4.—System of Casualty Evacuation in France, 1939–1940

Study of the events of the Spanish Civil War did nothing to dispel these misgivings which were subsequently more than confirmed by the test of practical experience during the campaign in France and Belgium

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in May and June 1940. Everywhere the partial or complete immobility of medical units proved a grave handicap. Nowhere was this defect more strikingly illustrated than in the case of the C.C.S. which, having no unit transport, could be moved only by means of vehicles specially allocated from general transport reserves. The exigencies of the rapidly changing situation and the continual movement of troops made innumerable calls of one kind or another upon these comparatively slender resources. Consequently, vehicles were allotted to various, and often conflicting, interests on a basis of relative priority and could not always be made immediately available in the necessary numbers to all requiring them. Thus it was that C.C.Ss. frequently found themselves stranded and inactive on account of their inability to move in conformity with the fluctuation of battle. For the same reason, several were eventually either over-run by the advancing enemy or forced to abandon their equipment and stores in order to avoid capture.

There were also certain weaknesses apparent in the system of casualty evacuation. In the first place, the scale of motor ambulance cars supplied to a field ambulance was inadequate for the rapid clearance of casualties from the forward areas. The M.D.S. formed by the H.Q. of the field ambulance served rather to duplicate the function and repeat the work of the A.D.S., only a short distance ahead, without providing appreciably greater scope for urgent surgical treatment. On the other hand, the C.C.S., the unit at which operative surgery could first be undertaken, was by its constitution and organisation unsuitable for location in as advanced a position as was essential if full use was to be made of the facilities which it offered. In general, the process of casualty evacuation was unduly slow. The interval elapsing between the removal of a wounded man from the firing line and his receiving surgical treatment, other than first-aid, was too long and the distance involved, especially in respect of a serious case, too great.

Soon after the withdrawal of the expeditionary force from France, suggestions were made for changes in the constitution of the field ambulance with a view to meeting the different conditions likely to be encountered in operations at home as the result of invasion. It was thought that in the kind of warfare to be expected there would be less tendency to the concentration of casualties and therefore less need for the establishment of M.D.Ss. by field ambulances. On the other hand, there would be a greater demand for focal points of collection and evacuation of casualties and hence the need for more small A.D.Ss. It was therefore proposed that the two companies of the field ambulance should be subdivided each into three sections, all of them equal in size, self-contained and capable of independent action. In this way the company would be flexible, more easily adapted to immediate use in an emergency and during advance or withdrawal, by a process of leap-frogging its three sections, would be capable of maintaining one or two

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sections continually open while the remaining section was moving forward or backward as required. On the other hand, although divided into three sections, the company would still be able to function as a whole and to form an A.D.S. in the orthodox way. Similarly, the H.Q. of the field ambulance was to be reconstituted in such a way that certain personnel were allocated and certain equipment separately loaded to provide a light section, comparable to a section of a company, available to deal with an emergency without disturbing the organisation and activities of the companies. Various alterations were made in loading tables and in the distribution of personnel and equipment in order to permit this reorganisation. These proposals for the field ambulance were subject to various field trials to gauge the effect upon unit organisation, and the evacuation of casualties by the new method was exhaustedly tested in exercises with troops on brigade, divisional and corps scales. The arrangements outlined were applied to all field ambulances in the United Kingdom with effect from April 1, 1941.

THE HARTGILL COMMITTEE

Meanwhile, various schemes for the reorganisation of field formations generally, including both the armoured and the infantry division, were under examination. Partly in consequence of these developments and partly owing to much that had been learned as the result of some months' experience of the totally new conditions presented by a campaign in the Libyan Desert it was considered essential to review the organisation and function not only of the field ambulance but of all medical units normally comprised within the operational area of the division and the corps. D.G.A.M.S. therefore appointed a committee to examine the organisation of the medical services in the field and to make suggestions for such improvements as appeared necessary in the light of experience gained. This committee, which became known as the Hartgill Committee, after the chairman, then D.D.G., first met in October 1941, and issued its report two months later.

In the opinion of the committee, four cardinal defects were apparent in the medical services as then constituted: first, field medical units were cumbersome, insufficiently mobile and not readily adaptable to changes in the tactical situation; secondly, field ambulances did not possess adequate means of communication either with the formations they served or with the officers administering them; thirdly, casualties were not distributed directly to the appropriate units, but passed through a channel of evacuation which caused congestion at medical units in the forward areas while insufficient transport led to delay in the distribution of casualties to selected centres; fourthly, casualties were not afforded the advantages which modern surgical technique could provide; surgeons, their assistants and equipment were located too far to the rear of divisions and corps.

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To overcome these defects, reorganisation of units of the medical services working in advance of ambulance railhead was imperative and urgent. The following recommendations were made:

THE FIELD AMBULANCE

It was proposed that the field ambulance be reconstituted as a fully mobile unit intended only for the collection, evacuation and distribution of casualties, and that as the retention of casualties was no longer to be its function, it should cease to provide the component necessary for the establishment of a M.D.S. It should comprise a H.Q. company and two bearer companies each of the latter consisting of three bearer sections capable of independent action if necessary. The H.Q. company should be designed to open and maintain the A.D.S. for that part of the front in which the field ambulance was operating while the bearer companies, splitting into their component sections as necessary, should be used to establish casualty collecting posts between the A.D.S. and the fighting zone and to carry out the evacuation of casualties from these C.C.Ps. and from the R.A.Ps. of the units in front. War establishments of the field ambulance were to be arranged so that each section should be commanded by an officer, either a company commander or one of the other two officers in each company, the second-in-command of the field ambulance was to take charge of the A.D.S. while the commanding officer was to be free to supervise all the activities of his unit and to maintain contact with R.M.Os. forward, with brigade H.Q. in the neighbourhood and with the A.D.M.S. behind. The A.D.S. was to be capable, officially, of accommodating 150 patients. This number was only nominal and was included in war establishments merely to ensure sufficient provision of certain articles of equipment which were issued only in ratio to the number of patients specified. It was not intended that a field ambulance should hold patients longer than the facilities for evacuation rendered necessary. With a view to expediting the evacuation of casualties from the front to the A.D.S., the number of ambulance cars was increased as was the number of motor cycles and bicycles to improve means of intercommunication. The field ambulance was intended to serve the needs of a force represented by a brigade of infantry and the scale upon which it was proposed to allot field ambulances was therefore one for each infantry brigade. Field ambulances were to remain divisional troops under the control of the A.D.M.S. of the division. It was foreseen that on occasions it would be necessary to allot a field ambulance to a brigade employed in an independent capacity. In such circumstances it was intended that the commanding officer of the field ambulance should act as senior administrative medical officer to the brigade. As regards the armoured brigade it was proposed to retain unchanged, except for additional ambulance cars, the light

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field ambulance of four sections only. Thus for the armoured division, consisting of one armoured brigade and one infantry (lorried) brigade, there were to be one light field ambulance of four sections and one field ambulance, as reorganised, in six sections. For the infantry divisions, consisting of two infantry brigades and a tank brigade, there were to be two field ambulances of the six section type. No field ambulance or light field ambulance was provided for the tank brigade. It was considered that as tank brigades operated so closely with the infantry, the two field ambulances provided for the latter would suffice. and should occasion arise the tank brigade could be satisfactorily served by detaching a company of three sections from one of the two field ambulances. Some time later when the constitution of an infantry division was again altered to consist of three infantry brigades, the number of field ambulances allotted to this formation was increased from two to three.

THE FIELD DRESSING STATION

It was proposed to form a new unit designated the field dressing station (F.D.S.). These units were designed for two different and distinct functions according as to whether they were situated in a divisional or corps area. In a division, where they were to be provided on the scale of one for an armoured division and two for an infantry division they were intended primarily as resuscitation centres for casualties suffering from serious shock and evacuated from the A.D.S. for this special treatment. In addition, it was proposed that these units should serve as A.D.Ss. for divisional troops in the vicinity. Divisional F.D.Ss. were to be under the control of the A.D.M.S. of the division. In corps areas, to which they were allocated on a scale of one per corps and an additional one for each division in that corps, F.D.Ss. were to be employed chiefly to form advanced surgical centres (Adv. Surg. Centre) by combination with one or more field surgical units (F.S.Us.) attached to the F.D.S. with that object. Corps F.D.Ss. were also designed to form a corps rest station, a gas treatment centre or other special centre required for any particular purpose. The corps F.D.S. was under the direct control of the D.D.M.S. of the corps concerned.

THE FIELD SURGICAL UNIT

Under the then current war establishments the personnel of a general hospital of 1,200 beds included a mobile surgical team consisting of a surgical specialist, an anaesthetist, a theatre sister and operating room assistant. By detaching it from its parent unit and attaching it to some other unit elsewhere, particularly in forward areas, the mobile surgical team was intended to provide additional surgical assistance at any place and at any time as such reinforcement was required. In point of fact, however, these teams were far from being readily mobile. They had no

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transport of their own and, by reason of the numerous demands for transport before and during a battle, delay was frequently experienced in obtaining the necessary priority for moving them to forward areas in time to be of service. The committee therefore proposed that instead of mobile surgical teams included within the establishment of a general hospital a new unit to be known as the field surgical unit (F.S.U.) should be brought into existence. This unit, consisting of a surgeon, an anaesthetist, operating room assistants and orderlies, was to be completely mobile, to possess its own transport and therefore able to proceed wherever required immediately and independently. Its organisation and equipment were designed to make it capable of performing not less than 100 major surgical operations without replenishment of medical stores. It was a small unit without administrative staff and therefore required attachment to a parent unit for maintenance and administration. The intention was that it would normally be attached to a corps F.D.S. and in combination with that unit form the advanced surgical centre already mentioned. It was proposed that F.S.Us. should be provided on the scale of two for each division included within an expeditionary force. They were to be mobilised, however, as G.H.Q. troops under the control of the D.M.S. of the force. On attachment to other units such as the F.D.S., they would pass to the control of the administrative medical officer of the formation concerned.

THE FIELD TRANSFUSION UNIT

Having regard to the increasing use of blood products in the treatment of battle casualties, it was considered desirable to establish a new unit to be called a field transfusion unit (F.T.U.) whose function it would be to provide a mobile and expert blood transfusion service in forward areas. These units were to be mobilised on the scale of three per corps and one per army. Each consisted only of one medical officer and three other ranks and so, being too small for self-accounting purposes, required attachment to a parent unit for maintenance and administration. F.T.Us. were army troops, at the disposal of the D.M.S. of the force, for allocation to lower formations and employment at the discretion of the appropriate senior administrative medical officer. Their disposition would usually be in attachment either to a divisional F.D.S. functioning as a resuscitation centre, or to a corps F.D.S. constituting, with a F.S.U., an advanced surgical centre; they could also be made available for assistance to C.C.Ss. as occasion required.

THE CASUALTY CLEARING STATION

Lack of mobility to an extent which severely prejudiced its usefulness during periods of active operations had been the chief criticism levelled at the C.C.S. in all theatres of war. Time and again in the past experience

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had shown that with the many and various demands made upon them transport pools could not be relied upon to produce transport at the time and in the quantity necessary to move them when and as required. In order to remove this disability and to permit the use of this unit nearer the battle front, the Hartgill Committee recommended that the C.C.S. be reorganised as a mobile unit with sufficient transport to permit any one unit being moved by the combined transport of two such units. This recommendation did not receive War Office approval, the reason being that vehicles, rubber, etc., were still in such short supply that the Army could not afford to have its transport tied down for the use of any units other than those whose continual movement made it essential. Other recommendations of the committee which were accepted provided for adding a second surgical team to the one already included within the establishment of the C.C.S., thus increasing its capacity for surgical work. It was intended that these units should function very much nearer the front line than formerly and consequently the establishment of nursing sisters was withdrawn. Other arrangements to be referred to later were made in that connexion. The scale of C.C.Ss. was fixed at two per corps with an additional one per army. The accommodation for each was placed at 120 patients but was not limited to this number. The functions of the unit were as formerly, to provide surgical facilities for battle casualties, to provide accommodation for casualties until evacuated and, during inactive periods only, to provide accommodation for mild sick from divisional and corps areas and to retain them until cured or convalescent. The control of the C.C.S. was to remain in the hands of the D.D.M.S. of the corps or army in which it was situated and it was to be located by him in consultation with the General Staff as far forward as the tactical situation would permit. It was also considered that in the opening phase of a battle one C.C.S. in each corps should be kept packed in vehicles ready to move forward at the earliest possible moment.

THE GENERAL HOSPITAL—200 BEDS

The committee recommended that general hospitals of 200 beds each and capable of expansion in emergency should be mobilised on the scale of one per corps and held at the disposal of the D.M.S. of the expeditionary force. They were to be situated in the region of railhead or roadhead to act as intermediate hospitals between C.C.Ss. and base hospitals; they were also to serve as holding hospitals for casualties pending evacuation to the base and as advanced L. of C. hospitals for local sick during periods of operational inactivity. It was proposed that these hospitals should maintain pools of nursing sisters for attachment to C.C.Ss., and advanced surgical centres in corps areas whenever operational considerations made it possible.

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THE MOTOR AMBULANCE CONVOY

It was proposed to reorganise the M.A.C. as a unit of the R.A.S.C. under the command of an officer of that Corps. Experience had indicated that these units, primarily transport units, could best be commanded by an officer versed in the technicalities of transportation and vehicle maintenance rather than medicine. As reorganised, however, the unit in addition to workshops and ambulance sections was to include a platoon of other ranks R.A.M.C. for attendance upon casualties in transit, the scale being one orderly for every three ambulance cars. The establishment of motor ambulance cars was increased and troop carrying buses were added for the transport of lightly wounded or sick who could be carried as sitting cases. Operational control was to continue in the hands of the administrative officer of the medical services and the function of the unit continued to be the evacuation of casualties by road from medical units within divisional and corps areas.

THE FIELD HYGIENE SECTION

Although not concerned with the collection or disposal of casualties, the field hygiene section, being a field medical unit, was included within the range of the committee's attention. It was considered that all field hygiene sections should have the same organisation and establishment, and that nothing was to be gained by retaining special modifications in respect of the field hygiene section working with an armoured division. It was therefore recommended that the light field hygiene section as such be abolished and that an armoured division should include a field hygiene section of the same kind as that attached to an infantry division. The scale of provision recommended was one for each division and one for each corps.

THE EMPLOYMENT OF NON-MEDICAL OFFICERS

Two other matters of importance engaged the attention of this committee. The first was the question of medical personnel for regimental medical establishments. From time to time suggestions had been made that a N.C.O. of the R.A.M.C., preferably a corporal, should be attached to each R.M.O., to assist him in the work of his R.A.P., the staff of which under the existing organisation consisted entirely of regimental personnel specially trained for those duties but not usually having the technical knowledge possessed by personnel of the R.A.M.C. The committee was in agreement with the principle underlying the suggestion but, in view of the heavy additional call upon the man-power of the medical services which it would involve, found themselves unable to recommend its adoption.

The second matter was also concerned with the question of man-power but now in relation to officers. Throughout their deliberations

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the committee had ever in mind the necessity for economy in the employment of medical officers. Nevertheless, the new organisation as recommended by them made some increase in officers unavoidable; they therefore examined the question of replacing M.Os. by officers not medically qualified and the extent to which such an innovation was possible of adoption. The conclusion was reached that non-medical officers could be employed to command bearer sections of field ambulances and to act as company officers in F.D.Ss. and C.C.Ss., duties hitherto performed by qualified medical officers. It was therefore decided to recommend the introduction into the R.A.M.C. of non-medical officers to be known as stretcher bearer officers. Warrant officers and N.C.Os., R.A.M.C., whose powers of leadership and knowledge of first aid were of a high standard should be selected for commissions as lieutenants R.A.M.C. and employed in the capacities indicated. The committee added that only with reluctance had they agreed to the substitution of non-medical officers for medical officers in this way, but felt that in the circumstances, they had no alternative, the more so because in their considered opinion the number of medical officers now proposed for a division represented the absolute minimum compatible with efficiency.

THE EFFECTS OF THIS SUGGESTED REORGANISATION UPON CASUALTY EVACUATION

The system of reorganisation advocated by the Hartgill Committee implied basic changes in the system of evacuation of casualties. They visualised a more rapid and at the same time a more selective method of disposal and distribution of casualties from forward areas, earlier and more efficient provision for succouring the serious case in urgent need of medical aid, and facilities for operative surgical treatment closer to the battle front.

The duty of collecting the wounded in the fighting zone and of bringing them to the R.A.P. remained with the regimental stretcher bearers under the direction of the R.M.O. Evacuation of casualties from the R.A.P. devolved upon the bearer sections belonging to the companies of the field ambulance working with the brigade concerned. Under certain circumstances, such as heavy casualties or long distances, it was expected that bearer squads of the field ambulance would be required to assist the regimental stretcher bearers in front of the R.A.P. From the R.A.P. casualties would be cleared to C.C.Ps. formed by the bearer sections of companies of the field ambulance and thence to the A.D.S. opened by the H.Q. company of the field ambulance. It was intended that motor ambulance cars of the field ambulance should be used for the carriage of wounded from the R.A.P. if possible, but if this were not possible, they would work from an ambulance car collecting post as

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near to the R.A.P. as the tactical situation would permit. If special circumstances permitted the employment of cars in advance of the R.A.P. so much the better for their use in this way would serve the double purpose of lightening the work of the regimental organisation and of hastening the process of evacuation.

The reorganisation of the A.D.S. was perhaps the most significant feature of the proposed system, for many of the arrangements contemplated in the later stages of the chain of casualty disposal were consequential upon the changes in function assigned to the A.D.S. which was in effect the first point at which casualties could be subject to selective measures. As now reconstituted, the A.D.S. was to be opened and maintained by the H.Q. company of the field ambulance, it was therefore a larger establishment than it had been under the previous organisation and, moreover, was intended to fulfil many of the duties formerly undertaken by the M.D.S., an establishment which it was now proposed to abolish. The A.D.S. was required to perform four chief tasks. The first of these was to render first aid to those needing it, e.g. the control of haemorrhage, the immobilisation of fractures, the closure of 'sucking' chest wounds and the administration of morphia; action was to be confined to emergency treatment and no attempt made at elaborate or extensive surgical interference. Secondly, there was the duty of sorting casualties according to the nature of the wound, the general condition of the patient and the kind of treatment indicated. This sorting of casualties was the keystone to the whole system of casualty disposal and upon the skill with which it was performed the success of the organisation largely depended. For purposes of treatment and therefore of distribution casualties were divisible into three groups or priorities:

Group 1 consisted of cases exhibiting severe shock, urgently in need of resuscitation and, pending this treatment, unfit to travel to an advanced surgical centre or C.C.S. Cases in this group were to be immediately despatched by ambulance cars of the field ambulance to the divisional F.D.S. specially designed to undertake blood transfusion and other measures for resuscitation. After being so treated and sufficiently recovered to withstand travel, these cases were to be dealt with in the same way as those placed initially in groups 2 or 3.

Group 2 included cases requiring immediate surgical attention, i.e. wounds of the chest or of the abdomen, those involving special risk of haemorrhage, and cases of severe or complicated fracture. All these were to be sent direct from the A.D.S. to the advanced surgical centre (formed by combination of a corps F.D.S. with one or more F.S.Us.) for operative treatment. This evacuation was to be carried out by cars of the M.A.C. The primary consideration in this procedure was the necessity for ensuring that only vitally urgent cases should be placed in group 2. The number of casualties that could be dealt with by an

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advanced surgical centre was limited. Though partially governed by the accommodation available the more important factor lay in the physical capacity of the surgical teams and the number of such teams working at the centre. One team could not undertake more than 8 severe cases in a tour of eight hours; the capacity of a surgical centre with two teams working for sixteen hours was not greater than 28 to 32 cases. To operate continuously for two periods of eight hours in the twenty-four could rarely be maintained for more than two days at a time, particularly under the conditions that had to be faced in a surgical centre close to the fighting zone. It was therefore essential to ensure against swamping the advanced surgical centre with cases of only moderate urgency, for this in the end would involve greater delay and greater loss of life than if cases of moderate severity were sent to the C.C.S. in the first instance. Any such result would entirely defeat the object of the system.

Group 3 which was by far the largest of the three groups contained the less serious casualties, i.e. the sick and the wounded for whom surgical treatment was less urgently necessary and who were fit to travel some distance. It was intended that this group of cases, both lying and sitting, should be evacuated to the C.C.S. in ambulance cars or ambulance buses of the M.A.C.

The third task of the A.D.S. was to ensure accurate documentation of casualties, that the case was correctly classified, that the field medical card was completed and all relevant details inserted and that the group to which the casualty belonged was clearly indicated on the card. The fourth task was that of arranging for the evacuation and distribution of casualties strictly according to the classification and disposal determined in the process of sorting and grouping.

The conception of the divisional F.D.S. as a separate unit to undertake the special work of resuscitation was the result of the experience which showed that in modern warfare there is always a proportion of casualties who, although not necessarily suffering from wounds intrinsically dangerous, are nevertheless subject to so severe a degree of shock that they fail to survive unless adequate measures to combat this condition are immediately applied. It was therefore essential to the success of any measures taken to supply these facilities that they should be provided as nearly as possible both in time and in distance to the scene of battle. On the other hand, the A.D.S. would be fully occupied with the reception, sorting and disposal of casualties and in any case would not serve as an entirely suitable place for the accommodation of those engaged in the activities of blood transfusion and resuscitation. Moreover, the latter undertaking involved the retention of patients under treatment for varying periods, while the prime operational necessity of the A.D.S. was mobility. These two considerations in the same unit were therefore incompatible hence the necessity for a separate centre for the work of

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resuscitation. In order that such a centre should always be reasonably accessible to the A.D.S. it was intended that while the first of the two F.D.Ss. contained within each division was engaged in treating patients, the second should be in reserve ready to move forward as required. Thus by continuing a process of leap-frogging one of the two F.D.Ss. would always be well up to the front.

Similarly, mobility and location as far forward as possible were the principles governing the use of the advanced surgical centre established by the corps F.D.S., with F.S.Us. attached, and intended to provide operative surgery for urgent cases. Here again, however, the very nature of the work undertaken by these units involved loss of mobility for the individual unit concerned, for extensive surgical operations pre-eminently those upon wounds of the abdomen, involved the retention of the patient for about a week. Further, it was to be remembered that mobile units such as the advanced surgical centre could not be equipped on the scale of hospitals at the base and that therefore facilities for post-operative treatment and nursing were of necessity much restricted. Experience had shown that casualties travelled better before operation than afterwards and that those moved too soon after operation were liable to die even though carried under reasonably comfortable conditions, e.g. by air, thus causing waste of life and of surgeons' time, in which a number of other cases might have been treated. For every reason therefore it was of the greatest importance that these units should be used only for the purpose for which they were intended, that is to say, for the treatment of those who would die in the absence of immediate surgical aid. This was a fact to be taken into consideration by the officer-in-charge of the A.D.S. when deciding between the merits of immediate operation or transfer to a more distant medical unit better provided with facilities for post-operative care.

From the foregoing it follows that the C.C.S. was still intended to receive the majority of battle casualties as well as the normal sick wastage from troops in the area it served. The chief duty of the C.C.S. was therefore to undertake the surgical treatment of the less seriously wounded and to ensure that every case, no matter how slight, should receive the surgical attention necessary to prevent complications from sepsis or other source and to reduce the time of convalescence to a minimum.

At the C.C.S. also would arise the same problem of deciding between the advantages to be gained from immediate operation involving retention and delayed evacuation, or from despatch to the base hospital with its more elaborate facilities for diagnosis, treatment and after care. It was the intention, however, that the C.C.S. should remain, as its name implied, primarily a clearing unit, and, moreover, that it should be situated as near to the fighting zone as circumstances would permit.

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The system of evacuation and disposal of casualties visualised by the committee and outlined above was bound to depend for its success very much upon the efficient organisation and performance of the M.A.Cs., for these units were to undertake all transport of casualties by road except that in respect of cases evacuated from R.A.Ps. to the A.D.S. and of cases transferred from the A.D.S. to the divisional F.D.S., duties for which the field ambulance with its own ambulance cars was to remain responsible.

As already stated, the M.A.C. although commanded by an officer of the R.A.S.C. was to continue under the operational control of the administrative medical officer of the formation to which it belonged. The efficiency with which the M.A.C. could function would bear close relation to the co-operation maintained by these officers and to the control exercised over the movements of each vehicle. It was intended that the M.A.C. should operate by means of detachments, each in the charge of an officer or N.C.O. of the unit stationed at convenient points within the divisional or corps areas. The senior officer of the M.A.C. in consultation with the administrative medical officer of the division or corps would then choose suitable sites in which to set up control posts through which all cars would pass on their journeys backward and forward between medical units, and at which drivers would receive instructions as to their destination. In order to prevent confusion it would be essential for the officer or N.C.O. in charge of the control post to be kept constantly and accurately informed:

(*a*) of the location of all medical units open to receive casualties and the type of cases received by each,
(*b*) of the opening, closing or change in location of these medical units and
(*c*) of the units or formations in need of ambulance cars and the number required.

The system provided that all ambulance cars engaged in casualty evacuation should travel with full loads, and that the drivers should be in possession of cards indicating the group of cases carried. In order to prevent either congestion or lack of cars at any essential point it was proposed that a shuttle service of ambulance cars should be arranged with a series of car-posts stationed along the line of evacuation in such a way that whenever a loaded car coming from the forward area passed a car-post an empty car from that point would at once go forward to the next car-post nearer the front. Once initiated this system if efficiently carried out would provide an almost automatic ambulance car service with a minimum of directive effort.

The distribution of medical units in corps and divisional areas as recommended by the Hartgill Committee is shown in diagrammatic forms in Figure 5.

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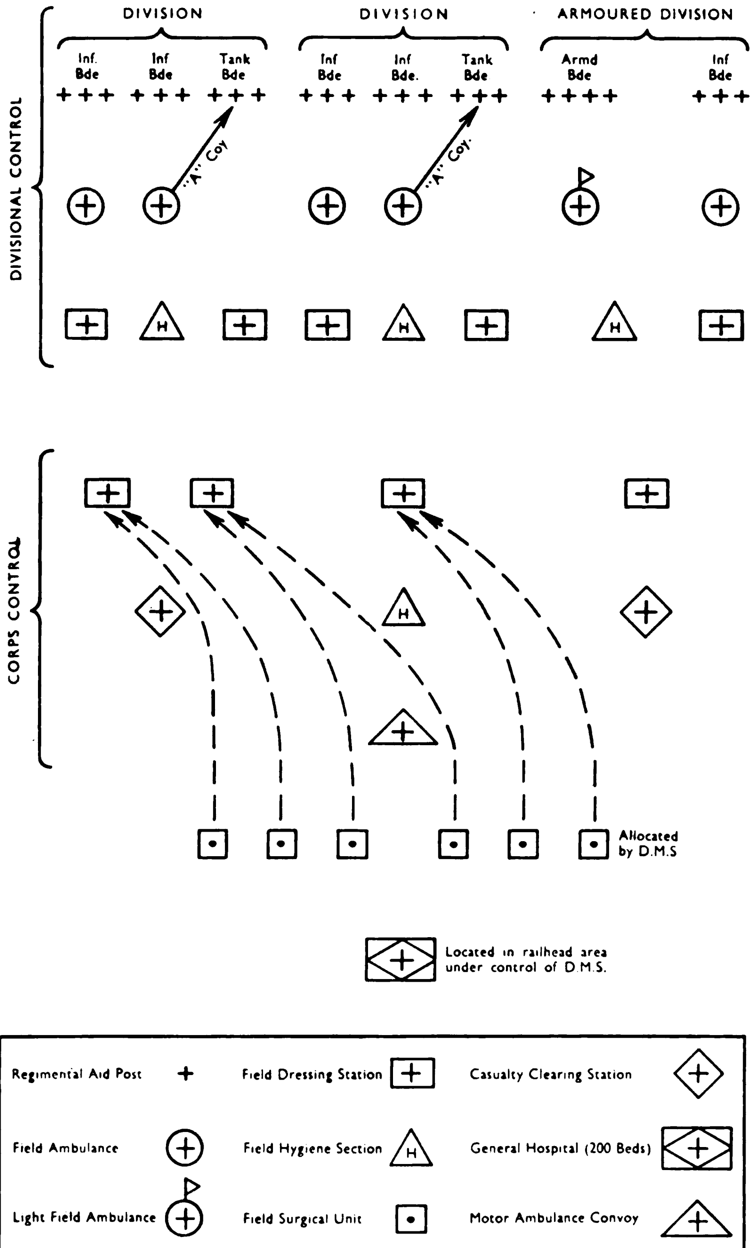

FIG. 5. Distribution of Medical Units in Corps and Divisional Areas (Hartgill Scheme)

The report of the Hartgill Committee was presented in December 1941, and was then submitted for comment by the various departments

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concerned with the organisation of the Army and by commanders-in-chief at home and overseas. The committee's recommendations were, in the main, favourably received, and the Commander-in-Chief, Home Forces, endorsed his approval with the request that they should be carried into effect, as regards the troops under his command, at an early date. It was not yet possible, however, to obtain final sanction for the suggested changes in the medical services because just at that time there were under consideration proposals for basic alterations in the organisation of operational formations, such as the corps and the division, including the constitution of an entirely new type of division and the re-grouping of the elements composing the existing infantry division. Consequently it became necessary to review certain of the Hartgill Committee's findings and particularly to reconsider the standard allotment of medical units prescribed in respect of the various formations now undergoing reorganisation. For this purpose the committee was reassembled in April 1942, when adjustments were made in conformity with the recently amended divisional organisation, and thereafter, in July 1942, authority was given for the promulgation of the war establishments prepared in reference to the new units to be constituted and to existing units subject to conversion or alteration. Finally, in the same month, the Army Council officially notified all commands, at home and abroad, of the decision to reorganise the medical services in the field and of the reasons for so doing.

Despite this official ratification, the task of giving practical expression to the new scheme proved long and difficult. In the first place, Middle East Command contended that innovations in their medical dispositions were precluded by the tactical situation of the moment and they were strongly averse to any attempt at reorganisation when intensive preparations were being made for the assault which, in the event, was to initiate the final advance of Eighth Army through Libya. Apart from operational considerations of this kind it was not found possible to make much progress even at home. The system as devised by the Hartgill Committee involved the origination of several different types of unit, and, conversely, rendered a number of existing units surplus to requirements on a proportional basis. It was therefore the intention to raise the former by the disbandment and reconstitution of the latter; for example, F.D.Ss. were to be raised by using disbanded surplus field ambulances. It so happened that when, in the autumn of 1942, it was sought to carry out this reconversion of units, preparations were afoot for the mobilisation of First Army in connexion with the projected operations in North Africa. Besides absorbing units expected to become surplus, these additional commitments made it inopportune to undertake a general reorganisation of medical units. Moreover, there was at the same time an acute shortage in the number of medical practitioners

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recruited to the Army, and for this reason it became impossible to find even the small additional number of medical officers required to complete the new war establishments. Further, although the scales of transport and of medical and ordnance equipment included in these establishments had been authorised, it appeared unlikely that they could be made effective before the end of the year.

These exigencies notwithstanding, efforts to obtain early adoption of the revised organisation were continued. In November 1942, D.G.A.M.S., issued a directive and explanatory memorandum describing the changes in the constitution and functions of field medical units consequent upon the reorganisation which had been evolved to meet the requirements of modern warfare. For the guidance of personnel within the Army Medical Services, this memorandum was accompanied by detailed notes giving an account of the alterations in the disposition of the medical services in the field brought about by the introduction of the new system and prescribing the methods and procedure to be employed in the collection, disposal and evacuation of casualties from forward areas. In January 1943, a beginning was made with the conversion to the new organisation of medical units belonging to formations under the control of G.H.Q. Home Forces. A phased programme for the formation, reconstitution or disbandment of the units concerned and their subsequent allocation was put into operation.

Overseas, however, but little progress was made. The Australian Imperial Force notified their intention to retain their medical units on the same basis as hitherto, while G.H.Q. India expressed the view that the field ambulance as reorganised was unsuited to conditions obtaining in India or, for that matter, in any other part of the world where forces under their control were likely to operate. Indian field ambulances would not, therefore, be converted, and it was urged that, as long as they remained in India, British field ambulances with British divisions should remain unaltered on their existing establishments, and that, at the same time, no changes should be made in the medical organisation of those divisions. To this the War Office assented, but was unable to concede a further suggestion that units sent out from the United Kingdom for service with the Indian forces should adhere to the old organisation. It had already been decided that the medical component of any force prepared for future operations should conform to the Hartgill scheme, and as it was manifestly impracticable to raise and mobilise medical units simultaneously under two different systems, one designed to meet the requirements of India and the other for those of forces elsewhere, there was no alternative but that the Army in India must be prepared to accept units constituted on the revised establishments.

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In the Middle East too, there appeared insuperable obstacles in the way of carrying out the required conversion; indeed, it was held that in some respects the new organisation was impracticable under the conditions of desert warfare. However that may have been, the field medical services of Eighth Army continued substantially unchanged throughout the remainder of the campaign in Libya and Tunisia. The same was true of the other forces in North Africa in that First Army remained, as it had been mobilised, under the old organisation. Even in the subsequent operations in Sicily and Italy reorganisation was but partially effected* and thus it was that 21 Army Group landing in Normandy in June 1944, was in point of fact the first operational force to take the field with its medical services organised and disposed entirely in conformity with the Hartgill scheme.

The practical test of battle subsequently indicated the need for certain modifications in disposition and employment of medical units. These were all of a minor nature and concerned chiefly with the allocation of specific units to the several types of formation constituting the force. For example, in the case of the C.C.S. and the M.A.C. it was found that their allocation as corps units and their absolute control by the staff of the corps commander were of some embarrassment in the handling of medical units in general and so impaired the flexibility of the medical services as a whole. On several occasions a situation had arisen whereby a C.C.S., in order to accompany the corps to which it belonged, was required to evacuate all its patients, and pack up in a hurry, the while another C.C.S., belonging to another corps, was standing by in reserve and available to move at once. It was therefore decided that thenceforth both the C.C.S. and the M.A.C. should be designated army troops and place under the control of the D.D.M.S. of the appropriate army for allocation to any constituent corps at his discretion. The scale of provision however remained unchanged at two and one per corps respectively. (Fig. 6.).

INNOVATIONS IN HOSPITAL ORGANISATION

Although not affected by the scheme of reorganisation described above, general hospitals of 600 and of 1,200 beds were also, but at a later date, subject to certain fundamental changes in constitution. Experience had shown the necessity of supplying within the total hospital provision made for each force, a balanced allotment of beds and staff for cases belonging to the special groups, and of ensuring that this allotment was adapted in such a way as to meet the circumstances, e.g. the incidence of disease of various kinds, pertaining to the area in which the force was operating. This object had been achieved to some extent by reserving certain hospitals, or parts of them, for cases within the scope of one or other speciality, and by the formation of special units, or of special wings

* By the Canadian Army Medical Services only.

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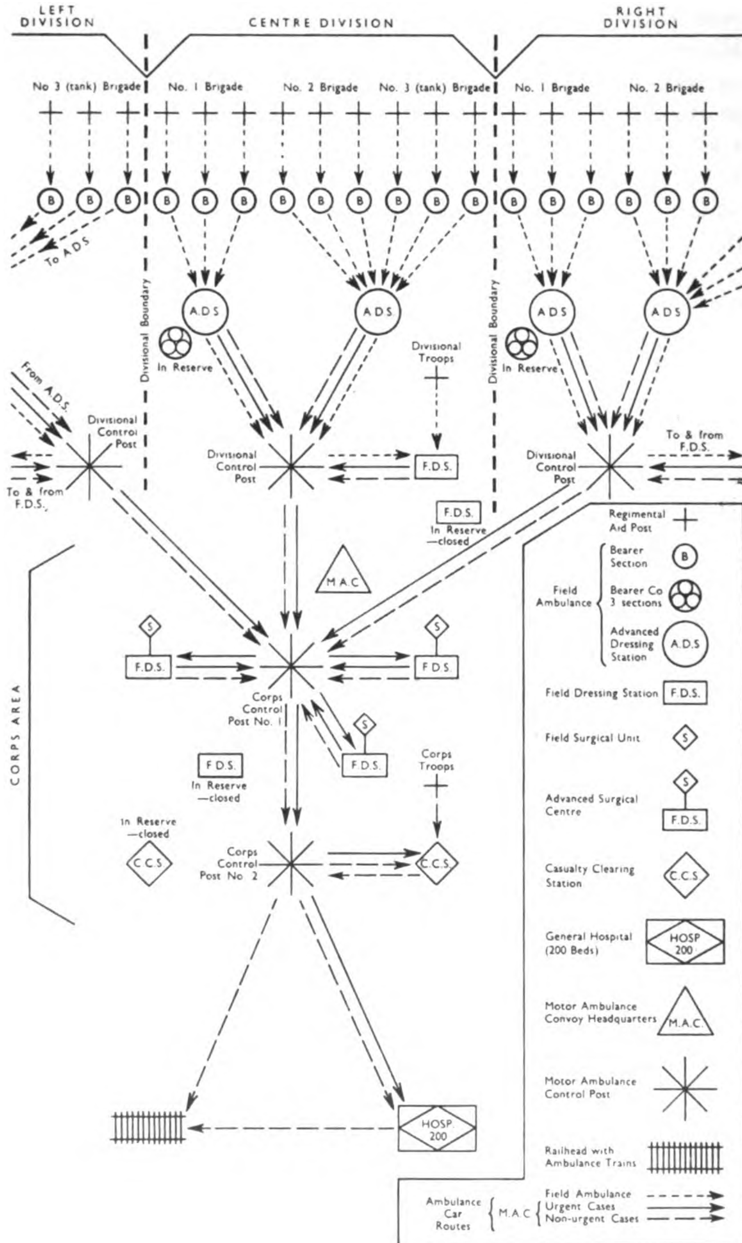

FIG. 6. Revised System of Casualty Evacuation (Hartgill Scheme)

in existing units, to provide special forms of treatment. These methods were uneconomical in regard both to hospital beds and to specialist staff. In the first place, the reservation and separation of a number of

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beds for a special type of case precluded the use of those beds for other types of case, whereas it was desirable that all beds should be available as required for any class of casualty in order to effect the greatest possible economy in hospital accommodation, equipment and personnel, and so also in shipping space required to transport them. Secondly, when the staffs of hospitals and special units undertaking the treatment of special cases were reinforced by the addition of the appropriate specialists, it frequently happened that the increase in specialists of one specialty was not counterbalanced by a corresponding reduction in specialists of other specialties although the total number of cases under treatment was no greater than formerly. These expedients also involved continual emendation of the authorised war establishments of the units affected and resulted in lack of uniformity and some confusion.

Early in 1943, it was decided to review the situation with the object of devising a more suitable basis upon which to make provision for staff and accommodation intended for special cases. The first consideration was that of specialist personnel where the most rigid economy had already become essential. As regards accommodation, there was no doubt that, from the aspect of making the best use of the beds available, the general hospital rather than the special unit was both the more convenient and the more economical. In order to make adequate provision for cases belonging to the several special groups, and to ensure thereby a well balanced hospital service for the force concerned, it was necessary to arrange that general hospitals should be more flexible in constitution and so better adapted to undertake special treatment in one direction or another. In the interests of administrative simplicity it was sought to combine uniformity in organisation with versatility in function.

A scheme was therefore evolved whereby all general hospitals were rendered capable of including, within their normal activities, provision for the treatment of special cases. Administratively these units remained as heretofore, that is to say, divided into a headquarters and two divisions medical and surgical respectively, and the total number of beds remained the same, 600 beds in the smaller, and 1,200 in the larger, type of hospital. Beds and staff, however, were to be regarded as composed of two parts, basic and special. Thus the 600-bed hospital consisted of a basic portion of 500 beds provided for general medical and surgical cases, and also of a special section of 100 beds which might be used, as circumstances required, either for general cases or for cases belonging to one or other of the special groups, i.e. orthopaedic, psychiatric or venereal. Similarly the hospital of 1,200 beds consisted of a basic 1,000 beds for general cases with two sections of 100 beds each either for general or for special cases; these two sections could be used, both of them for one special group of case, or each of them for different groups. Thus the scheme provided that every general hospital of 600 or of 1,200 beds

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could be made, in part at least, a hospital for the treatment of special classes of case as occasion demanded.

The establishments of these hospitals in regard to personnel were also divisible into two parts, basic and special. Personnel for the basic 500 beds of all hospitals of the 600-bed type were constant both in respect of numbers and trades. The same applied to the basic 1,000 beds in the 1,200-bed hospitals. In the special sections, however, the class or trade of personnel authorised by establishments varied according to the type of case for which the section catered. Thus masseurs in an orthopaedic section, mental orderlies in a psychiatric section, special treatment orderlies in a venereal section and nursing orderlies in a general medical and surgical section were interchangeable. Nevertheless, while varying in selected trades, the number of personnel in each of the sections was the same; thus the total personnel of the hospital, no matter what special section was included, reached the same sum total. It was, however, emphasised that the staff of the hospital was to be viewed as a whole. The personnel specifically allocated to any special section was not intended to represent the complete staff required by a section of 100 beds but merely to indicate such as were subject to interchange according to the function of the section.

With a view to attaining the greatest possible flexibility in the purely professional capacity of the general hospital it was decided to retain the same number of specialists as previously authorised but, for purposes of establishments, to divide them into two groups. The first of these groups comprised the specialists who were in any case required in connexion with the general work of the hospital; the second group was composed of those appropriate to the special activities of the particular hospital, and of any others, within the total number authorised, whom it was considered desirable to include for any reason. The specialist staff of a general hospital of 600 beds numbered eight. Of these, four were basic and specifically enumerated; they were: a surgeon, an anaesthetist, a pathologist and a radiologist. The remaining four might be selected as required from the following specialties: medicine, surgery, orthopaedic surgery, otology, ophthalmology, neurology, neuro-surgery, dermatology, psychiatry, venereology and anaesthetics. In the case of the general hospital of 1,200-beds the total number of specialists permitted was nine. Five of them were basic and included a physician in addition to those authorised for the 600-bed hospital. The remaining four specialists were subject to selection, and from the same specialties, as in the case of the smaller hospital.

Certain minor alterations, such as the adjustment of ranks and trades among technical staff and the redistribution in allotment of administrative and clerical personnel, were also made. All these changes involved total increases of six in the personnel of the 600-bed hospital,

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and of seven in the 1,200-bed hospital. At the same time medical and surgical equipment authorised for each type of hospital was revised to correspond with the new arrangement of basic and sectional beds. Thereby the provision of special equipment and apparatus was considerably reduced.

Some months were occupied in examining these proposals, in elaborating the detail of the scheme and in revising the relevant war establishments. Approval was obtained towards the end of 1943 and amended war establishments were issued in December of that year.

In addition to the advantages already described, the new scheme simplified the procedure entailed in connexion with the provision of hospital beds for special cases in any new expeditionary force in process of raising or preparation. Having determined the scale of hospital accommodation necessary, and having decided the proportion and class of special beds to be included, instead of raising and equipping afresh special hospitals for this or that specialty, it remained merely to nominate special sections, in the number and of the categories required, among the general hospitals already included in the medical component of the force. In this way the beds, staff and equipment were automatically allotted and came into being on mobilisation of the hospitals concerned. Two further developments in the organisation of general hospitals were made at this time. The first referred to the 200-bed hospital, to which, it should be noted, the scheme described above was not applicable. The need for ophthalmic surgery as early as possible in the process of casualty evacuation had been clearly demonstrated, and it appeared that the required facilities could be most suitably and conveniently provided by the 200-bed general hospital, a unit designed to work as far forward as ambulance railhead and so in position much in advance of the larger hospitals situated on lines of communication or at the base. The war establishments of this class of hospital were therefore amended to include, within the normal organisation, an ophthalmic section under the charge of a specialist in ophthalmology.

The other change was one that affected all three classes of general hospital. Hitherto, expansion of accommodation beyond the prescribed 200, 600 or 1,200 beds had been effected when occasion demanded by increasing the number of beds and by supplying additional staff as dictated by the circumstances of each case. It was now decided to adopt a uniform procedure by which hospitals, save in an emergency, would be expanded only by the addition of one or more extensions of not less than 100 beds each. Every extension so added was to carry an increment of staff whose ranks and professional or trade categories were prescribed by war establishments published in conjunction with those mentioned in reference to the inauguration of special sections for general hospitals.

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AIR EVACUATION OF CASUALTIES

The future of air transport in connexion with medical services and, especially, the use of aircraft for the long-distance conveyance of sick and injured were subjects included within the purview of the First International Sanitary Aviation Congress held in Paris in May 1929. The military aspects of the question figured prominently in the proceedings which included a series of discussions, demonstrations, and papers read by representatives of the fighting forces of several nations. The War Office was not directly represented but received a report submitted by an officer of the Royal Air Force Medical Service nominated by the Air Ministry to attend the congress.

During the year 1936, experiments in the use of aircraft for the carriage of sick were conducted under the auspices of the B.R.C.S., and subsequently the Army Medical Directorate was approached by various manufacturers of aircraft in regard to the design and construction of special types suitable as air ambulances. The matter was taken up within the War Office by D.G.A.M.S., who recalled that so far nothing had been done to include air transit of casualties in the Army's provision for war although air transport would almost certainly play a conspicuous part in any campaign of the future and, where road or rail communications were poorly developed, might well prove an indispensable means of casualty evacuation. The official view, however, was that the R.A.F., concentrating as they were upon their programme of expansion, could not be asked to provide special ambulance aircraft at that juncture. The question was, in fact, shelved with the somewhat sanguine expression of opinion that, if the particular circumstances of a campaign necessitated the evacuation of casualties by air, aircraft, both civil and military, could, and would, be adapted for the purpose.

In January 1937, the Commander-in-Chief of the British forces in Egypt drew attention to the difficulties which would arise in undertaking the evacuation of sick and wounded from a mobile force engaged in military operations in the Western Desert and separated, perhaps, for a period of several days, and by a distance of as much as 80 miles, from its advanced base.

Under current arrangements the only possible method of evacuating even serious cases would be by means of ambulance cars belonging to the one field ambulance included within the force. The number of ambulance cars then allotted to this was twelve, of which only half could be used for the purpose of evacuation, the other half being retained with the force for the collection of casualties. These six ambulance cars, each carrying four stretcher cases and performing almost certainly only one journey a day, would effect a total daily evacuation of not more than twenty-four cases. Although relief could be obtained by the provision of additional ambulance cars in the form of a M.A.C., the employment of

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more than a minimum of transport in connexion with a mobile force was to be deprecated. A further complication lay in the difficulty which would confront returning ambulance cars in locating a force continuously on the move. The most important consideration of all, however, was the harmful effect upon the seriously sick or wounded occasioned by long journeys over bad roads under desert conditions. It appeared that, in the circumstances visualised, the only efficient method of casualty evacuation was by air; it was therefore urged that steps should be taken at once to find suitable aircraft for this purpose and to organise a system of air ambulance transport for employment with the British Troops in Egypt.

The reply of the War Office was that in the circumstances of the time the R.A.F. could not be asked to allocate aircraft for this purpose; provisional arrangements, however, should be made so that in the event of war, suitable aircraft in civil ownership might be requisitioned for use as air ambulances. In the meantime, one of the home commands was about to conduct exercises in connexion with a scheme for supplying ground troops from the air; the opportunity would be taken to test the possibilities of evacuating casualties in transport aircraft returning to their bases.

A year later the War Office inquired of the Air Ministry concerning the prospects of obtaining civil aircraft for use as air ambulances in war, but were informed that the number of civil aircraft likely to be available was small and the demands great; the position was being investigated by the Committee of Imperial Defence, who would examine the requirements of the various government departments and determine the allocation of such civil aircraft as would be forthcoming.

Early in 1939, the Commander-in-Chief in Egypt again took up the question. He mentioned that the Royal Air Force was relinquishing certain types of bomber aircraft as being obsolete. He suggested the possibility of these being taken over and converted as air ambulances, for operation either by the Royal Air Force or by the Egyptian Government, to supply the needs of the forces, both Egyptian and British. The Air Ministry, however, did not support the proposal. Owing to heavy demands upon its resources there was little prospect of the Royal Air Force being able to organise an air ambulance service in Egypt; on the other hand the Government of Egypt was already fully engaged in developing their operational units and should not be asked to divert their efforts in other directions.

There the matter rested until after the outbreak of war, but in November 1939, the Army Council approached the Air Council mentioning that, apparently, a few casualties had already been evacuated from France by returning aircraft of the Royal Air Force and emphasising the value of air transport for cases urgently requiring special surgical

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treatment in home hospitals. The Air Council was asked if they would agree to the provision of air transport for cases of this kind, the number of which was not expected to be large.

It was not until the following June that the Army Council received from the Air Ministry a statement of the position informing them that two Oxford aircraft were being converted for use as air ambulances but that the conversion was presenting difficulties, and the aircraft were unlikely to be available within the next two months. Demands on available transport aircraft were so great as to preclude the allocation of any of them specifically for use as air ambulances. There were, however, in certain squadrons a number of aircraft capable of accommodating stretcher cases and the question of improving existing arrangements for slinging stretchers was being investigated. Requests for the conveyance of patients by air should be submitted to the Air Ministry as need arose when every effort would be made to meet them by the use of aircraft from these squadrons. In August 1940, the two Oxfords mentioned were ready, and three more aircraft, of the D.H.89 type, were in process of conversion. About the same time a request was received from the Commander-in-Chief, Middle East Forces, for five air ambulances. This request was transmitted to the Air Ministry who referred the matter to the Air Officer Commanding Royal Air Forces in the Middle East Command.

In the early autumn of 1940, the Secretary of State for War paid a visit to the Middle East where personal observation convinced him that distances were so great as to make it impossible to organise any system of overland transport, no matter how efficient, that would ensure the rapid transit and prompt hospital treatment of casualties from the Western Desert. He was therefore deeply impressed with the necessity of instituting systematic air transportation for the evacuation of the wounded, but it was clear that the Royal Air Force, although giving some measure of assistance in that direction, had not the resources with which to undertake an additional commitment of this kind were active operations to develop. Regarding the matter as urgent, he therefore sent a cable to the Secretary of State for Foreign Affairs, explaining the position and suggesting that perhaps the United States of America would be willing to provide the necessary air ambulances through the medium of the American Red Cross. The Air Ministry, when consulted, agreed, subject to the reservation that the provision of any aircraft in this manner must not interfere with the production of other American aircraft of operational types intended for delivery to Great Britain. They suggested that the request should be made to include pilots and maintenance personnel as well as aircraft; they also added the warning that the proposal might be inconsistent with the neutrality regulations of the U.S.A.

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After consultation between the Foreign Office, the War Office and the Air Ministry, the B.R.C.S. was asked to approach the American Red Cross through their representative in London. The latter body immediately agreed to sponsor the undertaking but after investigation were compelled to acknowledge their inability to comply with the request owing to the difficulties and delays encountered in their efforts to obtain the necessary equipment. They found that there were no aircraft, new or used, available for purchase; all had been bought up, and neither British nor American supply organisations would agree to priority being given to the American Red Cross for this purpose. In any case, even if priority were granted, no delivery could be guaranteed within six months at least. This whole-hearted but unavailing attempt on the part of the American Red Cross thus failed to provide the much desired relief.

Denied assistance from voluntary sources, the War Office decided to reopen the question on an official basis. They took the view that a squadron of at least twelve ambulances must somehow be obtained to meet essential needs in the Middle East. Having regard to the fact that the Army could not order aircraft from the Ministry of Supply, that no direct approach could be made to the Ministry of Aircraft Production, and that in any case the Royal Air Force would have to operate and maintain any aircraft provided, it was agreed that the best chance of success lay in an appeal for assistance addressed personally to the Secretary of State for Air by the Secretary of State for War.

Accordingly, in January 1941, the latter wrote explaining the dilemma in which the War Office was placed, describing the difficulties confronting the armies of the Middle East in regard to the evacuation of casualties and recapitulating the efforts which had been made in various directions to find a solution and the disappointing lack of success which had attended them. The Secretary of State for Air, while anxious to help in any way possible, stated unequivocally that there were no aircraft available for allocation as air ambulances. He agreed that new aircraft could be built for the purpose but only at the expense of others urgently required for operational duties; the formation of a special air ambulance unit during that year was therefore out of the question. Everything possible was being done to supply civil types of aircraft to the Middle East for communication purposes, and, in a real emergency, the Air Officer Commanding-in-Chief would do his best to make these aircraft available temporarily for the carriage of sick and wounded, but, during the then existing deficiency in pilots and aircraft, work of that kind must take second place.

Some six months later the War Office received an offer, from a group of Canadian citizens, to raise a fund for the supply of air ambulances to the British Army. The Air Ministry was duly consulted, but the

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Secretary of State for Air pointed out that the offer, generous though it was, did not provide a solution to the difficulty. It was not money that was lacking, but aircraft, and these could be supplied only by diverting labour, material and machine tools used for the manufacture of bomber and transport aircraft, the production of which was already seriously below requirements. The Secretary of State for Air added that in view of the urgency of the situation as regards air evacuation of casualties, the Commander-in-Chief, Middle East, had been requested to investigate the possibility of adapting some of his transport aircraft to carry stretchers. These aircraft would remain in the transport pool and be used as ambulances when required, but they could not be marked with the Geneva Cross as this would prevent their use as transports.

Meanwhile, the War Office had received a communication from the Commander-in-Chief, Middle East, drawing attention to the facts that the Australian Imperial Forces already had in the field an air ambulance unit operated by the Royal Australian Air Force and that the South African Union Defence Force would shortly have two aircraft devoted to the same purpose. He again urged the necessity for British air ambulances and recommended the provision of two squadrons of nine aircraft each, one for Egypt, and one for Palestine; the question of a third squadron for Persia and Iraq should be considered. He added that R.A.F. Headquarters did not support his proposal on the grounds that the allocation of aircraft specially for ambulance work would reduce their operational capacity by decreasing transport.

Again the War Office urged upon the Air Ministry the prime necessity for air ambulances and suggested the use of obsolete or obsolescent aircraft for the purpose. Again they were unsuccessful in overcoming the argument that military requirements for the use of transport aircraft must have first consideration, but nevertheless, large numbers of Army casualties were in fact being carried in aircraft returning after delivery of stores in forward areas. The point was also made that if an aircraft, however obsolete, were capable of being used as an ambulance, it was no less capable of use as a transport. In any case as air-warfare developed the use of obsolete types or of modified civil aircraft would become increasingly difficult.

Thereupon the Secretary of State for War returned to the attack and in a strongly worded letter to the Secretary of State for Air, expressed the opinion that, after two years of war in a country eminently suitable for an air ambulance service and when severe fighting might occur at any moment, the arrangements hitherto made were by no means adequate. He was sure that severe criticism would be forthcoming in Parliament and in the press if it were publicly known that not one aircraft had been specifically allocated for air ambulance duties; feeling would be the stronger in view of the provision made in that regard by

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the governments of Australia and South Africa. The Secretary of State for Air in his reply reiterated previous contentions and stated his utter inability to tie up aircraft by reserving them solely for casualty evacuation. Nevertheless, he was convinced that the extensive facilities already provided should go a long way to meet the needs of the Army.

The position in November 1941, when this deadlock was reached, may be summarised by the statement that in the Middle East Command there were (*a*) two air ambulances operated by the Royal Australian Air Force (*b*) one ambulance and four transport aircraft of the South African Union Defence Force and (*c*) one R.A.F. aircraft available for ambulance work. All other air evacuation of casualties depended on the use of transport aircraft under arrangements made locally with the Royal Air Force. The Commander-in-Chief, Middle East, considered the use of returning transport aircraft for the evacuation of casualties unsatisfactory in that prior notice of their arrival and their stay on the ground were too short to permit the collection of patients. Moreover, it was common knowledge that the enemy was making full use of air ambulances, and this knowledge, in the absence of adequate facilities on the British side, was having a bad effect upon the morale of the troops. At the same time the Commander-in-Chief in India was pressing for a squadron of six ambulances as the minimum requirement for Iraq.

Further representations were made to the Secretary of State for Air at the end of the year; these were answered by him early in January 1942, agreeing that the provision of air ambulances was highly desirable but could not be achieved except at the expense of other forms of air transport. There were many services requiring more transport aircraft, such as mails, ammunition, stores and other things, all of which made greater demands than could be met; all resources were fully mortgaged. It was suggested that if commanders-in-chief realised that provision of air ambulances would decrease other transport facilities they would be willing to examine further the possibilities of putting transport aircraft to the double purpose suggested. He concluded with the trenchant comment that difficulty in obtaining information as to the arrival of aircraft was an argument for improving, rather than abandoning, the scheme.

There for a time this highly contentious matter was perforce allowed to rest but, nevertheless, despite all obstacles, the evacuation of casualties by air was being developed to an ever-increasing extent. As the result of experience gained during military operations in the Western Desert a systematic procedure was being evolved, methods were being revised and perfected, while, at the same time, a more precise knowledge was obtained of the dangers, as well as the advantages, of air travel in relation to the various categories of injury and disease. In the period

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of eight months from the beginning of November 1941, to the end of June 1942, a total of 2,500 cases had been evacuated by air from the forward areas to base hospitals. The benefits of speed and smooth travelling conferred by this means of transit, in contrast to the ill effects of a prolonged rough journey over bad roads, were demonstrated more and more clearly as the number of casualties transported by air became greater. This was particularly marked in regard to cases of fractures of long bones, head injuries, abdominal conditions and penetrating wounds of the chest. While it was impossible to compute the number of lives saved as a direct result of the easier transit provided and the earlier surgical treatment made available by air evacuation, there was no question that this method of casualty disposal had even by that time established its claim to be regarded as the method of choice, not only on humanitarian grounds but also from the aspect of military efficiency in that total wastage was reduced by reason of the accelerated return to duty of those wounded in battle.

In anticipation of the expansion in air evacuation of casualties likely to develop in consequence of the invasion of North Africa by the Allies, the Army Medical Directorate, in November 1942, prepared a general directive on this subject for the guidance of the medical services. These instructions, although devoted primarily to the technical considerations governing the selection and preparation of cases for air travel, also served to clarify the situation in several particulars of administrative importance. For the information of all concerned, it intimated the agreement of the War Office and the Air Ministry that evacuation of casualties by air was the responsibility of the Royal Air Force from the time the casualty was admitted to the R.A.F. medical receiving station at the airfield of departure until his disemplaning and dispatch from the airfield of arrival. Similarly, medical personnel and equipment carried in aircraft belonged to the Royal Air Force. It was made clear that, in the absence of air ambulances, reliance must be placed on returning transport aircraft modified for the carriage of casualties. The decision as to which airfields were to be used for the dispatch and reception of casualties conveyed by air would lie with the headquarters of the appropriate air group. The Royal Air Force would provide medical units, i.e. medical reception stations, for holding casualties before emplaning and after disemplaning. Contact would be maintained between the R.A.F. senior medical officer at the dispatching airfield and the commanding officers of neighbouring field medical units in order that cases for evacuation might be sent to the medical reception station in accordance with the time-schedule of departing aircraft. Emphasis was laid on the necessity for prompt dispatch and speedy loading so as to avoid delay in the return of aircraft and interference with their operational functions. The loading of a complement of eighteen stretcher cases should be completed within

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twenty minutes if patients were properly prepared and medical personnel thoroughly trained in the technique of loading. Arrival of casualties at the receiving airfield would be notified to the local military medical authority by the R.A.F. officer commanding.

In summarising the procedure to be observed in preparing cases for conveyance by air, stress was placed upon the truth that the more thorough the preparation, the less the attention required while in transit. Wounds must be dressed and fractures completely immobilised before emplaning. No case should be transported by air immediately after a surgical operation or a haemorrhage, nor while still suffering from shock no matter what the cause. A light meal, including limited fluids, should be given an hour before emplaning, and both bladder and bowels should be emptied shortly before departure; a sedative should be given to ensure tranquillity and to prevent airsickness. Patients should be as nearly fully clothed as possible and provided with hot-water bottles; these might be necessary even in hot climates if the flight were to be made at high altitudes. Unless a medical officer or nursing sister were travelling in the aircraft, patients should be accompanied by a nursing orderly, specially trained in air ambulance work, to attend to their immediate wants, to give first aid or hypodermic injections or to administer oxygen as required. The guiding principle in the selection of cases for evacuation by air was that due regard should be paid, first, to the opportunity thus presented for the rapid transfer of cases requiring special treatment of a kind where early attention is of primary importance in obtaining a successful result, and secondly, to considerations of a humanitarian nature likely to have an effect upon morale. As air evacuation to the home base could be made available for not more than a small proportion of casualties, it was necessary to exclude any case likely to be fit for duty within three weeks. In this connexion it was noted that the senior R.A.F. medical officer was vested with complete authority in respect of the final selection of cases for air evacuation.

Cases suitable for conveyance by air were enumerated in order of priority as follows:

(*a*) maxillo-facial injuries, including fractures of the lower jaw, all of which required early and special treatment;

(*b*) burns, especially those of face and hands, all of which should be evacuated by air before the onset of a secondary shock, i.e. within the first forty-eight hours; failing this, and particularly where the burns were severe in extent or degree, the patient should be retained for twenty-four hours to permit treatment of shock by plasma or serum;

(*c*) injuries to the eye and in particular those with perforation of the globe or intra-ocular foreign body;

(*d*) fractures of limbs and injuries of joints after immobilisation in splints or plaster;

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(*e*) injuries to the head, except severe cases deeply unconscious or those whose breathing was either laboured and slow or shallow and irregular; it was to be remembered that many apparently trivial injuries associated with wounds of the scalp were in reality potentially dangerous and therefore merited early evacuation for special investigation;

(*f*) fractures of the pelvis and spine uncomplicated by injury to viscera or spinal cord;

(*g*) empyaema which, in contradistinction to most thoracic cases, travelled well by air and moreover benefited considerably from treatment at a centre for thoracic surgery;

(*h*) tuberculosis in the absence of marked anaemia or tendency to haemoptysis;

(*i*) enteric fever and dysentery in the early stages of the disease and when the flight was not to be undertaken at a high level.

On the other hand there were certain categories considered as unsuitable for travel by air:

(*a*) shock, actual or potential, was invariably an indication for retention and resuscitation, with any additional treatment necessary for injuries, over a period of 24 or even 36 hours;

(*b*) abdominal or thoracic wounds were in general unsuitable because in the first place they required adequate surgical treatment before being moved, and, secondly, because they were liable to suffer from distension, either in the gut or in the thorax, as a result of reduced atmospheric pressure during flight; abdominal cases ought not to be evacuated within five days of operation;

(*c*) acute abdominal diseases, such as perforated peptic ulcer, appendicitis, peritonitis and intestinal obstruction, which were always adversely affected by air transit;

(*d*) haemorrhage of any kind if recent or severe;

(*e*) gas gangrene which invariably required adequate treatment before transportation;

(*f*) respiratory and cardiac diseases, sufferers from these diseases being particularly bad subjects for air travel;

(*g*) meningitis, during the stage of raised intra-cranial pressure;

(*h*) gas casualties, including patients suffering from injuries due to liquid gas, the latter being inadmissible to aircraft until decontaminated.

Comprehensive instructions such as these, founded as they were upon practical experience, suggest that air transit had by now been accepted as routine method for the evacuation of casualties from forward areas to base, at all events in the Mediterranean theatre of operations. That this was indeed the case is shown by the fact that whereas but 2,500 patients had been conveyed by air within the period of eight months from the beginning of November 1941, to the end of June 1942, the number so

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carried during the next eight months, July 1942, to February 1943, was nearly three times as great. Of these 1,300 were evacuated by air ambulances, most of them by the Australian Air Ambulance Unit, while 6,000 were carried in transport aircraft. During the later part of this period air evacuation was already being employed, although not to any marked extent, in connexion with the North African campaign, which had opened in November 1942. Here, development of the casualty evacuation service was more rapid, and by May 1943, some 16,000 cases, 4,000 British and 12,000 Americans, had been conveyed by aircraft in this theatre of operations. The aircraft used were almost invariably transport aircraft of the U.S. forces.

The state of affairs during the earlier months of 1943 was summarised in a report submitted to D.G.A.M.S. in May of that year by the Inspector of Medical Services on his return from a tour in the Middle East and in North Africa. It appeared that, while great advances had been made in the establishment of a system for the air evacuation of casualties, there remained serious difficulties including: the uncertainty as to the arrival of aircraft at the dispatching airfield; the long distances which usually separated the airfield from the hospitals holding the casualties for evacuation; and the lack of means of communication between airfield and hospital, resulting sometimes in serious cases being sent on long journeys over bad roads from hospital to airfield only to be returned because no aircraft could be made available owing to bad weather or other cause. Almost all air evacuation in North Africa and Libya was being performed by American aircraft, and although there was an American unit termed an air evacuation squadron its function was in fact primarily that of transport to which it was frequently assigned at the last minute resulting in the absence of aircraft for casualty evacuation. Evacuation of casualties by the Royal Air Force was then a rarity and was not systematic in operation.

The report stated that in order to establish air evacuation of casualties on a practical basis the Army Medical Services required special aircraft of their own working from specified airfields; hospitals should be located so as to be conveniently accessible, and an efficient system of communication, either by telephone or wireless, must be devised; it was argued that the transport of casualties from the scene of operations in North Africa to the hospitals of the United Kingdom could be undertaken more economically by aircraft than by hospital ship. The latter carried 400 to 500 patients, and at least ten days were spent on the voyage from Algiers to England. Ten transport aircraft, each carrying 20 cases and each making two journeys, could convey 400 cases direct to the United Kingdom within 48 hours. The hospital ship then occupied another ten days on the return voyage during which time the same aircraft would have been able to dispose of a further 400 cases. Moreover, the speedier

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means of transportation provided by aircraft would permit of reduction in the number of hospital beds required to hold cases pending evacuation. Given a sufficient number of aircraft in North Africa and the Middle East, the use of hospital ships might be almost entirely discontinued. As regards the frequently reiterated statement that the allocation of special aircraft solely for medical duties implied their flying empty in one direction, this was a misconception; on the forward journey these aircraft would be used for the carriage of medical personnel and medical stores, an urgent need of the moment especially where hospitals were situated at a great distance from base depots.

While this report was under consideration, the War Office was notified by the Air Ministry that a flight of three aircraft had been allocated for use as air ambulances in North Africa. These aircraft, although fitted as ambulances, were not marked with the Geneva Cross as they were required to carry military stores on their outward journeys. They could each carry 15 to 20 cases and make several journeys a day. It was the intention that they should operate between forward areas and air transport advanced bases where casualties would be transferred for conveyance to the base by transport aircraft running to a pre-arranged timetable. In this way a regular service for the evacuation of casualties from the fighting zone to the base could be maintained without wasting space in the aircraft employed, since they would carry a full load in each direction of their flights, i.e. stores on the outward journey and casualties on the return journey. The Air Ministry was satisfied that resources in aircraft and man-power did not yet permit the provision of whole-time air ambulances.

With the object of obtaining precise information as to the efficiency of the organisation for air evacuation generally, the Army Medical Directorate called for reports from all Ds.M.S. and D.Ds.M.S. in the several theatres of war overseas. While there was a striking consensus in the views expressed from these various sources, the position was best illustrated by the conditions obtaining in Sicily where invasion by allied forces had recently taken place and where the nature of the operations, involving intensive fighting in a country with poor communications and situated a considerable distance from the main base, demanded every facility for the speedy and uninterrupted evacuation of casualties.

At the outset of the Sicilian campaign a scheme was prepared for a co-ordinated casualty evacuation service between Sicily and North Africa. As soon as airfields were available the evacuation of casualties was to begin, air ambulances being used more or less exclusively for transit between advanced airfields and the base airfield in the Island, while returning transport aircraft would undertake the longer journey from Sicily to North Africa. This programme was successfully accomplished; the aircraft used were the Bombay ambulance and the Dakota D.C.2. transport.

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At all the forward airfields handling casualties there was stationed a medical unit or sub-unit, e.g. a section of a field ambulance with accommodation for 30 to 40 cases sent for evacuation from adjacent field ambulances or C.C.Ss. Whenever possible all casualties so held were dispatched before nightfall to a central base airfield. Thus a flight of some twenty minutes was substituted for a journey of three or four hours over exceedingly bad roads. At the base airfields there was a larger medical establishment providing more accommodation and equipped, if need be, to hold casualties overnight; nevertheless every effort was made to avoid doing so on the grounds that a unit of that kind was not entirely suitable for any protracted retention of the seriously sick or wounded. For this reason arrangements were made with neighbouring hospitals whereby the number of cases sent to the holding unit for dispatch upon the final stage of the journey was restricted to the number that could be conveyed by such aircraft as were expected to be available. From the base airfield, patients were evacuated to North Africa, usually Tripoli or Tunis, and sometimes to Malta by transport, courier and, occasionally, operational aircraft. In this way, over 10,000 cases were evacuated in four weeks during July and August 1943, 5,000 from one airfield alone, Casabile.

Air evacuation as a means of disposing of casualties had proved invaluable, for without it there would have been marked overcrowding of the necessarily limited hospital accommodation available in Sicily. But, although an improvement upon the methods of the past, the existing system was lacking in several important respects. In the first place, there was always uncertainty as to whether or not aircraft would be available when required. It frequently happened that patients were brought to airfields in accordance with a programme of casualty evacuation and later returned to their hospitals because some or even all of the aircraft expected had failed to arrive. An unnecessary double journey such as this could but have a harmful effect upon a serious case, the more so when the hospital was situated at a distance from the airfield. A second defect, which tended to aggravate the first, was the absence of an efficient system of communication between airfields and medical units. Where the arrival of aircraft was irregular, and dispatch riders the only means of informing medical units when aircraft were available for casualty removal, it was often impossible to arrange for the collection of patients and their conveyance to the airfield before the time of departure of the aircraft. Uncertainty as to the arrival of aircraft and deficiencies in communications resulted in the retention of cases, in larger numbers and for longer periods than was desirable, by medical air evacuation units.

The great drawback, however, was the lack of aircraft entirely at the disposal of the medical services. The possession of even a few air

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ambulances had given ample proof of the advantages that would accrue if aircraft were allocated solely for the purpose of casualty evacuation. Evacuation could then be organised in accordance with a schedule of flights arranged as circumstances dictated and secure in the knowledge that under normal conditions aircraft would be available as and where required. When for any reason it became necessary to alter arrangements previously made, hospitals and other units would receive direct, and therefore earlier, notification from the medical authorities, and any unnecessary movement of patients from hospital to airfield would be obviated. Instead of the necessity for casualties to be assembled and await the supply of aircraft, aircraft would be called forward when, and in the numbers, required to convey casualties ready for evacuation; prolonged retention of patients by evacuation or holding units would thus be eliminated. The objection that the allocation of aircraft solely for duty with the medical services would be uneconomical, on the grounds of waste of space in aircraft on the forward journey, was not valid, for this space would be fully utilised in the carriage of medical personnel and the conveyance of medical supplies, including blood products, for the replenishment of medical units in forward areas.

It was considered that essential needs could not be met without the allocation of transport aircraft of the Dakota D.C.3. type for use exclusively by the medical services. The scale of provision now suggested was one squadron of twelve aircraft per army with an extra squadron for duties on lines of communication. In addition, small aircraft capable of carrying two stretcher cases or four walking cases were required for use in the forward zone leaving the larger types for the conveyance of the greater numbers of casualties to be transferred from advanced base airfields to base hospital areas, i.e. to North Africa or the United Kingdom. If the transport of casualties by air were fully developed air evacuation to England might well become the routine procedure. Wherever possible there should be airfields set apart for the medical services and situated close to the medical units they were intended to serve. There was necessity in the future to locate C.C.Ss. and general hospitals in the same relation to airfields as they had been to rail communications in the past, i.e. near, but not too near, for fear of bombing. Duties in connexion with the air evacuation of casualties should be undertaken by F.D.Ss., provided on the scale of three per army and supplemented by additional bearers and aircraft orderlies, specially included for that purpose within the medical component of the force. Finally, an efficient system of communication between airfields and medical holding units was essential.

On August 14, 1943, the Army Council again wrote to the Air Council in reference to the provision of aircraft for medical services, a matter which, as the letter remarked, was first raised as long before as May 1938,

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and had been the subject of correspondence between the two Secretaries of State in 1941 and 1942. The Army Council stated that reports from North Africa, including some from Members of the Council, had been carefully considered and as a result they found themselves unable to agree that the use of operational transport aircraft for the evacuation of casualties fulfilled their requirements. In support of their contention they cited most of the arguments set out above in regard to conditions then obtaining in Sicily and North Africa, and they expressed the opinion that it was essential to provide in each theatre of war a small number of aircraft to operate as air ambulances in addition to the operational transport aircraft already in use. In air evacuation of casualties there were for consideration two distinct stages differing in their requirements. The first was evacuation by light aircraft from improvised landing grounds, close to the A.D.Ss. established by field ambulances in forward areas, to C.C.Ss. near advanced airfields. The second was further evacuation, presumably by aircraft comparable to normal transport types, from advanced airfields to base hospitals. The probable daily incidence of cases for air evacuation per 50,000 troops engaged was estimated at four stretcher cases and two sitting cases in respect of the first stage, and at twelve stretcher cases and eight sitting cases for the second stage. These figures, however, were to be regarded as a minimum, for in operations characterised by especially difficult lines of communication, they might well be substantially greater. Nevertheless, they would serve as a basis upon which to determine the number of aircraft necessary. The Army Council were anxious that the light aircraft required for the first stage should be provided immediately and on the scale indicated; as regards the second stage, they recognised that, during the then-existing shortage of transport aircraft, the allocation of the requisite number for casualty evacuation might not be possible, but they hoped that the Air Ministry would do so as soon as the situation permitted. In the meanwhile, Army and Royal Air Force Commanders-in-Chief in each theatre must make the best arrangements they could with the resources at their disposal.

Shortly after the dispatch of this letter, further details were forthcoming in regard to air evacuation of casualties as conducted at the time of, and shortly after, the invasion of Sicily. It now appeared that although operations began early on July 10, 1943, and transport aircraft landed three days later, evacuation by air was intermittent and numbers averaged only about twenty daily, until July 22, that is to say, until twelve days after the beginning of the operation and nine days after the arrival of transport aircraft. Thereafter the numbers rapidly increased, 328 being evacuated on August 4. During the period July 7, to August 14, the casualties transported by air in the Sicilian and North African theatre of war were as follows:

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(*a*) from forward airfields to base airfields in Sicily by air ambulance	1,918
(*b*) from base airfields in Sicily to base areas in North Africa, Malta, etc., by transport aircraft	8,611
(*c*) transfers between bases outside Sicily by both air ambulance and transport aircraft	4,369
Total	14,898

The system of evacuation was therefore defective in so far as there was this undue delay in bringing the service into operation. There were also other defects. One of the major problems of hospitals located in forward and intermediate zones was that of keeping a sufficient reserve of beds to accommodate any influx of casualties that might eventuate. Rapid clearance of beds was therefore frequently necessary and was effected by utilising air evacuation. Consequently there were occasions when discrimination was not exercised sufficiently to ensure the selection of cases most suitable for this form of transportation. Again, at one stage of the operation it was found that forward airfields were unusable whereas port facilities were conveniently accessible, and it was therefore deemed preferable to put patients on board a hospital ship for direct long-distance evacuation rather than to send them over bad roads to airfields in the rear.

It was suggested that, in circumstances such as these, early evacuation depended upon three main factors: first, early establishment of collecting centres at airfields where transport aircraft would land; secondly, prior knowledge of airfields likely to be used by transport aircraft; and thirdly, prior knowledge of the numbers of aircraft expected to arrive. It was therefore considered essential that, before air transport were brought into service for casualty evacuation, a medical liaison officer should be sent forward to make arrangements with field medical units for the transfer of casualties to the appropriate landing grounds. He would require to be kept informed of the plan for the future employment of transport aircraft in order that reception and holding units might be speedily transferred to other airfields as required and the line of air evacuation adjusted in accordance with changes in the operational disposition of transport aircraft. The control of air evacuation and liaison with transport groups of transport command required a special staff organisation devised for the purpose.

Much about the same time the War Office received from Burma information which emphasised the need for light air ambulances working from improvised landing strips in connexion with jungle warfare. This information was communicated to the Air Ministry by the Army Council in amplification of their letter addressed to the Air Council in August 1943. In the following December, the Air Council replied stating that they accepted the commitment for the evacuation of casualties on the

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basis estimated by the Army Council, who would, doubtless, appreciate that there were many and various purposes for which transport aircraft were required. It was, therefore, thought impracticable to place any limitations upon the discretion of Air Commanders-in-Chief in the allotment of priorities as required by tactical needs. The Air Council was, however, prepared to issue instructions that the evacuation of casualties, for which any other means of transportation was inadvisable or impracticable, was normally to be regarded as a task of high consultation with Army Commanders-in-Chief, having regard to other calls for air transport. The Air Council did not favour the division of casualty evacuation into two distinct stages, using different types of aircraft, as suggested by the Army Council. It was considered unwise to adopt so rigid an organisation, inasmuch as an airfield suitable for light transport aircraft, such as the Anson, Oxford, or Dominic, would usually prove no less suitable for large aircraft such as the Dakota, and it might be found more economical to use the latter type for the forward, as well as for the rearward, stage of evacuation. The decision as to the type of aircraft to be used must be left to air commanders who would take into account the numbers and types of aircraft available and also the characteristics of the appropriate airfields and landing grounds. The Air Council would arrange that aircraft used for the evacuation of casualties were fitted for the carriage of stretchers, but they were unable to agree that any class of aircraft should be marked with the Geneva Cross, as this would place a restriction upon the use of available transport units which were likely to be all too few in relation to the extensive requirements for air transport generally.

In the Army Council's view this statement did not provide the assurances they sought, least of all in the matter of light air ambulances, the need for which was becoming increasingly apparent in reports received from various theatres of war, and from Burma in particular. Nor was the situation greatly improved when shortly afterwards the Air Ministry allocated to certain specified transport squadrons overseas a small number of light aircraft for the purpose of assisting in the evacuation of casualties but reserved to air commanders the right to use them for other tasks as circumstances required. With the object of reaching agreement in this long-debated and, indeed, highly contentious question, a meeting between members of the Army Council and of the Air Council took place in February 1944. The former reiterated their conviction that a limited number of aircraft specifically allotted for ambulance services was an essential need of the Army. The American forces already had such an organisation which had in fact been responsible for the conveyance of three-quarters of the casualties evacuated by air from Sicily and Italy. A similar organisation within the Royal Air Force was desirable. Admittedly, the situation was reasonably

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satisfactory in regard to the carriage of patients from the C.C.S. to the base hospital, and it was accepted that this service could be undertaken by transport aircraft returning to the base after carrying freight to forward areas. On the other hand, there was considerable anxiety in regard to facilities for air evacuation between the front and the C.C.S. Adequate provision in this respect was of the utmost importance from the aspect of saving life and therefore of maintaining morale. Nowhere was this more evident than in Burma where, such were the difficulties that beset transportation of casualties overland, a seriously wounded man had little chance of recovery unless conveyed by air. The moral effect of air evacuation was therefore profound.

From the point of view of the Air Council it was explained that there was no valid distinction between the American and the British forces in effecting the air evacuation of casualties in the Mediterranean. All aircraft belonged to the one command and were used without discrimination; the American forces had conveyed the larger number of casualties because they employed the larger number of transport aircraft. It was gratifying to know that the arrangements made for air evacuation during the Sicilian campaign were not subject to criticism, and there was no doubt that equally efficient arrangements would be made for future operations. It must be understood that it remained at the discretion of the air commander, in consultation with the military commander, to reduce the extent of air evacuation to meet special circumstances. As regards the allocation of light aircraft, although the Royal Air Force wished to assist fully in the transport of casualties, the Air Council had decided that a commander's hands must not be tied in the use of transport aircraft, for it was obvious that in an emergency, it might be necessary to use all available aircraft for carrying food or munitions even at the expense of conveying medical supplies or evacuating casualties. Light aircraft, however, were being supplied to the transport groups of the expeditionary air forces in North-west Europe, in the Mediterranean and in South-east Asia. One squadron in each would have an additional flight of six light aircraft of the 'Anson' or similar type together with crews. All other squadrons in the transport groups would have five light aircraft in addition to their transport aircraft but without air crews, which would have to be supplied from the general resources of the squadron, and without a full complement of maintenance personnel. For reasons already stated it would not be possible, while the shortage of transport aircraft continued, to allocate these light aircraft solely for casualty evacuation. In spite of the Army Council's contention that a few aircraft so allocated would solve the whole problem and that the priority of casualty evacuation had never been sufficiently recognised, it was, in the Air Council's view, impossible to place aircraft of the Royal Air Force under Army command. It was for the Supreme Allied

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Commander alone to decide if aircraft were to be used exclusively for casualty evacuation. The Air Council was prepared to call the attention of all concerned to the importance of casualty evacuation but not to say that certain aircraft could never be used for any other purpose. Finally, however, it was agreed that instructions should be issued explaining that light transport flights were provided primarily for casualty evacuation and that only in special circumstances, and by agreement between the appropriate military and air commanders, would any other use receive priority. The substance of the conclusions reached in the course of this discussion were subsequently communicated both by the War Office and the Air Ministry to all concerned.

This meeting was by no means entirely satisfactory from the point of view of the War Office inasmuch as it had not been possible to obtain acceptance of the cardinal principle that air evacuation of casualties was of sufficient moment to demand a separate service and a distinct organisation for its operation, tactical considerations to the contrary notwithstanding. Nevertheless, it served to clarify the position and to assist in the preparation of the final plan for casualty evacuation during the forthcoming operations in North-west Europe, where there appeared to be great possibilities for the extensive use of air transit as a means of ensuring the rapid transfer of serious or special cases from the fighting zone to hospitals in the United Kingdom.

Some three months after the landing of the Allied Armies in France, D.M.S., 21 Army Group, in response to an enquiry from the War Office, recorded his comments on air evacuation of casualties as carried out during the battles in Normandy and the subsequent advance through France and Belgium. In the first place, casualties in need of evacuation by air proved far more numerous than had been expected. The daily incidence per 50,000 troops engaged was, as stated above, originally estimated at four stretcher cases and two sitting cases for the forward stage of evacuation, and at twelve stretcher cases and eight sitting cases in the rearward stage. In point of fact, approximately 50 stretcher cases and 50 walking cases per day required air transit from forward areas to C.C.Ss.; for evacuation from advanced airfields to base hospitals the numbers were similar. Light aircraft of the Sparrow type primarily intended for flights between forward air landing strips and advanced hospitals were of old design and liable to break down; at that moment, two of the six were out of action. Also, the number allotted was too small, for twice as many could have been used with advantage. In any case they should be replaced by aircraft of a newer type, preferably the Dakota which required no greater facilities for landing or take-off than did the Sparrow. Apart from the work of the Sparrows, most of the evacuation was from base landing strips to the United Kingdom by means of Dakotas of Transport Command. Many of these were fitted

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with stretcher racks and carried nursing orderlies, but none was specifically allotted for the carriage of casualties, hence air evacuation was largely a matter of chance and depended entirely upon the number of aircraft carrying stores from the United Kingdom and so available to take casualties on the return journey. Thus on occasions there was little or no opportunity of air transit for patients. Arrangements for air evacuation became more difficult as lines of communication grew longer. When the number of airfields for the reception of stores was small, it was comparatively easy to ensure the assembly of sufficient casualties to fill all the aircraft available. As lines of communication were extended, airfields were multiplied, and it frequently happened that transport aircraft landed at places where there were no casualties to take advantage of the facilities offered. In any event it was invariably when medical needs were greatest that aircraft were unavailable on account of their operational commitments and that, consequently, the system of air evacuation broke down. Had one squadron of medically equipped Dakotas been allocated entirely to air evacuation, results must have been very different. In these circumstances aircraft would have been available at all times and for disposition wherever their services were most needed. The D.M.S. concluded by remarking, first, that evacuation by air was, without doubt, the ideal method of casualty disposal, but it required greater provision in aircraft to be specifically allotted for medical purposes, and, secondly, that bodies responsible for operational planning must be brought to realise that the evacuation of casualties was as essential a commitment as the bringing in of supplies.

Confirmation of these views was forthcoming from the personal experiences of one of the War Office consulting surgeons paying a visit to 21 Army Group much about the same time. He stated that, once in operation, evacuation appeared to work very smoothly. For example, the aircraft in which he himself returned was being loaded, at a distant part of the airfield, by the medical unit concerned within ten minutes of its being informed that the aircraft was available for the conveyance of casualties. Eighteen stretcher cases and three walking cases with their kit were loaded within seventeen minutes. But he found everywhere he went a feeling of dissatisfaction and frustration at the difficulties encountered in organising this inestimable, and indeed indispensable, means of casualty evacuation. It was a fact that cases were on occasions ordered to the airfield, waited there several hours and were then taken back to hospital owing to the withdrawal of aircraft and the absence of suitable accommodation for holding patients at the airfield. Casualties were sometimes emplaned in aircraft having no nursing orderlies while from the same airfield other aircraft carrying nursing orderlies were sent home empty. Aircraft with medical staff had lain overnight at an airfield in Belgium and had departed the following morning

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empty, although at nearby hospitals and airfields there were patients awaiting evacuation. These mischances were more than could be accounted for by operational needs and vagaries of weather. As regards the accommodation and care of patients, it was recommended that in connexion with each dispatching airfield there should be a holding unit of some 200 beds, provided by a F.D.S. or C.C.S., in addition to the air evacuation centre of the Royal Air Force as the latter was intended to undertake only the loading of patients and their incidental feeding and attention.

Imperfections in organisation and difficulties in administration notwithstanding, air evacuation of casualties from the Western Front was increasingly used not only for the relatively small group of cases requiring immediate transfer to special treatment centres but also as a routine measure applicable to patients of many and various categories. Extended facilities in this respect had a twofold advantage in that the recovery of patients in general was assisted by this easy and speedy method of transit while the rapid clearance of serious cases from the theatre of operation was continuously effected thus easing the burden on the hospitals of the expeditionary force hard put to it to find adequate accommodation of a satisfactory kind. Every effort was therefore made to develop this casualty service to the utmost, and by the end of 1944, more than a third of the total number of casualties evacuated to the United Kingdom had been conveyed by air.

In Burma, where lines of communication were long and where jungle and rough tracks made the carriage of casualties by road transport an exhausting, and even a dangerous, ordeal, yet greater reliance was placed in evacuation by air. Here, in addition to the usual requirements in transport aircraft, there was a great demand for small light aircraft capable of using short improvised landing strips. Provision for these had been authorised on the scale of 16 per corps, but it was already apparent that more would be necessary. Many types, both American and British, had been tried with various degrees of success but none had yet proved entirely satisfactory. Up to the end of 1944, the aircraft mostly used was the L.5 or Flying Jeep, a single-seater monoplane with low landing speed requiring a landing strip of not more than 350 yards in length. While excellent in performance and easy to load, most aircraft of this type could carry but one sitting case each although a proportion of the total number available, about one-sixth, had been fitted to accommodate a stretcher case.

These aircraft belonged to American squadrons one of which worked with each of the two British corps operating in that theatre. Medium aircraft used were the British Anson, eventually proved to be an unsatisfactory type for this class of work, and the American Norseman which required a long take-off; the heavy aircraft employed were, as

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usual, Dakotas of more than one kind. Small gliders were also used to some extent in place of medium aircraft, but their flight, usually undertaken at a considerable height, tended to be rough, and the 'snatch' of the towing aircraft caused much discomfort to the patients carried.

The chain of air evacuation began in the divisional zone at a forward air-strip situated close to the forward M.D.S. established by a divisional field ambulance. Personnel of the unit were themselves able to prepare an air-strip of this kind measuring 400 yards in length by 30 yards in breadth merely by removing obstructions and obtaining an approximately level surface. Improvisation of this sort was sufficient for the light ambulance aircraft used to carry casualties on the first stage of evacuation, i.e. from forward air strips in the divisional zone to the forward transit centre in the corps zone further to the rear.

The forward transit centre was located in proximity to the rearward M.D.S., provided by a corps field ambulance, assisted by a surgical team to give operative surgical treatment. Here a larger air-strip of some 600–700 yards in length by 40 yards in breadth was required for the medium aircraft which undertook the second stage of evacuation to the rearward transit centre in an area where casualty clearing stations were established. The rearward transit centre required two landing grounds: an air-strip for the medium aircraft working forward; and an airfield of at least 1,500 yards by 50 yards for the use of the large transport aircraft employed on the stage of evacuation in conveying casualties from C.C.Ss to general hospitals at the base. Experience showed that the dexterity with which patients were handled at these air-strips and transit centres depended almost as much upon the care exercised in the initial planning and layout as upon the efficiency of the organisation subsequently developed. For example, it was essential that the wards should be large enough to accommodate the maximum number of cases for which there were likely to be aircraft available. Only in this way was it possible to avoid delaying the departure of aircraft and the rushing to the airfield of supplementary cases hurriedly collected from nearby medical units. Great advantage was to be derived from locating wards as close as possible to the air-strip and at the end where aircraft completed their run in. Treatment rooms must be adequate both for the routine treatment of patients awaiting evacuation and for dealing with emergencies among serious cases. For loading duties, personnel, apart from nursing orderlies and ward staff, should be specially allocated in numbers sufficient to ensure the simultaneous loading of all aircraft likely to land at any one time; each type of aircraft required for its loading a set drill, and loading teams needed to be thoroughly trained and proficient in each. Where one air strip was used at the same time for both reception and dispatch of casualties, or for aircraft conveying patients to different

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destinations, confusion was likely to arise unless separate wards clearly marked were allotted to the several categories awaiting disposal. Much was to be gained in time and convenience if only a short distance separated the air-strip from surrounding medical units; telephonic communication between them was essential to efficiency.

Reserves of stretchers and blankets were formed at each air-strip and transit centre by ensuring that forward-going aircraft never travelled empty. In point of fact, light and medium aircraft employed in the conveyance of casualties were extensively used for the carriage of medical stores and equipment from base to forward areas, thus proving the truth of the contention, so often reiterated in the past, that the space available in aircraft assigned to casualty evacuation would not be wasted on the forward journey. In this connexion it is pertinent to note that the allocation of light and medium aircraft specifically as air ambulances, for such they virtually were, made it possible to devise a reasonably systematic and efficient service of air evacuation. That the organisation would have proved still more efficient and the evacuation more expeditious, had control of the aircraft been vested in the medical services and intercommunication simplified in consequence, there is no reason to doubt.

The rapid development of air evacuation in all theatres of war, the large increase in the total number of casualties thus conveyed, and the extension of this form of evacuation to almost every class of case, produced little change of opinion as to the effects of air transit and its suitability or otherwise in respect of the various diseases and injuries met with among military casualties. The relative priority to be accorded to the several classes of injury and the contra-indications for air travel as set out in the directive issued by the Army Medical Directorate in November 1942, remained substantially unchanged in practice. Abdominal disease or injury, injuries of the chest or head or jaw, severe burns, and fractures remained as before, the conditions appearing to derive most benefit from the advantages afforded by air transit.

A full and detailed account of the development of the air evacuation of casualties will be found in Volume I, Chapter 9 of the History of the Royal Air Force Medical Services.

MEDICAL SERVICES FOR THE AIRBORNE FORCES

The existence of an airborne force as an integral part of the Army may be said to date from the constitution, in November 1941, of an airborne divisional headquarters and the subsequent completion of an operational formation designated as 1st Airborne Division.

The principal part to be assigned to airborne troops in military undertakings was the securing of objectives vital to the success of the general plan of campaign but accessible only by the agency of air transit. A secondary but scarcely less important function was speedy deployment

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when and where required to meet the exigencies of the tactical situation as it developed in the course of battle.

There were thus opportunities for exploiting the special attributes possessed by airborne forces both in attack and in defence. In the former, their scope lay in attacking the enemy from behind while an assault was delivered on his front by the main forces engaged, in capturing airfields or focal points in the enemy's lines of communication, in subsidiary operations synchronising with a seaborne expedition, and in reinforcing advanced armoured formations thrusting into hostile territory. In defence, they could be used for the rapid reinforcement of key positions, for cutting off supplies and reinforcements to the enemy's penetrating columns, and for harassing his lines of communication. Airborne forces, therefore, would as a matter of course be required to operate at a considerable distance from their bases, frequently not less than 250 miles and under certain conditions even as far as 500 miles. It followed that in circumstances such as these the force must be prepared and equipped to maintain itself unaided for a period of several days and, if necessary, to remain isolated over longer periods during which it would be compelled to rely upon such further supplies as could be brought to it by air. These contingencies manifestly implied a state of affairs not encountered by other field formations and therefore necessitated a different organisation.

1st Airborne Division, which at first constituted the nucleus of the airborne forces and thereafter, until the formation of 6th Airborne Division, the sole fighting formation in that arm of the service, comprised a divisional H.Q., divisional troops, two parachute brigades, one airlanding brigade group, and a depot. The H.Q. included the usual divisional medical staff officers; each of the two parachute brigades had its parachute field ambulance and the airlanding brigade group included an airlanding field ambulance. These field ambulances were produced either by the raising of new units or by the conversion of existing field ambulances to new establishments devised for airborne operations. The first of them, 181 Airlanding Field Ambulance came into being in January 1942, and was responsible for much of the pioneer work associated with the development of the medical services for the airborne forces. In the following April, 16 Parachute Field Ambulance was raised from a large number of R.A.M.C. volunteers of all ranks, and a month later, 127 Parachute Field Ambulance was formed by conversion of the original unit. The difficulties that faced these airborne field ambulances at the outset of their careers were considerable, owing to the absence of any experience of airborne warfare and to the lack of suitable equipment. However, new equipment was designed, loading tables for both personnel and equipment were evolved, and a complete battle drill, to cover field operations from the moment of emplaning until the setting up of dressing stations fully provided with surgical

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facilities, was eventually produced. Personnel underwent intensive training, and repeated trial and experiment sufficed to arrive at an organisation which subsequent operational experience proved to be intrinsically sound. Before the end of 1942, two more field ambulances, 133 and 224, were converted into parachute units. The formation of 6th Airborne Division in June 1943, occasioned a demand for more airborne medical units and consequently the reorganisation of 225 and, shortly afterwards, 195 Field Ambulances as parachute and airlanding field ambulances respectively. In December 1943, H.Q. Airborne Troops, afterwards redesignated 1 Airborne Corps, was formed with a D.D.M.S. included on its staff as the senior administrative medical officer.

In organising a comprehensive medical service for the airborne forces there were, in addition to the raising of special medical units, many questions of an unprecedented nature requiring consideration. These included:

(*a*) the preparation of minimum standards of physical efficiency to govern the selection and training of personnel volunteering for service in the airborne arm ;
(*b*) the elimination of preventable wastage from injury during training and subsequent active operations;
(*c*) the establishment of optimum conditions for troops in the course of transit in aircraft;
(*d*) the evolution of a system for the collection and treatment of battle casualties under conditions peculiar to operations undertaken by airborne troops;
(*e*) the preparation of equipment, either by modification of existing patterns, or by new inventions, suitable for use by airborne units; and
(*f*) the devising of methods for the dropping of medical supplies, whether carried by the man himself in his descent or released in containers.

The selection of personnel adequate, physically and mentally, to withstand the strain imposed by service in the airborne forces was a matter of paramount importance. In conjunction with the Royal Air Force Medical Service and the Medical Research Council much research was carried out in order to obtain a scientific basis on which to formulate the necessary standards. A member of the staff of the Directorate of Medical Research was permanently attached to the Parachute Troops Training Establishment. Statistics were collected in regard to all parachute jumps made, and it was eventually found possible to determine degrees of liability to injury in relation to the age, height and weight of personnel concerned, weather, especially wind speed, as affecting the risk of parachute descents was studied, and optimum conditions defined. A variety of helmets, spine-pads, boots, and bandages was tried with a view to discovering methods of preventing damage to brain, spinal cord, and lower limbs which were the parts of the body most prone to injury. In order to provide a means of recognising tendency to air sickness,

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tests, including the swinging of all newly joined personnel in horizontal swings for twenty minutes, were carried out over a period of several months. Prolonged trials were made to ascertain the effect of various drugs alleged to be efficacious in the prevention of this disability, trials which were heroically endured by countless numbers of ravaged but indomitable troops. All volunteers were examined in regard to night-vision and colour-blindness. An investigation into the energy value of selected foods was conducted with the object of finding a ration of maximum value compatible with a minimum of weight and bulk; clothing and equipment of many kinds were subjected to comparable tests for the same purpose. All these pursuits were directed towards the one primary object of conserving man-power among highly skilled and valuable personnel whose training was both long and arduous. Time and experience were to show that many of the factors responsible for wastage, e.g. sickness, injury, and disinclination to make parachute descents, were closely associated with the physical and mental quality of the subject. Efficiency was therefore largely a matter of care and discrimination in the initial selection of personnel. As subsequently developed, the scheme of training provided that all volunteers for parachute units should at first be attached to the Army Air Corps Depot for a period of ten days observation. During that time each man was medically examined and graded according to his physical capacity. He then underwent a psychiatric examination, after which his general intelligence and personality were tested in order to assess his emotional stability. On completion of ordinary training, including physical drill, route marches, etc., all personnel were put through a series of physical efficiency tests, in which conditions of battle were reproduced as far as possible, designed as a trial of strength, agility, and endurance. The results of these examinations and tests were computed, and a final decision made as to acceptance or rejection. Evidence furnished by subsequently following up the performance of personnel so selected proved beyond question the efficiency of this procedure which was gradually evolved through knowledge gained in dealing with thousands of volunteers.

The development of a field medical organisation for the airborne forces and the evolution of a system for dealing with their casualties in battle presented novel features. Little of what now called for decision had hitherto received serious consideration; much of it was outside the range of practical experience. Generally, the complications were more involved and the difficulties greater than those pertaining to the disposition of ground forces. The complete separation of airborne troops from established lines of communication during at least the initial stages of their operations behind the enemy's position made it impossible to employ the usual methods by which casualties were collected and then evacuated along the normal chain of medical units from fighting zone

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to base. Moreover, the dispersal and isolation of individual parachute and airlanding units in the course of their undertakings might well preclude even the collection of casualties, scattered over a wide area, to a central point. This being so, it was imperative to devise some means by which the greatest measure of medical treatment should be made available within each unit itself when in battle. It was therefore decided that parachute battalions and airlanding battalions should be reinforced by medical personnel, and to this end N.C.Os. and nursing orderlies, R.A.M.C., were permanently attached to each battalion for distribution among its companies.

As already stated, an airborne division included, for co-operation with its parachute brigades and airlanding brigade group respectively, two parachute field ambulances and one airlanding field ambulance. Both types of unit were comparable, as regards their organisation, to the light field ambulance of an armoured division rather than the field ambulance of an infantry division in that they comprised, in addition to their H.Q., several sections intended to operate more or less independently. In the case of the parachute field ambulance, there were four such sections, of these one was attached to each of the three parachute battalions composing the parachute brigade, leaving one in reserve. The airlanding field ambulance possessed five sections, of which four were attached, one to each of the four battalions in the airlanding brigade group, while the fifth was responsible for the care of divisional troops. Each section, which consisted of a medical officer, and sixteen, later nineteen, other ranks, R.A.M.C., with transport drivers in addition, was equipped in such a way as to be self-contained and self-supporting for a period of some three to six days, according to circumstances and, during that time, to be capable of providing essential surgical treatment for battle casualties. These sections were intended to assist the regimental medical personnel of the battalions to which they were attached and to maintain close touch with battalion headquarters. The H.Q. of the field ambulance, comprising the remainder of the unit assisted by any sections held in reserve, was equipped for the establishment of a M.D.S. in the vicinity of the headquarters of the brigade to which it belonged.

Owing to the diversity of airborne undertakings it was not possible to prescribe any rigid system of dealing with casualties, and the methods advocated were subject to modification or alteration as required by the circumstances of the particular operation. In general, however, it was ruled that R.A.M.C. personnel permanently attached to parachute or airlanding units must drop or land with the companies to which they had been allocated; sections of field ambulances attached to the headquarters of these units were to follow shortly afterwards. In the dropping zone or landing area, a C.C.P. would be established for the reception of casualties sustained during the flight or on the ground. If the number

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were large or the cases severe, one or two R.A.M.C. personnel belonging to a field ambulance section should be detailed to remain with them, but this was permissible only when absolutely necessary since every man so detached at the outset of the operation must entail some impairment in the efficiency of the organisation at a later stage. It was axiomatic that on no account should R.A.M.C. personnel permanently attached to combatant units become separated from these units by endeavouring to deal with casualties in the dropping zone or landing area. During the approach to the objective, it was the duty of regimental stretcher bearers and R.A.M.C. personnel to place casualties under cover on the axis of advance but to make no attempt to carry them forward; the H.Q. of the field ambulance following in the rear would subsequently collect these casualties and bring them along in such transport as it possessed or could find. For the actual assault, the plan of attack ought to include the demarcation of an axis of casualty evacuation for each company and the formation of a C.C.P. on each. The regimental medical officer should also place a battalion C.C.P. on the central axis of evacuation but as yet make no effort to set up a complete R.A.P. When the objective was taken, the R.A.P. and dressing station should be established in conjunction by the R.M.O. and the field ambulance section attached to the battalion. Field ambulance personnel, assisted by regimental stretcher bearers and attached R.A.M.C., would then gather casualties from the various C.C.Ps. and bring them to the dressing station for further, and more active, treatment. Subsequently, as circumstances permitted, casualties might be evacuated to the M.D.S. opened by the H.Q. of the field ambulance co-operating with the brigade to which the battalion belonged. It was estimated that airborne field ambulances, as then organised and equipped, would be able to deal efficiently with the maximum number of casualties likely to occur in any operation during the initial seventy-two hours. Thereafter, if the same casualty-rate were maintained, arrangements of some kind must be made for the removal of wounded from the fighting zone. Usually contact with the ground troops of the supporting force would have been made by that time, whereupon the normal channels of casualty evacuation through lines of communication to the base would become available. If, however, this contact did not eventuate within that time-limit, it would be necessary to supplement the divisional medical units of the airborne forces by corps medical units, e.g. dressing stations or C.C.Ss. brought to the scene of operations by air.

Included within the establishment of each airborne field ambulance were two surgeons and six operating-room assistants to constitute two surgical teams for employment as required. It was originally intended that every section of an airborne field ambulance should drop or land with full surgical equipment and be reinforced as soon as practicable by a lightly equipped surgical team to undertake operative surgery on the

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spot. Experience in North Africa subsequently showed that this arrangement was not entirely satisfactory, particularly when the airborne assault was made upon a narrow front. In all operations after the invasion of Sicily a different procedure was adopted; field ambulance sections were dropped or landed only lightly equipped, and no attempt was made to supplement them by surgical teams which thenceforward were retained with the H.Q. of the field ambulance at the M.D.S. The cardinal value of surgical teams to airborne forces was consistently and conclusively proved in all subsequent operations. There was, however, strong support for the view that, instead of being included in the war establishments of airborne field ambulances, they should be detached from those units and converted into parachute F.S.Us. on a separate establishment comparable to that of the F.S.Us. employed with ground forces. They could then be attached to airborne divisions as and when required for active operations ; at other times they could profitably be employed elsewhere. Their permanent attachment to airborne formations and, therefore, their retention during periods of inactivity was rightly regarded as wasteful of highly skilled personnel in general demand. It may be remarked that this view was adopted in the organisation, at a later date, of medical services for Indian airborne forces.

Airborne medical units were gravely handicapped in their task of dealing with battle casualties by the limitation of transport vehicles imposed upon airborne forces in general as a natural result of the restrictions entailed by air transit. Although the transport supplied to airborne field ambulances included a number of ambulance cars, these, with other heavy vehicles, were maintained for use only at the base and were not carried in aircraft when active operations were undertaken. The only airborne transport available for medical units was the 5-cwt. truck, generally known as the jeep, the 10-cwt. general service trailer, and the ambulance trailer. By structural alterations to the body of the vehicle, and the attachment of a specially designed frame, the Jeep was made capable of conveying two stretcher cases without in any way reducing its carrying capacity when used for other purposes. All jeeps belonging to airborne medical units, that is to say, five in the case of a parachute field ambulance and seventeen in an airlanding field ambulance and 25 per cent. of those belonging to combatant units were fitted in this way. The ambulance trailer was a vehicle specially designed for towage by a jeep and for the carriage of two stretcher cases. At first it was thought that in an operation involving the employment of airborne forces the latter would be withdrawn on completion of their special task. This conception was afterwards modified, and airborne formations remained in action, sometimes for many weeks, fulfilling the same functions as those of ground troops. It therefore became necessary to supply airborne medical units with additional transport which, during an airborne operation,

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remained with, and advanced at the same time as, the supporting force until contact was made with the airborne element, whereupon it joined its appropriate unit. Thus airborne field ambulances were enabled to carry out the ordinary duties of a divisional field ambulance with the same facilities as those pertaining to field ambulances in armoured and infantry divisions.

While the range of medical equipment required by airborne medical units did not differ greatly from that supplied to other units having corresponding functions, special considerations of vast importance arose in respect of the weight and bulk of essential articles, and in regard to their packing in a manner suitable either for carriage by personnel when descending by parachute or for dropping in containers. First of all was the paramount duty of ensuring that each unit or section was adequately equipped for its task. In this connexion it was to be assumed that, whenever the circumstances were such as to lead to the retention of casualties in the fighting zone beyond a limit of forty-eight hours, every case would require surgical treatment if sepsis were to be avoided. Facilities for surgical treatment must therefore be ample as well as efficient. Moreover, having regard to the difficulties inherent in carrying replenishments to an isolated airborne force, units must themselves hold reserves sufficient to meet a sudden demand. Furthermore, on account of the risk of loss, both in aircraft and in containers, it was imperative that all essential articles should be duplicated; in fact, it was estimated that even in a successful operation, 25 per cent. of stores would be lost in transit. These considerations notwithstanding, indeed, in direct conflict with them, was the overriding necessity for the reduction, to an irreducible minimum both in bulk and in weight, of all stores to be conveyed by the transporting aircraft and afterwards to be man-handled by the personnel taking part in an airborne operation. Hence the need to produce a good and sufficient reason for the inclusion of every article. In consequence much ingenuity and foresight were required in selecting essential drugs, dressings, surgical instruments, and equipment of all kinds, and in determining the smallest quantity of each likely to meet probable requirements. As regards the parachute field ambulance, it was necessary that all articles should be capable of being packed into containers measuring not more than 52 in. in length and 14 in. in width. These requirements involved numerous alterations in standard patterns of equipment as then issued. Some articles were found capable of modification in the manner desired; in other cases the solution lay in the manufacture of new types specially designed to meet the new conditions. Among the latter were the following:

(*a*) folding stretcher, airborne pattern, weighing 15½ lb.;
(*b*) collapsible carriage for the wheeled stretcher;
(*c*) light folding trestles;

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(*d*) folding suspension-bar;
(*e*) airborne operating-table;
(*f*) containers for dropping blood plasma by parachute;
(*g*) insulated containers for whole blood;
(*h*) packs containing sufficient drugs, dressings, medical comforts, etc., for twenty patients; and
(*i*) pack containing surgical requisites for ten surgical operations.

The methods by which supplies and equipment might be taken into action were also the subject of long study and experiment. As the result of exercises and operational experience it was found practicable and convenient to depend upon the following means of transit:

(*a*) carriage by personnel; in the case of parachute troops articles were placed in a kit-bag tied to the leg and fitted with a quick release which allowed the man in the course of his descent to detach the bag from his leg, the bag then remaining suspended from his belt and reaching the ground before the man himself landed; in the case of airlanding troops the articles were carried in haversacks and in the large pack of the ordinary webbing equipment;
(*b*) packing in containers attached to parachutes and released from the bomb-racks of transporting aircraft;
(*c*) packing in panniers, also attached to parachutes, and dropped manually by throwing through the doors of the aircraft;
(*d*) loading in vehicles carried by gliders.

As containers and even gliders did not always land where intended, it was an established principle that essential equipment must be packed in loads which personnel could themselves handle and, if necessary, carry with them on the march. This involved the careful selection of articles in order that those which had most claim to being regarded as indispensable were thus conveniently packed. Standard loading-tables for the initial parachute drop and airlanding were prepared in conformity with a basic plan and adhered to as far as possible, variations being made as required by the nature of the projected operation.

Before setting out on an airborne task, each medical unit packed stores for its subsequent replenishment by supplies dropped from the air. These, put up in loads according to a prescribed scale, were to suffice for five separate occasions on which resupply would be effected by parachute drop. The first resupply drop was carried out automatically within twenty-four hours of the initial landing: subsequent drops were arranged as required. Replenishment by parachute drop, however, proved both unreliable and uneconomical, and consequently it was preferable that units should endeavour to take with them in the first instance as large a reserve supply as possible. But even this had its limitations, for it was useless to land with more stores than could be carried by the personnel and the transport available. As a later development, gliders were used

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to carry in reserve supplies at the beginning of the operation; this innovation proved eminently satisfactory and, indeed, the best method of ensuring that adequate provision was made for emergencies. A reserve of stretchers and blankets was built up by arranging that all gliders should bring in one or two stretchers and two blankets, and that air-transported vehicles belonging to combatant units should carry a stretcher.

In the early days of the airborne force all training was performed in the Whitley as this was at that time almost the only aircraft used for parachute dropping and glider towing. Later on, the Whitley was superseded by the C-47 Dakota as this type became available, and the Halifax and the Sterling also were used to some extent. All glider training was at first carried out in the Hotspur glider, which could carry only seven men, until replaced by the larger and more stable Horsa and Hamilcar gliders, the latter capable of transporting a Mark VII tank. Every change in the type of aircraft used in airborne operations necessitated the preparation of revised loading lists for medical units. The normal requirements in aircraft for the transport of medical units were put at eight C-47 Dakota aircraft and three Horsa gliders for a parachute field ambulance, and nine Horsa gliders for an airlanding field ambulance. (See R.A.F. Medical Services, Vol. II, Chapter 6, Army Co-operation Command.)

REMOVAL OF CASUALTIES FROM ARMOURED VEHICLES

In the course of their training and participation in field exercises with armoured fighting vehicles, (A.F.V.) medical personnel belonging to armoured formations soon discovered that the removal of casualties from tanks in action was likely to present a special and hitherto unresolved problem in the collection and evacuation of wounded on the battlefield. The extraction of a seriously injured or helpless man from the interior of a tank and through a relatively small and often obstructed exit was a task to tax the ingenuity of the rescuers who were concerned not only with the physical difficulties of extricating the casualty and lifting him to a considerable height through a small opening but also with the necessity of avoiding further injury to the victim during the process .

As the result of investigation and experiment, a light field ambulance attached to a tank brigade succeeded in devising a special apparatus for use by armoured units. This apparatus, which subsequently received the official name of 'casualty hoist', was submitted for the manufacture of several sets to permit of further and more extensive trials. It consisted of three parts: body-harness, hoist, and two tubular metal uprights. The metal uprights were clamped, at their lower ends, to the rim of the cupola of the tank; their upper ends were retained in a fixed position by

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a connecting cross-piece, also of metal. Suspended to this cross-piece, and therefore directly above the centre of the opening in the cupola, was the hoist consisting of a rope, running through three pulleys, with a wooden cross-bar to take the attachments of the body-harness. The harness was made of webbing: two bands passed between the legs and were hooked, back and front, to bands passing round the body thus forming a seat for the pelvis : another set of bands passed upwards on each side of the body in front of, and behind, the shoulder and was attached to the wooden cross-bar of the hoist. To use the apparatus, the casualty had first to be lifted or dragged to a position immediately below the opening in the cupola; the harness was then adjusted around his body and the free ends fastened to the hoist which had in the meantime been placed in position over the cupola; the rescuers then hauled the casualty up and through the opening by means of the hoist and finally lowered him to the ground. (Plates XIV–XV).

Subsequent trials, however, showed that the usefulness of this apparatus was likely to be strictly limited. While theoretically efficacious as regards the type of tank for which it was designed, it was found inapplicable to many other types. For example, in some the rim of the cupola was too thin to permit secure fixation of the tubular uprights; in others there was no cupola, the turret flaps being almost flush with the roof of the tank, and therefore no means of fixation whatever. Even where the use of the apparatus was not precluded by insuperable obstacles such as these, other defects became manifest. In practice it proved very difficult in the confined space within a tank to adjust the harness; in the case of a heavy or unconscious man it was impossible. Moreover, no less than four persons were required to set up the apparatus, to give first aid and to remove the casualty. Field trials carried out by armoured formations under battle conditions revealed further shortcomings. It appeared that there was inevitably some delay in waiting for the apparatus to be brought to the particular tank that chanced to want it; the metal uprights, measuring some 7 ft. in length, were conspicuous at a distance when, as was the usual practice, the tank retired to a sunken road or dead ground in order to evacuate a casualty; the apparatus was useless when the tank was lying on its side or at an angle; extraction in the sitting position would be agonising to a patient suffering from a fractured femur, a wound frequently occurring among tank crews; the apparatus was difficult to stow away conveniently in an armoured vehicle and was rendered unusable if one of its many parts was lost or damaged. Various modifications in the apparatus, especially in respect of the harness, were suggested and tested, but reports from armoured units continued to be unfavourable, and attention was directed to a different type of apparatus known as the Duval jacket. This was a T-shaped piece of stout webbing material, the lower portion of which was made rigid by

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wooden slats enclosed in the webbing and thus served as a body-splint. The junction between the upper and lower portions was made flexible so that the two portions could be folded on each other. In applying the jacket, the lower portion was folded up backwards behind the upper portion which was adjusted around the chest and retained in position by two loops drawn one over each shoulder and fastened together. The casualty was then hoisted by the casualty hoist until he was raised to the erect posture whereupon the lower portion of the jacket was pulled down and secured around the legs by being fastened in front of the knees. Later, it was found possible to devise a form of drill by which the Duval jacket could be used without the assistance of the casualty hoist, but nevertheless the jacket did not prove satisfactory, mainly because it was difficult to apply in the interior of a tank, it had a tendency to slip upwards and, owing to the pressure exerted upon the upper part of the body, it could not be used where there was any injury to the chest. As in the case of the original casualty hoist, this appliance was subjected to practical test by armoured units and with the same result, the decision being that it was quite unsuitable for use in the field.

In October 1941, the Army Medical Directorate appointed a committee to consider methods of evacuating casualties from A.F.Vs. and to carry out further investigations with a view to the modification of existing appliances and the design of new apparatus if necessary. This committee had no difficulty in deciding that neither the casualty hoist nor the Duval jacket fulfilled requirements, but they were favourably impressed with the possibilities of using stretcher-slings in a manner devised by the A.D.M.S. of one of the armoured divisions. During the following month a demonstration of this and other devices was held at the Experimental Wing, Tank Design, Farnborough, when specially trained personnel gave a display of various kinds of apparatus and the methods of using them. These were tested in six different types of tank and with casualties in different positions including the driver's seat, the turret, and where the tank was so designed, in the auxiliary turret. Several of these methods appeared to be satisfactory, but none gave better results than that which depended entirely upon the use of a pair of stretcher-slings of ordinary pattern. The demonstrations were repeated and were attended by representatives of the various technical branches concerned and by medical officers of the British, Dominion, and United States forces. It was eventually decided to adopt as the officially approved procedure the stretcher-sling method because it was as successful as any, more successful than most, and required only standard equipment already as a normal issue. Early in 1942, a directive to this effect was issued by the War Office and the R.A.M.C. Depot prepared instructions and a form of drill to govern the treatment and removal of casualties occurring in A.F.Vs.

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These instructions, subsequently published in the form of a pamphlet, were based on the primary consideration that when a man was severely wounded within a tank he might have to be removed by the other members of the crew. Frequently the casualty would need to receive first aid while still inside the tank and in any case must be removed through an overhead hatch, a front hatch or a side hatch according to his position in the vehicle. Whichever route was selected, the procedure of removal involved two stages, first, the manoeuvring of the man to a position from which he would most conveniently be extracted through the available opening, and, secondly the hoisting or passing of the man through the hatch. The routine procedure consisted in the first instance of administering essential first aid. This must be done by members of the tank crew and must be sufficient to prevent further injury during the process of removal. Therefore, fractures were to be immobilised and bleeding stopped. No attempt was to be made at elaborate bandaging or splinting; these were best carried out after removal had been effected. The next step was the evacuation of the casualty through one or other hatch. When this was an overhead hatch the casualty had first to be brought to a position immediately below it. Before beginning to do so, the route chosen should be methodically surveyed in order that gun turrets might be rotated to any particular position giving maximum clearance, gear levers and other obstacles noted, ammunition and internal fittings moved, and the driver's seat lowered if necessary. Generally speaking, it was desirable that the casualty should be moved in such a way that his injured side passed freely, while his sound side was manoeuvred round or over obstacles.

To hoist the casualty through an overhead hatch some form of sling was required. Two stretcher-slings of ordinary pattern were to be used for this purpose, but the method of attachment varied accordingly as the injury was situated in the upper or lower part of the body. When the injured part was below the waist, e.g. a fractured femur, the two slings were used separately, a loop being made in the end of each sling and passed up the arm and adjusted round the shoulder and armpit, one on each side of the body. The free ends of the slings were then taken up through the hatch where they were grasped by two rescuers who, standing outside the turret, exerted a steady pull on the slings and thus drew the casualty upwards and extracted him through the hatch. If a third rescuer were available, he would control the movement of the wounded man's body during the process. When the casualty was sufficiently raised his legs were cleared of the hatch and he was steadied preparatory to being lowered to the ground.

When the injury was above the waist the two stretcher-slings were joined so as to form one long sling, the double webbing of the sling-loop being fastened in the buckle to prevent slipping. One free end of the long

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sling was then passed between the thighs of the casualty from front to back or vice-versa, as most convenient, so that the sling lay in the cleft between the buttocks and beneath the crutch thus forming a firm seat when traction was put on the sling. The casualty was then raised to the sitting posture and the two free ends of the sling were passed up, one in front of his body and the other behind it, through the hatch. These free ends were then grasped by two rescuers outside the turret. Importance was to be attached to the direction of the pull by which the casualty was raised through the hatch, in order that he might maintain the erect posture and not bend forwards, backwards, or sideways. This was achieved by arranging that one of the rescuers, standing above the turret, took up a position behind the casualty and pulled upon the end of the sling that passed in front of the injured man, while the other rescuer stood in front of the casualty and pulled upon the end of the sling that passed behind the man's back. In order to do this successfully it was necessary to ensure that the free ends of the sling passed up one to each shoulder of the casualty. These precautions having been taken, he was then, by steady pulling in the manner described, drawn up through the hatch.

In transferring the casualty to the ground, one rescuer stood below to receive him, while the other rescuer standing on the top of the tank carefully lowered him by means of the slings still in the original position. When only one rescuer was available the lowering was best accomplished if the casualty directly faced either the front or the rear of the tank. The rescuer then lowered carefully until the injured man's feet just touched the ground; he then carried the sling backwards or forwards as necessary and at the same time continued the lowering process so that the casualty finally came to rest on the ground lying flat on his back.

For extraction through a hatch other than an overhead hatch the casualty was manoeuvred into position with his head towards the opening. One rescuer inside the tank passed him to the second rescuer outside, who grasped the wounded man's shoulders and drew him through the hatch until his buttocks reached the opening. The first rescuer inside the tank then made his way out through another hatch, joined the second rescuer outside and assisted him by supporting the legs and buttocks until the casualty could be laid on the ground. In this connexion, the need to prevent the legs falling heavily was emphasised. When the task of extraction was to be undertaken by one rescuer unaided, he first moved the casualty, in the head-first position, as near to the hatch as possible; then, leaving the tank by another hatch, he completed the process from the outside. In this case it was advantageous to have the casualty lying face downwards so that he could gradually be drawn through the hatch on to the rescuer's back.

The instruction stressed the fact that tanks and other armoured vehicles varied greatly in design. Each type had its own problems as

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regards the removal of casualties among their crews, but there should be little difficulty in devising satisfactory methods for any type of armoured vehicle provided attention were paid to the general principles described. Crews should continually practise the extraction of casualties from various positions in their vehicles, and in exercises arranged for this purpose, casualties should have the site and nature of their wounds clearly specified in order to indicate the particular method which must be followed if aggravation of the injury were to be avoided.

This, then, was the procedure officially approved and recommended for general adoption from the beginning of the year 1942. Stretcher-slings were accordingly added to the table of equipment to be carried by armoured fighting vehicles. The casualty hoist and Duval jacket were abolished and the use of other devices, tried from time to time in this connexion, abandoned. Certain modifications in the method of applying stretcher-slings were evolved, the most important of which was one designed to counteract the tendency of the sling-loops to slip off the shoulders of an unconscious man unable to hold his arms down by his sides when traction was made on the slings from above. It was found that slipping could be prevented and the loop kept in place if the free end of each sling were carried across the back of the body and passed through the shoulder-loop made by the other sling on the opposite side.

Some months afterwards, in September 1942, any confidence there may have been that finality had been achieved or that the procedure advocated had in fact provided a satisfactory solution to an admittedly difficult question was rudely shaken by a report, received from the Middle East, giving an account of a scientific investigation into the various factors affecting the efficiency of tank crews. Nevertheless, and it was a point of the greatest practical importance, in no single case within the writer's knowledge had any of these methods been actually used in battle. It was an amazing fact that even severely wounded men managed to extricate themselves unaided from their vehicles. Two examples were quoted: an officer with bilateral compound fracture of the femur; another with an arm blown off at the elbow; both were outside their tanks in a trice after being hit. For those so seriously injured as to require assistance, the only method at all practicable was to manhandle them out of their vehicles as quickly as possible. There was no time for the methodical application of slings, splints, etc., for it was the practice of the enemy to concentrate fire on an immobilised tank, which was therefore liable to further penetration and not infrequently caught fire. Speed in removal was, therefore, the essence of the matter. Moreover, it was a notable fact, observed by all unit medical officers, that, under the stress of circumstances such as these, even the most extensive injuries caused remarkably little pain when first inflicted. Consequently, the necessity for great care in the removal of the wounded would seem

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to be of less importance than was generally supposed. The report, however, insisted on the necessity for the inclusion of morphia and chloroform in the first-aid outfit carried by A.F.Vs. because it frequently happened that crews were compelled to shelter in the lee of their tanks for some hours until the battle was over, and in some cases they had to fend for themselves for a period of two or three days.

In the light of these unequivocal statements it was sought to elicit further information from the Middle East Command, and among the inquiries made, was one addressed to the D.M.S. asking for his recommendations and his views as to whether the supply of stretcher-slings to armoured vehicles for casualty extraction should be maintained. His reply, received in January 1943, stated that the use of stretcher-slings for this purpose had, in the Middle East, at least, proved unsatisfactory and had therefore been abandoned. He suggested, as an alternative, that tank crews should be provided with a special suit of overalls strengthened with straps, loops, or handles at the back of the neck and inside the vest. The suggestion was duly referred to the Directorate of A.F.Vs. at the War Office, whence it was ascertained that trials had already been made in regard to special suits incorporating slings as designed by the Medical Research Council and others. They had not proved successful as it was found that the harness must be worn loose about the body and therefore, when used to lift the wearer, tended to work up around his neck and strangle him. Moreover, the harness was uncomfortable to wear and difficult to work in. Furthermore, tank crews wore different clothes under different conditions, and it was impracticable to incorporate slings into a bush shirt or battle dress, which formed the basic clothing in hot and temperate climates respectively, because they were, or were part of, two-piece garments.

At this time, 1943, there were in the United Kingdom, several armoured formations training for future military operations in North-west Europe. The opinion of their senior administrative medical officers who already had practical experience of the conditions under which armoured battles were fought, was that in the removal of casualties from tanks any special apparatus that included ropes, pulleys, gantries, and the like was utterly impracticable for work in the field, however attractive or efficient it might appear when exhibited at demonstrations. They agreed that the most effective procedure yet evolved consisted of simple man-handling with anaesthetisation where necessary. Nevertheless, they considered that the handling of a casualty would be assisted if certain additions were made to the clothing worn in action, and to this end suggested that overalls for tank crews should be reinforced by sewing into the garment two webbing strips made to pass under the crutch and continued upwards in front and behind on each side of the body to the tops of the shoulders where the two strips would be joined to form a

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loop behind the collar. Nothing developed from this suggestion and matters remained as they were with the stretcher-sling method still officially in vogue.

In September 1944, for reasons connected with manufacture and supply it was imperative to change the pattern of the stretcher-sling in general use. As it appeared likely that the alteration would affect the use of the sling in the standard procedure for casualty evacuation from tanks, it was decided to ascertain from H.Q., 21 Army Group, the extent to which stretcher-slings carried by armoured vehicles had in fact been used for that purpose during the recent operations in France. The reply to this inquiry was that slings were rarely employed and might be deleted from the vehicles' equipment, but at the same time, existing methods were not wholly satisfactory, and suggestions were therefore put forward with a view to providing assistance to stretcher bearers and others engaged in the evacuation of wounded among armoured units. These proposals entailed somewhat elaborate alterations in, and additions to, the ordinary webbing equipment as generally worn by military personnel. They were, therefore, open to serious objection on these as well as on other grounds. In the first place, they assumed that all tank crews wore the webbing belt and cross-braces when in action. While some formations might do so, the fact remained that most did not, since it was widely held that cross braces were liable to become entangled with fittings inside the tank. Also, the suggested alterations in standard equipment would involve changing the pattern of equipment issued throughout the Army, as it was considered impracticable to manufacture and reserve a certain type of cross-brace for supply to R.A.C. personnel only. On the other hand, the modifications recommended for R.A.C. personnel would be unsuitable and indeed inconvenient for other arms of the service.

After further consideration, 21 Army Group revised their previous recommendations stating that, generally speaking, armoured units favoured the reinforcement of tank crews' overalls to an extent sufficient to withstand the strain when a man was lifted and drawn out of the tank by grasping the shoulder epaulettes. While the majority considered that this measure would suffice for all practical purposes, there were others who thought that some form of harness in addition was desirable, and had therefore devised a simple arrangement made up of standard equipment put together in a manner suggestive of a kind of parachute harness, It consisted of the ordinary belt and shoulder-braces, worn in the normal fashion, with two pack-straps attached to the belt by attachment braces in front and behind but put on upside down so that they passed between the legs; at both ends the pack-straps were attached to the belt as near the mid-line as possible in order to avoid any pressure on the femur should that bone be fractured. The only

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additional equipment then required, was one pair of pack-straps which was passed through the shoulder braces. By means of this contrivance a casualty could be lifted out of a tank without difficulty and without causing undue pressure upon any part of the body except the pelvis; it was therefore applicable to all forms of injury except a fracture of the pelvis, a very rare kind of wound.

These recommendations met with general approval and towards the end of 1944, arrangements were made to bring tank overalls and over-suits with reinforced epaulettes into production as soon as possible. Shortly afterwards, the Army Medical Directorate issued to all commands overseas a general directive recounting the latest developments which had occurred in the matter of evacuating casualties from tanks as the result of experience gained in recent operations in France. The methods employed by 21 Army Group and the steps taken to put them into effect were described, and a request was made for details of any other simple contrivances found effective and likely to be of general interest. Thus the matter remained, without further developments, until the conclusion of hostilities.

A NOTE ON THE GERMAN SYSTEM OF EVACUATION OF CASUALTIES

UNIT AID POST

This corresponded to the R.A.P. and consisted of the R.M.O. and S.Bs. It was a first link in the chain of evacuation and the foremost unit of the medical organisation where the sick and wounded received attention from a doctor.

MAIN AID POST

The main aid post corresponded to the M.D.S., but was more lavishly staffed and equipped than the latter. This was formed from the medical company which corresponded to the field ambulance. Each medical company consisted of 4 platoons, of which one or two were capable of setting up main aid posts. The main aid post consisted of 2 M.Os., 40 N.C.Os., and O.Rs. Auxiliary medical units were attached to the main aid post as and when necessary to meet commitments of the main aid post.

In addition to the main aid post, the medical company usually established the ambulance car post in the forward area to collect casualties from the unit aid post. With the rest of the personnel it could either establish a divisional convalescent centre or a field hospital, whichever was necessary. It is evident, therefore, that the medical company formed the hub of medical activity in the divisional area. Major operations were performed in the main aid post or local hospital and casualties could be detained for a considerable time in these units whenever evacuation was not practicable. Along with the

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motor ambulance platoon, which corresponded to the M.A.C., they were responsible for the evacuation of casualties to the field hospital. The medical company was fully motorised.

Under the direct control of the army medical battalion, which was attached to the army H.Q., were grouped all the army medical units. The H.Q. of the army medical battalion was entrusted with the task of organisation and administration of all medical units under the command of the army. They were also responsible for scientific research.

FIELD HOSPITAL

This unit had a normal bed strength of 300, but was capable of expansion to 400–600 beds. It was fully mobile and could, therefore, be situated within 25 to 30 kilometres behind the fighting area. The hospital had an establishment strength of 8 M.Os., including medical and surgical specialists and dentists. Additional specialists in other branches were attached as and when necessary. It had the full equipment of a static hospital. When the bed strength of this hospital increased, additional specialists and M.Os. were attached. The hospital afforded accommodation and treatment equivalent to that of a normal static hospital. It was possible to commit this unit by platoons.

REAR AREA HOSPITAL

This unit served an army group and usually ten or more were allotted to any army group area. These were under the control of the H.Q. of rear area hospital battalion.

The rear area hospital had a bed strength of 500 to 1,000 beds, but this unit was also capable of expansion to about 2,000 beds. The unit establishment consisted of 7 M.Os., excluding specialists. The unit was completely mobile and had a full complement of motor transport. The rear area hospitals were the focus of medical treatment and in addition were centres of intense medical scientific activity. The aim of the field hospital was to effect cure and complete recovery in all cases where it was possible to achieve this aim. The normal period of a patient's stay in the hospital was in no case above 8 weeks. The patient was usually discharged directly to rejoin his unit.

Evacuation of casualties to Germany was kept at the lowest minimum possible and was only permitted under the following conditions:

(i) For invaliding;
(ii) When hospital beds were required in time of heavy engagements; and
(iii) When casualties required some form of special treatment available only in Germany.

MOTOR AMBULANCE COMPANY

This unit corresponded to the M.A.C. and was organised into a H.Q. and 2 platoons. It had on its strength 30 motor ambulances, each fitted to take 4 lying or 9 sitting cases. In collaboration with the medical company, it was responsible for evacuation of casualties up to the field hospital level.

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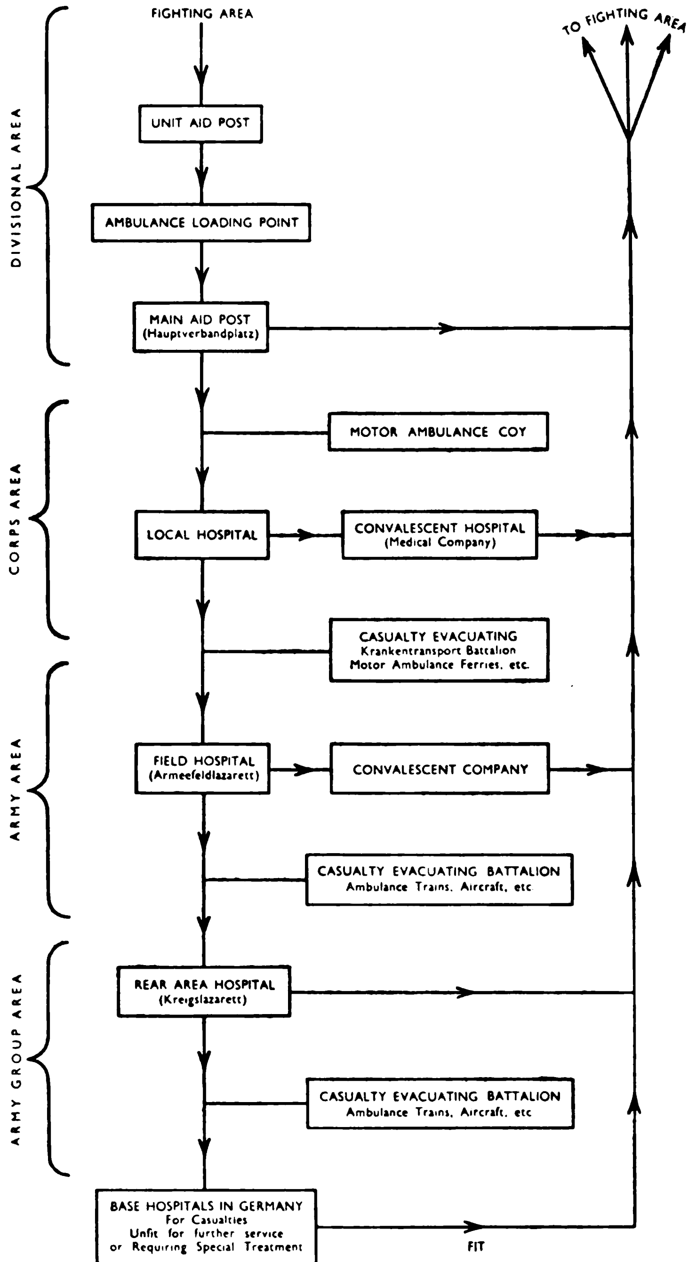

FIG. 7. Organisation of casualty evacuation in the German Army

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CASUALTY EVACUATION BATTALION

This consisted of a H.Q. section and 2 or 3 coys. of 3 platoons each. The H.Q. consisted of the commanding officer, the adjutant and 13 N.C.Os. and O.Rs. Each platoon consisted of 2 M.Os., 45 N.C.Os. and men. The H.Q. was provided with 30 large-size motor ambulances, each capable of carrying 8 to 12 lying cases.

The main task of the casualty evacuation battalion was the evacuation of sick and wounded and their delivery to the various field medical units. The H.Q. was concerned mainly with the following duties;

(i) Setting up of casualty clearing post and department for minor casualties;

(ii) Setting up and equipping auxiliary ambulance trains;

(iii) Direction of transport disposal on the basis of daily bedstate returns of army medical units; and

(iv) Air and sea evacuation when the need arose.

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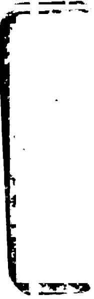

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