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HEALTH

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DATA AS OF 31 OCTOBER 1943

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ARMY SERVICE FORCES, WAR DEPARTMENT

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HEALTH

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HEALTH

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DISEASE AND INJURY

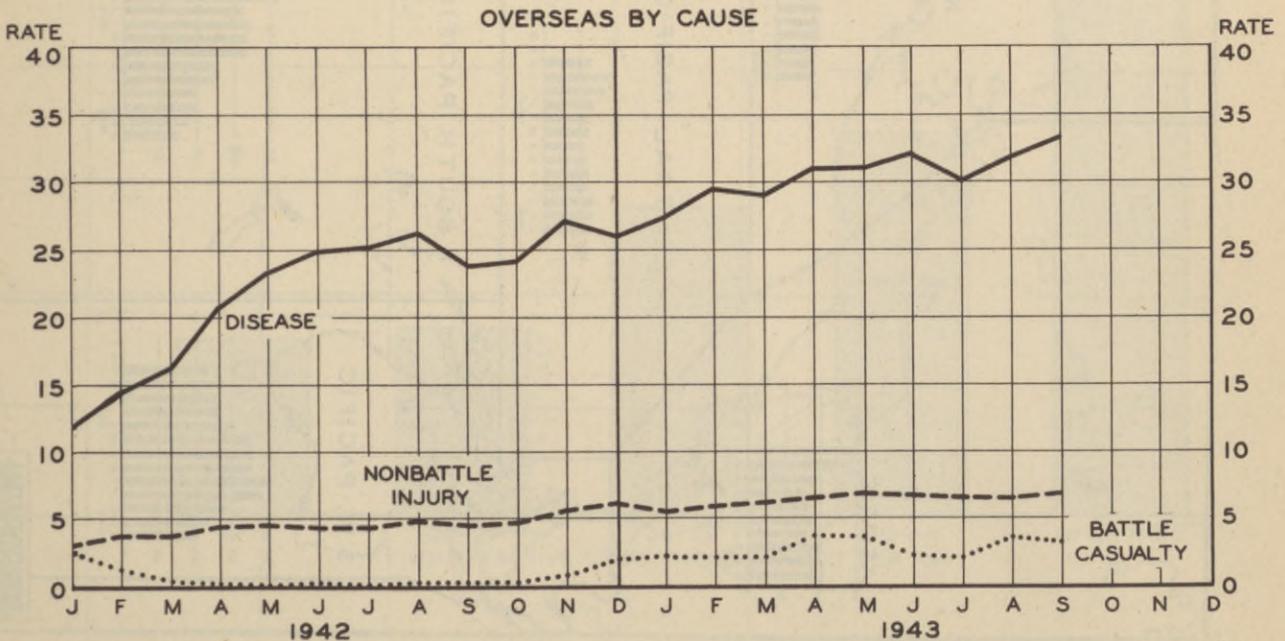
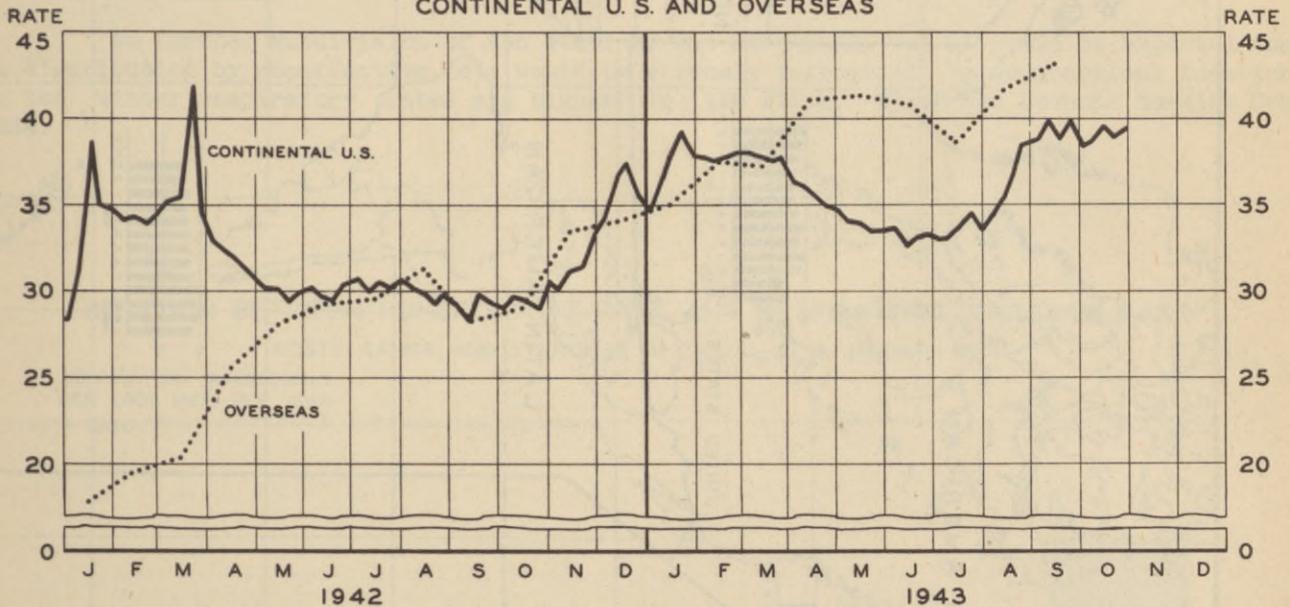
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NONEFFECTIVE RATES, U. S. AND OVERSEAS

There has been very little change in the average daily noneffective rate for troops in the Continental U. S. since early September. Throughout October the rate fluctuated between 38 and 40 noneffectives per thousand men per day.

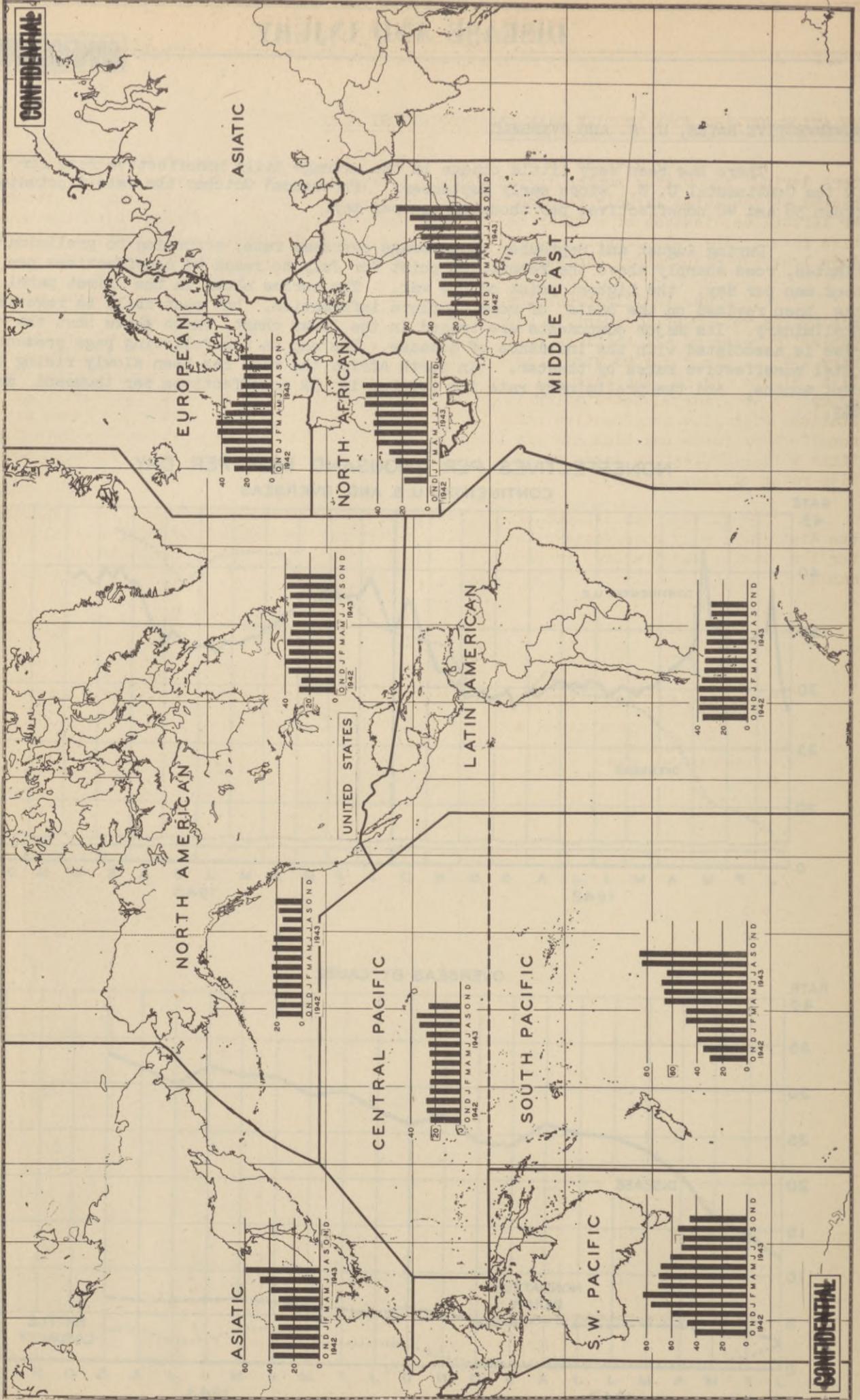
During August and September the average overseas rate, according to preliminary estimates, rose sharply above the recent low point for July to reach 43 noneffectives per thousand men per day, the highest point of the war. The series shown in the first panel below has been revised on the basis of more complete information, but must still be regarded as preliminary. Its major components are traced in the lower chart, which shows that the recent rise is associated with the incidence of disease. The map on the following page presents the total noneffective rates by theater. In North Africa the rate has been slowly rising in recent months, and the preliminary rate for October is 52 noneffectives per thousand men per day.

NONEFFECTIVES PER THOUSAND MEN PER DAY
CONTINENTAL U. S. AND OVERSEAS



NONEFFECTIVES PER THOUSAND MEN PER DAY

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DISEASE AND INJURY

RELATION BETWEEN NONEFFECTIVE RATE AND RESPIRATORY RATE

Respiratory disease is the largest single cause of admission to hospital and quarters during the winter months in the U. S. A seasonal rise in the noneffective rate is expected at that time largely because of the increased incidence of respiratory infection, other infectious diseases of similar seasonal pattern having little influence upon the noneffective rate. The relationship is fairly direct despite the fact that the average number of days lost per respiratory admission is less than average for all causes.

In order to illustrate the relationship with reference to a time when respiratory admissions were most frequent, a study was made of the noneffective rates and the respiratory admission rates of all stations having at least 4,000 strength during the week ending 16 January 1943. The stations were then grouped according to the proportion of strength noneffective at the end of the week and the average respiratory admission rate computed for each group. A very marked association is evident in the results, shown in the accompanying chart. Stations with low noneffective rates had low average respiratory rates and those with high noneffective rates had high average respiratory rates. The average respiratory rate for stations with noneffective rates of 40 to 50 is more than twice that for stations with noneffective rates of less than 20.

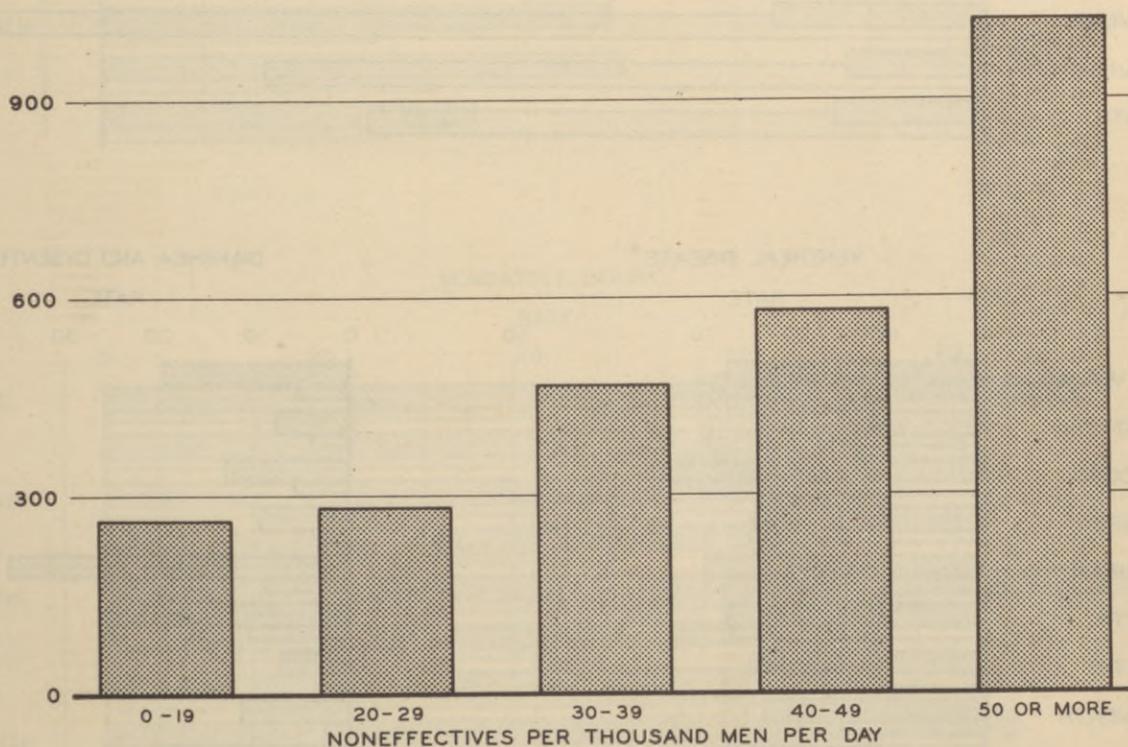
No further subdivision of the stations was attempted, but it would be expected that the distribution by noneffective rate would be strongly influenced by geographical location, for the winter respiratory rates are highest in the Fifth, Sixth and Seventh Service Commands.

RELATION BETWEEN NONEFFECTIVE RATE AND RESPIRATORY ADMISSION RATE

POSTS, CAMPS, AND STATIONS* IN THE U. S., 16 JANUARY 1943

RESPIRATORY ADMISSIONS
PER 1,000 MEN PER YEAR

1200



DISEASE AND INJURY

LEADING CAUSES OF ADMISSION, SERVICE COMMANDS

The accompanying charts compare the various service commands with respect to average rates of admission for selected causes during the three months ending 30 September 1943. In each case they also make it possible to compare these rates with those for the recent winter months, December, January, and February.

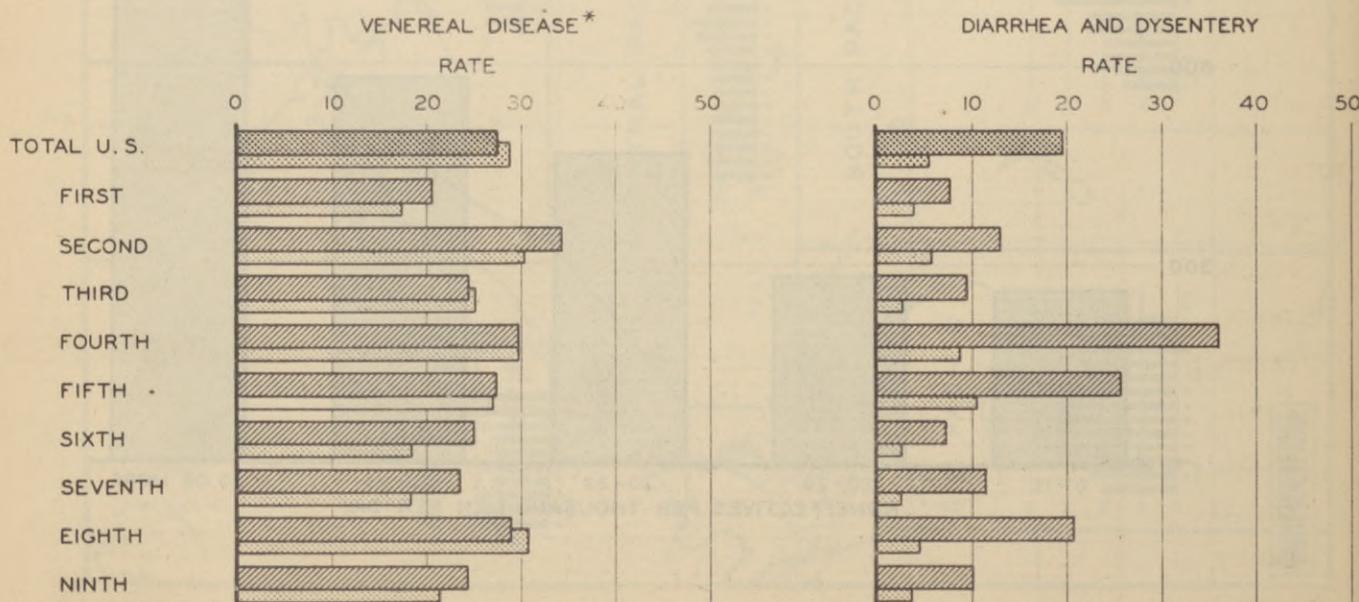
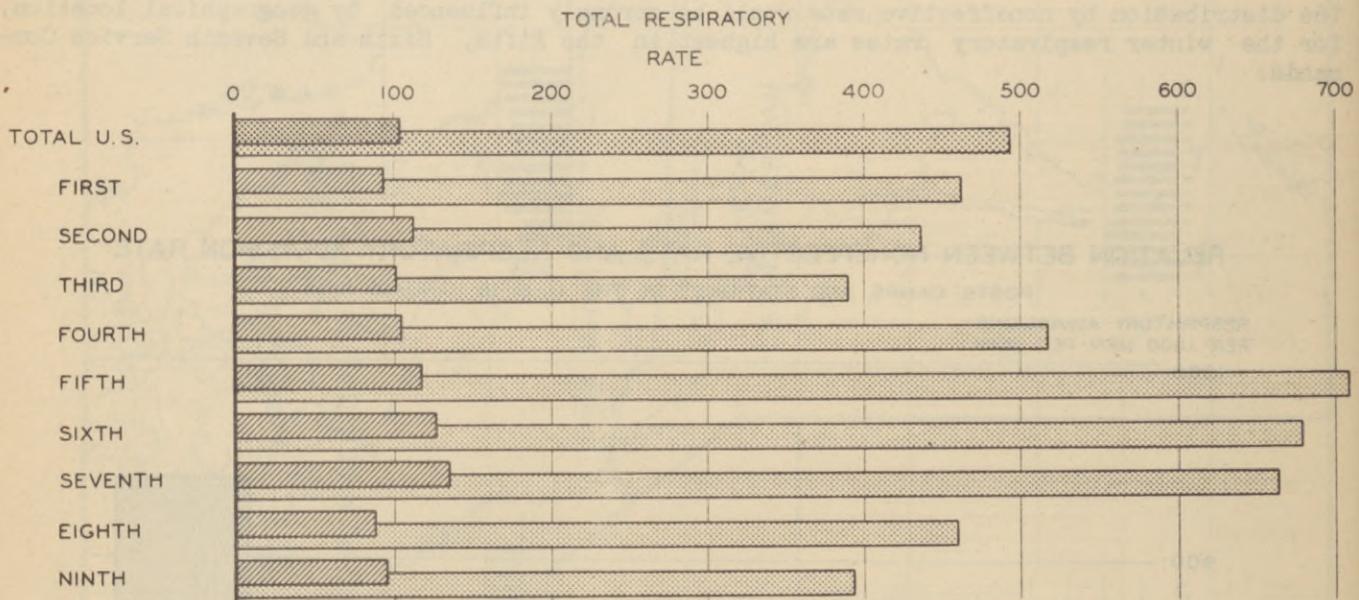
The relatively uniform summer rates for respiratory disease contrast sharply with those which obtained during the winter months, but a rough similarity in ranking persists in consequence of climatological variation. In the case of diarrhea and dysentery, which may be much more frequent than the preliminary reports indicate, the commands with the highest summer rates also had the highest winter rates. With respect to other reported communicable

DISEASE AND INJURY, ADMISSIONS PER THOUSAND MEN PER YEAR

SERVICE COMMANDS

JULY, AUGUST, SEPTEMBER 1943

 DECEMBER 1942, JANUARY, FEBRUARY 1943



* Excluding cases infected prior to induction.

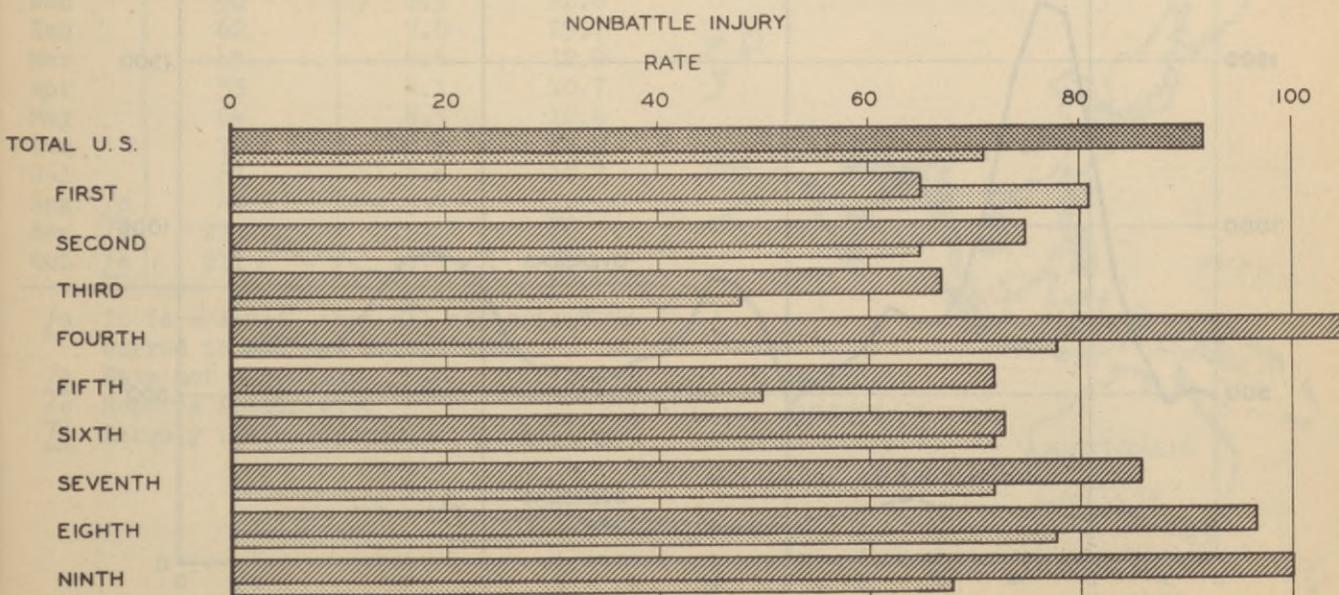
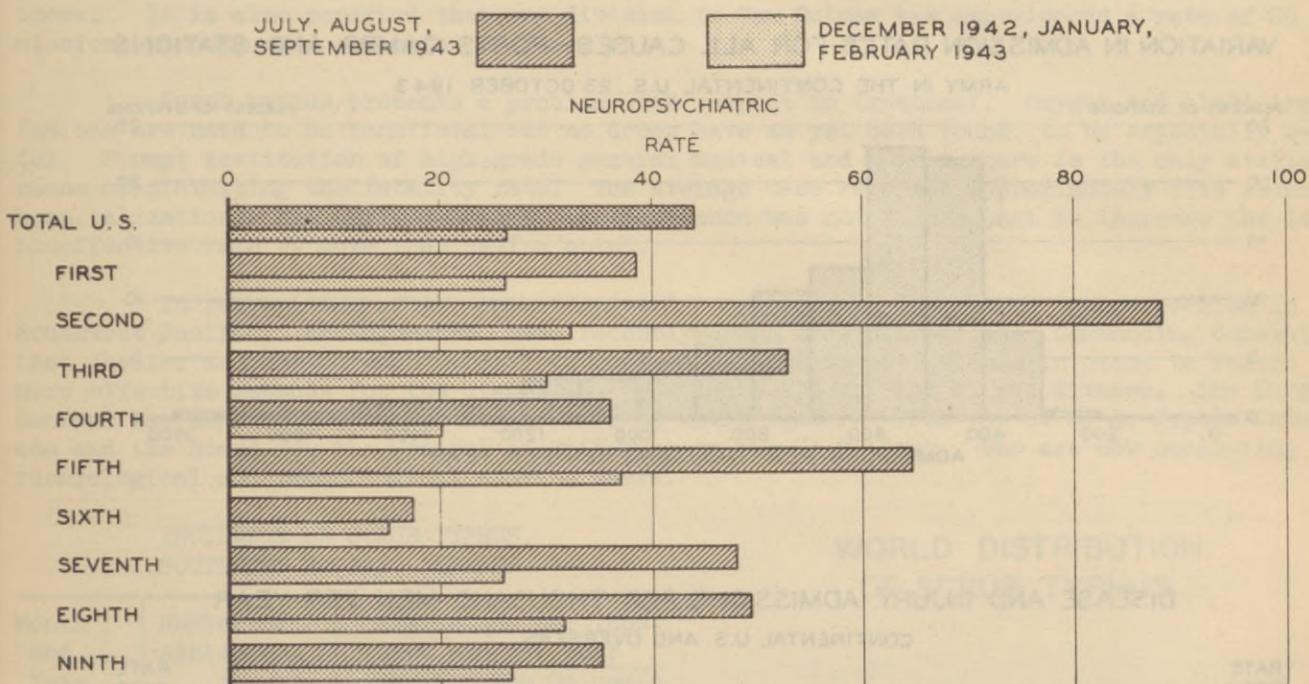
DISEASE AND INJURY

LEADING CAUSES OF ADMISSION, SERVICE COMMANDS (Continued)

diseases the pattern is more complex, some of those with the lowest rates during the past summer having had relatively high rates during the winter.

Very marked changes have been taking place in the rate of admission for neuropsychiatric disorder, the average U. S. rates having risen about 65 percent during the interval under study. The rates for the Second and Fifth Service Commands, where there are special hospital facilities for such cases, have increased far more than the rates for other commands, although the rate is up in each. It will be noted that different scales are used for the charts on these two pages. Otherwise the variation among service commands would be obscured for those diseases having low average rates.

DISEASE AND INJURY, ADMISSIONS PER THOUSAND MEN PER YEAR
SERVICE COMMANDS



DISEASE AND INJURY

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DISEASE AND NONBATTLE INJURY

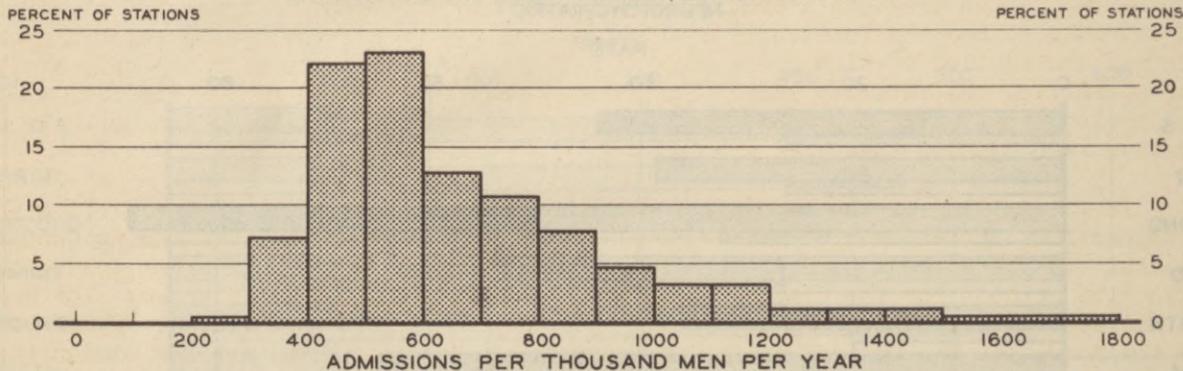
During October the preliminary admission rate for disease among troops in the Continental U. S. decreased for the second consecutive month to reach 615 admissions per thousand men per year, the lowest rate of the year. The rate of admission for nonbattle injury advanced slightly to 90.

The disease rate for U. S. troops overseas fluctuated about its previous high level during August and September, according to preliminary reports. The provisional injury rate, however, fell sharply to about 130 for September. If the rate does not change when all the reports are in it will be the lowest point in the past 12 months.

At the bottom of the page there appears a distribution of posts, camps, and stations according to their admission rates for all causes during the week ending 23 October. Only stations of approximately 5,000 or more strength were tabulated. Almost half of the stations reported rates of 400 to 600, and about ten percent had admission rates greater than 1,000 per thousand men per year.

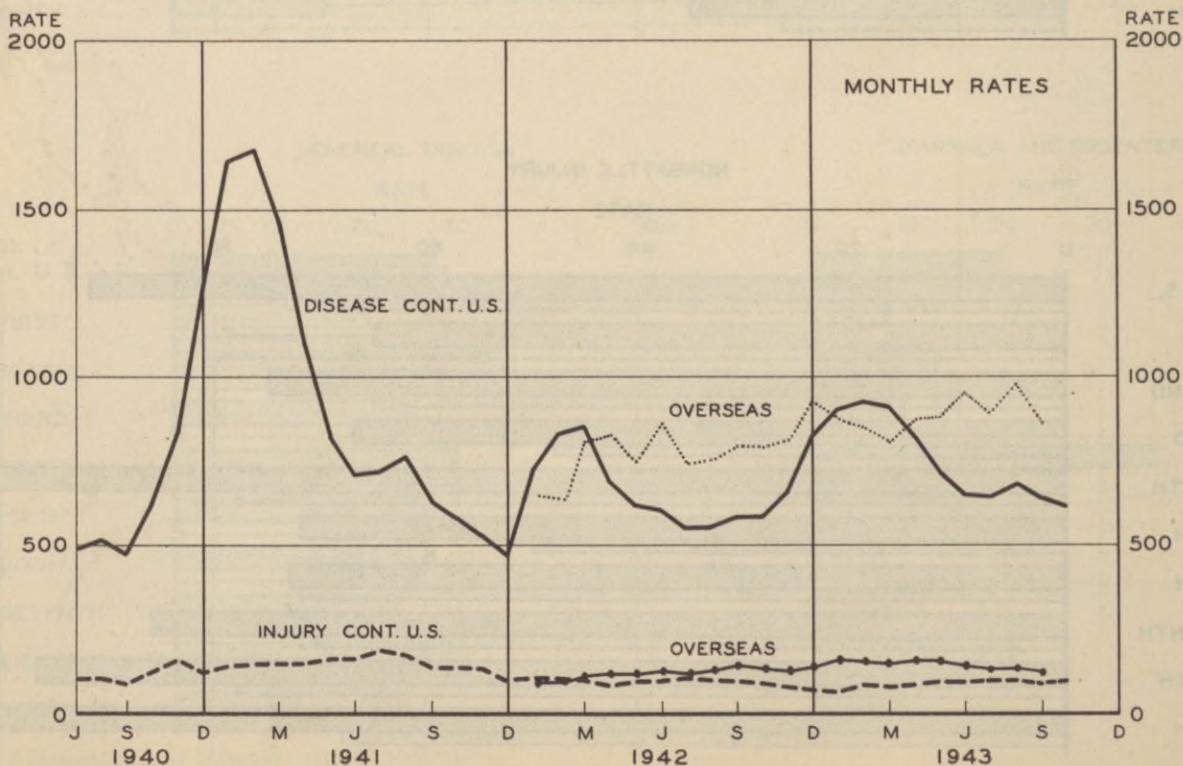
VARIATION IN ADMISSION RATES FOR ALL CAUSES - POSTS, CAMPS, AND STATIONS

ARMY IN THE CONTINENTAL U.S., 23 OCTOBER 1943



DISEASE AND INJURY, ADMISSIONS PER THOUSAND MEN PER YEAR

CONTINENTAL U.S. AND OVERSEAS



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DISEASE AND INJURY

SECRET

SCRUB TYPHUS

In the Southwest Pacific Allied troops have encountered an acute infectious disease of the typhus family but different from Old World, louse-borne typhus. It is probably carried to man by the bite of an infected mite. As may be seen from the accompanying inset map of endemic areas, it is known to occur on the Malay Peninsula, in Sumatra and Java, and in New Guinea. Its relative incidence does not make it a leading cause of admission or non-effectiveness. On the other hand its mortality rate, although less than 5 percent, is relatively high in comparison with other communicable diseases in the theater. For the first six months of 1943 scrub typhus was the leading cause of death from disease in the Southwest Pacific, outranking malaria with a rate of incidence many times that for scrub typhus.

The table below presents the available statistics on incidence. Although only 34 cases were reported throughout 1942, there were 92 cases in January 1943. Until September 1943, 50 to 100 new cases were reported each month, but the preliminary radio reports for September and October indicate totals in excess of 200 each month, an increase out of proportion to the change in strength. The table also includes a set of estimates for the incidence in New Guinea based on the somewhat arbitrary assumption that all admissions occurred there. It is also reported that one division in New Guinea has experienced a rate of 29 admissions per thousand strength per year.

Scrub typhus presents a problem with respect to treatment. Oxygen and blood transfusions are said to be beneficial but no drugs have as yet been found to be especially helpful. Prompt institution of high-grade general medical and nursing care is the only available means of minimizing the fatality rate. The average case requires approximately five weeks of hospitalization, but until September the incidence was not high enough to increase the daily noneffective rate by more than half a point.

In recognition of the importance and complexity of the scrub typhus problem in the Southwest Pacific, arrangements have recently been made between the Commanding General of that theater and The Surgeon General to conduct special investigations in order to search for more effective methods for the diagnosis, treatment, and control of the disease. The Surgeon General has sent to New Guinea highly trained investigators from the U. S. A. Typhus Commission and the Board for the Control of Epidemics in the U. S. Army, who are now conducting epidemiological and immunological studies there.

INCIDENCE OF SCRUB TYPHUS,
SOUTHWEST PACIFIC THEATER

Month and Year	Number of Admissions	Admissions per Thousand Men per Year	
		Theater	New Guinea/a
1942	34	/b	/b
1943			
Jan	92	8.5	22.8
Feb	62	7.0	25.7
Mar	45	4.6	12.9
Apr	55	4.1	10.7
May	64	4.7	12.4
Jun	79	6.3	14.9
Jul	83	4.6	10.7
Aug /c	44	3.7	/b
Sep /d	223	15.2	/b
Oct /d	211	11.3	/b

- /a It is assumed that all admissions occurred in the New Guinea area.
- /b Rate not computed.
- /c Reports incomplete.
- /d Largely radio reports.

WORLD DISTRIBUTION
OF SCRUB TYPHUS



DISEASE AND INJURY

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HEALTH CONDITIONS IN THE CARIBBEAN

Troops stationed in the Caribbean area in the main enjoy somewhat more favorable health conditions than do troops in other tropical and subtropical areas overseas. Despite the tropical climate and the prevalence of disease, the Army forces there have achieved satisfactory control of many diseases and the environmental factors hazardous to health. This is especially noteworthy in the case of the highly effective measures employed to control malaria in this area. Similar but less dramatic success has accompanied efforts to control other diseases. In the institution and maintenance of preventive and control measures the forces in the Caribbean have been favored by the fact that they are garrisoned in fixed installations in a non-combat area.

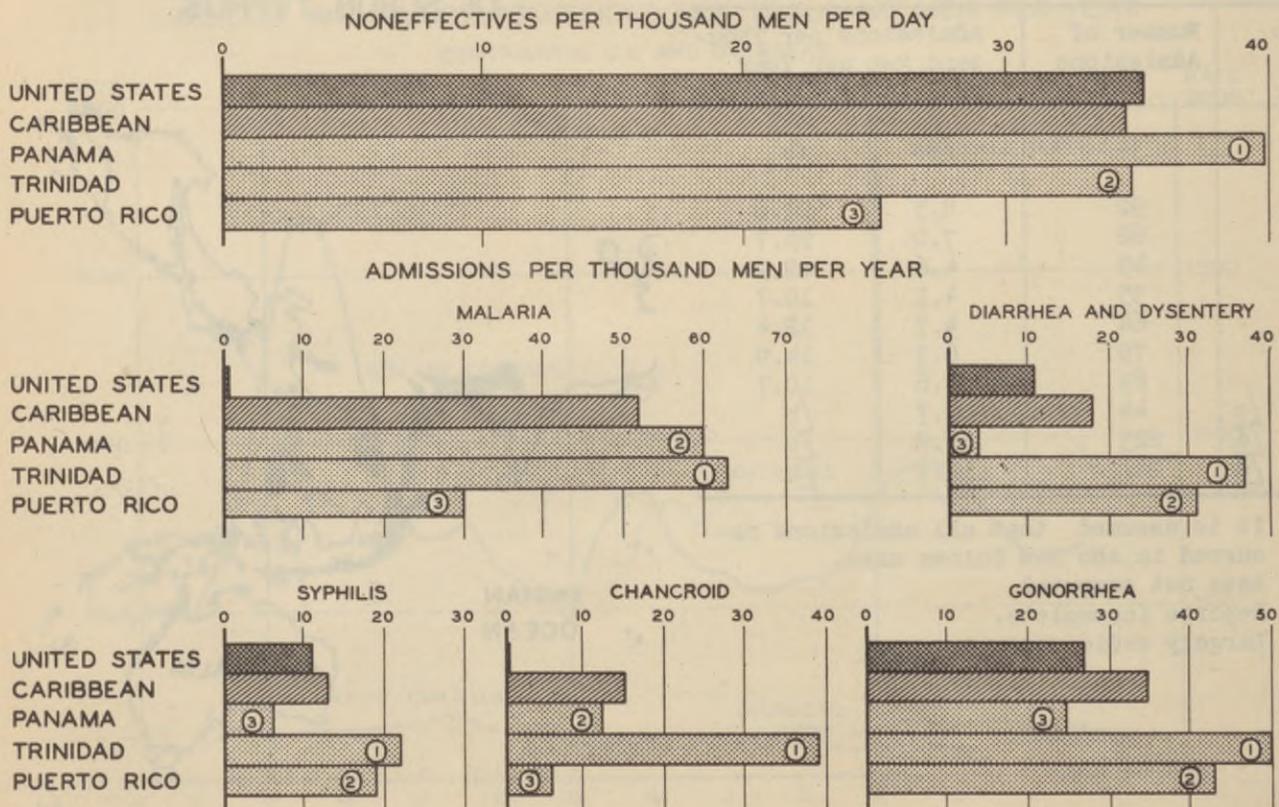
The accompanying charts compare the experience of troops in Panama, Trinidad, and Puerto Rico for the period October 1942 to September 1943. During these twelve months the noneffective rate averaged 35 per thousand men per day, less than the average for troops in the U. S. or overseas. Of this total rate about 5.0 derived from nonbattle injury, and the rest from disease. The most favorable experience is that for Puerto Rico, where noneffectiveness has been low for both disease and injury. The Puerto Rican climate is subtropical and generally healthful.

Although the incidence of respiratory disease exceeds that for malaria by a wide margin, the latter is perhaps the disease of greatest interest in the Caribbean area. Only intensive and diligent antimalarial work in this highly malarious region could have depressed the malaria rates to their favorable level for the past year. The 1943 incidence in Panama has been exceptionally low, and the rates for Puerto Rico have been less than half those reported for 1942. Reports from Panama speak of excellent malaria discipline in practically all units.

Diarrhea and dysentery have caused very little disability in Panama but elsewhere throughout this unsanitated area they are an ever-present menace to the health of troops. The average rate for the Caribbean is, of course, materially higher than that for the U. S. but a great deal lower than the average rate for all troops overseas. Trinidad and Puerto Rico have had average rates in excess of 30 admissions per thousand men per year for the period under review.

DISEASE, INJURY, AND NONEFFECTIVENESS IN THE CARIBBEAN AREA

OCTOBER 1942 - SEPTEMBER 1943



CONFIDENTIAL

DISEASE AND INJURY

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HEALTH CONDITIONS IN THE CARIBBEAN (continued)

There are special problems with respect to the control of venereal diseases in the Caribbean area. The average rate of about 65 admissions per thousand men per year is considerably higher than the average rate for any other foreign command of equivalent size. The high incidence of venereal disease in the native population, the lack of effective governmental control of prostitutes and infected persons, and the ease with which clandestine and casual contacts can be arranged all contribute to the maintenance of high venereal disease rates among troops in the area. Despite the evident difficulties, the consistently lower rates of the past four months are indicative of more effective control measures and the maintenance of better venereal disease discipline.

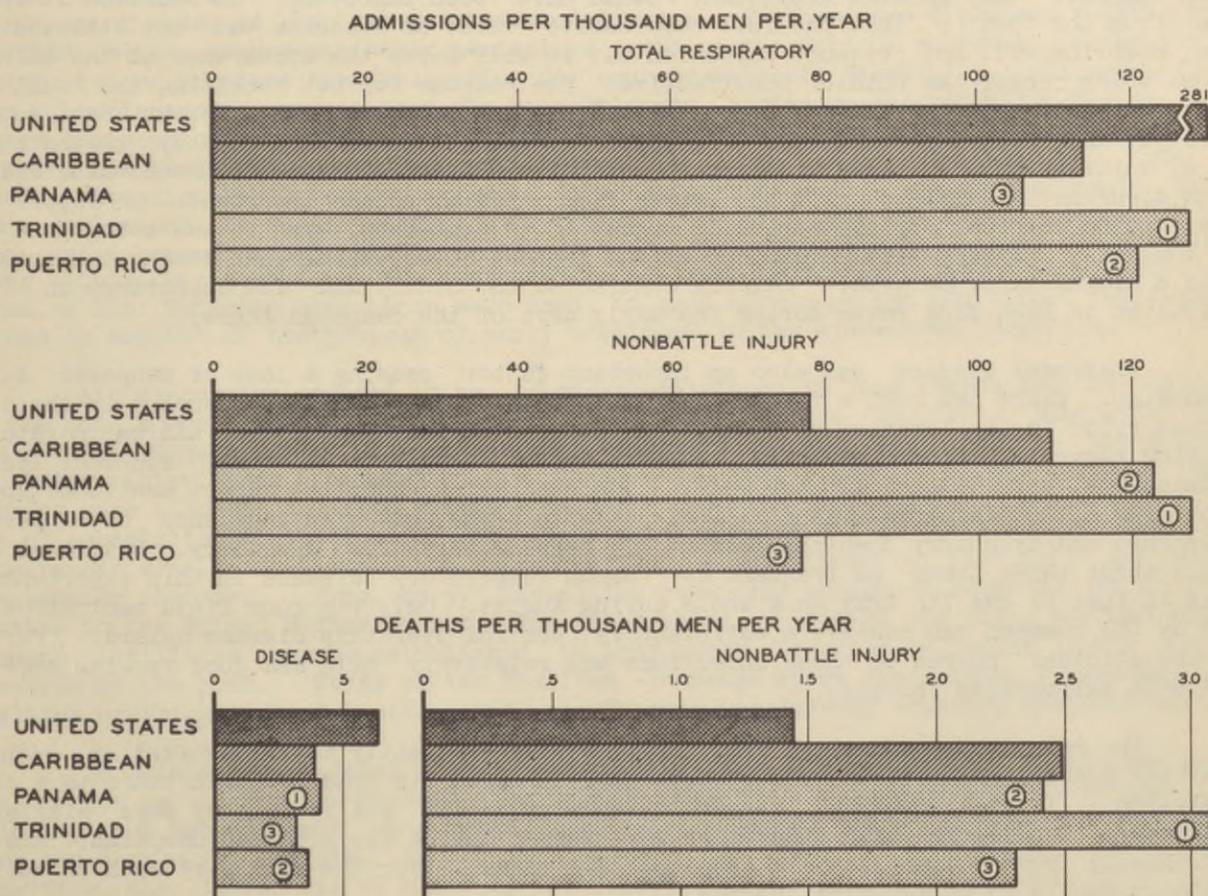
Although respiratory disease is an outstanding cause of admission in the Caribbean, the average rate for the past year is almost as low as the typical summer minimum for the U.S. There appear to have been no important differences among the three sectors of the area.

The admission rate for nonbattle injury is generally somewhat higher for troops in the Caribbean than for troops in the U. S., but less than that for overseas troops. Within the Caribbean Defense Command Puerto Rico has the lowest average injury rate for the past year. In this connection it is relevant to note that it also has a lower proportion of its strength classified as Air Force personnel than has either Panama or Trinidad. For the period October 1942 to May 1943, the Sixth Air Force had an average admission rate of about 140 per thousand men per year, well above the rate of 110 for all troops in the Caribbean during the full twelve month period.

The average death rate from disease among troops in the area is below that for troops elsewhere overseas or in the U. S., but the death rate from injury has been relatively high at about 2.5 deaths per thousand men per year. During the first six months of 1943 about half of the deaths from injury in the Caribbean were caused by aircraft accidents. The average death rate from injury has been corresponding high for the Sixth Air Force.

DISEASE, INJURY, AND NONEFFECTIVENESS IN THE CARIBBEAN AREA

OCTOBER 1942 - SEPTEMBER 1943



DISEASE AND INJURY

CONFIDENTIALMEDICAL PROBLEMS IN THE RECENT SICILIAN CAMPAIGN

Recent medical reports from the North African Theater indicate that the great bulk of the admissions during the Sicilian Campaign resulted from disease rather than from battle injury. During the first 30 days of the campaign, 60 percent of the admissions among troops comprising the 7th Army were for disease, 14 percent for nonbattle injury, and 26 percent for battle injury. For the 2nd Corps, which was most continuously and actively engaged, the relative proportions were, however, quite different during the initial stages of the invasion. These observations suggest how important a cause of admission disease can be even during a rapidly moving campaign once the operation has progressed beyond its initial stage. For the month of August the 7th Army had a rate of 1,864 admissions per thousand men per year.

During the campaign the chief medical causes of admission were malaria, diarrhea and dysentery, sand fly fever, neuropsychiatric disorders, superficial skin infections, and disturbances of the feet. The precise importance of malaria during the campaign is obscured by the frequency with which a diagnosis of "fever of unknown origin" was necessarily made. Although many of these patients probably had malaria, sand fly fever was also prevalent and some patients originally thought to have had malaria may well have been suffering from sand fly fever, a disease similar to dengue. Also, some of the malaria which first appeared in Sicily was contracted in North Africa prior to the invasion. On the other hand, many of the wounded who were returned to North Africa developed malaria of Sicilian origin and thus were not included in the statistical reports from Sicily. During the campaign, the Seventh and Eighth Armies are said to have lost, from malaria alone, the equivalent of the fighting effectiveness of two infantry divisions, which is more than they lost from battle casualties. For the month of August the reported admission rate for malaria among troops in the Seventh Army was 385, in comparison with 176 for the entire theater, and was about one-fifth of the admission rate for all disease. For the entire campaign the average rates for diagnosed malaria were 227 for the Seventh Army and 321 for the British Eighth Army. The frequency with which troops developed clinical symptoms of malaria may be attributed to two general causes: (1) operations were being conducted in one of the most highly malarious areas of Europe, and during the season when the risk of infection was greatest; and (2) combat activity in connection with night operations are said to have made it difficult for troops to employ effective individual measures against the bite of infected mosquitoes. However, the high rate of infection suggests that malaria discipline could have been improved. In addition it is reported from the theater that the full suppressive value of atabrine was not achieved. Of course, atabrine will not prevent infection but it will delay the appearance of the clinical symptoms which render the soldier noneffective. The reasons for not realizing the full suppressive value of atabrine are given as: (1) it was not made available for at least some of the troops taken aboard the invasion craft; (2) it did not go forward readily to the components of units which were subdivided after the initial landing; and (3) the command did not enforce atabrine discipline until the losses from malaria became important. A report from one evacuation hospital for the period 12 August to 30 September, when it was being used as a fixed hospital, reveals that 28 percent of the medical cases discharged during the interval carried a diagnosis of malaria. Malaria contracted in Sicily made its appearance in Italy and resulted in high sick rates during the early days of the campaign there.

Diarrheal disease was also an important factor causing a loss of manpower during the campaign. There had been a fairly high incidence of diarrhea and dysentery in the staging areas prior to the invasion of Sicily, and for the entire theater the admission rate was 196 during August. The corresponding rate for the 7th Army was, however, somewhat less at 153 admissions per thousand men per year. The evacuation hospital report mentioned above, and covering 4,500 discharges among medical patients alone, gives an incidence of 11 percent for diarrhea and dysentery combined, about 1.5 percent being for dysentery. Diarrheal disease was about three times as frequent as common respiratory disease in this experience as well as in that of the 7th Army as a whole during August. Only rigorous field sanitation enforced by the command can achieve a satisfactory control over this disease hazard. Fortunately the clinical course of these infections was relatively mild and good results were obtained with sulfonamide therapy.

The relatively unfamiliar sand fly fever was frequently not recognized as such and the initial statistical reports undoubtedly underestimated its relative importance as a cause of admission. It is a non-fatal disease of short duration and is in many ways similar to dengue fever. Superficial skin infections were common during the Sicilian campaign, and resulted chiefly from an inability to keep the skin clean. For the most part such infections responded promptly to sulfonamide therapy.

DISEASE AND INJURY

CONFIDENTIAL

MEDICAL PROBLEMS IN THE RECENT SICILIAN CAMPAIGN (Continued)

Preliminary medical reports on the Sicilian action list 957 men killed in action and 4,023 seen alive after having been wounded. The latter number excludes men whose wounds were not sufficiently serious to warrant hospitalization. Among these 170, or 4.2 percent, died. Twenty-two died before they could be admitted to a battalion clearing station equipped for emergency surgery, another 92 died before admission to evacuation and field hospitals, and 56 died after reaching such hospitals. The chances of dying, taken in relation to the men reaching each echelon of medical care, and excluding the lightly wounded, are 19 percent on the battle-field, 0.5 percent enroute to a clearing station, 2.3 percent in clearing stations, and 1.4 percent after reaching hospitals. The mortality rate of 1.4 percent among casualties reaching field or evacuation hospitals parallels that of 1.5 percent reported for the final phase of the Tunisian campaign, although there was reason to anticipate that proportionately more casualties would be lost in the overwater assault and invasion upon Sicily. The casualties of the land fighting in northeastern Sicily had a distinctly lower fatality rate than was experienced in Tunisia.

Only 10.6 percent of the 1,071 deaths which occurred forward of the hospitals were seen alive by an aid man. Study of the types of injury which proved fatal and of the injury-to-death interval, which was three hours or less in approximately half the cases, gives further evidence of the severity of the fatal wounds and of the unlikelihood of successful surgical intervention. Very few lives might be saved, therefore, by moving more elaborate surgical facilities further forward, even if this were feasible. It is apparent that the small surgical hospital for emergency cases cannot be expected to operate much more effectively any closer to the line of combat than its present location in the proximity of the divisional clearing station.

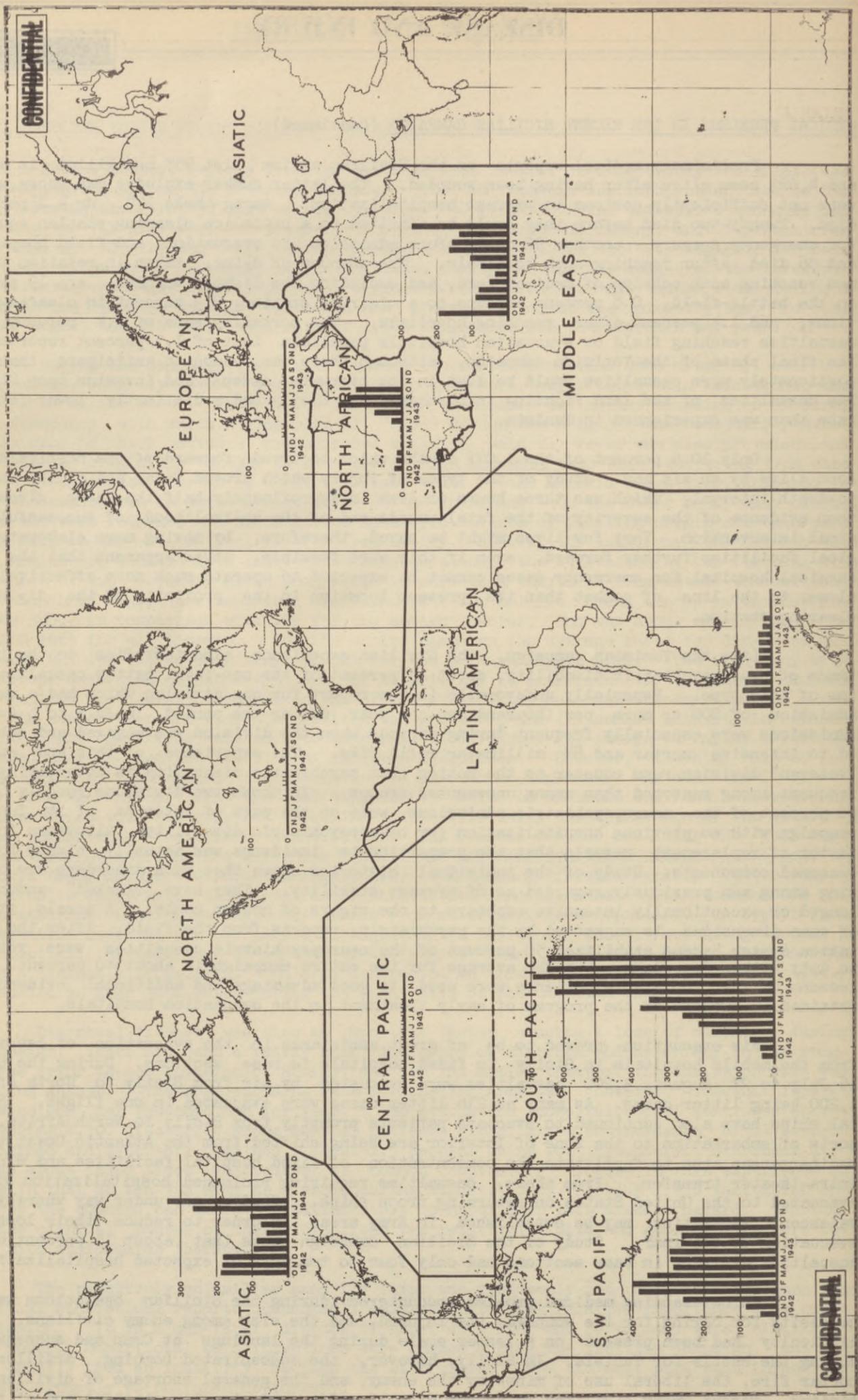
Like the Tunisian campaign, the Sicilian experience also testifies to the importance of neuropsychiatric disability, about 15 percent of the non-fatal battle casualties being of this type. Especially unfavorable is the report for one division which had a rate of admission of 200 or more per thousand men per year during the period 16 July to 6 August. Admissions were especially frequent during periods when the division was engaged and subjected to intensive mortar and 88 millimeter rifle fire. The experience of this and another "veteran" division runs counter to the notion that psychiatric disability is necessarily less frequent among seasoned than among unseasoned troops. In these two divisions roughly 65 and 90 percent of the neuropsychiatric admissions were on the part of veterans of the Tunisian campaign with no previous hospitalization for neuropsychiatric disability. Allowance for the factor of replacement reveals that the proportionate incidence was actually higher for the seasoned components. Study of the individual histories shows that such disorders are occurring among men previously regarded as of average stability. They have "cracked" under prolonged or exceptionally intensive exposure to the rigors of modern combat. A morale problem of some dimensions is suggested by the psychiatric reports from the field. After the evacuation system became stabilized 50 percent of the neuropsychiatric casualties were returned to duty within four days, but the average for the entire campaign is about 40 percent. The lessons of the Tunisian experience were used to good advantage and additional evidence was obtained in support of the program of early treatment in the evacuation hospitals.

Air evacuation proved to be of great assistance in the evacuation of casualties from the mobile hospitals in Sicily to fixed hospitals in base sections. During the period 16 July to 27 August, 3,200 casualties were evacuated by air from Sicily to North Africa, 1,200 being litter cases. As many as 216 litter cases were evacuated in one flight. Hospital ships have also continued to evacuate patients promptly from Sicily to North Africa. The ports of embarkation to the Zone of Interior are being shifted from the Atlantic Coast to the Mediterranean area to facilitate the concentration of fixed hospital facilities and minimize intra-theater transfer. From there, casualties requiring prolonged hospitalization will be evacuated to the United States on returning troop ships. Studies are under way whereby convalescent facilities may be established in Army areas in order to reduce their losses by evacuation to the rear. Study of the Sicilian campaign shows that about 15 percent of the casualties arriving in base sections had only four to ten days of expected hospitalization.

An outstanding medical problem encountered during the Sicilian operations was the necessity for caring for the wounded, the injured, and the sick among enemy civilians. This difficulty had been present on a lesser scale during the landings at Oran and subsequently during the battle for Tunisia. In Sicily, however, the concentrated bombing, artillery and mortar fire, the liberal use of mines by the enemy, and the general shortage of civilian physicians, forced enemy civilians to appear at collecting and clearing stations and at the evacuation hospitals in search of medical attention. It was the unofficial policy of the Army in Sicily to render medical services to the civilians at all times.

MALARIA, ADMISSIONS PER THOUSAND MEN PER YEAR

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DISEASE AND INJURY

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MALARIA

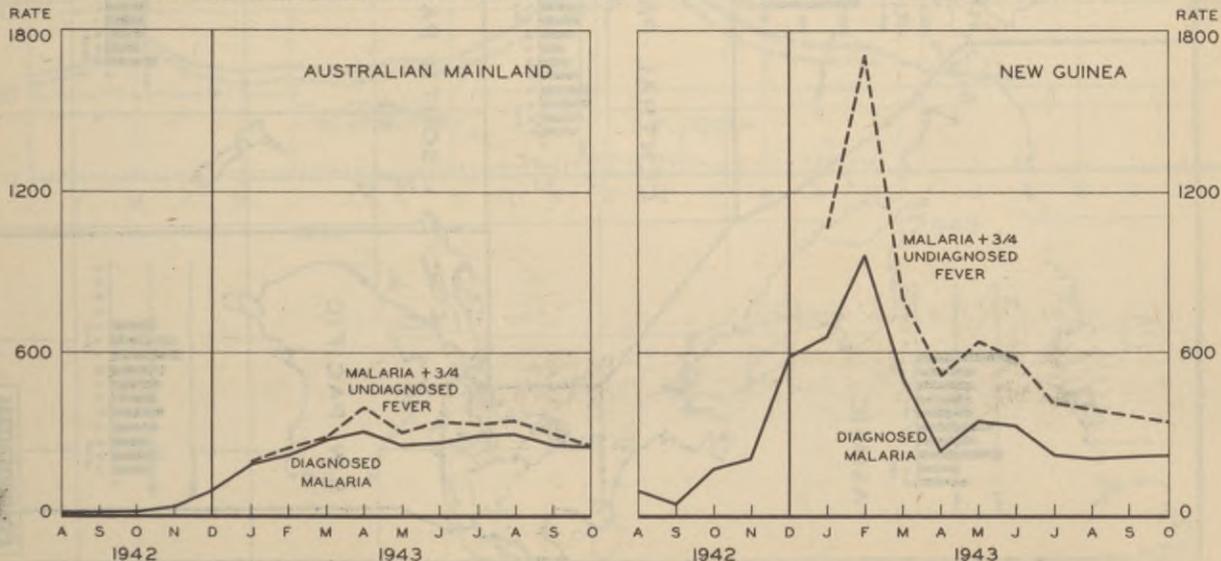
During September and October the malaria admission rate for the North African Theater declined from the peak of 176 reported for August, the preliminary October estimate being 128 admissions per thousand men per year. There was a further decline, partly seasonal, in the admission rate for Latin America. On the map on the opposite page Central Africa has been combined with the Middle East in accordance with recent administrative changes in this area. The small force of the West African Service Command continues to have a highly unfavorable malaria experience, however, and reports a disproportionate share of the malaria shown for the Middle East. In September, for example, the provisional estimate for the theater less the West African Service Command is 158 in comparison with 270 for the entire theater. The September rate is 75 percent above that reported for July.

In the Pacific and in Asia there was no real change in the malaria situation during the period covered by the most recent reports. The extremely high admission rate for the South Pacific has continued into October, but the provisional October rate for the Southwest Pacific declined somewhat to reach its lowest point for the year. Although final reports for August and September have not yet been received from the Asiatic Theater, radio reports suggest that the October rate may be about 250, somewhat less than the rate for July.

To show a malaria rate for the entire Southwest Pacific Theater obscures the fact that most of the malaria has been contracted in the New Guinea area which has suffered much higher rates of admission. It is useful, therefore, to present separately the experience of the Australian mainland and the New Guinea areas. The charts below do this for the past year, showing the reported incidence of diagnosed malaria and a rough estimate of the total incidence of malaria. The latter is derived by adding to the diagnosed malaria three-fourths of the undiagnosed fever, it having been estimated in the theater that this fraction of the undiagnosed fever is very probably malaria. The resulting estimates of total incidence may be somewhat high in that some portion of the admissions first classified as undiagnosed fever are later given an explicit diagnosis of malaria and appear in the malaria rates for the later date. No data are yet in hand to indicate how much duplication there may be on this account. Until such observations are reported, the dotted lines may be taken as the best available estimates of malaria incidence.

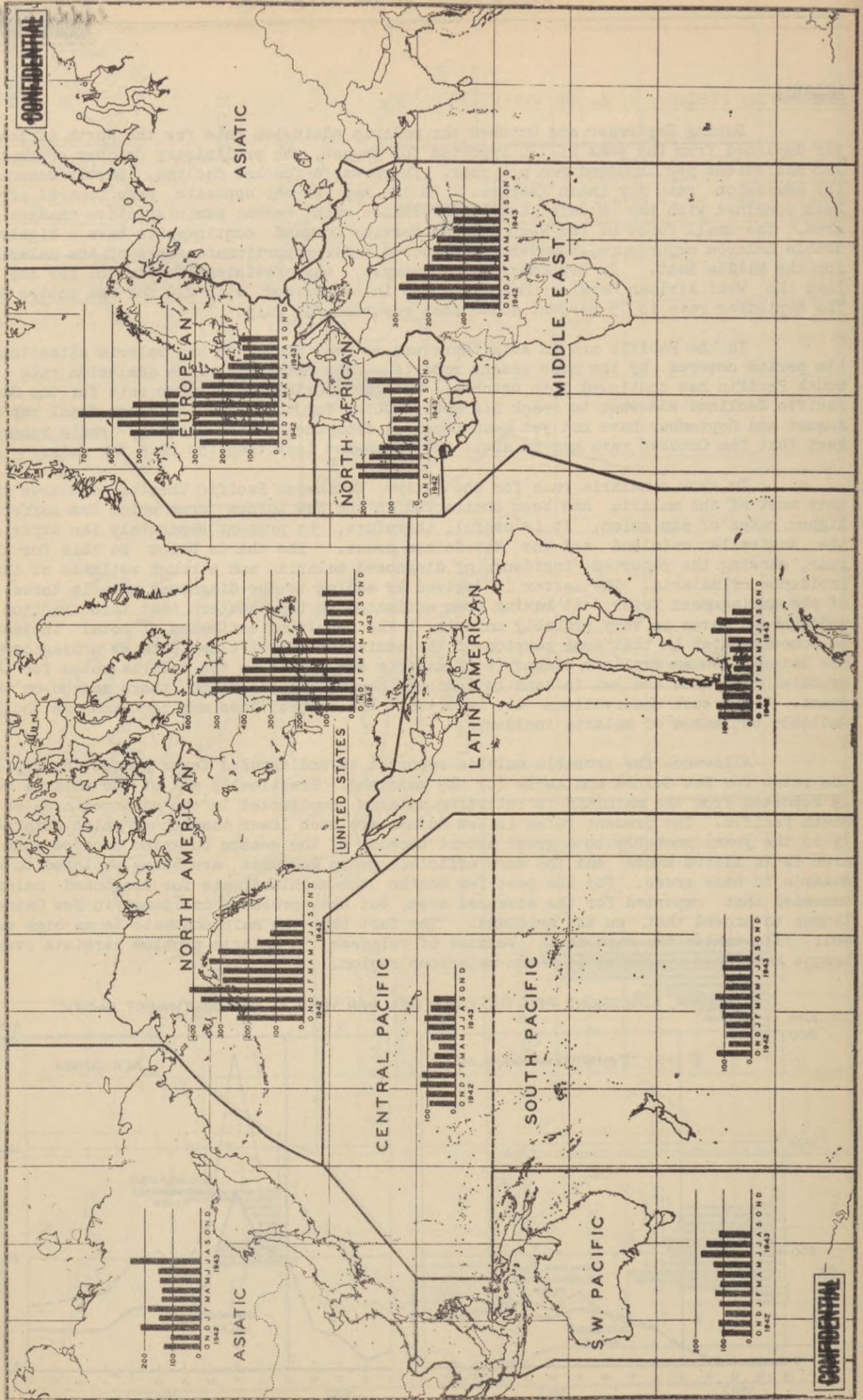
Allowance for probable malaria reported as undiagnosed fever widens the gap between the rates for New Guinea and those for the mainland. Practically all of the malaria currently reported from the mainland is relapsing malaria contracted in the advanced area or in the South Pacific. The present rates in New Guinea are much lower than those which obtained early in the year, probably to a great extent because of the season but also because more of the area is in Allied hands and the more efficient group measures are being employed to control malaria in base areas. For the past few months the mainland rate for diagnosed malaria has exceeded that reported for the advanced area, but the probable incidence in New Guinea continues to exceed that on the mainland. The fact that the mainland rate is as high as it is well illustrates the fact that, because of relapses, a malaria problem persists even after troops have been evacuated to a non-malarious region.

MALARIA, ADMISSIONS PER THOUSAND MEN PER YEAR IN THE SOUTHWEST PACIFIC



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RESPIRATORY DISEASE, ADMISSIONS PER THOUSAND MEN PER YEAR



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DISEASE AND INJURY

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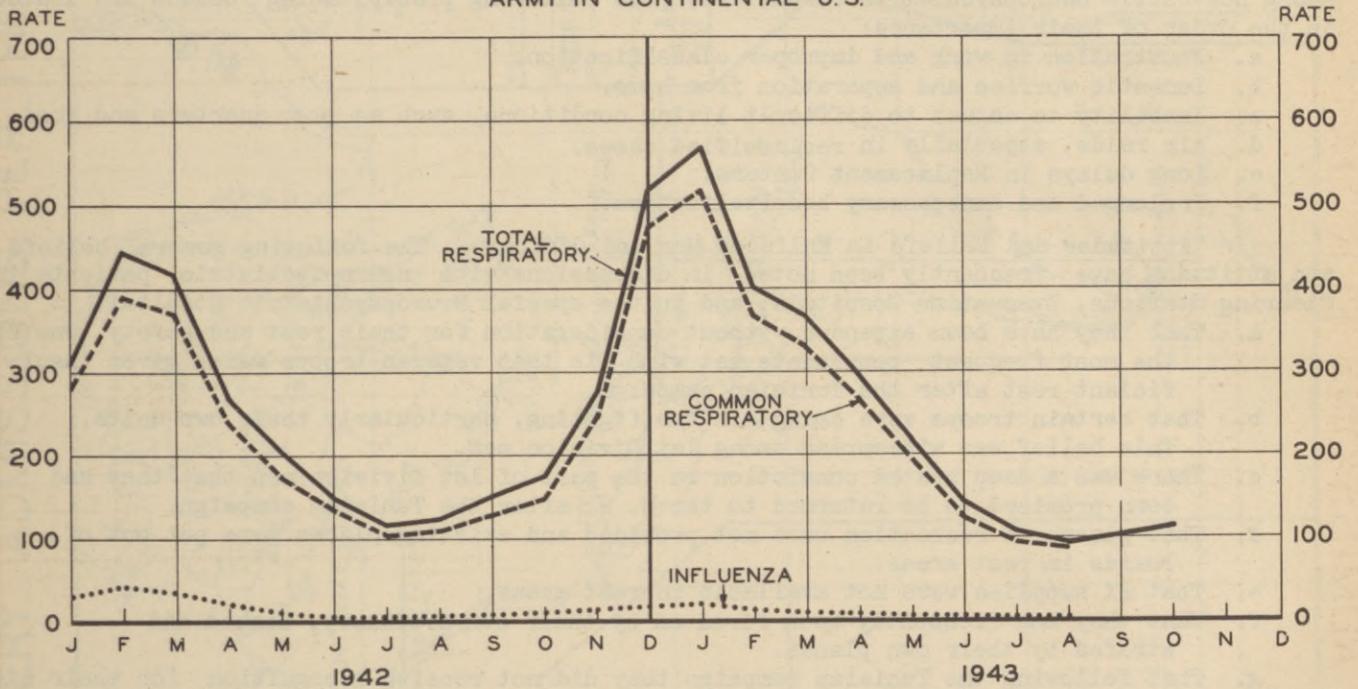
RESPIRATORY DISEASE, U. S. AND OVERSEAS

The respiratory diseases, including the common cold, influenza, pneumonia, and atypical pneumonia, are of great importance for the health of troops both at home and abroad. Addition of the most recent points to the map on the previous page shows the beginning of the seasonal upswing in several theaters, and especially in North Africa where the preliminary October rate is double that reported for July.

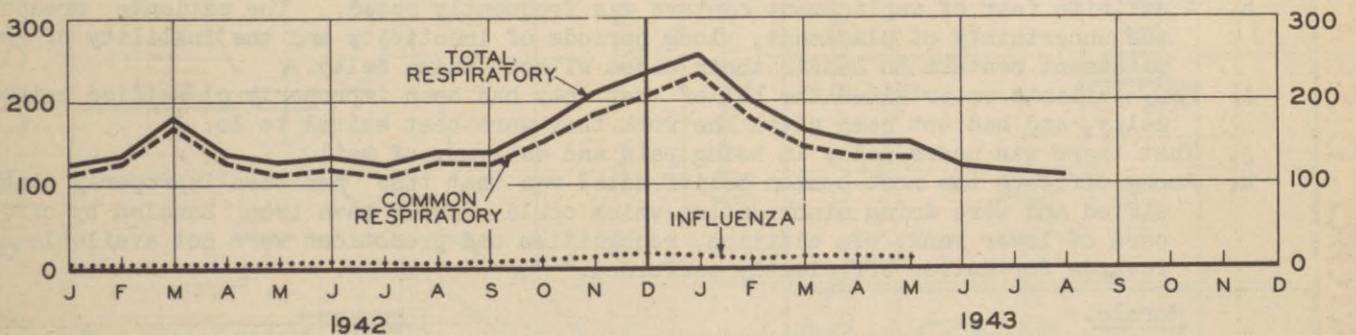
Two components of the U. S. respiratory rate are shown in the first chart below for 1942 and 1943. Comparison of the two troughs indicates that the summer season has been slightly more favorable this year than last, and the October upswing is rather slight. Recent rates for influenza and for common respiratory are not available. The second chart gives comparable data for the U. S. forces overseas.

RESPIRATORY DISEASE ADMISSIONS PER THOUSAND MEN PER YEAR

ARMY IN CONTINENTAL U.S.



OVERSEAS



DISEASE AND INJURY

~~CONFIDENTIAL~~ATTITUDES PREDISPOSING TO PSYCHIATRIC DISORDER IN NORTH AFRICA

A recent report from the surgeon in North Africa includes the following comment:

"Precipitating Factors. The precipitating factors in the development of neurosis under battle conditions appear to be . . . the following, listed in order of importance:

- a. Length of battle trauma, that is, number of consecutive days in action.
- b. Physical fatigue, due to improper sleep, prolonged exertion, irregular eating, weather, and intercurrent illness, e. g. mild dysentery.
- c. Unit morale.
- d. Explosions in close vicinity.
- e. Observation of death and maiming of buddies.
- f. Improper training and lack of confidence in unit leadership.
- g. The frequently stated belief that 'This is not our War'.

It is important to note that, while cases occurring early in battle generally have an unstable background, those cases occurring later on generally (approximately 70%) have an essentially normal background and record. Furthermore, the percentage of psychiatric disability is higher among 'veteran' troops of a unit than it is among replacements to that same unit. Among non-battle neuropsychiatric casualties, the following precipitating causes are listed in the order of their importance:

- a. Frustration in work and improper classification.
- b. Domestic worries and separation from home.
- c. Inability to adjust to difficult living conditions, such as poor quarters and food.
- d. Air raids, especially in reclassified cases.
- e. Long delays in Replacement Centers.
- f. Prolonged and unnecessary hospitalization."

"Attitudes and Beliefs in Enlisted Men and Officers. The following general beliefs and attitudes have frequently been noted in discussions with neuropsychiatric patients in Clearing Stations, Evacuation Hospitals, and in the special Neuropsychiatric Hospital.

- a. That they have been expended without consideration for their rest and safety. One of the most frequent complaints met with is that veteran troops were given insufficient rest after the Tunisian campaign.
- b. That certain troops were doing all the fighting, particularly their own units. This belief was widespread among 1st Division men.
- c. There was a deep seated conviction on the part of 1st Division men that they had been promised to be returned to the U. S. after the Tunisian campaign.
- d. That places of recreation were not provided and existing places were put out of bounds in rest areas.
- e. That PX supplies were not available in rest areas.
- f. That they had frequently been fired on by their own artillery, bombed and strafed by their own planes.
- g. That following the Tunisian campaign they did not receive recognition for their efforts, 'heroic deeds'. They noted this specially in the attitude of civilians of nearby communities.
- h. A definite fear of replacement centers was frequently noted. The patients dreaded the uncertainty of placement, long periods of inactivity and the inability of replacement centers to handle their cases without undue delay.
- i. Many patients entertained the belief that they had been improperly classified originally, and had not been given the work they were best suited to do.
- j. That there was undue delay in being paid and delivery of mail.
- k. Among officers the most common belief noted was that they had been improperly classified and were doing minor duties which could easily have been handled by officers of lower rank. In addition, recognition and promotions were not available as rewards for duties efficiently performed."

Morale.

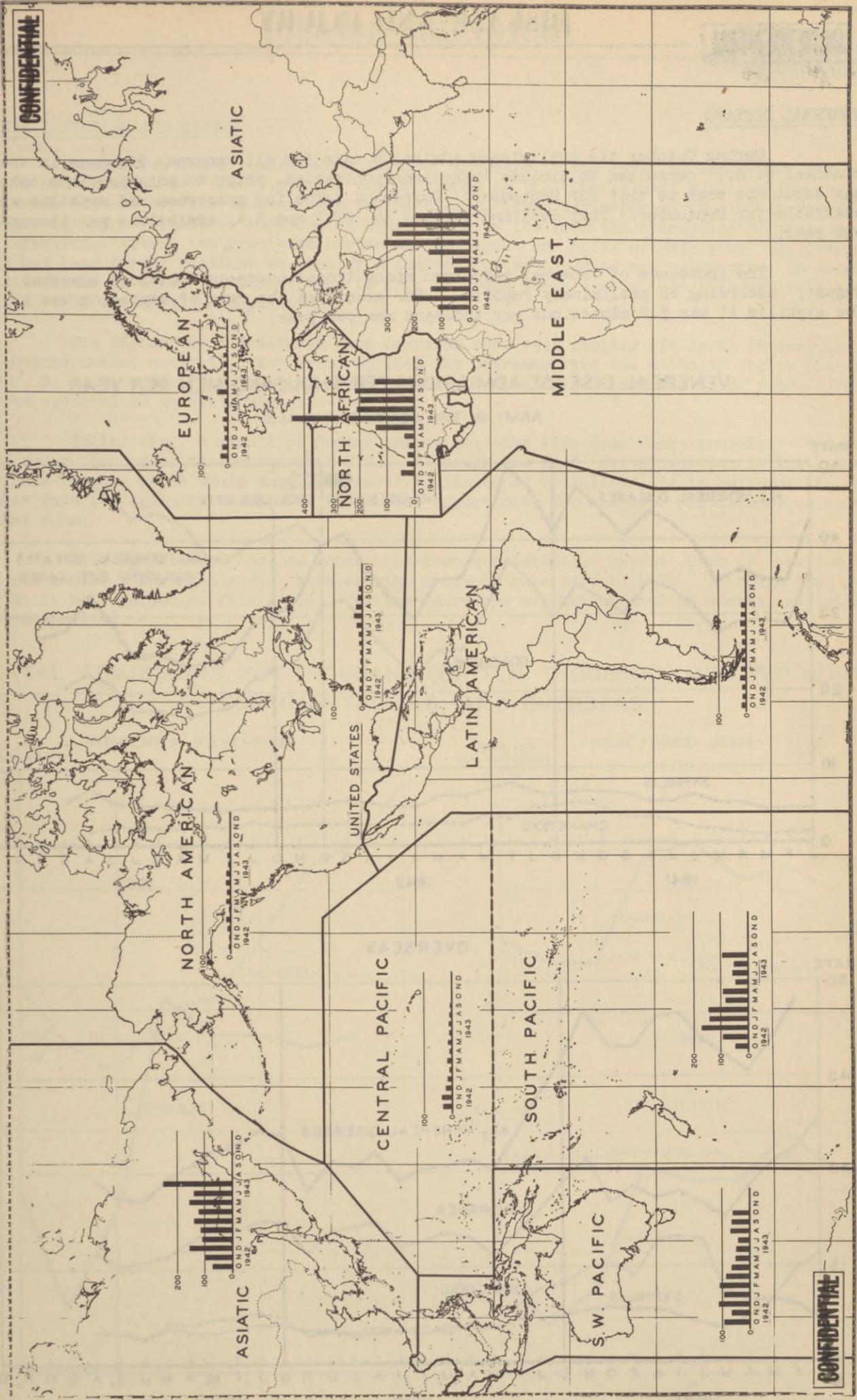
- "a. Many men do not have a clear understanding of what they are fighting for. There is a definite lack of understanding concerning the whole situation and they do not know their role in the war.
- b. They do not understand why they are sent overseas while millions of other soldiers remain in the U. S.
- c. Passive dependent trends have been fostered.
- d. Rash promises have been made, or false rumors allowed to spread without denial, etc., that troops would be sent home after combat, especially in Tunisia.
- e. There is frequently noted a lack of confidence in unit leadership.

It would appear that more education is required at home to give the soldier a clear understanding of the situation and what they actually are fighting for. An explanation of the local strategy would (also) be beneficial. The planning of proper recreation facilities after battle and regularly spaced rest periods during battle is important."

~~CONFIDENTIAL~~

DIARRHEA AND DYSENTERY, ADMISSIONS PER THOUSAND MEN PER YEAR

CONFIDENTIAL



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RESTRICTED

DISEASE AND INJURY

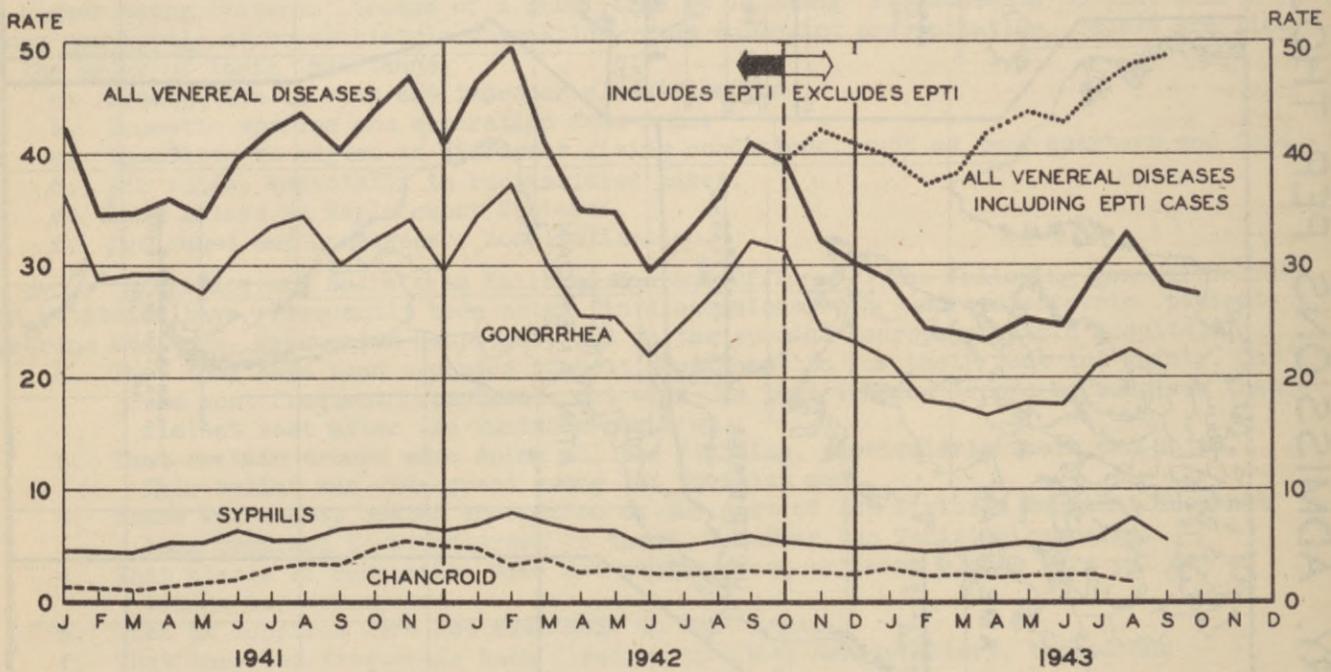
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VENEREAL DISEASE

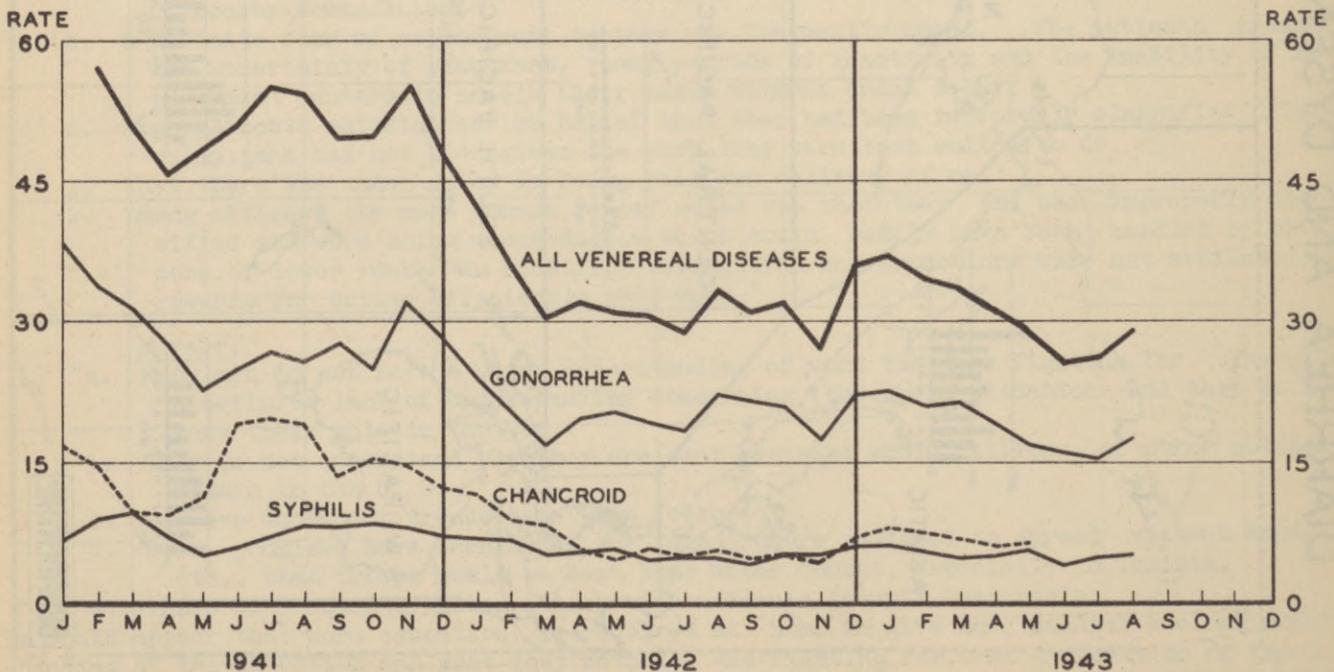
During October the preliminary admission rate for all venereal diseases in the Continental U. S., corrected to exclude infections contracted prior to entrance into the Army, was about the same as that for September. Corrected rates for gonorrhea and syphilis are now available for September. They declined further to 20.7 and 5.4 admissions per thousand men per year.

The incidence of venereal infection among troops overseas advanced somewhat during August, according to preliminary reports. For gonorrhea the rate of admission was 17.7 and for syphilis it was 5.2 admissions per thousand men per year.

VENEREAL DISEASE ADMISSIONS PER THOUSAND MEN PER YEAR
ARMY IN THE CONTINENTAL U.S.



OVERSEAS



CONFIDENTIAL

DISEASE AND INJURY

RESTRICTED

DENTAL INFECTION AND INJURY

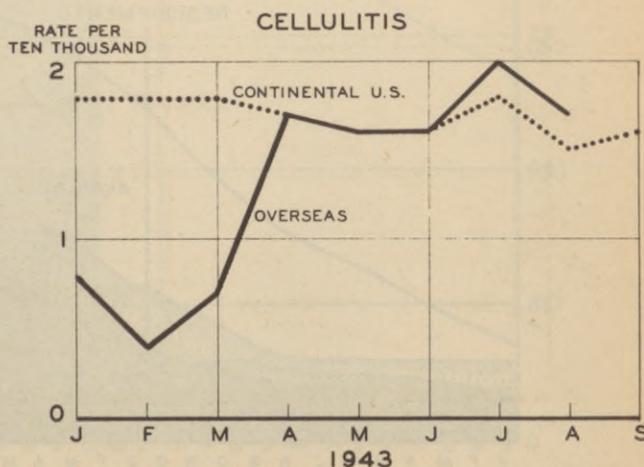
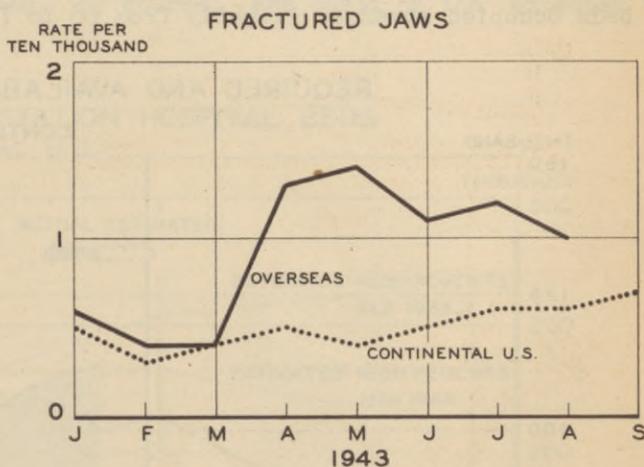
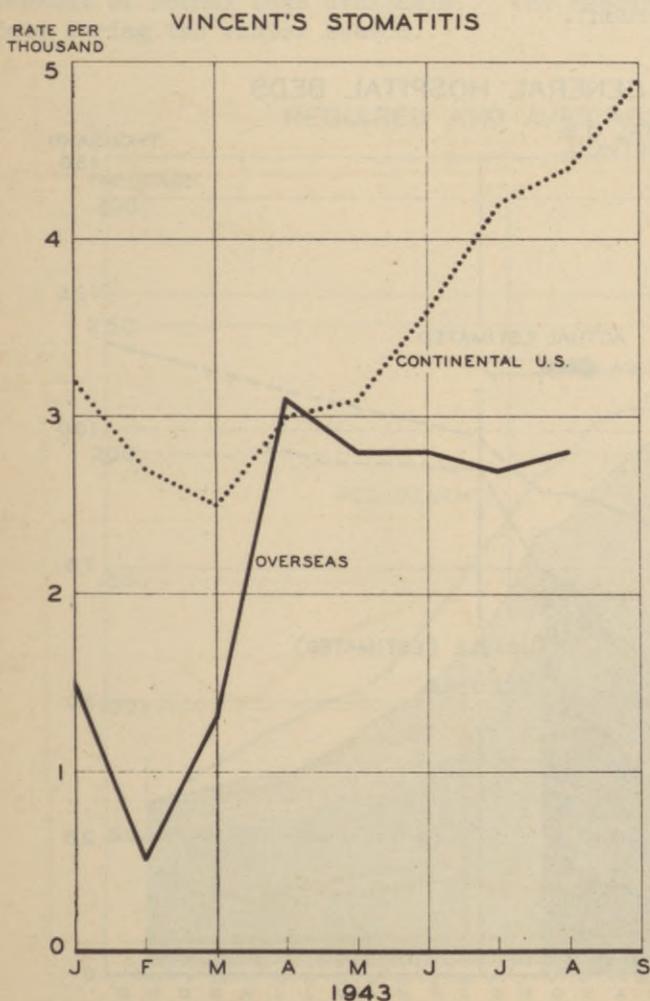
During September there was a further increase in the rate of admission for Vincent's Stomatitis, or "trench-mouth", among troops in the Continental U.S. Although the September rate of 4.9 per thousand men is the highest thus far reported for U. S. troops in the present war, it may be regarded as satisfactorily low from the standpoint of the control of infection. After its precipitate rise during March and April of this year, the overseas rate has been fairly constant at about 2.8 admissions per thousand men per month. In general the incidence of Vincent's Stomatitis is high in areas where troops are in relatively close contact with the civilian population.

The incidence of fractured jaws overseas rose very rapidly in April in response to heightened combat activity, but prior to 1943 the overseas rate was actually below that for the U. S. Since April the overseas rate has been two to three times the U. S. rate, and it may be expected to go still higher.

Cellulitis, a result of dental infection, has also been more prevalent overseas than among troops in the Continental U.S. Although the need for extraction is lower among overseas troops, which would suggest a lower incidence of cellulitis, it is believed that the higher rate for cellulitis reflects the lesser opportunity for complete dental service in the combat zone.

Osteomyelitis of the jaw bones has been consistently low at .2 to .9 per 100,000 men per month. During August, however, the overseas rate rose to 1.5. Although this rate may still be regarded as fairly low, further increases are anticipated as combat activities are intensified.

DENTAL ADMISSIONS PER THOUSAND (OR TEN THOUSAND) MEN PER MONTH CONTINENTAL U.S. AND OVERSEAS



RESTRICTED

HOSPITALIZATION

CONFIDENTIAL

UTILIZATION OF AND REQUIREMENTS FOR BEDS IN NAMED GENERAL HOSPITALS

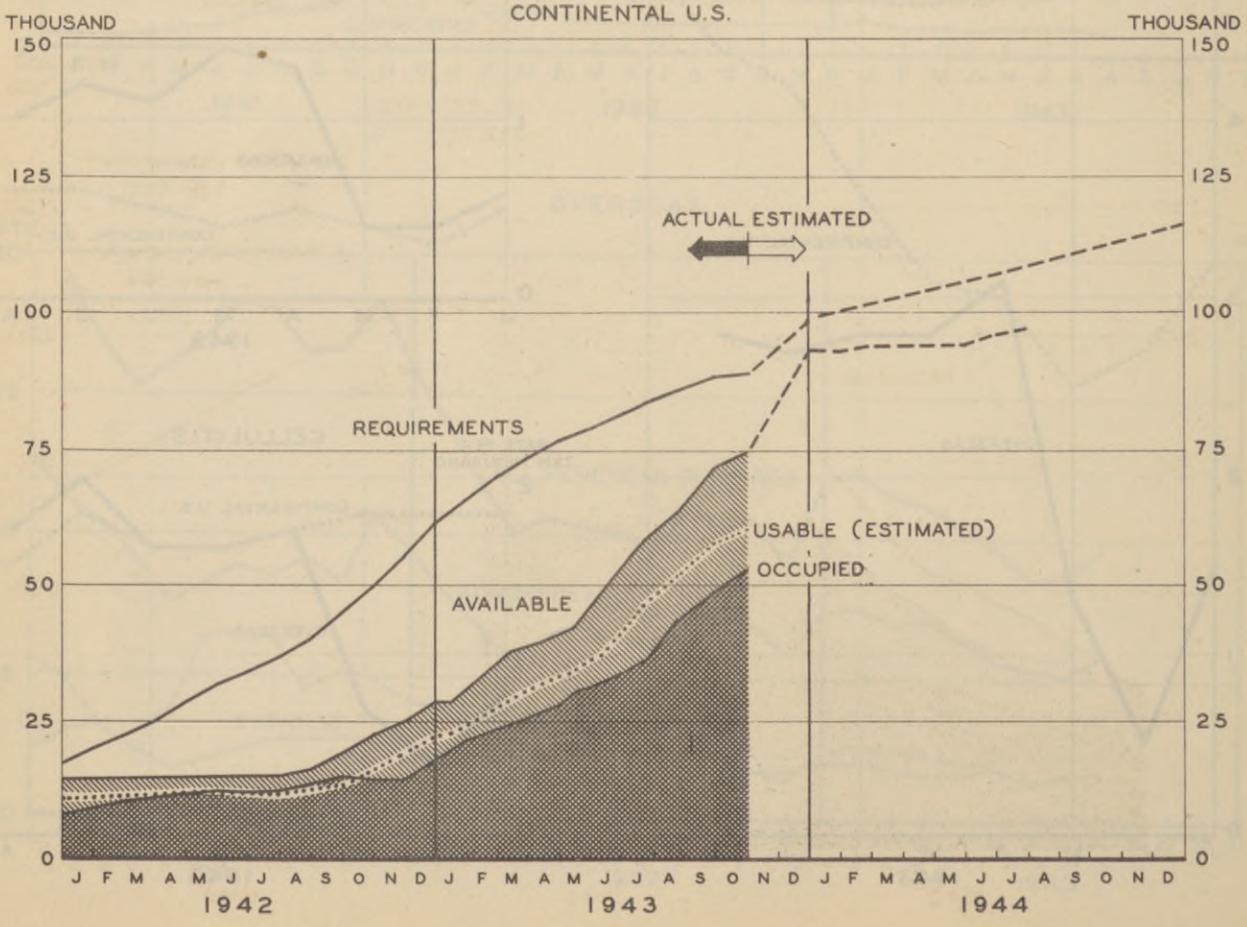
The requirements for beds in general hospitals are calculated at one percent of total Army strength plus 0.7 percent of the troops overseas. The estimated needs for the period January 1942 to December 1944 are shown in the chart below. The line of projected availability reflects construction and conversion in progress, and is revised as estimated dates of occupancy become available for new facilities. Attainment of the present schedule would provide about 93,000 beds by the end of December, or 94 percent of the requirement for that date.

The anticipated needs for beds in general hospitals have not yet developed because the Army has enjoyed excellent general health and especially because the flow of evacuees from overseas has not yet attained the proportions which planning has necessarily assumed. However, the occupancy figures have mounted very rapidly during 1943 and there is no reason to believe that the calculated requirements for the future are too high. A margin of unoccupied beds represents an indispensable safety factor, whereas a deficit would justifiably open the War Department to censure by an informed public expecting unprecedented hospital facilities for Army personnel. In fact, the trend of utilization suggests that a very rapid approximation to the scheduled requirements for the future may be needed to accommodate the increasing numbers requiring hospitalization of this type.

The broken line close to the line of occupancy represents the average limit of normal utilization without overcrowding, since at any one time about 20 percent of the available beds cannot be used because of the importance of maintaining specialized wards, e. g. for women, surgical cases, patients suffering from contagious and infectious diseases, and the like. When more than 80 percent of the normal beds are occupied, the average hospital has found it necessary to crowd beds into corridors and solaria, or to place patients in expansion barracks.

The number of available normal beds in named general hospitals increased about four percent from 72,100 for 25 September to 74,800 for 30 October. The average number of normal beds occupied advanced slightly from 68 to 70 percent.

REQUIRED AND AVAILABLE GENERAL HOSPITAL BEDS



CONFIDENTIAL

HOSPITALIZATION

CONFIDENTIAL

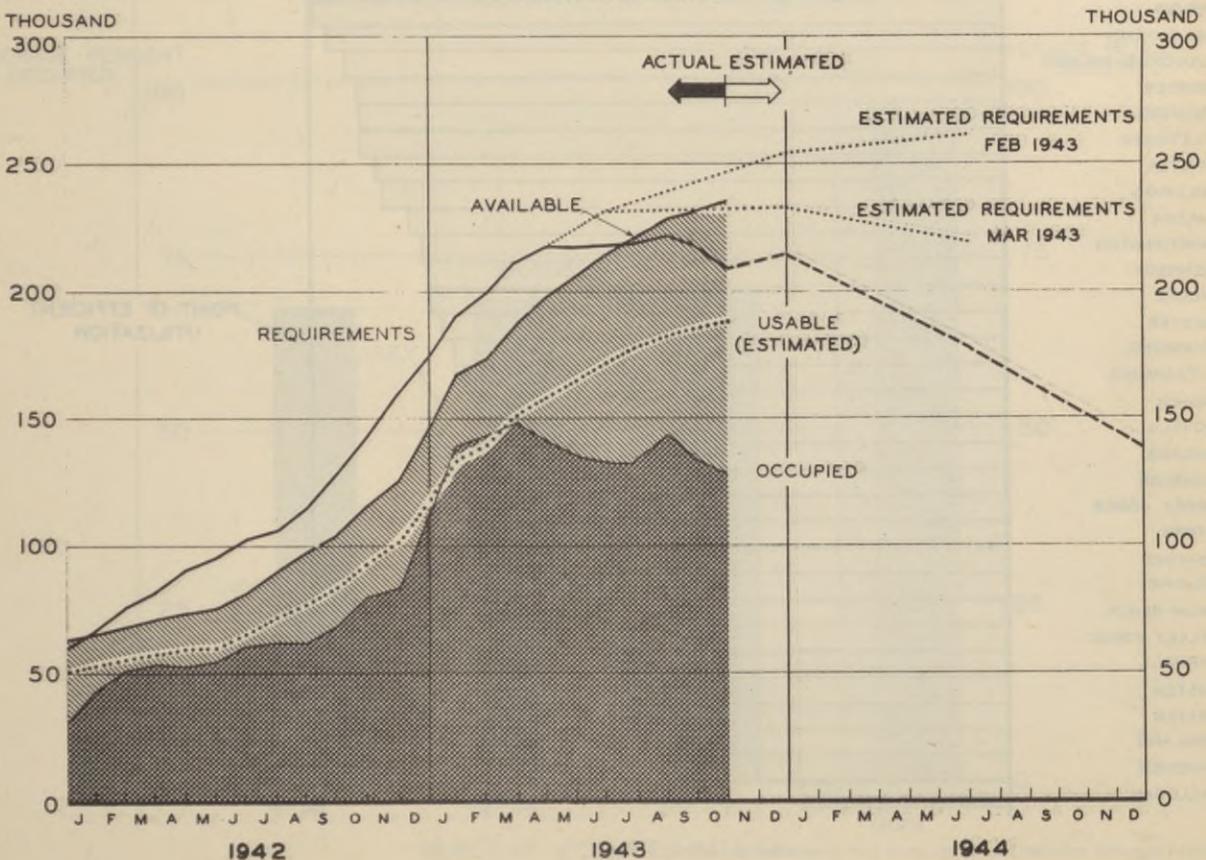
UTILIZATION OF AND REQUIREMENTS FOR BEDS IN STATION HOSPITALS

The requirements for beds in station hospitals in the Continental U. S. are calculated on the basis of 4 percent of the strength of the troops to be stationed here, with an allowance for prisoners of war. The size of the P. O. W. population as of 31 October adds about 6,700 beds to the calculated requirement. The requirements computed from present-day strength, however, differ materially from those which furnished the objectives nine or ten months ago, when plans were made for the hospitals now becoming available. The top lightly dotted line which has been added to the chart below is taken from HEALTH for February 1943. In March the requirements were lowered to those shown by the lower dotted line, taken from HEALTH for March 1943. Recent strength figures suggest that the estimated requirement for the end of 1943 may also be too high.

In the face of the steady lowering of estimated requirements it is not surprising that there should now be an apparent surplus of station hospital beds. The original estimates having been approximately achieved, it now becomes essential to find alternative uses for some of the facilities already constructed. Some conversion to general hospitals is evidently in order, but such utilization requires the virtual abandonment of posts of some size, or sufficient reduction in the strength of large posts to release hospitals of adequate size, and may be hampered by small reductions in station complements which serve only to spread the surplus among hospitals. Studies are being made of present and prospective needs of individual stations with a view to recommending such action as will permit the most effective utilization of present facilities.

The other lines show the total number of occupied beds, the number of available normal beds, and the estimated number of usable normal beds (80 percent of the number of available normal beds), to indicate average utilization without overcrowding. The curves for available and occupied beds exclude those reported from the several maneuver areas, since they belong chiefly to numbered units. On this basis the number of normal beds available in station hospitals was 234,800 on 30 October, about two percent higher than the 230,600 reported for 25 September. The average number of beds occupied declined slightly from 58 to 55 percent of normal beds available. The requirements, of course, are based on the expected load during the winter season.

REQUIRED AND AVAILABLE STATION HOSPITAL BEDS
CONTINENTAL U. S.



HOSPITALIZATION

RESTRICTED

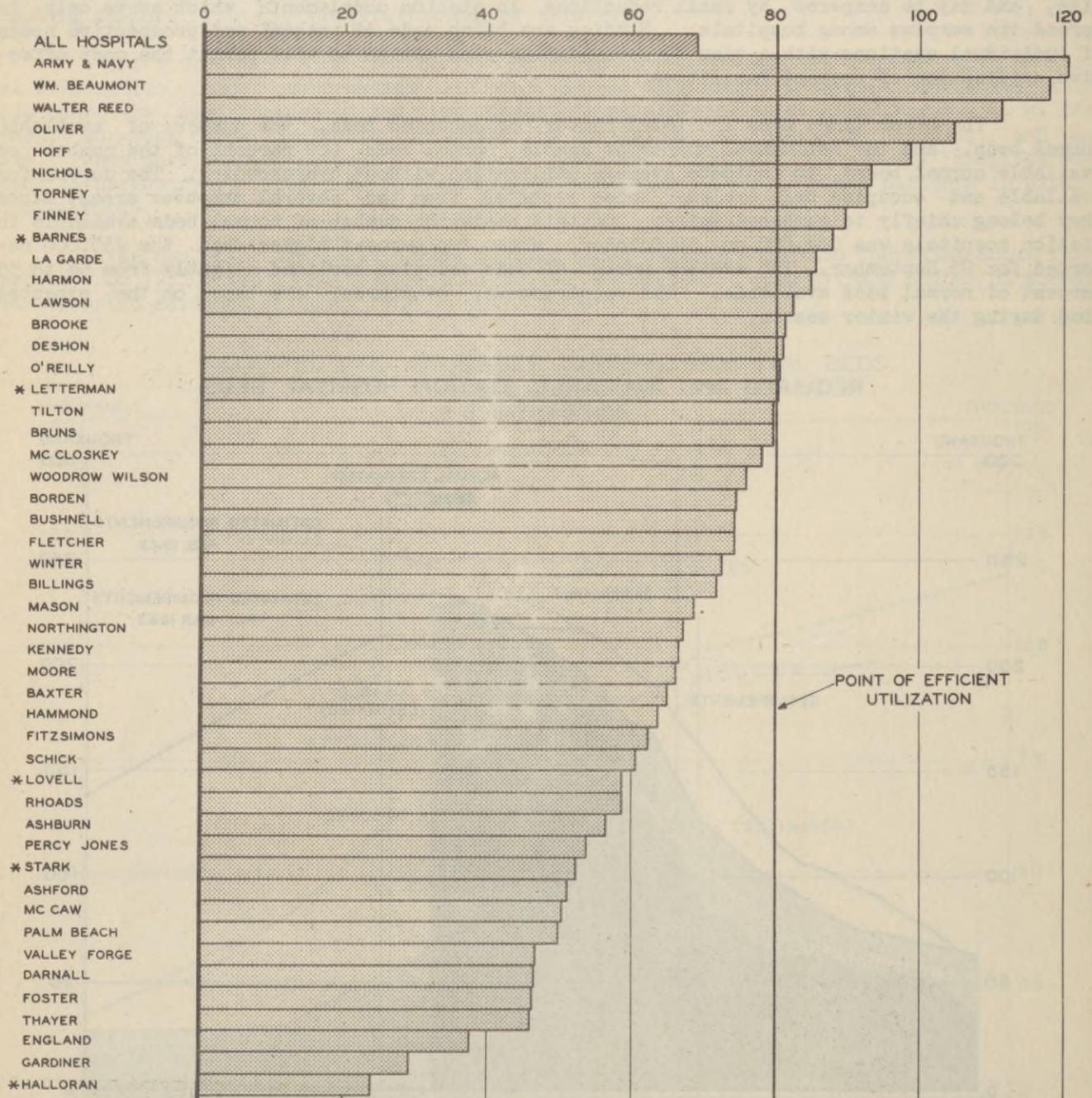
VARIATION AMONG GENERAL HOSPITALS IN UTILIZATION OF NORMAL BEDS

Largely because of the presence of many new hospitals, the general hospital load was somewhat unevenly distributed during the summer. Although new hospitals have become available since then, the present distribution is markedly more equitable. Many of the older hospitals continue to be fairly crowded, and at any one time certain hospitals may be forced to accept a disproportionate number of evacuees from overseas because of circumstances beyond immediate control, but more of the hospitals are now operating around the 80 percent utilization point, where maximum efficiency without overcrowding is usually obtained. The accompanying chart compares the various hospitals with respect to utilization rates on 23 October. Ratios in excess of 100 percent reflect quite extensive resort to emergency or expansion beds.

UTILIZATION OF BEDS IN NAMED GENERAL HOSPITALS

23 OCTOBER 1943

OCCUPIED BEDS AS PERCENT OF AVAILABLE NORMAL BEDS



*Receiving and evacuation hospitals for overseas patients.

RESTRICTED

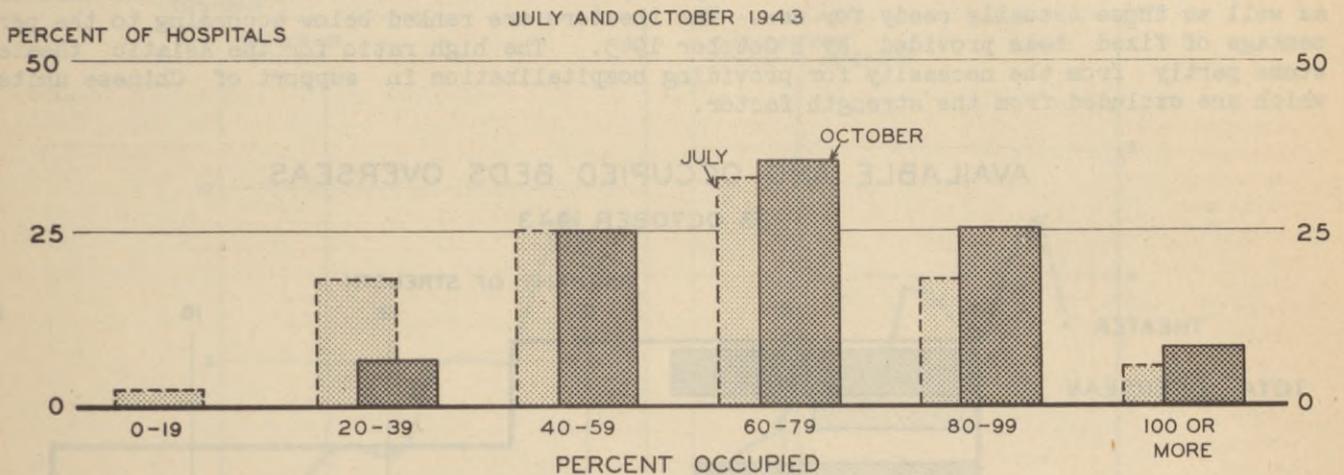
HOSPITALIZATION

RESTRICTED

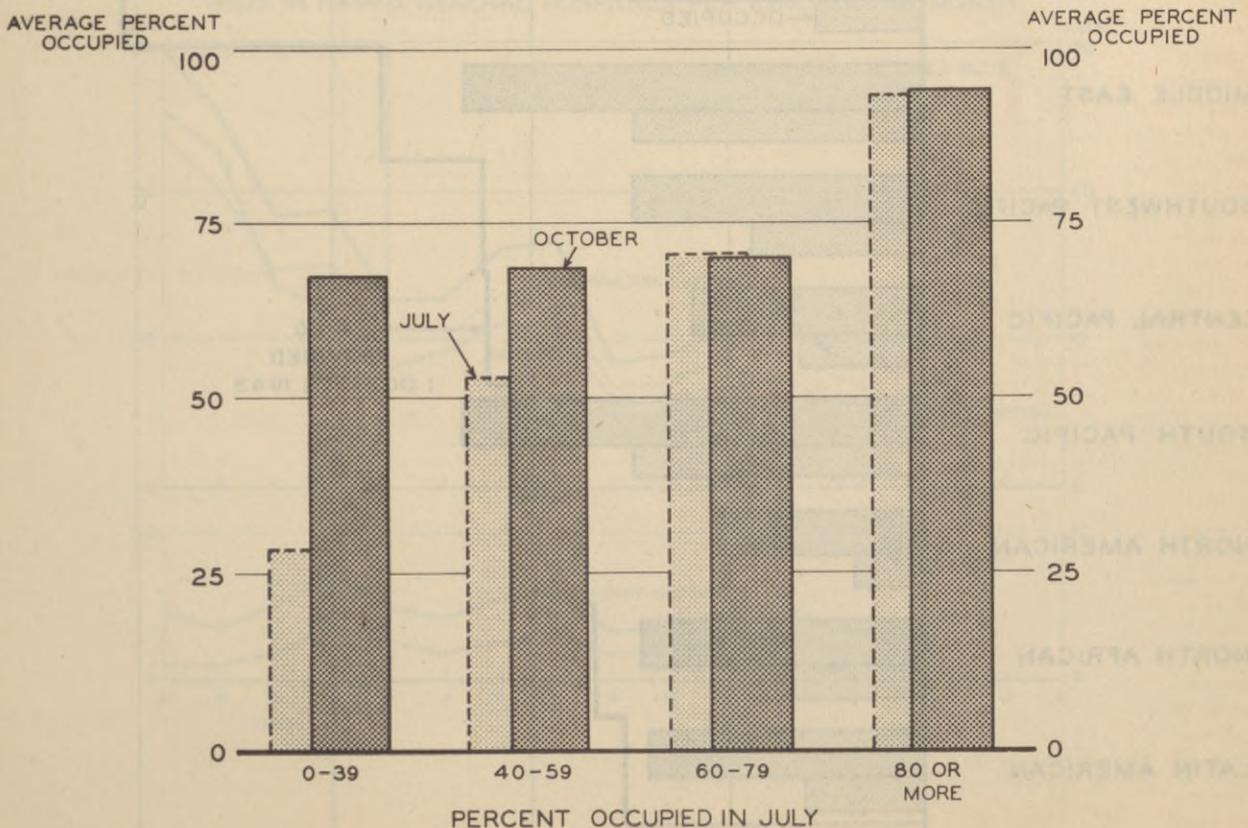
VARIATION AMONG GENERAL HOSPITALS IN UTILIZATION OF NORMAL BEDS (Continued)

One indication of the better distribution of the general hospital load is the larger percentage of hospitals now reporting utilization ratios of 70 to 90 percent. On 24 July, the date previously studied (HEALTH for July), only 10 out of 40 hospitals were in this range. On 23 October 18 out of 48 reported ratios of this order. The first chart below shows in more detail how the distribution has shifted from lower to higher values during the interval. The change has been most marked in the region of low utilization ratios. The point is further illustrated in the second chart below, where the average for the hospitals in each group in July is compared with the average utilization for the same hospitals in October. Thus, the eight hospitals with ratios under 40 in July had an average utilization ratio of 29 percent at that time, but by 23 October it had advanced to 68 percent. The hospitals with relatively high utilization in July exhibit little or no change.

DISTRIBUTION OF NAMED GENERAL HOSPITALS ACCORDING TO BED UTILIZATION



AVERAGE UTILIZATION OF NAMED GENERAL HOSPITALS IN JULY AND OCTOBER GROUPED ACCORDING TO RATIOS FOR JULY



RESTRICTED

HOSPITALIZATION

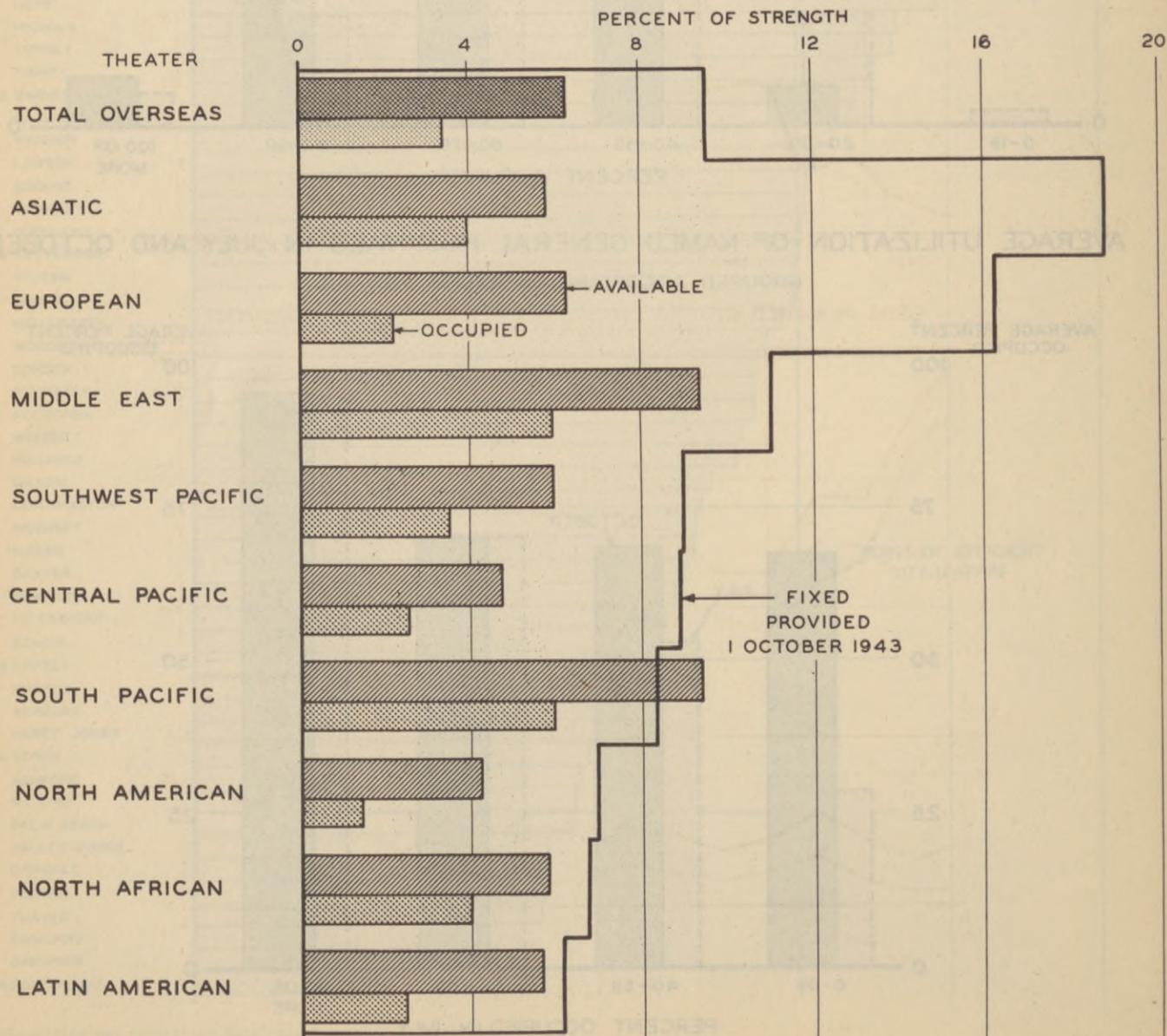
SECRET

HOSPITALIZATION OVERSEAS

Recent changes in the reporting system from overseas theaters make it possible to show the number of fixed beds actually ready for use in each theater. Although mobile hospital units are provided with all tactical units, it is essential that sufficient fixed beds be provided to care for each patient requiring hospitalization. In comparison with the five percent of strength now provided in the U.S. for station plus general hospitals, some overseas theaters need 10 percent or more in fixed hospitals (station, general, and field hospitals). The estimated need varies among theaters in relation to combat activity and the incidence of disease.

The accompanying chart shows, for each theater, and as a percentage of U. S. Army strength there: (1) the number of fixed beds provided up to 1 October 1943; (2) the number of fixed beds reported to be ready for use on 23 October 1943; and (3) the total number of patients hospitalized in the theater on the latter date. The first item, shown by the longest bar, includes facilities earmarked for shipment, in transit, and in storage in the theater, as well as those actually ready for use. The theaters are ranked below according to the percentage of fixed beds provided by 1 October 1943. The high ratio for the Asiatic theater stems partly from the necessity for providing hospitalization in support of Chinese units, which are excluded from the strength factor.

AVAILABLE AND OCCUPIED BEDS OVERSEAS
23 OCTOBER 1943



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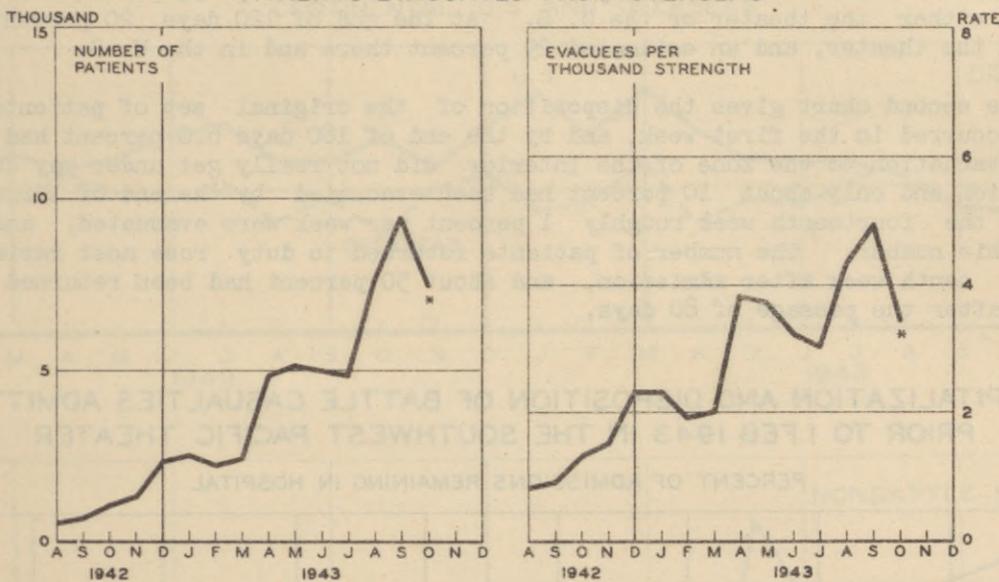
HOSPITALIZATION

CONFIDENTIAL

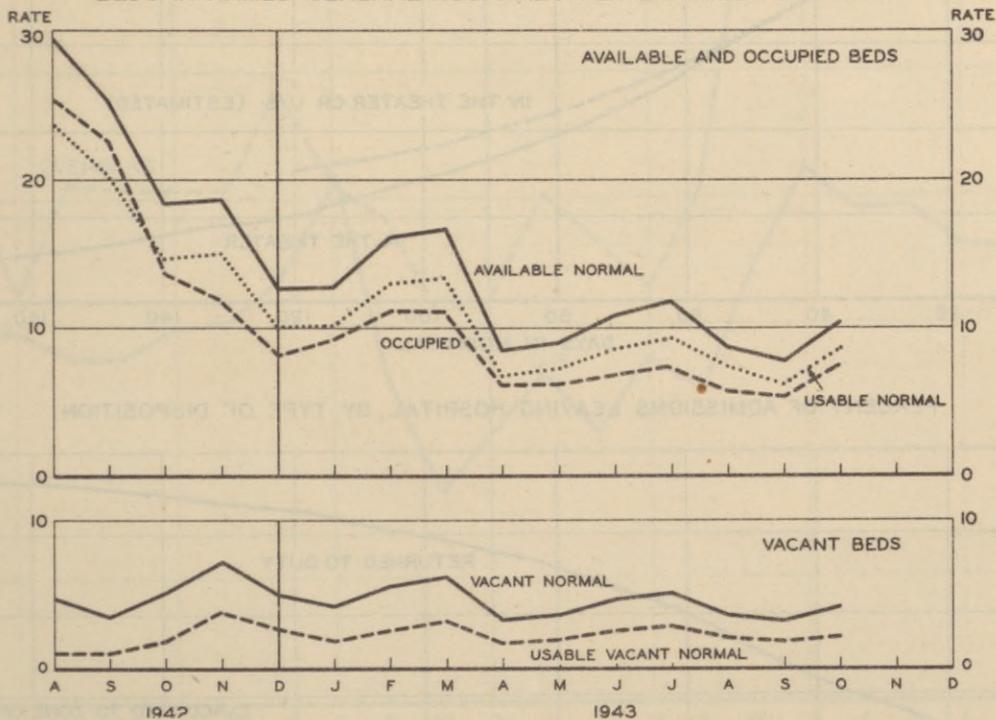
EVACUATION OF PATIENTS FROM OVERSEAS

After a sharp rise in September, the number of patients evacuated to the Zone of the Interior decreased during October, according to provisional estimates, despite an increase in overseas strength. The preliminary figure of 7,200 evacuees represents about 3.4 evacuees per thousand men overseas per month, a decline of about 30 percent. The experience to date is shown graphically below in both absolute and relative form. The lower set of panels shows the relationship between the number of evacuees received each month and the beds available in named general hospitals. Usable normal beds have been estimated at 80 percent of the normal beds available. Vacant, usable (and normal) beds have been estimated by subtracting total beds occupied from the usable normal beds. Although hospital facilities expanded and the number of evacuees declined during the month, the total hospital load increased by more than the amount of the expansion, and the number of vacant, usable normal beds did not change appreciably.

PATIENTS EVACUATED FROM OVERSEAS



BEDS IN NAMED GENERAL HOSPITALS PER EVACUEE PER MONTH



CONFIDENTIAL

HOSPITALIZATION

CONFIDENTIAL

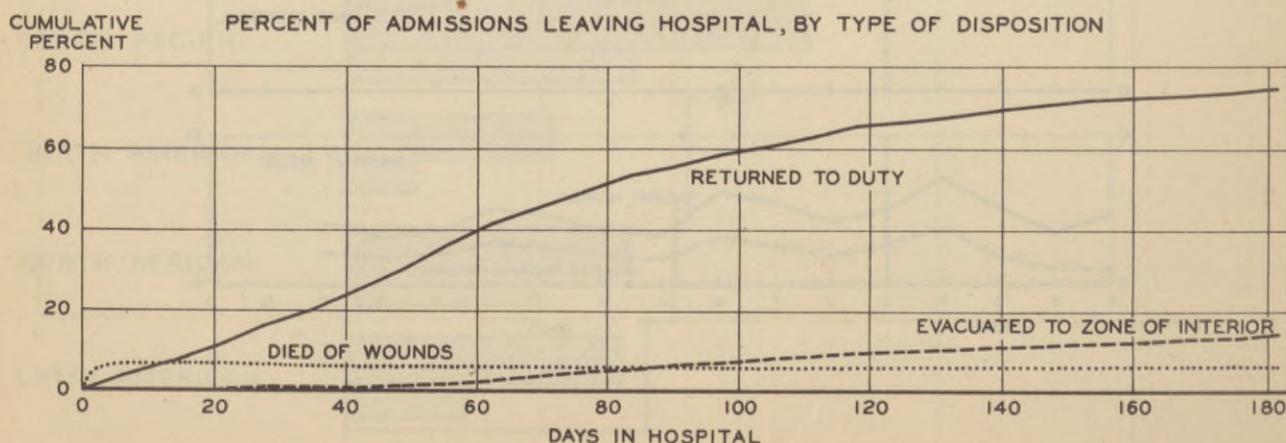
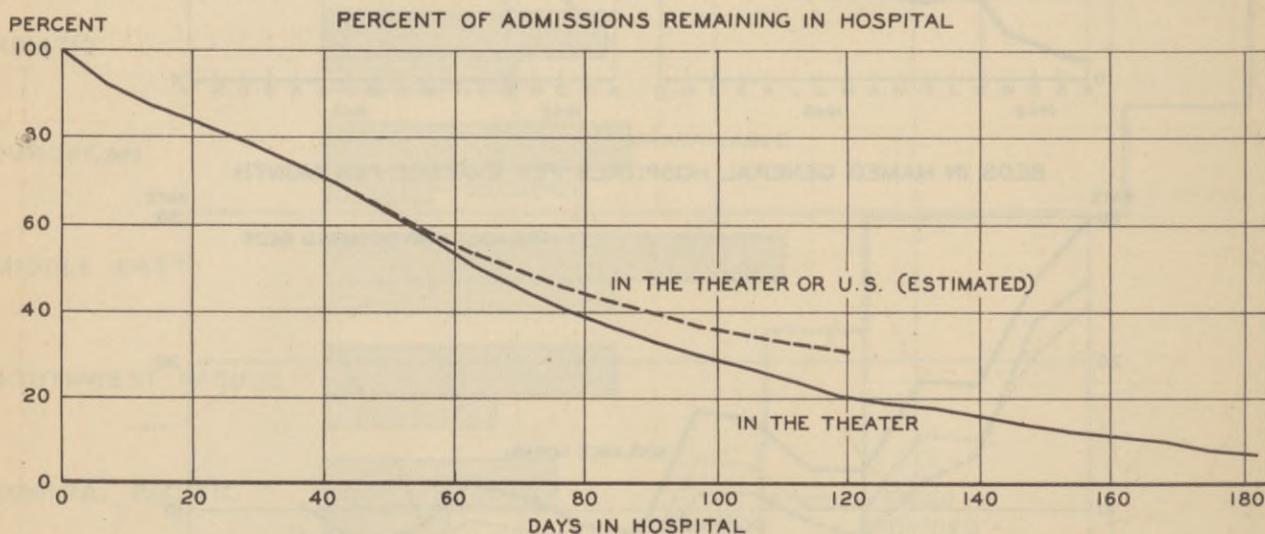
HOSPITALIZATION AND EVACUATION OF BATTLE CASUALTIES IN THE SOUTHWEST PACIFIC

A recent technical report from the Southwest Pacific Theater provides an excellent statistical picture of the hospitalization and evacuation of 2,163 battle casualties admitted prior to 1 February 1943. It gives the proportion returned to duty, remaining in hospital, evacuated from the theater, or died of wounds, for any time between admission to hospital and 180 days thereafter.

The solid line in the first chart below represents the percent of the original admissions who were remaining in hospitals in the theater at any given time after admission. On the assumption that all patients evacuated to the Zone of the Interior continued alive and hospitalized for 120 days or more, the upper dotted line gives an estimate of the percent in hospital in the theater and in the U. S. For a period of 120 days, therefore, it is possible to calculate the total hospital load entailed by the original admissions regardless of evacuation policy. The curves show, for example, that 50 percent of the admissions were still hospitalized in the theater after 63 days, when a total of perhaps 53 percent were still hospitalized in either the theater or the U. S. At the end of 120 days 20 percent were hospitalized in the theater, and an estimated 29 percent there and in the U. S.

The second chart gives the disposition of the original set of patients. Most of the deaths occurred in the first week, and by the end of 180 days 6.0 percent had died in the theater. Evacuation to the Zone of the Interior did not really get under way until 60 days after admission and only about 10 percent had been evacuated by the end of 120 days. From the ninth to the fourteenth week roughly 1 percent per week were evacuated, and thereafter about half this number. The number of patients returned to duty rose most rapidly from the fifth to the tenth week after admission, and about 50 percent had been returned to duty in the theater after the passage of 80 days.

HOSPITALIZATION AND DISPOSITION OF BATTLE CASUALTIES ADMITTED PRIOR TO 1 FEB 1943 IN THE SOUTHWEST PACIFIC THEATER



CONFIDENTIAL

MORTALITY

CONFIDENTIAL

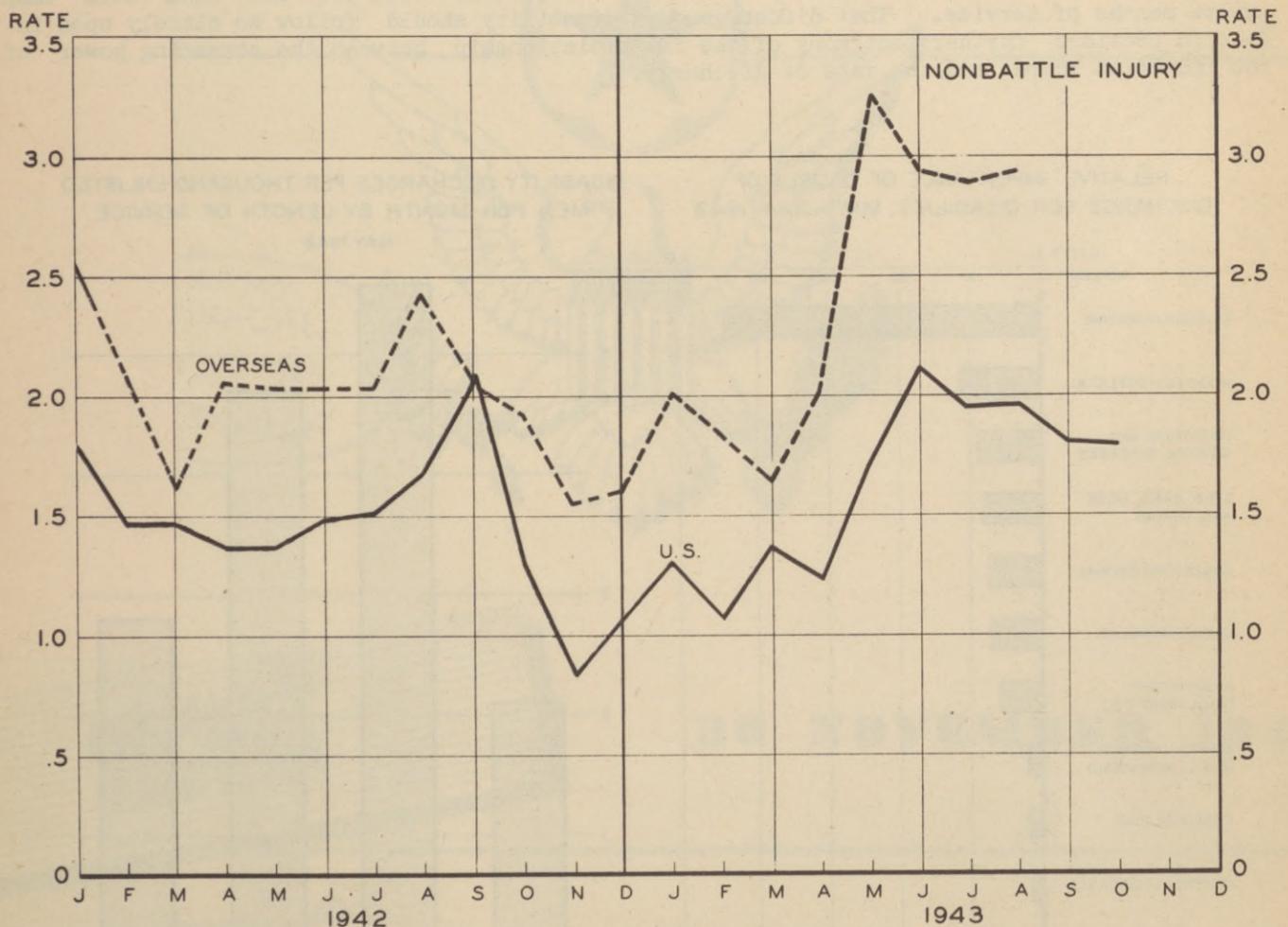
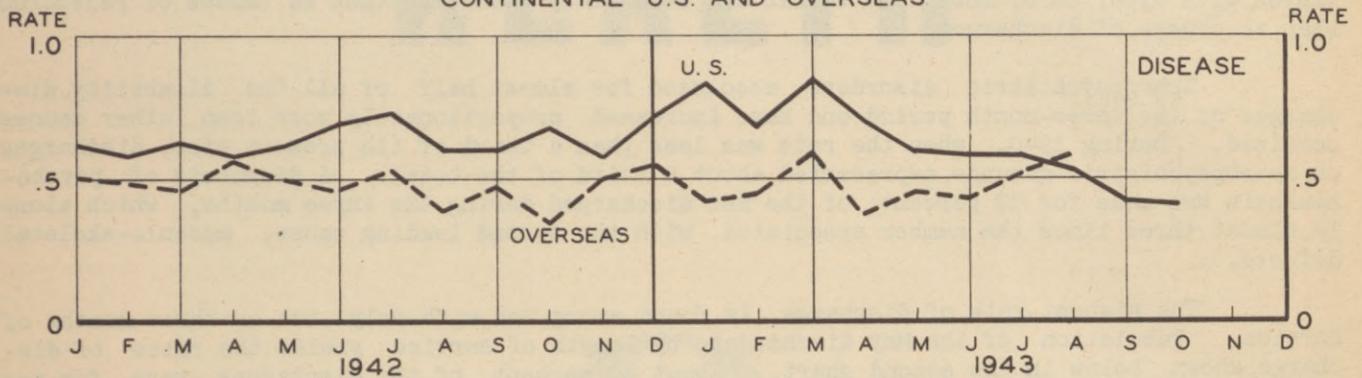
MORTALITY FROM NONBATTLE CAUSES

During October the average death rate from disease among troops in the Continental U. S. remained very low at about .4 deaths per thousand men per year. The preliminary total overseas rate of .58 for August represents some increase over that for July, and exceeds the U. S. rate for that date by a slight margin for the first time since the war began.

Nonbattle injuries continue to cause more deaths than do disease, but there has been no real change in the rates for troops in the U. S. and overseas during the past month. If aircraft deaths among A.A.F. personnel are removed from the U. S. rate of 1.8 for September it drops to about 0.7 deaths per thousand men per year.

DEATHS PER THOUSAND MEN PER YEAR, NONBATTLE CAUSES

CONTINENTAL U.S. AND OVERSEAS



CONFIDENTIAL

MISCELLANEOUS

CONFIDENTIAL

DISABILITY DISCHARGE FROM THE ARMY

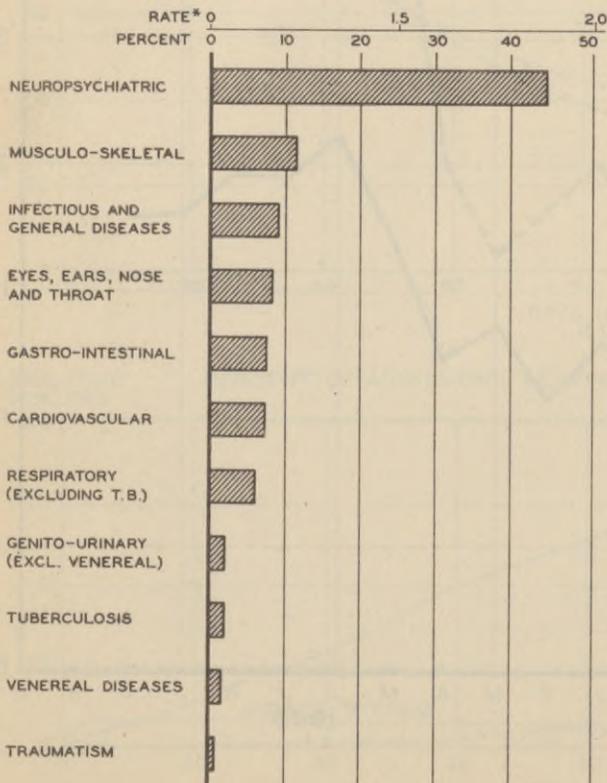
During June and July enlisted men were being discharged from the Army for disability at a rate in excess of 4 per thousand enlisted strength per month. Since that time the rate has risen even higher, but partly in response to the elimination of the limited service designation and to confusion in the execution of directives relating thereto. This serves to illustrate how the movement of the discharge rate represents administrative changes with respect to discharge and not simply real changes in the quality of men in the Army.

A recent study of the causes of discharge during May, June and July, when about 75,000 men were discharged for disability, serves again to emphasize the relative importance of psychiatric conditions and also gives a more detailed and more reliable breakdown as to cause than had hitherto been available. The importance of the various groups of causes is shown in the first chart below. The top scale gives the rate of discharge, and the bottom scale the percentage of discharges for any cause shown. The relative importance of causes for rejection by the joint induction boards is quite similar, except that conditions associated with eyes, ears, nose, and throat are relatively more important as causes of rejection than as causes of discharge.

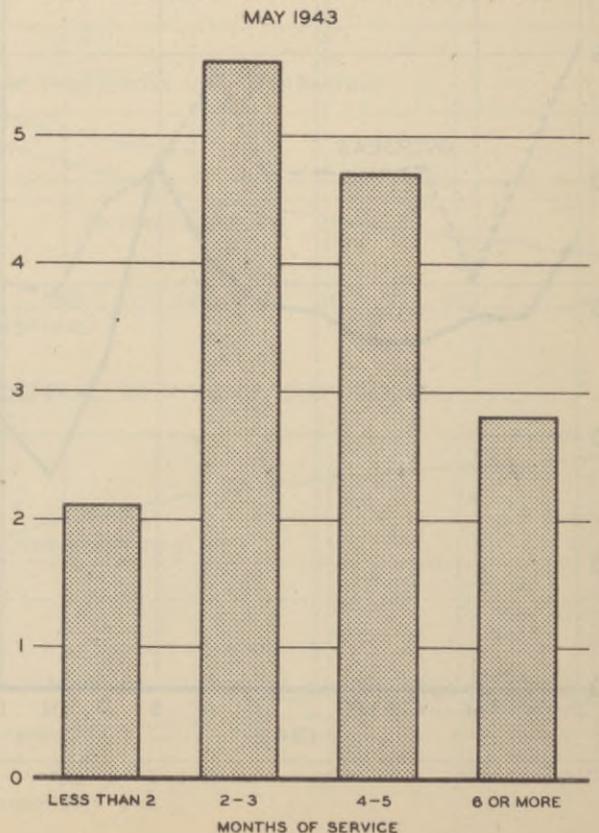
Neuropsychiatric disorders accounted for almost half of all the disability discharges of the three-month period and have increased proportionately more than other causes combined. During 1940, when the rate was less than a third of its present size, discharges on neuropsychiatric grounds represented about a third of the total. A diagnosis of psychoneurosis was made for 32 percent of the men discharged during the three months, which alone is almost three times the number associated with the second leading cause, musculo-skeletal defects.

The highest rate of discharge is found among men with only two or three months of service. Tabulation of the May discharges by length of service yields the rates of discharge shown below in the second chart. About 40 percent of the discharges were for men with less than six months of service, and almost 80 percent were for men with less than twelve months of service. That discharge for disability should follow so closely upon induction provides further testimony of the interrelationship between the screening power of the induction boards and the rate of discharge.

RELATIVE IMPORTANCE OF CAUSES OF DISCHARGE FOR DISABILITY, MAY-JULY 1943



DISABILITY DISCHARGES PER THOUSAND ENLISTED MEN PER MONTH BY LENGTH OF SERVICE



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