

Public Health Reports

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ORDER ESTABLISHING THE HEALTH AND MEDICAL COMMITTEE IN THE COUNCIL OF NATIONAL DEFENSE

On September 19, 1940, the President approved the following order, establishing the Health and Medical Committee to advise the Council of National Defense and to coordinate health and medical activities affecting national defense.

Pursuant to the authority vested in it by section 2 of the Act of August 29, 1916 (39 Stat. 649), the Council of National Defense, with the approval of the President, hereby establishes as a subordinate body to the Council a committee to be known as the Health and Medical Committee. The Committee shall consist of the following members: Dr. Irvin Abell, who shall be Chairman, the Surgeon General of the Army, the Surgeon General of the Navy, the Surgeon General of the Public Health Service, and the Chairman of the Division of Medical Sciences of the National Research Council. Vacancies occurring in the membership of the Committee shall be filled by appointment by the Council with the approval of the President. The members of the Committee and of such subcommittees as may be formed by the Committee shall serve as such without compensation but shall be entitled to actual and necessary transportation, subsistence, and other expenses incidental to the performance of their duties.

It will be the responsibility of the Committee to advise the Council of National Defense regarding the health and medical aspects of national defense and to coordinate health and medical activities affecting national defense. In carrying out its functions, the Committee may (a) utilize, to the extent that such facilities are available for such purpose, the laboratories, equipment and services of the Medical Departments of the Army and Navy, of the Public Health Service, and of other Government institutions; and (b) within the limits of the appropriations allocated to it, contract with and transfer funds to such institutions, and enter into contracts and agreements with individuals or educational or scientific institutions for studies, experimental investigations, and reports.

The Committee shall promulgate rules and regulations for the conduct of its work, which rules and regulations shall be subject to the approval of the Council and the President.

PUBLIC HEALTH IN THE NATIONAL DEFENSE PROGRAM¹

The current program for national defense thus far developed has already thrown into relief many problems pertaining to public health and physical fitness. More than ever before the Nation has recognized health as an essential element of preparedness. This is attested to by the phrase "maintenance of public health, safety, or interest" which is used repeatedly throughout the Selective Training and Service Act of 1940. Inasmuch as general measures for national defense have moved forward at a rapid rate since May 9, 1940, when the State and Territorial health officers met with the United States Public Health Service in annual conference, it seemed urgent that the group be called together again to review plans and agree on lines of action. Such a special conference, the proceedings of which are herein reviewed, took place in Washington, D. C., September 16 and 17, 1940. In addition to the State and Territorial health officers and members of the United States Public Health Service, it was attended by personnel of the National Advisory Health Council, officials of the Army, the Navy, and other branches of the Federal Government, also representatives of voluntary health agencies and of the several professional organizations concerned with different elements of public health and medical service.

When calling the meeting to order, Surgeon General Thomas Parran outlined the purposes of the Conference and enumerated certain major health problems in connection with national defense to which the group might direct its attention. His address is quoted in full, as follows:

The most impelling problem which we face today is that of maintaining the safety of this country and its institutions. For their aggressive defense, we are gearing up governmental methods, mobilizing resources and manpower.

For the first time in all history, world events have thrust upon us the concept of a total war. In preparing a total defense, all factors ultimately rest upon the one fundamental resource of the country, *manpower*. Medicine and public health, through the centuries, have been devoted to the conservation of manpower and its socially constructive use.

Pursuant to the Act of July 1, 1902, you have been called today to meet for the consideration of ways and means by which we may take the first steps, through coordinated Federal and State action, to conserve and utilize the vital resources of our country for national defense.

In addition to the State and Territorial health officers and our National Advisory Health Council, I have invited the representatives of other Federal agencies concerned and of professional and voluntary agencies. This is desirable because of the complexity of many of the problems with which we are faced. Also, we need now, as never before, an integrated effort on the part of all agencies which represent the purpose of our citizens to attain personal and national health.

¹ Summary of proceedings, Special Conference of State and Territorial Health Officers with the United States Public Health Service, Washington, D. C. September 16-17, 1940.

The Federal Government has planned a closer coordination of health activities to promote national defense than we have known before. We have now a coordination of civilian health problems with social welfare, children's problems, nutrition, and other consumer interests under one of the seven members of the Advisory Commission to the Council of National Defense. We may anticipate, soon, a further coordination of medico-military and health-defense problems as a major preparedness measure.

The immediate problems which you have been called to consider are listed in the program for detailed discussion. I shall refer to them briefly.

The Selective Training and Service Act of 1940 contemplates the registration of about 16,500,000 men, the immediate physical examination of 2 to 4 million, and the induction into military training of several hundred thousand. There is a clear necessity for maintaining a balance between facilities to care for the civil and industrial needs on the one hand, and the needs of the military services on the other. This leads to considerations of recruitment policy; the status of key personnel in essential health and medical service and training programs to insure an uninterrupted output of professional personnel for both civil and military demands.

Among the 16,500,000 registrants, there will be found countless physical defects and many cases of communicable diseases. For example, a large proportion of the acute syphilis is among this age group. Here will be 300,000 foci of infection going into the registration booths. Have we the energy and the vision to offer a blood test to these men? It is a major opportunity to mobilize all of our public health and medical effort to find and stamp out perhaps the larger portion of this menace to national fitness.

We shall have much to do in providing isolation and care for the many active cases of tuberculosis which will be found on draft examinations. We should do it for trachoma.

Even though our physical status may be better than in 1917 and 1918, we know that a large segment of the registered population will be disqualified for military service because of physical defects, many of which are remediable. What are the ways and means in which public health and medical agencies may contribute to their rehabilitation?

Of immediate concern, also, are the sanitary and health emergencies created by the mobilization and military maneuvers of large bodies of troops in many States. The situation raises questions of military necessity, Federal versus State relationships, and even suggests the need to consider some plan for regionalized administration.

Industrial mobilization and expansion coincides with military mobilization and expansion. Although we have made progress, we still are far from solving all the long-time problems associated with occupational accidents, disease, and physical impairment among workers in ordinary times. Defense preparations have greatly augmented these problems, and created acute new ones.

We are not yet geared to protect men working in the new and hazardous processes being introduced nor are we prepared to alleviate the burdens upon the housing, medical, and health facilities of the community imposed by large population shifts to expanded industries.

Although more than 30 State industrial hygiene units have been established during the past 4 years, most of them consist merely of an organization nucleus inadequate to meet current problems effectively. Just as we now have insufficient air, naval, and land forces to meet every threat to our safety, so we have also insufficient forces trained in industrial medicine, public health, and sanitation to serve our military, civilian, and industrial needs. One of the narrowest bottlenecks is the shortage of men trained for industrial medical service. Whose

responsibility is it to meet this need? If our industrial machines are the most efficient in the world, the men and women who operate them should have a comparable efficiency.

Further, I would call to your attention the status of the 500,000 young people between the ages of 18 and 21 to be employed by the National Youth Administration, many of whom are being trained in skills needed by defense industries. The boys will be of military age soon. If we do our part now, both industry and the armed forces will be spared some of their present problems. The National Youth Administration, with the help of the Public Health Service, is developing a health program to be carried out in the several States. If it is to be successful, State and local health agencies and the medical and dental professions must participate actively.

And finally, may I suggest that the immediacy of these (and any other matters to be discussed) should not prevent your viewing them at long range. It is true that the world picture changes almost overnight, and that overnight our own needs may become much more acute. From my own point of view, however, we should plan for the long haul. It does not seem likely that the situation in which we find ourselves will be resolved in 6 months or a year—perhaps not for many years. Nevertheless, we have this enduring satisfaction, that what we do here, if it be well done, is imperative for safety in war but is even more greatly productive for permanent peace. Whatever the future holds for us, our effort *cannot* be wasted. We build for a strong, a vigorous America, eternally ready for tomorrow.

Program

The following subjects were presented to the Conference for consideration:

- (1) Health services for National Youth Administration enrollees.
- (2) Physical rehabilitation of registrants disqualified for duty with the armed forces.
- (3) Serologic tests of registrants for military service.
- (4) Pertinent needs in industrial hygiene.
- (5) Health aspects of civil defense.
- (6) Control of selected communicable diseases.
- (7) Health administration problems arising out of mobilization.
- (8) Census of public health personnel and facilities.
- (9) Administration of the Selective Training and Service Act of 1940.

This agenda was designed first to acquaint the conferees with those major problems that are now receiving or are likely to engage the attention of the several agencies that contribute in one way or another to general health programs; and second, to promote a clear understanding of the possible fields for cooperative endeavor between the Federal officials, including those of the Army and Navy, and the State health officers, and between constituted authorities and members of the professions. Since the present mobilization is being conducted in times of peace, appropriate consideration was given to health problems arising out of mobilization, but not directly of a military character. Some of the subjects discussed were projected

against this background of a peacetime mobilization. Other items on the program more intimately concerned with military and industrial preparedness are pertinent in time of peace as well as during a state of war.

HEALTH SERVICES FOR NATIONAL YOUTH ADMINISTRATION ENROLLEES

Mr. Aubrey Williams, the Administrator of the National Youth Administration, outlined the purpose and scope of the general program operated under his direction. There are two types of youth employed, the in-school and the out-of-school. Persons eligible for employment on the out-of-school work program are the ones who should receive immediate attention in anticipation of mobilization for national defense. The youths who are now between the ages of 18 and 21 will soon be subject to registration under the Selective Training and Service Act.

Heretofore there has been no general policy at the Federal level regarding health measures for these persons, although some State agencies have made an effort to secure physical examinations on enrollees. It is felt that a practical program to improve the health and physical fitness of out-of-school young people employed by the National Youth Administration would be beneficial to the individuals and would add important manpower for industrial and military purposes. Such a program is being developed by the National Youth Administration in cooperation with the United States Public Health Service. The details of this program for out-of-school enrollees was presented by C. E. Rice, Surgeon, United States Public Health Service, who has been loaned to the National Youth Administration to have general supervision over its health activities. The program will include physical examination, physical rehabilitation by a medical service through the medical and dental professions, and promotion of health education, physical education, and environmental sanitation. State health departments will be asked to serve as co-sponsors of State-wide health projects in their respective areas.

PHYSICAL REHABILITATION OF REGISTRANTS DISQUALIFIED FOR DUTY WITH THE ARMED FORCES

This subject was introduced by George St. J. Perrott, Chief, Division of Public Health Methods, National Institute of Health, with a review of the types and incidence of disabilities found among draftees in the last World War. Data derived from the study of the second million records of physical examinations were selected as a base since by that time examination procedures had become more efficient and standardized. In this sample 23.4 percent were rejected (including rejections by local boards), 3.7 percent put in a limited-service classification, and 54.9 percent had one or more defects.

Of the defects found, flat feet and other foot defects ranked highest, comprising nearly one-fourth of all defects. Other orthopedic conditions accounted for another 10 percent and hernia or enlarged inguinal rings for about 9 percent. Together this group of mechanical defects constituted over 40 percent of all defects found.

Other defects found with the percentage indicating their relative importance were given as follows: Venereal diseases, 8 percent; cardiovascular-renal group, 7 percent; diseased tonsils, 6 percent; underweight, 4 percent; defective teeth, 3 percent; goiter, 2 percent; and varicose veins and varicocele, 1 percent.

Attention was called to the fact that the foregoing figures refer to all men whether or not the defect was a cause of rejection and are expressed in terms of total defects. Of perhaps more importance are the percentages of defects expressed in terms of men examined. Such figures indicate that 16 percent of the men had flat feet; 7 percent other orthopedic defects; 6 percent, hernia; 6 percent, venereal disease (1 percent, syphilis and 5 percent, gonorrhea); 7 percent, defect of eye or ear; 5 percent, cardiovascular-renal defects; 4 percent, diseased tonsils; nearly 3 percent, tuberculosis; 2 percent, defective teeth; 1 percent, goiter; and about 1 percent, varicose veins. The total indicates a rate of 68.7 defects per 100 men examined.

It was pointed out that there appeared to be regional variations in the incidence of defects and in the predominant types of defects found.

It was estimated by Mr. Perrott that under the terms of the Selective Training and Service Act about 16,500,000 men would be registered; of these about 5,500,000 ultimately might receive a physical examination, and around 1,500,000 would be rejected or placed in the limited-service class because of physical disability. Further estimates were made of the number of specified types of disabilities, but broadly speaking about 60 percent will fall in three groups: Defects of eye and ear; the mechanical defects; and the cardiovascular-renal group. In conclusion it was estimated by Mr. Perrott that a program of rehabilitation would cost at least \$25,000,000.

The health of the men accepted for military training is the responsibility of the several branches of the armed forces; the problem as placed before the Conference was whether or not public health agencies have responsibilities in relation to physical rehabilitation of the rejected men.

Possible programs for physical rehabilitation of registrants disqualified because of defects were presented by Surgeon E. R. Coffey, Assistant Chief, Division of Domestic Quarantine. Comment made covered the social, economic, and military importance of correcting remediable defects as well as the value of that service to the individual. For some persons with physical defects medical service would have little to offer, while for others, surgical or medical skill

would afford a complete return to physical fitness. Between the two extremes would be a wide range of border-line cases. A program designed to correct remediable defects would of course require careful planning and cooperation among all agencies concerned.

Tuberculosis as a problem among those rejected for military service was discussed by Kendall Emerson, Managing Director of the National Tuberculosis Association. Dr. Emerson, in referring to Mr. Perrott's estimate of 140,000 men to be rejected because of tuberculosis, pointed out that some of these would be cases already known to health departments, while others would have latent tuberculosis, not requiring treatment. However, there would undoubtedly remain a number so large that it would severely tax our present sanatorium facilities to furnish treatment to all who might need it. The size of the problem should not be construed so as to relieve the health authorities of responsibility for seeking adequate care for the discovered cases. It was further pointed out that the victim of tuberculosis needs more than physical rehabilitation. He frequently needs social and vocational adjustment. The total task of rehabilitation is not complete until the patient can again become economically self-sufficient. This latter comment might well apply to rehabilitation of persons with defects other than tuberculosis.

In the general discussion of the topic of physical rehabilitation it was pointed out that the cause for rejection is confidential and may not be available to health authorities. Further discussion centered about ways and means of effecting a program of physical rehabilitation. It was felt that considerable difficulty would be experienced in locating or following persons to secure the correction of defects and that some would prefer to retain their defects. However, one health officer expressed the opinion that if an opportunity were given to have remediable defects corrected without charge to the individual, the majority would accept treatment. All agreed that irrespective of whatever plan might be developed in connection with this problem, it should operate on a voluntary basis.

SEROLOGIC TESTS OF REGISTRANTS FOR MILITARY SERVICE

Senior Surgeon O. C. Wenger, United States Public Health Service, gave a challenging presentation of the syphilis problem among registrants and outlined a case-finding program of proportions never before contemplated. It is estimated that there are about 300,000 persons with syphilis among the 16,500,000 men who will register under the Selective Training and Service Act of 1940. Each one of the 300,000 individuals is a focus of infection which will serve as a link in a chain of new infections. Discovery of syphilitics among this number of men and their placement under adequate treatment would greatly reduce the further spread of the disease. The military importance of such a

program is apparent when it is recalled that during the last war venereal diseases ranked third as a cause of loss of time in the Army, being exceeded only by battle casualties and influenza.

The plan of action to be followed in effecting the collection and serologic examination of blood specimens on registrants was delineated. Briefly, it involves a cooperative effort on the part of private physicians and health agencies in the organization of a number of teams to draw blood specimens at the time of registration from those who may volunteer. As far as possible every registration point will be covered. State and other health department laboratories are expected to perform the serologic examinations.

Discussion brought out a number of practical points and administrative difficulties such as the magnitude of the task to be accomplished in a very short time; inadequate number of technicians available to perform the tests; insufficient stock of specimen tubes; and lack of proper storage facilities for specimens awaiting examination. Despite the many obstacles which lie ahead, it seemed that the health officers were anxious to accomplish all that might be done within the limits imposed by circumstances.

PERTINENT NEEDS IN INDUSTRIAL HYGIENE

The importance of protecting and improving the health of workers in essential industries as a part of a general mobilization was emphasized by Paul A. Neal, Chief, Division of Industrial Hygiene, National Institute of Health. To accomplish the desired results will necessitate a considerable expansion of present industrial hygiene activities. The needs may be roughly divided into two categories: (1) Additional funds and personnel to be utilized by the United States Public Health Service and State health departments in aiding industry to control industrial hazards, including the training of personnel; and (2) essential medical and nursing services for employees.

Dr. Neal outlined a specific industrial hygiene program which is summarized as follows:

1. Investigation and control of specific industrial hazards. Some of the industrial hazards to be investigated and controlled are dusts, fumes, gases, vapors, and mists, defective illumination and ventilation, noise, excessive temperatures and humidities, abnormal pressures, and injurious posture.
2. Advice to industrial managers and others on the location of new plants and on the renovation of old plants, in the interest of health and safety.
3. Promotion of physical examinations and medical services to be provided by industry.
4. Preparation and dissemination of information on various toxic materials and processes, including approved designs of exhaust systems for the control of atmospheric contaminants.
5. Appraisal of fatigue status in relationship to requirements of the national defense program.

6. Determination of methods for the absorption of handicapped persons into vital industries for national defense.

7. Promotion of measures for the control of syphilis, tuberculosis, and other communicable diseases among industrial workers; in other words, a general adult health program for the worker.

General discussion by the members of the Conference showed quite clearly that all the health officers agreed that industrial hygiene deserved especial attention. The health officer of one State which has only a rudimentary industrial hygiene unit felt that much has been accomplished by the utilization of the facilities of all other agencies, official or voluntary, whose activities touch on industrial hygiene. Most State health officers, however, insisted that personnel for this activity should be developed beyond the skeleton type of organization.

HEALTH ASPECTS OF CIVIL DEFENSE

The military forces are primarily responsible for repelling armed forces; the major responsibility for civil defense rests with the communities, acting through their local governments. These points were made by Surgeon J. A. Crabtree of the United States Public Health Service in introducing this topic.

Among the problems which will present themselves to civil authorities are emergency police measures, fire protection, safeguards for utilities, transportation, and provision of special health and medical services in the event of disaster. In certain European countries protection of local residents against gas attacks and air raids, and the evacuation of refugees are functions of civil authorities.

In discussing this topic Dr. DeKleine of the American Red Cross placed special emphasis on the point that effectiveness of the whole effort of civil defense will depend very largely upon the thoroughness with which residents of each locality are trained and disciplined.

CONTROL OF SELECTED COMMUNICABLE DISEASES

Dr. W. T. Harrison, Chief of the Division of Biologics Control of the National Institute of Health, pointed out that only one preventive vaccine, tetanus toxoid, has been perfected since the last World War. Research is being carried forward on influenza but at present the value of preventive measures for this disease is not yet sufficiently proven to warrant their use among military personnel or the general population.

The men newly inducted into the armed forces will receive immunizing vaccines for smallpox, typhoid, and tetanus. Liquid tetanus toxoid will be used in preference to the precipitated type, because the latter has given rise to more severe side-reactions than the former. Dr. Harrison said that not a single case of tetanus was reported among men of the French Army who received the liquid tetanus toxoid.

Reference was briefly made to other communicable diseases, such as measles, mumps, and diphtheria. Measles and mumps are apt to occur when large numbers of young men are gathered together in the relatively close association of military training, particularly if a high proportion of the men are from rural areas. Although an immunizing agent is available for the prevention of diphtheria, this disease is not considered of sufficient importance by the military authorities to warrant the administration of diphtheria toxoid to all troops.

In the discussion of the control of communicable diseases, assurance was given that there is a sufficient supply of antipneumococcic serums to meet all needs, particularly since the newer chemotherapeutic agents have reduced the demand for serum in the treatment of pneumonia. Malaria may prove a problem in some of the southern training centers; however, there is at least a 1-year supply of quinine in stock and substitute drugs can be readily manufactured by American firms.

HEALTH ADMINISTRATIVE PROBLEMS ARISING OUT OF MOBILIZATION

This topic was presented by both public health and military representatives. Assistant Surgeons General J. W. Mountin and R. A. Vonderlehr of the Public Health Service, Colonel C. C. Hillman of the Army, and Commander C. S. Stephenson of the Navy participated. The problems discussed related to the health of both civilians and the armed forces as it may be affected by concentration of people for military training or industrial production.

Special health problems are certain to arise in rapidly expanding industrial centers as well as in the zones surrounding cantonments and in maneuver areas. Rapid increase in population will tax the milk supply and the water supply as well as sewage-disposal facilities and other services. Many new industrial plants and most of the cantonments will undoubtedly be built in suburban areas adjacent to towns of moderate size, thus necessitating complete installation of public utilities or marked enlargement of those already in use. Such new installations or additions should conform to accepted health engineering practice.

The health of civilians in the community surrounding a cantonment influences the health of the men in camp. This is particularly true of venereal disease. Control of venereal disease in extra-cantonment areas will be a major problem again, as it was during the last war.

Those in attendance took the position that protection of health in extra-cantonment areas is primarily the responsibility of the official health agencies. Usually it will be necessary to supplement the resources of local health departments so that the activities may be expanded to meet the increased load. Localities quite appropriately will expect State and Federal health agencies to assist them in meeting

the added burden by financial grants-in-aid and by the temporary assignment of trained personnel.

Warren J. Vinton, of the United States Housing Authority, spoke on the problem of housing in areas of industrial and military concentration and commented on the relation between housing and health. He urged health officers not to overlook the opportunity to improve health through better housing and to insist on adequate construction that might later replace substandard housing. In this connection Commander Stephenson said that the Navy is already faced with the problem of housing employees of the several Navy yards.

CENSUS OF PUBLIC HEALTH PERSONNEL AND FACILITIES

The various aspects of this topic were presented by persons familiar with and working in the several fields as follows:

Physicians, R. G. Leland.

Dentists, C. Willard Camalier.

Hospitals, C. W. Munger.

Nurses, Pearl McIver.

Engineers, J. K. Hoskins.

Water and sewage plants, J. K. Hoskins.

Laboratories, N. E. Wayson.

Health agencies, J. M. DallaValle.

The Committee on Medical Preparedness of the American Medical Association is now conducting a survey of the membership of the Association to determine qualifications and availability of physicians for military and other types of service under the preparedness program. Dr. Leland reported that satisfactory progress is being made. A special supplemental questionnaire is being sent to those physicians who have engaged in any type of industrial medicine, since there seems to be a scarcity of physicians experienced in industrial hygiene work. Medical schools are being canvassed to determine the availability of the members of their teaching staffs. The information obtained by the Committee on Medical Preparedness will be available to military authorities.

Dr. C. Willard Camalier, Chairman of the Committee on Medical Preparedness of the American Dental Association, reported that a canvass of dentists similar to that of physicians is in progress.

As a result of a recent survey the American Hospital Association now has available for its member hospitals data which describe the personnel and facilities that may be made available for use in connection with mobilization without disrupting the usual services of individual hospitals. The hospitals have also indicated the number and types of beds that may be made available in emergencies. This presentation was made by C. W. Munger, chairman of the Federal Relations Committee of the American Hospital Association.

A Nursing Council for National Defense, organized about two months ago, was described by Pearl McIver, Senior Nursing Consultant, of the United States Public Health Service. This Council is composed of the presidents of the national nursing organizations, a representative of the American Red Cross, and representatives of each of the Federal nursing services. Among the first projects proposed by this Council was a nation-wide census of registered nurses. Schedules are now being prepared for distribution through the State societies of the national nursing organizations. The information obtained will indicate whether the nurses are available for military or civilian duty, for full-time or part-time work, in their home communities or elsewhere. The United States Public Health Service has been requested to serve as official sponsor of the survey.

There is no readily available information on sanitary engineering personnel, said J. K. Hoskins, Senior Sanitary Engineer of the United States Public Health Service, who pointed out that information on sanitary engineers similar to that being obtained for other types of professional personnel should be secured.

The United States Public Health Service has been responsible for certification of water supplies used in interstate traffic for a number of years. Recently a census was inaugurated for all water-purification plants and sewage-disposal systems. Much of the data is already in hand.

The quality and quantity of clinical laboratory services are of importance in determining the adequacy of health facilities in an area. N. E. Wayson, Medical Director, United States Public Health Service, said that such information is not now available. Finally he emphasized that it is important to know how many laboratory technicians can be spared for military service without crippling the laboratories of the country.

Attention of the Conference was again directed by J. M. Dalla Valle, Associate Sanitary Engineer, United States Public Health Service, to the lack of comprehensive knowledge concerning local health organizations of this country. Among the items on which data should be secured are local health control of food supplies, including milk; housing facilities; refuse and garbage disposal; medical services, including physicians, dentists, hospitals, and clinics; local public health organization; industrial hygiene facilities. It was suggested that this information might be obtained through questionnaires directed primarily to city tax-supported agencies and secondarily to the voluntary and proprietary agencies also operating in the same health jurisdictions.

Committee Reports

COMMITTEE ON HOSPITAL AND MEDICAL CARE

Consideration was given to only three of the many items which might reasonably come to the attention of this Committee.

The first item related to any communicable disease, reportable in the State, that may be found when the physical examination of registrants under the Selective Training and Service Act of 1940 is performed. In this connection the Committee offered the following resolution:

Whereas it is the opinion of the Committee that while regulations for the administration of the Selective Training and Service Act of 1940 provide that the cause of physical rejection may not be made public, this should not be interpreted as relieving the examining physician of the responsibility for complying with provisions of State health law regarding reporting of communicable diseases, including venereal disease and tuberculosis: Therefore be it

Resolved, That prompt steps be taken to include such an interpretation in the Presidential Regulations governing administration of the Selective Training and Service Act of 1940.

The second item concerned the program planned for physical examination and the correction, insofar as possible, of remediable defects among the youth of the Nation who are enrolled for benefits under the National Youth Administration. The Committee endorsed the proposed program in the following resolution:

Whereas the health program to be initiated by the National Youth Administration is planned to promote the health and efficiency of its enrolled youths through the utilization of health and medical facilities which already exist, or may be supplemented by the National Youth Administration; and

Whereas the program as planned seeks the active cooperation of State and local health departments: be it

Resolved, That the Conference of State and Territorial Health Officers endorse the principles and purpose of the National Youth Administration's health program; and,

That the Conference recommend that the State health department serve, when requested, as co-sponsor of such State-wide National Youth Administration health projects.

The last of the three problems considered by the Committee was that of the rehabilitation of men found disqualified for military or naval service by reason of physical defects. The Committee felt that the imperative need of developing and training, as quickly as possible, a suitable reserve for immediate defense should not exclude consideration of the military, economic, and social values accruing from an organized effort to correct remediable defects which have caused rejection. The physically rehabilitated men would make an important addition to the number and efficiency of workers available for employment in essential defense industries, as well as augment the

available manpower for the armed forces. In view of these and other considerations the Committee offered the following resolution:

Resolved, That persons who are otherwise found to be satisfactory and available for induction into the land or naval forces of the United States for training and service as provided by the Selective Training and Service Act of 1940 but who are placed on deferred status because of physical defects or ailments which are readily amenable to treatment and cure may, upon application to the Surgeon General of the United States Public Health Service, be considered for acceptance as beneficiaries of that Service for the correction of such physical defects or ailments.

The Committee contemplated that the Surgeon General of the United States Public Health Service would use his discretion in determining the facilities, institutions, and personnel to be employed in such corrective work and that any nongovernmental facilities that may be used would be reimbursed out of funds made available to the United States Public Health Service for the operation of a program of physical rehabilitation among rejected men who may be eligible to receive treatment.

COMMITTEE ON VENEREAL DISEASE CONTROL

Experience in the last war records that from April 1, 1917, to December 31, 1919, the total number of days lost in the Army was 6,804,818; of this number 3,903,303 were lost because of gonorrhea and 1,929,901 days were accounted for by syphilis. Venereal disease ranked third as a cause of disability, being exceeded only by battle casualties and influenza. Such data as are given above indicate that the control of syphilis is one of the most important health measures in the national defense program.

Syphilis is a disease which is most frequently acquired in early adult life, the age groups which include the men to be inducted into military service under the Selective Training and Service Act of 1940. The broad application of the serologic blood test to this group would consequently result in the discovery of large numbers of men infected with syphilis, and make it possible to apply preventive and curative measures to this group on a basis which has heretofore not been possible.

The Committee recommended that blood specimens for serologic examination be taken on all registrants under the Selective Training and Service Act of 1940 wherever facilities can be made available, if the registrant volunteers. The Committee, realizing the size of the task it set, gave consideration to a plan of cooperation between State and local health departments and the medical profession. The plan is set forth as follows:

1. A team of one or more doctors and nurses to be provided at each registration point and to be responsible for the collection of the specimens. Local and State health departments should be able to obtain the services of the physician through

cooperation with the local and State medical societies and provide the nurses without cost to the Selective Draft Board.

2. The blood specimens, with the identification blank properly filled out, to be sent to the nearest public health laboratory where serologic tests for syphilis are performed. Such laboratories should be notified if possible 10 days or 2 weeks in advance of the approximate dates of registration in order that usual serologic work may be set at a minimum during the registration period.

3. The men whose blood specimens prove to be negative by serologic test should be notified directly regarding the laboratory findings. The men who have positive or doubtful serologic results should be directed by mail to report to the physician or clinic named on the original identification slip, which was forwarded from the collection point to the State laboratory. A positive or doubtful result should be reported to the man's physician or clinic in order that the proper physical examination may be performed to supplement the evidence obtained through serologic examination of the blood and to confirm the diagnosis of syphilis.

4. Individuals found to be infected with syphilis may according to circumstances arrange for treatment either from their own physicians or from public clinics, of which there are approximately 2,500 at various places throughout the United States.

The Committee reported that the above plan has the approval of the subcommittee on venereal disease of the National Research Council and of the Surgeon General of the Army. It was recommended that the American Medical Association be asked to encourage the cooperation of the physicians in private practice and that the cooperation of the American Red Cross and other agencies be solicited.

In order that a more detailed plan might be evolved, the Committee recommended the appointment of a subcommittee for this purpose. This subcommittee is constituted as follows:

Dr. Carl V. Reynolds, *Chairman*.

Dr. J. Lynn Mahaffey, *Member*.

Dr. Lester A. Round, *Member*.

Dr. William F. Snow, *Consultant*.

Dr. O. C. Wenger, *Consultant*.

Dr. Harry Eagle, *Consultant*.

In the absence of a formal resolution by the Committee on Venereal Disease Control, the following memorandum was offered for the record by Dr. Stanley H. Osborn and adopted by the Conference as an amendment to the Report of the Committee on Venereal Disease Control:

The only question at issue is one of funds with which to do the serological work. The Committee in suggesting that the State perform the tests, wherever the facilities are available, admits that facilities are not everywhere available. All health officers assembled agreed that a serologic blood test for syphilis on every registrant is desirable; and that we have in connection with registration for selective service an opportunity to do an excellent epidemiologic job on an age group where the disease in an infectious stage is most prevalent. It is further agreed by all State health officers present that the test will be performed on all registrants in all States provided funds can be made available for this purpose.

COMMITTEE ON PUBLIC HEALTH IN AREAS OF MOBILIZATION

The Committee recognized that our present health organization, developed primarily for peace-time health activities, would require expansion and possibly some change in administration to meet the increased duties incident to military and industrial mobilization.

Insofar as they are able States and local communities where military or industrial developments take place should expand and perfect their health organization and services to meet the situation. It was the opinion of the Committee, however, that the Federal Government should supplement the efforts of States and communities according to local needs. Since the problems to be met will vary from time to time and shift from one locality to another it is believed that the necessary fluidity could be obtained to best advantage if necessary funds were made available to the United States Public Health Service for the direct employment of personnel, the purchase of supplies, and the construction of needed facilities. The personnel, supplies, or facilities so provided should supplement and be integrated with those of State and local health organizations.

After consideration of these and other factors involved, the Committee made the following recommendations:

1. That administrative control and supervision of public health in areas adjacent to military and industrial mobilization centers be under the direction of the State and local health agencies operating with the advice and assistance of the United States Public Health Service.
2. That minimum requirements for environmental sanitation and communicable disease control be formulated by the United States Public Health Service for the guidance of State and local health authorities in the mobilization areas.
3. That coordination of activities pertaining to housing, industrial hygiene, and sanitation be immediately effected by the United States Public Health Service with existing governmental and nonofficial agencies, in order that State and local health authorities may be aided in establishing proper measures for the protection of the health of the civil population in areas affected by national defense measures.
4. That the United States Public Health Service be urged to secure the necessary funds to reinforce existing State and local facilities for efficient and expeditious inauguration and operation of the afore-recommended emergency health activities.
5. That the resolution presented by the Massachusetts State Department of Health be approved in accordance with the condensed text herewith:

To avoid the creation of hazards to the public health of populations in the vicinity of military and naval bases, training areas, and war industries plants, by reason of endangering public water supplies or by the discharge of inadequately treated domestic or industrial sewage from such centers, and;

To enable the State health departments, as charged by law, to maintain definite standards of safety for public water supplies and adequacy of treatment of domestic and industrial sewage for the protection of the public health;

We request that the Surgeon General of the United States Public Health Service cause to be brought to the attention of the responsible heads of the defense agencies—war, naval, and industrial—the necessity for prompt adoption of procedures whereby the public water supply and waste-disposal facilities of

these concentrations of forces of the national defense program will conform to the standards of the department of health of the State in which such facilities may be located.

COMMITTEE ON PROFESSIONAL EDUCATION AND QUALIFICATIONS

The Committee reiterated its desire to emphasize the need for recruiting and training of all types of personnel engaged in the several fields of public health, both professional and technical, and for the strengthening and broadening of the services to be rendered by the teaching institutions which will perform this task.

The resolution adopted by the Committee on Medical Preparedness of the American Medical Association on July 19, 1940, was considered. This resolution concludes as follows:

Resolved, That the Committee on Medical Preparedness of the American Medical Association recommend to the National Defense Commission that the necessary funds be furnished to the United States Public Health Service to provide the necessary training of physicians, chemists, mechanical engineers and other professional personnel in order to cope with the industrial hygiene problem in the present national emergency.

The Committee approved the sentiment expressed in the above resolution and suggested that the same principle be applied in other fields of public health, particularly that of environmental sanitation where the need may be found to be of exceptional importance.

COMMITTEE ON FEDERAL RELATIONS, STATE AND PROVINCIAL HEALTH AUTHORITIES OF NORTH AMERICA

The Committee gave careful consideration to the problems arising or that threaten to arise in State, regional, and local departments of public health throughout the United States from the call to active service of certain professional members of their staffs who hold reserve commissions in the Army, Navy, and Marine Corps, and who are highly trained and specialized in the field of public health and, therefore, essential for the protection of the health of the communities which they serve.

That measures for the national defense are of primary importance was given full recognition by the Committee. The Committee expressed the conviction of every member of the Conference that any action that may be deemed necessary by those in charge of the national defense program must and should receive complete compliance and support.

After consideration of the many problems involved, the Committee passed the following resolution:

Whereas the Conference of State and Provincial Health Authorities of North America is of the opinion that adequate protection of the health of the civilian

population is essential for the successful prosecution of the program of national defense, and

Whereas there now exists a serious shortage of qualified personnel to cope successfully with existing public health problems, and efforts to reduce this shortage have been during the past four years an expressed policy of the Federal Government, and

Whereas the general program of national defense contemplates a great increase in the number of military mobilization and maneuver areas, a similar expansion of industrial activity and a variety of other developments, all of which will intensify existing civil health problems and some of which will create new problems, and

Whereas the adequate protection of the public health requires the services of certain professional and technical personnel whose training and qualifications can be acquired only through years of intensive study and experience: Therefore be it

Resolved, That in the plans for national defense, the work of the official public health agencies in the United States be recognized as an essential part of the program of national defense, and

Be it further *Resolved*, That the Conference of State and Provincial Health Authorities of North America express to the Surgeons General of the Army and the Navy and to their representatives who have participated in the deliberations of the Conference of State and Territorial Health Officers with the United States Public Health Service its sincere gratitude and appreciation for the information they have given and their comprehensive understanding of public health problems that have been discussed.

Be it further *Resolved*, That the Conference of State and Provincial Health Authorities of North America request the continued interest and cooperation of these officials to the end that such measures may be taken by the military authorities as they may deem necessary to insure that the staffs of State, municipal, and other local health departments may not be depleted and weakened by withdrawals to such an extent that they will be unable to afford the health protection necessary to the civilian population and for the successful prosecution of the measures for the national defense, and

Be it further *Resolved*, That the Surgeon General of the United States Public Health Service be requested to forward a copy of these resolutions to the Surgeon General of the Army and the Surgeon General of the Navy and that he continue to cooperate with them in presenting and seeking the satisfactory solution of problems that may arise from time to time in the field of public health as related to the program of national defense.

A NEW APPARATUS FOR THE ADMINISTRATION OF HELIUM-OXYGEN MIXTURES

By HOWARD F. BRUBACH, *Senior Medical Technician*, LAURENCE R. CRISP, *Instrument Maker*, and PAUL A. NEAL, *Passed Assistant Surgeon, United States Public Health Service*

The increased use of helium mixed with oxygen as a therapeutic gas has created the need for an apparatus that will permit more economical and at the same time safe administration of such mixtures. An apparatus has been designed which achieves economy through the use of separate tanks of helium and oxygen, and devices have been

contrived which regulate the proportion of the two gases and the volume of flow of the mixture in accordance with the patient's requirements. In addition, the apparatus eliminates one of the principal hazards, that of asphyxia.

HISTORY OF HELIUM

Helium was discovered in the atmosphere surrounding the sun by Lockyer and Janssen in 1868. It was discovered as a constituent of the earth's substance in the mineral cleveite by Ramsey in 1895 (1).

Helium is a colorless, odorless, chemically inert gas having a molecular weight of 4 as compared with 28 for nitrogen. At 0° C. and a pressure of 760 mm. of mercury, the density of helium is 0.1785 grams per liter as compared with 1.2506 grams per liter for nitrogen.

Helium was discovered in natural gas in the United States in 1905 by Cady and McFarland (2), but it was not until the World War that the production of helium from natural gas was started under the direction of the United States Bureau of Mines (1). At that time, production was primarily experimental, and the helium recovered was intended for use by the Army and Navy for lighter-than-air craft.

After the close of the war, the Navy directed the production of helium until 1925, when, through Congressional enactment, the Bureau of Mines was made responsible for the Government's entire helium production and conservation. At present, the United States Bureau of Mines Amarillo Helium Plant, under the immediate direction of C. W. Seibel, is capable of producing 24,000,000 cubic feet of helium per year of better than 98 percent purity at a cost of approximately one cent per cubic foot.

Prior to 1937 helium was available only to Government agencies, but a Congressional enactment approved September 1 of that year (50 Stat. 885) authorized sale by the Bureau of Mines of helium not needed for Government use, upon payment in advance and under regulations approved by the President, for medical, scientific, and commercial use.

Although the helium produced by the Bureau of Mines was originally intended for use in floating balloons and airships, other uses have developed as more has been learned of the properties and adaptability of the gas and as greater quantities of low-cost helium have become available. In 1920, Elihu Thomson and others (3) suggested the use of helium-oxygen mixtures in deep-sea diving, and in 1922, Sayers, Yant, and Hildebrand, in their investigation of the controlled oxygen content and greater diffusibility of certain gases in artificial respiratory atmospheres, used helium in making up such atmospheres. In reporting the results of their research, Sayers, Yant, and Hildebrand (4) stated: "Helium is without odor or taste and has physical properties which promise to be of interest physiologically and which have been

found to have possibilities of great practical use, especially in making a synthetic atmosphere that will reduce the hazard of caisson disease. The substitution of helium for the nitrogen ordinarily present in the air we breathe has been found to result in an atmosphere which is as respirable as that provided by nature. The results obtained indicate that helium not only has the advantage of being less soluble than nitrogen, but also has the advantage of diffusing more rapidly in the body fluids and tissues which results in rapid elimination of the gas from the tissues during decompression." Further research on the use of helium-oxygen mixtures in diving and caisson operations was made in 1926 by Sayers and Yant (5), and since then by Behnke and others (6).

The use of helium mixed with oxygen as a therapeutic gas was reported by Barach in 1934 (7). He stated: "When helium is substituted for nitrogen in the air, the specific gravity of the mixture (21 percent oxygen and 79 percent helium) is 0.341, as compared to that of air. The helium-oxygen mixture is 66 percent lighter. Since work is in general proportional to the density, the pressure required to move helium-oxygen mixtures in and out of the lung should be decidedly less than nitrogen-oxygen mixtures." Barach suggested its use in asthma and in cardiac disease, and in 1935 Maytum, Prickman, and Boothby (8) reported its use with good results in four cases of intractable asthma. Since that time helium-oxygen mixtures have been used in the treatment of asthma, status asthmaticus, and obstructive lesions in the trachea and larynx (9).

Lovelace, Mayo, and Boothby (10), in describing a condition encountered in persons subjected to rapid descent from high elevations in airplanes, stated: "The rate of diffusion of helium is 2.7 times that of nitrogen. The mean velocity of the oxygen molecule at 0° C. and a pressure of 760 mm. of mercury is about 0.425 km. per second, of the nitrogen molecule 0.453 km. per second, and of the helium molecule 1.202 km. per second. In a mixture of helium and oxygen the helium fraction obviously will diffuse more rapidly through the eustachian tube to the middle ear than would the nitrogen of air." This condition (commonly known as "ear block") described by Lovelace, Mayo, and Boothby is also encountered in caisson work and has been successfully treated with helium-oxygen mixtures.

Up to the present time, apparatus for the administration of helium-oxygen mixtures has had several shortcomings. Apparatus which makes use of a single tank of the mixture does not allow variation in the proportion of the two gases in accordance with the patient's requirements. Apparatus in which separate tanks of helium and oxygen are used to make the mixture increases the danger of asphyxia which results from too great a displacement of oxygen by an inert gas such as helium. In fact, when pure helium is breathed in the absence of

oxygen, asphyxia occurs very rapidly with little or no warning. According to Behnke (11), healthy individuals at rest or slightly active tolerate for short periods of time a reduction to about 14 percent in the oxygen percentage of the air at sea level. Inasmuch as mixtures of 80 percent helium and 20 percent oxygen are commonly used, the margin is small. Consequently it has been necessary for a person trained in the use of such apparatus to be present at all times during the administration of the mixture. In both types of apparatus the cost of the treatment has been increased by the lack of adequate control over the volume of the mixture flowing through the breathing device.

An apparatus has been constructed whereby oxygen and helium can be drawn from separate tanks, mixed to any desired proportion, and delivered to an oronasal facepiece. Features of the apparatus are (a) a safety valve which prevents the flow of helium until the oxygen has been turned on, (b) an adjustable valve containing slot orifices which controls the percentages of the gases, and (c) an adjustable weight arrangement which makes possible the maintenance of a positive pressure in the facepiece. The third feature was designed to meet the requirements of those physicians who believe that the helium-oxygen treatment of asthma is more effective when a positive pressure is maintained in the facepiece.

DESCRIPTION OF APPARATUS

Separate tanks of oxygen and helium are employed, each equipped with an adjustable reduction valve having a high-pressure gage and a gage for indicating flow pressure. The supply lines from the two tanks are connected to a safety valve which controls the two gases in such a way that the helium cannot flow unless a pressure of oxygen is present. The helium and oxygen lines from the safety valve are attached to opposite sides of an adjustable valve which contains the slot orifices. The gases enter through the orifices at one end of the valve, are combined in the chamber in the core of the valve, and pass out through an opening at the opposite end from the orifices. By rotating the core of the valve by means of a handle mounted on the end of the core, one orifice is opened while the other is being closed. An indicator which is attached to the core of the valve indicates the position of the core on a scale which is attached to the valve body. The scale is calibrated in steps of 1 percent of oxygen from 20 to 25, 5 percent from 25 to 50, and 10 percent from 50 to 100. A stop is mounted on the scale so that the core cannot be turned to a position that will give less than 20 percent oxygen.

The mixture enters the reservoir through an admission valve. The reservoir consists of a cylindrical rubber bellows having a metal dome for the top and a metal plate for the bottom. The excursion of the

dome of the bellows is guided by a rod attached to the top of the dome and passing through a sleeve in the frame. The frame is attached to the bottom plate and forms an inverted U over the bellows. A beam mounted over the reservoir is jointed to an extension of the reservoir frame and also to the top of the bellows' guide rod. By means of a weight that can be slid along the beam, a positive pressure of from 1 to 4 cm. of water can be created in the reservoir. A flexible breathing hose delivers the mixture from an opening in the bottom plate of the reservoir to the facepiece.

Inside of the reservoir a lever arm arrangement, which is connected to the dome and to the bottom plate, operates the admission valve. As the mixture is breathed from the reservoir, the bellows collapse, and as the dome of the bellows reaches the lowest position of its excursion, the lever arm operates an off-center spring which snaps open the admission valve, thus admitting the mixture. When the incoming mixture has raised the bellows' dome to the top of its excursion, the lever arm again operates the off-center spring which closes the admission valve. The admission valve then remains closed until a volume of the mixture has been breathed from the reservoir causing the bellows to collapse again. The admission valve is operated in the manner described so that the orifices in the adjustable valve are given full control of the gas flow.

As the patient inhales, the helium-oxygen mixture enters the facepiece through an intake check valve, and as he exhales, the expired air passes out through an adjustable exhaust check valve. A positive pressure can be maintained in the facepiece by sliding the weight on the beam to a point over the bellows and turning in the adjusting screw on the exhaust valve of the facepiece, thus increasing the spring tension on the valve. The facepiece is also equipped with an emergency intake check valve with a spring slightly stronger than that in the intake check valve to which the breathing hose is attached. If the helium-oxygen mixture is shut off while the facepiece is in place, the emergency valve acts as the intake but at a slightly increased resistance.

TESTS OF APPARATUS

Oxygen percentages were determined with the Orsat apparatus. It was not considered necessary to analyze for helium because of the known purity of the helium used. Mixtures of from 1 percent to 100 percent oxygen were obtained by adjusting the valve containing the slot orifices. Tests on normal persons with different types of breathing showed that the oxygen never fell more than a slight fraction of a percent below 20 percent when the adjustable valve was set at 20 percent. On the higher settings (above 50 percent oxygen) the oxygen never varied more than 3 percent above or below the setting.

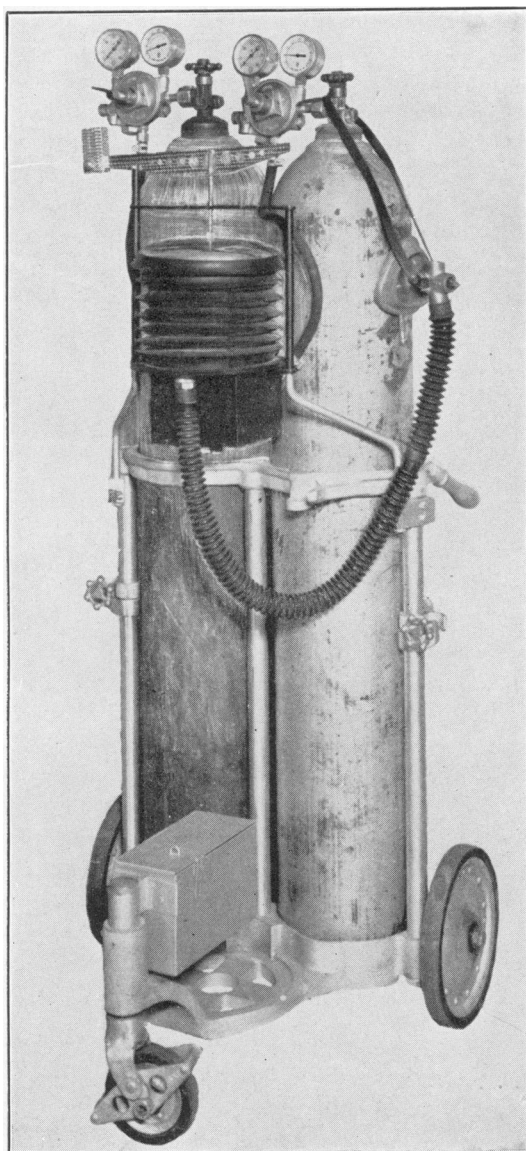


FIGURE 1.—Apparatus ready for use for administration of helium-oxygen mixtures utilizing separate cylinders of gases.

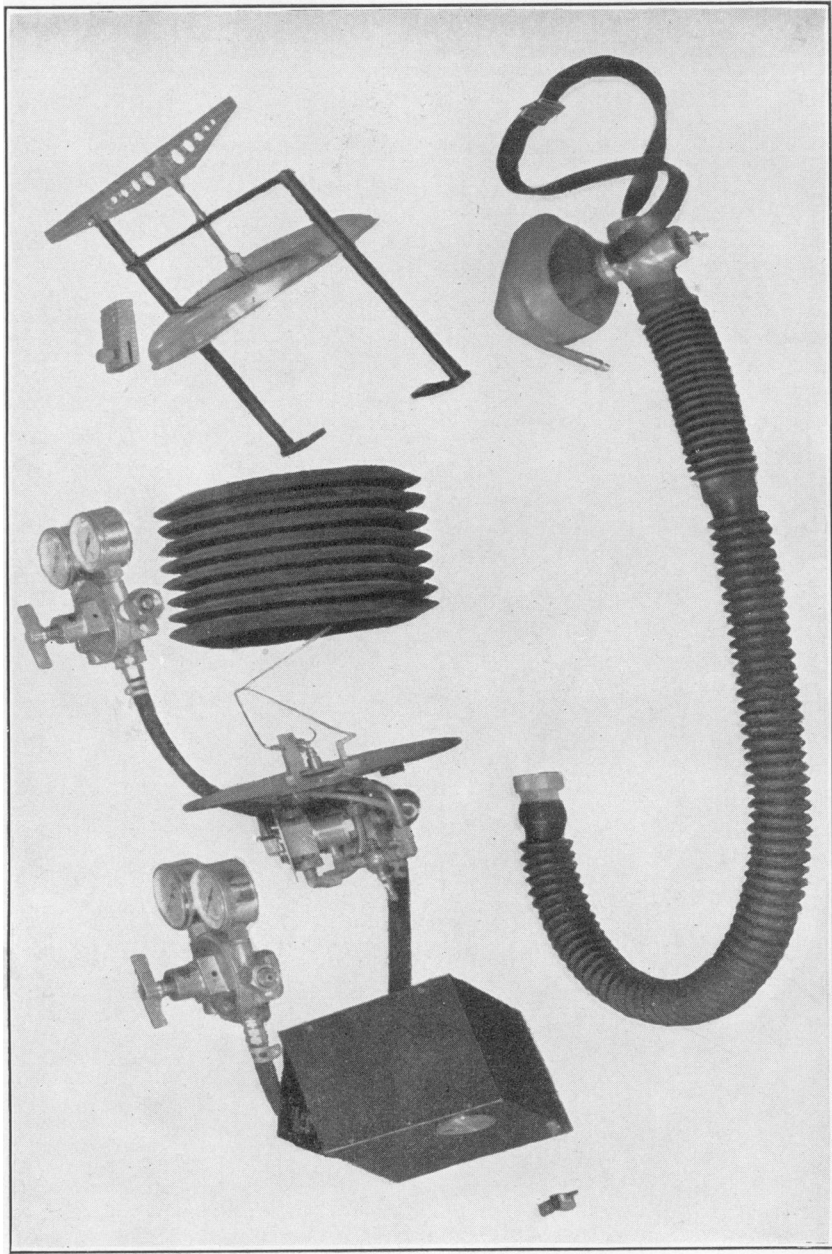


FIGURE 2.—Essential parts of new helium-oxygen apparatus, partially disassembled.

Equal flow pressures must be maintained on the tank gages. It was observed that 5 pounds flow pressure provided the volume of the mixture necessary for best operation.

SUMMARY

The importance of helium-oxygen mixtures as a therapeutic aid has gained increasing recognition since 1934.⁶ A new apparatus for the administration of helium-oxygen mixtures is described.

Features of the new apparatus presented include:

1. The use of relatively inexpensive separate cylinders of helium and oxygen.
2. Devices which regulate the flow of the two gases in accordance with the patient's needs.
3. A safety valve which prevents the flow of helium until the oxygen has been turned on.
4. An adjustable weight arrangement which makes possible the maintenance of a positive pressure in the facepiece.
5. A device which permits wide selection of the percentages of the gases and which at a setting of 20 percent oxygen prevents the fall of oxygen concentration more than a fraction of 1 percent.

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PART IV OF SERIES ON RHEUMATIC HEART DISEASE IN PHILADELPHIA HOSPITALS

In order to allow publication of matter relating to the national defense program, publication of part IV of the series on rheumatic fever in Philadelphia hospitals, by Dr. O. F. Hedley, has been postponed until the next issue of PUBLIC HEALTH REPORTS.

PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

August 11–September 7, 1940

The accompanying table summarizes the prevalence of eight important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State are published in the Public Health Reports under the section "Prevalence of disease." The table gives the number of cases of these diseases for the 4-week period ended September 7, 1940, the number reported for the corresponding period in 1939, and the median number for the years 1935–39.

DISEASES ABOVE MEDIAN PREVALENCE

Influenza.—An increase of influenza is normally expected at this season of the year, and while the number of cases (1,658) reported for the 4 weeks ended September 7 is not large, it represents an increase of more than 10 percent over the incidence during the corresponding period in 1939 and about a 30 percent increase over the normal seasonal expectancy. States in the South Atlantic and West South Central regions seem to be mostly responsible for the relatively high incidence. Of the 831 cases reported from the South Atlantic region, Virginia reported 244 and South Carolina 484 cases, while Texas reported 392 of the 517 cases that occurred in the West South Central region.

Number of reported cases of eight communicable diseases in the United States during the 4-week period August 11–September 7, 1940, the number for the corresponding period in 1939, and the median number of cases reported for the corresponding period 1935–39¹

Division	Current period	1939	5-year median	Current period	1939	5-year median	Current period	1939	5-year median	Current period	1939	5-year median
	Diphtheria			Influenza ²			Measles ³			Meningococcus meningitis		
United States ¹	770	1,446	1,468	1,658	1,492	1,257	3,149	1,857	2,819	93	99	216
New England.....	13	17	21	4	3	3	349	280	228	2	1	7
Middle Atlantic.....	60	84	139	31	17	28	954	374	684	15	30	40
East North Central.....	79	172	184	121	131	131	803	247	545	16	12	29
West North Central.....	94	90	103	35	14	107	118	166	139	17	5	18
South Atlantic.....	177	515	493	831	831	367	191	136	235	12	20	41
East South Central.....	119	248	248	67	119	119	202	118	118	14	8	21
West South Central.....	133	196	214	450	219	221	165	116	116	11	9	13
Mountain.....	52	56	51	79	107	62	151	116	116	1	12	11
Pacific.....	43	68	86	40	51	67	216	304	304	5	2	13
	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
United States ¹	2,376	1,648	1,648	2,524	3,148	3,450	36	89	141	1,655	2,141	2,355
New England.....	25	30	30	106	94	161	0	0	0	38	33	42
Middle Atlantic.....	105	461	390	455	453	595	0	0	0	148	148	255
East North Central.....	1,009	484	430	766	1,002	1,024	10	28	28	158	513	452
West North Central.....	593	209	50	265	343	431	13	27	27	88	144	173
South Atlantic.....	236	130	111	280	389	329	2	7	1	345	383	454
East South Central.....	90	25	88	177	329	245	1	1	2	247	311	395
West South Central.....	96	55	33	126	171	187	2	8	8	537	434	449
Mountain.....	79	42	14	116	114	138	6	7	24	51	89	107
Pacific.....	143	212	113	223	253	304	2	11	39	43	86	86

¹ 48 States. Nevada is excluded and the District of Columbia is counted as a State in these reports.

² 44 States and New York City.

³ 47 States. Mississippi is not included.

Measles.—For measles, also, the incidence during the 4 weeks ended September 7 was relatively high, about 70 percent above last year's figure for this period and more than 10 percent above the 1935–39 median figure. The highest incidence was reported from the North Atlantic and East North Central regions, but all regions except the West North Central and South Atlantic reported increases over the seasonal expectancy.

Poliomyelitis.—The number of cases of poliomyelitis rose from 716 for the preceding 4-week period to 2,376 for the 4 weeks ended September 7. Of the total number of cases, Michigan reported 413; Indiana, 286; Iowa, 234; Kansas, 173; West Virginia, 169; Ohio, 159; Illinois, 88; and Missouri, 79. More than two-thirds of the cases occurred in those eight States. It is apparent that the disease is most prevalent in the North Central regions as all of the States reporting an unusually high incidence, except West Virginia, are located in those regions. While the figures were not high in the West South Central, Mountain, and Pacific regions, they represent some increase over the 1935–39 median figures for this period.

Compared with recent years the current incidence is more than 1.4 times the incidence during this period in 1939, which figure (1,648 cases) also represents the average incidence for the preceding 5 years. An increase of this disease is normally expected at this season of the year, but the increase during the current period was somewhat sharper than might be expected. In recent years the peak incidence for the season has generally been reached during the period corresponding to the current one, but since most of the States reported the highest incidence during the last week of the current period (week ended September 7) further increases may be expected.

DISEASES BELOW MEDIAN PREVALENCE

Diphtheria.—The incidence of diphtheria was the lowest on record for this period. The reported cases numbered 770, as compared with 1,446, 1,909, and 1,468 for the corresponding period in 1939, 1938, and 1937, respectively. In the Mountain region the number of cases stood at about the normal seasonal level, but in all other regions the incidence was relatively low.

Meningococcus meningitis.—The number of cases (93) of meningococcus meningitis was only slightly below the number reported for the corresponding period in 1939, but it was only about 43 percent of the 1935–39 median figure for this period. About the average number of cases was reported from the West North Central and West South Central regions, but in all other regions the incidence was considerably below the seasonal expectancy.

Scarlet fever.—The incidence of scarlet fever was also below the average; the reported cases numbered 2,524, as against 3,148 for the same period in 1939 and a median of 3,450 cases for the years 1935–39. Each section of the country shared in the favorable situation of this disease that now exists. During recent months scarlet fever has been unusually prevalent in the Atlantic Coast, East North Central, and East South Central regions, but very significant decreases were reported from those regions during the current period.

Smallpox.—The smallpox incidence was relatively low, 36 cases as compared with 89 cases for the corresponding period in 1939, and 141 cases as a median figure for the years 1935–39. During the last week of the 4-week period under consideration (week ended September 7) there was not a case of smallpox reported.

Typhoid and paratyphoid fever.—The incidence of typhoid and paratyphoid fever remained at a relatively low level. The number of reported cases (1,655) was about 75 percent of the incidence during the corresponding period in 1939 and approximately 70 percent of the 1935–39 median figure for this period. The West South Central region reported about a 20 percent increase in the number of cases

over the estimated expectancy, but in all other regions the situation was quite favorable.

MORTALITY, ALL CAUSES

The average mortality rate from all causes in large cities for the 4 weeks ended September 7, based on data received from the Bureau of the Census, was 9.5 per 1,000 inhabitants (annual basis). The rate for this period in 1939 was also 9.5, and the average rate in the years 1935-39 was 9.8.

COURT DECISION ON PUBLIC HEALTH

State health department record of physical examination of person held admissible in evidence.—(Alabama Supreme Court; *Woodmen of the World Life Ins. Soc. v. Guyton*, 194 So. 655; decided March 14, 1940.) In a case in which an action had been brought on a life insurance certificate, one of the questions presented to the Supreme Court of Alabama, on appeal by the insurance society, was as to the admissibility in evidence of a certified copy of a record, on file in the State health department, of a physical examination of the deceased, which examination had been made by the said department to ascertain whether or not he had tuberculosis. It appeared that the deceased had been examined, prior to the issuance of the insurance contract and without reference thereto, by someone connected with the State health department. The trial court refused to allow the insurance society to introduce the health department record in evidence.

The supreme court said that it had been unable to find any express statutory authority for the admission in evidence of such a document, but it pointed out that the State legislature had made annual appropriations to be expended by the State board of health for certain purposes, among them being to conduct campaigns for education as to the causation, propagation, and prevention of tuberculosis, hookworm disease, typhoid and malarial fevers, and other preventable diseases, and "to conduct campaigns for the examination of tuberculosis, hookworm diseases, typhoid and malarial fevers, and other preventable diseases, insofar as this may be accomplished," and stated that this duty was enjoined by positive statute upon the State health department. "Necessarily," it was said in the opinion, "the duty enjoined carries with it the duty to make and keep records, and these records are, when properly certified, admissible in evidence." The conclusion was that the trial court had erred in refusing to permit the insurance society to introduce in evidence the certified copy of the record of examination. "This certificate was competent evidence, prima facie of the matters therein contained."

DEATHS DURING WEEK ENDED SEPTEMBER 14, 1940

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Sept. 14, 1940	Correspond- ing week, 1939
Data from 88 large cities of the United States:		
Total deaths.....	7,205	7,447
Average for 3 prior years.....	7,268	
Total deaths, first 37 weeks of year.....	314,533	308,694
Deaths under 1 year of age.....	490	462
Average for 3 prior years.....	495	
Deaths under 1 year of age, first 37 weeks of year.....	18,534	18,610
Data from industrial insurance companies:		
Policies in force.....	64,881,635	66,702,292
Number of death claims.....	11,088	11,008
Death claims per 1,000 policies in force, annual rate.....	8.9	8.6
Death claims per 1,000 policies, first 37 weeks of year, annual rate.....	9.8	10.2

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED SEPTEMBER 21, 1940

Summary

For the current week, 796 cases of poliomyelitis were reported in the United States, as compared with 797 for the preceding week and with a 5-year (1935-39) median of 484. Last week's median of 501 cases was the peak week of the 5-year medians.

During the current week, increases are shown in 5 geographic areas, decreases in 4. The two North Central groups of States continue to report the highest incidence, with 565 cases, or 71 percent of the total, and with only about 30 percent of the total population. The number of cases in the East North Central States dropped from 361 for the preceding week to 305 for the current period, while the number in the West North Central States increased from 217 to 260. The largest numbers of cases in these States were reported in Iowa (121) and Michigan (115). In the South Atlantic area, the number of cases in West Virginia increased from 48 to 66, and in Virginia from 16 to 22. North Carolina, with 7 cases (10 last week), was the only other State in this group to report any cases. In the Pacific States, increases are recorded for Washington (from 12 to 20) and Oregon (from 4 to 8), while the number of cases in California decreased from 14 to 9.

Of the other 8 communicable diseases included in the weekly table, only influenza and measles were above the 5-year median, the incidence of neither being high. Nine cases of smallpox were reported (4 in Minnesota), 2 cases of Rocky Mountain spotted fever, 6 cases of undulant fever, 10 cases of encephalitis, 1 case of tularaemia (in Utah), and 70 cases of endemic typhus (24 in Georgia and 13 in Alabama).

For the current week, the Bureau of the Census reported 7,669 deaths in 88 major cities of the United States, as compared with 7,205 for the preceding week, and with a 3-year (1937-39) average of 7,592 for the corresponding week.

Telegraphic morbidity reports from State health officers for the week ended September 21, 1940, and comparison with corresponding week of 1939 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none were reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended		Med- ian, 1935- 39	Week ended		Med- ian, 1935- 39	Week ended		Med- ian, 1935- 39	Week ended		Med- ian, 1935- 39
	Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939	
	Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939	
NEW ENG.												
Maine	1	0	1				10	26	9	0	0	0
New Hampshire	0	0	0				0	5	1	0	0	0
Vermont	1	0	0				1	0	3	0	0	0
Massachusetts	3	6	4				39	17	17	2	1	1
Rhode Island	0	0	0				0	13	0	0	0	0
Connecticut	0	1	1	1		2	2	3	3	0	0	0
MID. ATL.												
New York	6	8	13	1	2	13	48	35	43	3	2	4
New Jersey	1	1	10	2	3	4	32	9	14	0	0	1
Pennsylvania	11	14	14				92	24	24	3	3	3
E. NO. CEN.												
Ohio	8	9	14	14	2	2	5	5	7	0	0	1
Indiana	15	13	15	18		12	11	3	3	1	0	1
Illinois	10	20	28	4	5	7	24	10	15	1	2	2
Michigan	1	6	9	11	2	1	54	18	18	0	1	1
Wisconsin	0	0	4	23	35	28	56	20	27	2	3	1
W. NO. CEN.												
Minnesota	1	4	5	1	1		9	13	11	0	0	0
Iowa	2	5	3		1		24	3	3	1	0	0
Missouri	11	8	14	1		18	2	3	6	1	0	0
North Dakota	4	0	1	1	14	4	2	2	2	0	0	0
South Dakota	1	4	1	2	1		5	5	1	0	0	0
Nebraska	2	4	3				11	1	1	1	0	0
Kansas	7	3	5	1		1	4	3	3	0	3	1
SO. ATL.												
Delaware	0	1	0				2	2	2	0	0	0
Maryland	4	2	7	1	2	3	5	5	5	1	1	1
District of Columbia	1	2	4				0	1	1	0	0	0
Virginia	23	35	35	58	37		6	10	6	3	0	1
West Virginia	9	10	16	6	2	13	1	2	5	0	1	2
North Carolina	46	103	103				12	7	15	0	0	0
South Carolina	7	36	27	97	157	157	1	0	2	1	0	0
Georgia	9	41	34	4	8		3	0	0	0	0	0
Florida	8	9	10		3	1	2	1	1	0	0	0
E. SO. CEN.												
Kentucky	9	19	25	2		2	4	4	12	0	2	2
Tennessee	8	23	43	9	17	17	11	4	4	2	2	2
Alabama	10	50	50	198	20	13	5	1	1	0	0	2
Mississippi	13	15	19							1	0	0
W. SO. CEN.												
Arkansas	10	15	15	10	3	8	18	2	2	0	0	0
Louisiana	8	17	16	2	3	3	0	1	1	0	0	0
Oklahoma	10	8	10	21	5	16	4	1	1	1	0	0
Texas	29	32	33	102	70	54	17	8	8	1	0	0
MOUNTAIN												
Montana	0	1	1	4		4	27	5	5	1	0	0
Idaho	0	0	0				5	2	2	0	0	0
Wyoming	5	0	0				2	9	4	0	0	0
Colorado	1	11	7	6	8		6	5	5	0	1	0
New Mexico	8	1	2				1	0	4	0	0	0
Arizona	0	1	2	80	33	10	12	0	1	0	0	0
Utah	1	0	0	3			2	1	2	0	0	0
PACIFIC												
Washington	2	2	1				2	66	10	2	0	0
Oregon	10	4	1	9	6	6	6	20	7	0	0	0
California	18	9	30	11	10	11	31	54	54	1	0	1
Total	334	553	759	654	451	471	626	429	519	29	22	49
83 weeks	10, 041	14, 199	17, 174	171, 545	153, 627	142, 829	231, 800	350, 598	350, 598	1, 247	1, 501	4, 446

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended September 21, 1940, and comparison with corresponding week of 1939 and 5-year median—
Continued

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended		Median, 1935-40	Week ended		Median, 1935-40	Week ended		Median, 1935-40	Week ended		Median, 1935-39
	Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939	
NEW ENG.												
Maine.....	0	0	1	2	2	3	0	0	0	0	3	1
New Hampshire.....	0	1	1	3	1	1	0	0	0	3	1	0
Vermont.....	2	3	3	4	0	2	0	0	0	0	2	0
Massachusetts.....	1	6	6	35	31	43	0	0	0	2	1	1
Rhode Island.....	0	0	0	1	0	5	0	0	0	1	0	0
Connecticut.....	0	4	4	8	11	12	0	0	0	1	4	4
MID. ATL.												
New York.....	18	128	61	102	57	86	0	0	0	22	15	20
New Jersey.....	5	38	21	26	33	23	0	0	0	2	12	11
Pennsylvania.....	11	50	12	87	106	106	0	0	0	20	17	22
E. NO. CEN.												
Ohio.....	52	12	12	79	80	111	0	9	0	18	14	27
Indiana.....	49	3	3	35	27	37	0	1	1	8	8	8
Illinois.....	62	13	13	127	93	109	1	1	1	16	70	26
Michigan ¹	115	53	45	100	84	84	0	0	1	8	11	12
Wisconsin.....	27	6	6	38	60	63	0	0	0	1	2	3
W. NO. CEN.												
Minnesota.....	16	52	6	32	34	34	4	0	1	5	4	4
Iowa.....	121	5	4	34	28	28	0	4	2	2	2	4
Missouri.....	32	1	3	27	13	44	0	0	0	13	13	21
North Dakota.....	5	0	1	6	6	6	1	1	1	0	0	2
South Dakota.....	9	0	0	8	11	6	0	1	1	0	0	0
Nebraska.....	24	0	0	12	16	6	0	0	0	3	0	1
Kansas.....	53	3	3	35	34	47	0	0	0	11	6	7
SO. ATL.												
Delaware.....	0	0	0	4	6	1	0	0	0	4	1	1
Maryland ¹	0	2	5	16	27	19	0	0	0	6	3	13
Dist. of Col.....	0	2	2	3	5	7	0	0	0	4	0	0
Virginia.....	22	2	4	11	20	20	0	0	0	11	12	24
West Virginia ¹	66	2	2	17	34	46	0	0	0	11	12	20
North Carolina ¹	7	3	1	64	63	58	0	1	0	15	7	18
South Carolina ¹	0	8	0	2	19	9	0	1	0	14	11	14
Georgia ¹	0	2	1	19	23	22	0	0	0	18	15	15
Florida ¹	0	2	1	3	3	4	0	0	0	4	1	4
E. SO. CEN.												
Kentucky.....	16	7	5	19	33	58	1	0	0	18	28	28
Tennessee.....	3	0	1	52	43	36	0	0	0	25	16	21
Alabama ¹	1	1	1	32	26	18	0	0	0	20	6	13
Mississippi ^{1,4}	3	1	1	10	11	11	0	0	0	9	4	4
W. SO. CEN.												
Arkansas.....	0	1	1	6	9	9	0	0	0	14	21	15
Louisiana ¹	8	0	2	4	6	7	0	0	0	23	17	17
Oklahoma ¹	8	2	1	9	4	8	0	3	0	11	20	20
Texas ¹	1	7	5	19	14	23	1	0	0	46	43	45
MOUNTAIN												
Montana.....	5	1	1	17	13	13	0	2	5	0	3	2
Idaho.....	6	0	1	8	3	8	0	0	0	8	2	1
Wyoming.....	5	1	1	2	1	1	1	0	0	1	0	0
Colorado.....	3	6	6	11	16	13	0	5	2	7	7	7
New Mexico.....	1	14	1	1	11	2	0	0	0	5	4	15
Arizona.....	0	2	2	2	1	4	0	0	0	2	2	2
Utah ¹	2	3	0	4	4	4	0	0	0	0	1	1
PACIFIC												
Washington.....	20	1	1	15	8	13	0	0	2	1	15	6
Oregon.....	8	3	2	5	6	10	0	0	2	1	7	4
California.....	9	33	27	66	80	80	0	2	2	8	8	18
Total.....	796	484	484	1,218	1,216	1,387	9	31	42	422	451	578
38 weeks.....	5,652	4,439	4,439	122,906	121,178	170,459	2,011	8,794	8,233	7,058	9,662	10,885

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended September 21, 1940, and comparison with corresponding week of 1939 and 5-year median—Continued

Division and State	Whooping cough, week ended—		Division and State	Whooping cough, week ended—	
	Sept. 21, 1940	Sept. 23, 1939		Sept. 21, 1940	Sept. 23, 1939
NEW ENG.			SO. ATL.—continued		
Maine.....	12	21	South Carolina ¹	12	24
New Hampshire.....	0	3	Georgia ¹	10	6
Vermont.....	0	28	Florida ¹	2	5
Massachusetts.....	150	91	E. SO. CEN.		
Rhode Island.....	4	6	Kentucky.....	58	63
Connecticut.....	47	64	Tennessee.....	16	24
MID. ATL.			Alabama ¹	7	14
New York.....	237	324	Mississippi ¹		
New Jersey.....	90	108	W. SO. CEN.		
Pennsylvania.....	330	310	Arkansas.....	21	9
E. NO. CEN.			Louisiana ¹	5	16
Ohio.....	243	121	Oklahoma ¹	3	8
Indiana.....	25	45	Texas ¹	144	53
Illinois.....	116	214	MOUNTAIN		
Michigan ¹	329	151	Montana.....	7	4
Wisconsin.....	82	117	Idaho.....	6	2
W. NO. CEN.			Wyoming.....	7	24
Minnesota.....	37	72	Colorado.....	6	20
Iowa.....	42	19	New Mexico.....	22	18
Missouri.....	34	25	Arizona.....	8	19
North Dakota.....	3	8	Utah ¹	36	25
South Dakota.....	2	9	PACIFIC		
Nebraska.....	8	4	Washington.....	34	15
Kansas.....	39	12	Oregon.....	6	0
SO. ATL.			California.....	257	113
Delaware.....	8	19	Total.....	2,722	2,387
Maryland ¹	80	44	38 weeks.....		
Dist. of Col.....	7	30		120,292	139,425
Virginia.....	34	26			
West Virginia ¹	36	7			
North Carolina ¹	60	47			

¹ New York City only.

² Period ended earlier than Saturday.

³ Rocky Mountain spotted fever, week ended September 21, 1940, 2 cases as follows: North Carolina, 1; Oklahoma, 1.

⁴ Typhus fever, week ended September 21, 1940, 70 cases as follows: South Carolina, 4; Georgia, 24; Florida, 3; Alabama, 13; Mississippi, 1; Louisiana, 6; Texas, 19.

WEEKLY REPORTS FROM CITIES

City reports for week ended September 7, 1940

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table.

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Data for 90 cities: 5-year average.....	94	35	11	137	278	279	2	326	77	1,110	
Current week.....	42	32	11	168	206	180	0	318	49	841	
Maine:											
Portland.....	0		0	0	0	0	0	0	0	9	16
New Hampshire:											
Concord.....	0		0	0	0	0	0	1	0	0	10
Manchester.....	0		0	0	1	0	0	0	0	0	21
Nashua.....	0		0	0	0	0	0	0	0	0	6
Vermont:											
Barre.....	0		0	0	0	0	0	0	0	0	
Burlington.....	0		0	0	0	0	0	0	0	0	8
Rutland.....	0		0	0	0	0	0	0	0	0	2
Massachusetts:											
Boston.....	0		0	12	6	4	0	6	2	41	188
Fall River.....	0		0	2	0	0	0	0	0	1	29
Springfield.....	0		0	0	0	0	0	1	0	0	37
Worcester.....	0		0	16	6	0	0	0	0	1	41
Rhode Island:											
Pawtucket.....	0		0	0	0	0	0	0	0	0	12
Providence.....	0		0	0	2	1	0	1	3	0	56
Connecticut:											
Bridgeport.....	0		0	0	0	1	0	0	0	4	31
Hartford.....	0		0	0	2	0	0	1	1	1	36
New Haven.....	0	1	0	0	0	2	0	0	0	8	23
New York:											
Buffalo.....	0		0	0	2	4	0	7	0	8	111
New York.....	6	8	1	41	53	27	0	63	6	97	1,325
Rochester.....	0		0	1	6	1	0	2	0	15	71
Syracuse.....	0		0	0	1	1	0	1	0	5	46
New Jersey:											
Camden.....	0		0	4	0	2	0	0	0	2	24
Newark.....	0		0	8	0	4	0	5	0	10	93
Trenton.....	0		0	0	0	1	0	3	1	5	28
Pennsylvania:											
Philadelphia.....	1	3	3	11	11	13	0	21	4	44	423
Pittsburgh.....	1	1	2	1	5	2	0	4	5	29	146
Reading.....	0		0	2	2	0	0	2	0	10	22
Scranton.....	0			0		0	0		0	0	
Ohio:											
Cincinnati.....	0		0	0	0	0	0	5	0	23	109
Cleveland.....	0	3	0	0	1	4	0	9	0	65	144
Columbus.....	0		0	1	2	0	0	1	0	15	73
Toledo.....	0	1	1	2	0	0	0	5	3	8	47
Indiana:											
Fort Wayne.....	0		0	0	2	1	0	0	1	0	20
Indianapolis.....	0		0	3	2	2	0	2	0	4	80
Muncie.....	0		0	0	0	1	0	1	0	1	9
South Bend.....	0		0	0	0	0	0	0	0	0	11
Terre Haute.....	0		0	0	1	0	0	0	1	0	17
Illinois:											
Alton.....	0	1	1	0	3	0	0	0	1	0	10
Chicago.....	5	3	0	7	17	35	0	43	1	77	587
Elgin.....	0		0	0	0	0	0	0	0	7	9
Moline.....	0		0	0	0	1	0	0	0	0	9
Springfield.....	0		0	0	0	0	0	0	0	0	13
Michigan:											
Detroit.....	0		0	16	5	12	0	18	3	104	209
Flint.....	0		0	0	3	0	0	0	0	3	24
Grand Rapids.....	0		0	0	0	0	0	0	1	41	26
Wisconsin:											
Kenosha.....	0		0	0	0	0	0	0	0	0	9
Madison.....	0		0	1	0	1	0	0	0	0	11
Milwaukee.....	0		0	10	0	5	0	2	0	0	82
Racine.....	0		0	3	0	1	0	0	0	3	10
Superior.....	0		0	1	0	0	0	0	0	3	5

City reports for week ended September 7, 1940—Continued

State and city	Diph- theria cases	Influenza		Mea- sles cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Minnesota:											
Duluth.....	0	-----	0	0	0	0	0	0	0	0	36
Minneapolis.....	5	-----	0	2	2	6	0	2	0	6	89
St. Paul.....	0	-----	0	1	0	2	0	3	0	5	67
Iowa:											
Cedar Rapids.....	0	-----	-----	0	-----	1	0	-----	0	0	-----
Davenport.....	0	-----	-----	0	-----	0	0	-----	0	0	-----
Des Moines.....	3	-----	0	0	0	1	0	0	0	0	34
Sioux City.....	0	-----	-----	0	-----	1	0	-----	0	0	-----
Waterloo.....	0	-----	-----	0	-----	1	0	-----	0	1	-----
Missouri:											
Kansas City.....	0	-----	0	1	5	1	0	5	1	4	89
St. Joseph.....	0	-----	0	0	0	1	0	0	0	2	28
St. Louis.....	4	1	0	0	7	1	0	7	1	8	201
North Dakota:											
Fargo.....	0	-----	0	0	0	1	0	0	0	3	7
Grand Forks.....	0	-----	-----	0	-----	0	0	-----	0	0	-----
Minot.....	0	-----	0	0	0	0	0	0	0	0	6
South Dakota:											
Aberdeen.....	0	-----	-----	0	-----	0	0	-----	0	1	-----
Sioux Falls.....	0	-----	0	0	0	0	0	0	0	0	9
Nebraska:											
Lincoln.....	0	-----	-----	0	-----	1	0	-----	0	2	-----
Omaha.....	0	-----	0	1	1	0	-----	1	0	0	54
Kansas:											
Lawrence.....	0	-----	0	0	1	0	0	0	0	0	5
Topeka.....	0	-----	0	0	2	2	0	2	0	0	23
Wichita.....	0	-----	0	1	1	1	0	0	0	2	12
Delaware:											
Wilmington.....	0	-----	0	0	0	0	0	1	0	4	26
Maryland:											
Baltimore.....	0	1	1	2	5	3	0	7	0	39	196
Cumberland.....	0	-----	0	0	0	0	0	2	0	0	11
Frederick.....	0	-----	0	0	0	0	0	0	0	0	1
District of Colum- bia:											
Washington.....	3	-----	0	1	6	2	0	10	0	3	141
Virginia:											
Lynchburg.....	0	-----	0	0	1	0	0	0	0	0	7
Norfolk.....	0	-----	0	0	3	0	0	4	0	0	55
Richmond.....	0	-----	1	0	1	0	0	0	1	0	39
Roanoke.....	0	-----	0	0	0	1	0	0	0	4	16
West Virginia:											
Charleston.....	0	-----	0	0	0	0	0	0	0	0	12
Huntington.....	0	-----	-----	0	-----	0	0	-----	0	0	-----
Wheeling.....	0	-----	0	0	0	0	0	0	0	2	-----
North Carolina:											
Gastonia.....	0	-----	-----	0	-----	0	0	-----	0	1	-----
Raleigh.....	0	-----	0	0	0	0	0	1	0	3	7
Wilmington.....	0	-----	0	0	0	0	0	0	0	0	7
Winston-Salem.....	3	-----	0	0	0	3	0	1	0	7	18
South Carolina:											
Charleston.....	1	2	0	4	1	0	0	0	1	0	12
Florence.....	0	-----	0	0	1	0	0	0	0	0	7
Greenville.....	0	-----	0	0	0	0	0	0	0	0	3
Georgia:											
Atlanta.....	1	2	0	0	3	1	0	7	1	1	63
Brunswick.....	0	-----	0	0	0	0	0	0	0	0	3
Savannah.....	0	2	1	0	0	0	0	1	0	0	28
Florida:											
Miami.....	0	1	0	0	0	0	0	1	2	0	25
Tampa.....	0	2	0	0	1	1	0	0	0	0	19
Kentucky:											
Ashland.....	0	-----	0	0	1	0	0	0	0	0	7
Covington.....	0	-----	0	0	1	1	0	1	0	0	15
Lexington.....	0	-----	0	1	1	0	0	1	1	3	12
Louisville.....	0	-----	0	0	0	2	0	0	0	8	28
Tennessee:											
Knoxville.....	0	-----	0	0	0	0	0	1	1	0	27
Memphis.....	0	-----	0	0	1	1	0	2	0	3	70
Nashville.....	0	-----	0	1	2	0	0	1	1	4	43
Alabama:											
Birmingham.....	0	2	0	0	1	4	0	3	0	0	52
Mobile.....	0	-----	1	0	2	1	0	0	0	0	12
Montgomery.....	1	-----	-----	0	-----	0	0	-----	0	4	-----

City reports for week ended September 7, 1940—Continued

State and city	Diph- theria cases	Influenza		Meas- sles cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Arkansas:											
Fort Smith.....	0			0		0	0		0	0	
Little Rock.....	0		0	0	1	0	0	3	0	0	
Louisiana:											
Lake Charles.....	0		0	0	0	0	0	0	1	0	2
New Orleans.....	1		1	1	3	0	0	8	7	3	118
Shreveport.....	1		0	0	0	1	0	2	1	0	42
Oklahoma:											
Oklahoma City.....	1		0	0	3	2	0	2	0	0	31
Tulsa.....	0		0	0	0	0	0	0	0	0	13
Texas:											
Dallas.....	0		0	0	1	1	0	2	2	4	68
Fort Worth.....	0		0	0	0	0	0	1	0	3	21
Galveston.....	0		0	0	2	0	0	1	0	0	13
Houston.....	1		0	5	4	0	0	6	1	2	82
San Antonio.....	0		0	0	3	1	0	7	1	1	68
Montana:											
Billings.....	0		0	0	2	0	0	0	0	0	6
Great Falls.....	0		0	0	1	0	0	0	0	0	7
Helena.....	0		0	0	0	1	0	0	0	0	1
Missoula.....	0		0	0	0	0	0	0	0	0	6
Idaho:											
Boise.....	0		0	0	0	1	0	0	0	0	7
Colorado:											
Colorado											
Springs.....	0		0	0	0	0	0	2	0	0	19
Denver.....	3		0	2	4	5	0	2	0	6	81
Pueblo.....	0		0	0	1	0	0	1	0	0	10
New Mexico:											
Albuquerque.....	0		0	0	1	0	0	1	0	0	12
Utah:											
Salt Lake City.....	0		0	1	0	2	0	0	0	18	27
Washington:											
Seattle.....	1		0	0	6	0	0	6	0	12	99
Spokane.....	0		0	0	0	0	0	0	1	0	26
Tacoma.....	0		0	0	3	0	0	0	0	1	20
Oregon:											
Portland.....	1		0	0	1	2	0	2	0	0	67
Salem.....	0			0		0	0		0	4	
California:											
Los Angeles.....	3	1	0	5	2	8	0	16	1	44	252
Sacramento.....	1		0	1	0	3	0	2	0	1	17
San Francisco.....	0		0	0	2	2	0	8	0	21	169

City reports for week ended September 7, 1940—Continued

State and city	Meningitis, meningococcus		Polio- mye- litis cases	State and city	Meningitis, meningococcus		Polio- mye- litis cases
	Cases	Deaths			Cases	Deaths	
Massachusetts:				North Dakota:			
Springfield.....	0	0	1	Fargo.....	0	0	1
Worcester.....	0	0	2	South Dakota:			
Rhode Island:				Sioux Falls.....	0	0	4
Providence.....	0	0	1	Nebraska:			
New York:				Lincoln.....	0	0	1
New York.....	2	0	4	Omaha.....	0	0	4
Rochester.....	0	0	1	Kansas:			
Pennsylvania:				Topeka.....	0	0	3
Philadelphia.....	0	0	3	Wichita.....	0	0	5
Scranton.....	0	0	1	Virginia:			
Ohio:				Richmond.....	0	0	1
Cincinnati.....	0	0	5	West Virginia:			
Cleveland.....	0	0	3	Charleston.....	0	0	2
Columbus.....	0	0	4	Huntington.....	0	0	2
Toledo.....	0	0	1	Wheeling.....	2	0	0
Indiana:				Kentucky:			
Fort Wayne.....	0	0	1	Ashland.....	0	0	2
Indianapolis.....	0	0	4	Louisville.....	0	0	1
Muncie.....	0	0	3	Alabama:			
South Bend.....	0	0	2	Mobile.....	0	0	1
Illinois:				Oklahoma:			
Chicago.....	0	0	13	Tulsa.....	0	0	1
Moline.....	0	0	1	Texas:			
Michigan:				Dallas.....	0	0	1
Detroit.....	0	0	12	Houston.....	0	0	2
Grand Rapids.....	0	0	15	Montana:			
Wisconsin:				Helena.....	0	0	2
Madison.....	0	0	2	Idaho:			
Milwaukee.....	0	0	1	Boise.....	0	0	1
Minnesota:				Colorado:			
Duluth.....	0	0	1	Denver.....	0	0	1
Minneapolis.....	0	0	1	Pueblo.....	0	0	1
St. Paul.....	0	0	1	Washington:			
Iowa:				Seattle.....	0	0	5
Cedar Rapids.....	0	0	2	Spokane.....	0	0	1
Davenport.....	0	0	1	Tacoma.....	0	0	2
Des Moines.....	0	0	4	California:			
Sioux City.....	0	0	2	Los Angeles.....	0	0	11
Waterloo.....	0	0	4	Sacramento.....	0	0	2
Missouri:							
Kansas City.....	0	0	4				
St. Joseph.....	0	0	3				

Encephalitis, epidemic or lethargic.—Cases: Rochester, 1; Toledo, 1; Great Falls, 3; Helena, 1; Seattle, 1; Sacramento, 3; San Francisco, 1.

Pellagra.—Cases: Philadelphia, 1; Chicago, 1; Charleston, S. C., 1; Mobile, 1; Los Angeles, 1.

Typhus fever.—Cases: Charleston, S. C., 1; Atlanta, 2; Savannah, 2; Miami, 1; Mobile, 4; Lake Charles, 1; Dallas, 1; Fort Worth, 1; Houston, 4. Deaths: Houston, 1.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended August 10, 1940.—During the week ended August 10, 1940, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				1						1
Chickenpox			1	27	102	18	5	4	14	171
Diphtheria		1	1	23		2				27
Dysentery				1	4					5
Influenza		1			34	1			28	64
Lethargic encephalitis							1			1
Measles	2		2	109	68	40	47	10	11	289
Mumps				5	28	6	8		2	49
Pneumonia					7	2				9
Polio-myelitis					2					2
Scarlet fever		3		41	29	5		6	10	94
Tuberculosis	1	18	16	90	66	9	15	1		216
Typhoid and paratyphoid fever			1	22	4	1	1		1	30
Whooping cough		3		105	71	36	9	11	29	264

FINLAND

Communicable diseases—4 weeks ended May 18, 1940.—During the 4 weeks ended May 18, 1940, cases of certain communicable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Diphtheria	213	Polio-myelitis	21
Dysentery	27	Scarlet fever	1,155
Influenza	3,433	Typhoid fever	22
Paratyphoid fever	94	Undulant fever	1

YUGOSLAVIA

Notifiable diseases—4 weeks ended July 14, 1940.—During the 4 weeks ended July 14, 1940, certain notifiable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	31	4	Polio-myelitis	2	
Cerebrospinal meningitis	232	37	Scarlet fever	148	1
Diphtheria and croup	363	20	Sepsis	4	
Dysentery	18	1	Smallpox	1	1
Frysipelas	118	16	Tetanus	62	23
Favus	5	2	Typhoid fever	204	17
Paratyphoid fever	15	2	Typhus fever	27	3

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases; D, deaths]

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place	January- June 1940	July 1940	August 1940—week ended—				
			3	10	17	24	31
ASIA							
China:							
Foochow.....							1 29
Hong Kong.....						2	3
Macao.....							20
Shanghai.....	5	87	42	52	54	40	61
India:	21,896						
Bassein.....	164						
Bombay.....			2			3	
Calcutta.....	1,526	147	25	39	19	23	26
Cawnpore.....	13	6	18	39		68	50
Chittagong.....	4						
Madras.....	1						
Moulmein.....	16						
Porto Novo.....	1						
Rangoon.....	37						
Viragapa'am.....		6	3	1			
India (French).....	34						
Indochina (French).....	436						
Thailand.....	235						

¹ For the month of August 1940.

PLAGUE

[C indicates cases; D, deaths]

AFRICA							
Algeria.....	C				1		4
Plague-infected rats.....				1		1	
Belgian Congo.....	C	13					
British East Africa:							
Kenya.....	C	7					
Uganda.....	C	103					
Egypt.....	C	1 408	1				
Madagascar.....	C	472					
Morocco. ¹							
Rhodesia, Northern.....	C	1					
Senegal:							
Dakar.....	D	1					
Thies.....	C	1					
Tivaouane.....	C	3					
Union of South Africa.....	C	25					
ASIA							
China. ⁴							
Dutch East Indies: Java and Madura.....	C	216					
India.....	C	12,812					
Bassein.....	C	18					
Cochin.....	C	1					
Plague-infected rats.....		3					
Rangoon.....	C	5					
Indochina (French).....	C	3					
Thailand:							
Bangkok.....	C	3					
Bisnulok Province.....	C	3					
Chingmai.....	C			1		1	1

¹ Includes 5 cases of pneumonic plague.

² A report dated May 11, 1940, stated that there was an epidemic of bubonic plague in southern Morocco, where several hundred cases had been unofficially reported.

³ Imported.

⁴ Information dated July 7 states that up to July 6, 17 cases of plague had been reported near Tungliao, Hsingan Province, China; and a report dated July 13 states that an outbreak of bubonic plague occurred along the Yunnan-Burma border in the districts of Loiwing, Chefang, Juili, and Muchieh.

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths]

Place	January-June 1940	July 1940	August 1940—week ended—				
			3	10	17	24	31
ASIA—continued							
Thailand—Continued.							
Dhonpuri Province.....	C	1					
Jayanad Province.....	C	3					
Kamphaeng Bajar Province.....	C	29					
Kanchanapuri Province.....	C	12					
Koan Kaen Province.....	C	5					
Nagara Svarga Province.....	C	30					
Noangkhai Province.....	C	4					
Sukhodaya Province.....	C	22					
EUROPE							
Portugal: Azores Islands.....	C	2					
NORTH AMERICA							
United States. (See issues of Sept. 6, p. 1638, and Sept. 20, p. 1749)							
SOUTH AMERICA							
Argentina:							
Cordoba Province.....	C	21					
Jujuy Province.....	C	1	8				
Salta Province.....	C	2	6				
Santiago del Estero Province.....	C	24	30				
Tucuman Province.....	C	5	13				
Brazil:							
Alagoas State.....	C	5					
Pernambuco State.....	C	1					
Peru:							
Cajabamba Department.....	C	1					
Cajamarca Department.....	C	25	2				
Lambayeque Department.....	C	10	2				
Libertad Department.....	C	45	1				
Lima Department.....	C	32	12				
Piura Department.....	C	6					
Tumbes Department.....	C	15	3				
OCEANIA							
Hawaii Territory: Plague-infected rats.....		19	10	2	2	1	2

* Includes 11 cases of pneumonic plague.

* Suspected.

SMALLPOX

[C indicates cases; D, deaths]

AFRICA							
Algeria.....	C	5	—	—	—	—	—
Angola.....	C	35	—	—	—	—	—
Belgian Congo.....	C	1,709	—	—	—	—	—
British East Africa.....	C	12	—	—	—	—	—
Dahomey.....	C	17	—	—	—	—	—
French Guinea.....	C	13	—	—	—	—	—
Gibraltar.....	C	1	—	—	—	—	—
Ivory Coast.....	C	113	—	—	—	—	—
Nigeria.....	C	1,815	—	—	—	—	—
Niger Territory.....	C	594	—	—	—	—	—
Nyasaland.....	C	56	—	—	—	—	—
Portuguese East Africa.....	C	1	—	—	—	—	—
Rhodesia, Southern.....	C	183	—	—	—	—	—
Senegal.....	C	131	—	—	—	—	—
Sierra Leone.....	C	10	—	—	—	—	—
Sudan (Anglo-Egyptian).....	C	410	31	5	33	3	11
Sudan (French).....	C	1	—	—	—	—	—
Union of South Africa.....	C	84	—	—	—	—	—

* Imported.

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths]

Place		January- June 1940	July 1940	August 1940—week ended—						
				3	10	17	24	31		
ASIA										
Arabia.....	C	255								
China.....	C	784	14		1					
Chosen.....	C	533								
Dutch East Indies—Sabang.....	C	4								
India.....	C	117,874								
India (French).....	C	5								
India (Portuguese).....	C	20								
Indochina (French).....	C	843								
Iran.....	C	151								
Iraq.....	C	163	5	1			26			
Japan.....	C	499	1							
Straits Settlements.....	C	1								
Sumatra.....	C	1								
Thailand.....	C	27	77	11	32	7	5		3	
EUROPE										
Great Britain.....	C	2								
Greece.....	C	23								
Portugal.....	C	98	18		3	1				
Spain.....	C	462	62							
Turkey.....	C	139								
NORTH AMERICA										
Guatemala.....	C	17	4							
Mexico.....	C	52								
SOUTH AMERICA										
Polivia.....	C	189								
Brazil.....	C	1								
Colombia.....	C	1,038	2	1						
Ecuador.....	C	1								
Peru.....	C	6								
Venezuela (alastrim).....	C	134	16							

TYPHUS FEVER

[C indicates cases; D, deaths]

AFRICA								
Algeria.....	C	1,652	43		29	24		
Belgian Congo.....	C	1,210						
British East Africa.....	C	2						
Egypt.....	C	3,379	112	22	14	17	18	
Eritrea.....	C	40						
Morocco.....	C	277						
Tunisia.....	C	515						
Union of South Africa.....	C	107	1					
ASIA								
China.....	C	1,797	210					
Chosen.....	C	156						
India.....	C	3						
Indochina (French).....	C	2						
Iran.....	C	233						
Iraq.....	C	108	8	1	3	2	1	
Japan.....	C	2						
Palestine.....	C	53	17	13	5	12	9	
Straits Settlements.....	C	5						
Trans-Jordan.....	C	15						
EUROPE								
Bulgaria.....	C	134		4		1		
Germany.....	C	129	44	24				
Greece.....	C	25			1			
Hungary.....	C	74					1	
Irish Free State.....	C	6	1					
Lithuania.....	C	115						
Rumania.....	C	1,213	19		2	3	4	2
Spain.....	C	14						
Turkey.....	C	503						
Yugoslavia.....	C	242	14					

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER—Continued

[C indicates cases; D, deaths]

Place		January-June 1940	July 1940	August 1940—week ended—						
				3	10	17	24	31		
NORTH AMERICA										
Guatemala.....	C	227	28							
Mexico.....	C	169	1			1	1	1		
Panama Canal Zone.....	C	3								
SOUTH AMERICA										
Bolivia.....	C	499								
Chile.....	C	233								
Ecuador.....	C	2								
Peru.....	C	197								
Venezuela.....	C	8								
OCEANIA										
Australia.....	C	15								
Hawaii Territory.....	C	16	1	2						

YELLOW FEVER

[C indicates cases; D, deaths]

AFRICA								
Cameroon: Nkongsamba.....	C	1	1					
French Equatorial Africa: Fort Archambault.....	C	1	1					
Gold Coast.....	C	1						
Ivory Coast.....	C	1			1	2		
Nigeria:								
Ibadan.....	C	1						
Oshogbo.....	C	1	1					
Togo (French).....	C	1						
SOUTH AMERICA								
Brazil:								
Espírito Santo State.....	D	1	28					
Rio de Janeiro State.....	D	1	1					
Colombia:								
Antioquia Department—San Luis.....	D	2						
Caldas Department—								
La Pradera.....	D	1						
Samana.....	D	1						
Victoria.....	D	1						
Meta Department.....	D				1			
Santander Department.....	D			1				

1 Suspected.

1 Jungle type.