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THE HEALTH CENTER

Adaptation of Physical Plants to Service Concepts [1]

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Although the term "health center" may be regarded as a fairly recent increment to the public health lexicon, it has already acquired a variety of meanings. As originally conceived the health center was a physical structure for housing the health department and voluntary agencies operating in similar or allied fields of endeavor. Early in their development, health departments were preoccupied with law enforcement, and voluntary agencies with health promotion work. As one might expect, the few health centers of that period featured library and exhibit space, rooms for personal and group conferences, and the necessary office accommodations for administrative personnel. Later public health agencies were given additional responsibilities and these are reflected in health centers of more recent date. The acceptance of functions that involve physical examination and treatment of individuals necessitates incorporating into health center design and equipment many features ordinarily associated with a hospital out-patient department.

Venereal disease and tuberculosis control, also maternal and child health work, may be cited as services requiring laboratory equipment and clinic accommodations.

Formerly hospitals were concerned only with the care of patients while actually confined within the institutions. Gradually staff members are becoming more aware of their potental role in a broad health program. Now a feeling, quite prevalent among hospital and health authorities, is to the effect that resources of the hospital, as expressed by its staff organization, physical plant, and scientific

[1] From States Relations Division.

equipment, should be made generously available to the surrounding community. In other words, services afforded should meet the needs of ambulatory as well as hospitalized persons who may require either physical appraisal or actual treatment for frank illness. It would therefore seem that a hospital so conceived and operated might well lay claim to the designation "health center."

With the extension of prepaid medical care plans, practicing physicians should be enabled to take a larger part in preventive health measures than is possible when they are compensated for their work only through fees collected directly from persons served. Already the slogan "every physician's office a health center" has attained wide usage. While this slogan may be a bit pretentious at present, nevertheless it can be indicative of a future trend. Where physicians are associated in groups which include several specialties of medicine, the possibilities for their participation in organized health programs are very much enhanced.

Each of the three foregoing service arrangements is susceptible to both internal and lateral expansion. That is, health departments may take on more clinical functions; hospitals may open their facilities to ambulatory patients; and, physicians in private practice may enlarge their preventive work. Each might operate quite independent of the other; although a preferable plan would be for programs to develop under arrangements that represent appropriate physical and functional combinations of available resources. Especially in smaller communities and in neighborhoods of larger metropolitan areas, a related system of service might be developed within a single building. Under circumstances less favorable for integration, some measure of unity in effort should be possible through joint program planning between agencies and by utilizing each other's resources on a cooperative basis. This article features types of physical accommodations that may be utilized under different circumstances for coordination of community health efforts; a discussion of administrative schemes required for implementing various functional concepts is reserved for another occasion.

From the standpoint of structure there are at least four patterns along which health centers may be developed.

(*a*) Those designed exclusively for use by public health agencies.

(*b*) Those that provide space for public health functions to be performed in the hospital.

(*c*) Those that furnish accommodations for the health department and the practicing physicians.

(*d*) Those that bring together in one building, or in a group of related buildings, the health department, the hospital, and offices for practicing physicians.

The illustrations used in this paper show how physical facilities may be developed to further the coordination of health functions in a

community. These are, however, only type plans which in most cases will need modification to meet local circumstances. Several factors may determine these circumstances, such as size and distribution of population, nature and extent of services to be performed, character of existing institutions, professional and community attitudes. Any of these factors might well make it necessary to revise the space relationships. Site conditions also will affect the final shape and dimensions of the building.

Among the major shortcomings of many existing health center facilities are inadequate parking space, insufficient room for expansion, and rigidity of structure. Choice of a sufficiently large site will solve the first two problems. Flexibility, which is the capacity of the plan to adapt itself to certain functional changes, must be designed into the building at the start. Changes in community health programs often necessitate alteration of health center space requirements. The use of light demountable partitions will readily permit simple revisions in the arrangement of space to accommodate for such changes. In small health centers flexibility also may be obtained by planning rooms to serve dual purposes, thus varied activities can be carried on in them at different hours.

When several distinct health organizations are housed together, the benefits of such a combination must be obtained without interfering with primary functions. This is achieved most readily in a one-story building by providing complete segregation in separate wings with direct entrances for health center clientele, private physicians' patients, and for staff members. Clinic rooms and physicians' offices are most convenient for patients when located on the ground floor; however, if patient areas are located on upper floors, elevators should be provided.

The traditional type of health center, and that best understood by the general public is illustrated by figure 1. Primarily it houses the health department. In such a building provision is made for discharge of functions common in orthodox public health programs. Work which is essentially administrative in character requires little more than ordinary office space. An activity closely allied with administration is that of popular health instruction. For its performance the health department needs suitable space to display pamphlets, posters, exhibit materials, and films, and for conducting demonstrations. On occasions people need to be assembled in a group, and to accommodate them a small auditorium is essential. Almost without exception health departments operate preventive clinics such as: immunization, maternity and child hygiene, also clinics for the diagnosis and treatment of venereal diseases and tuberculosis. Each of these clinics has its own set of requirements, although considerable interchange of facilities is possible and in the

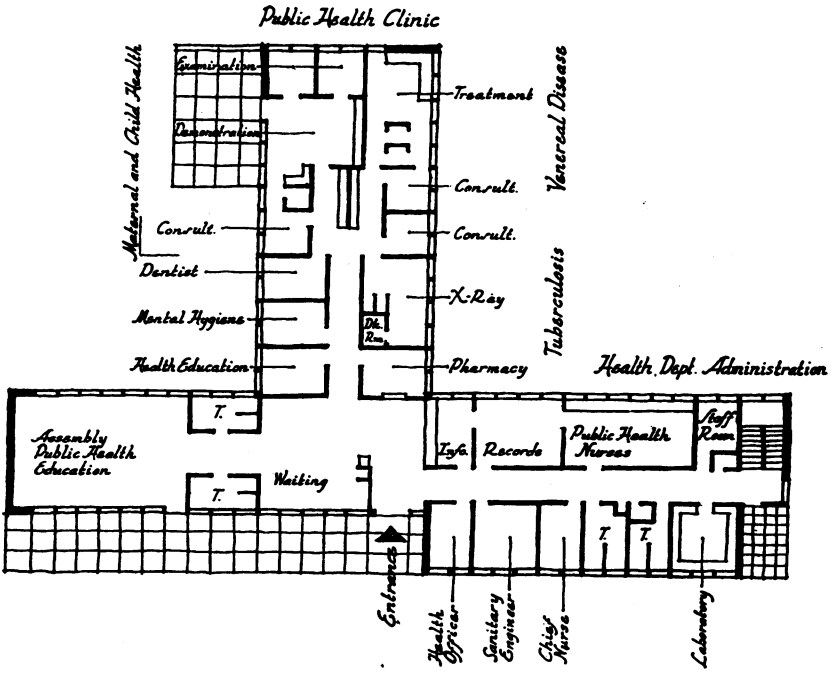

FIGURE 1.—Schematic plan for a health center designed to house the administrative and clinical functions of a small health department.

interest of economy. To complement these clinics and otherwise aid in the program of the health department, the laboratory is maintained. Where the health department has responsibilities in addition to those provided for in the accompanying figures, suitable alteration in building design or space arrangement would be indicated. Likewise the capacity or number of rooms may be increased or decreased depending on size of the population served. As stated previously, clinic and demonstration rooms may be used for a number of related purposes.

In rural sections and in large metropolitan areas it is not always practicable for the health department to conduct all of its operations from the headquarters building. Decentralization can be accomplished by development of neighborhood health centers. These may resemble the headquarters building except for size; likewise some accommodations may be omitted if corresponding services are not provided. On the other hand neighborhood centers can be very simple in design where only limited functions are discharged, but the great need is for extreme localization of effort. Accommodations of this latter type are illustrated in figure 2. Such a rudimentary center, of course, is quite incomplete in its provisions; consequently its usefulness is con-

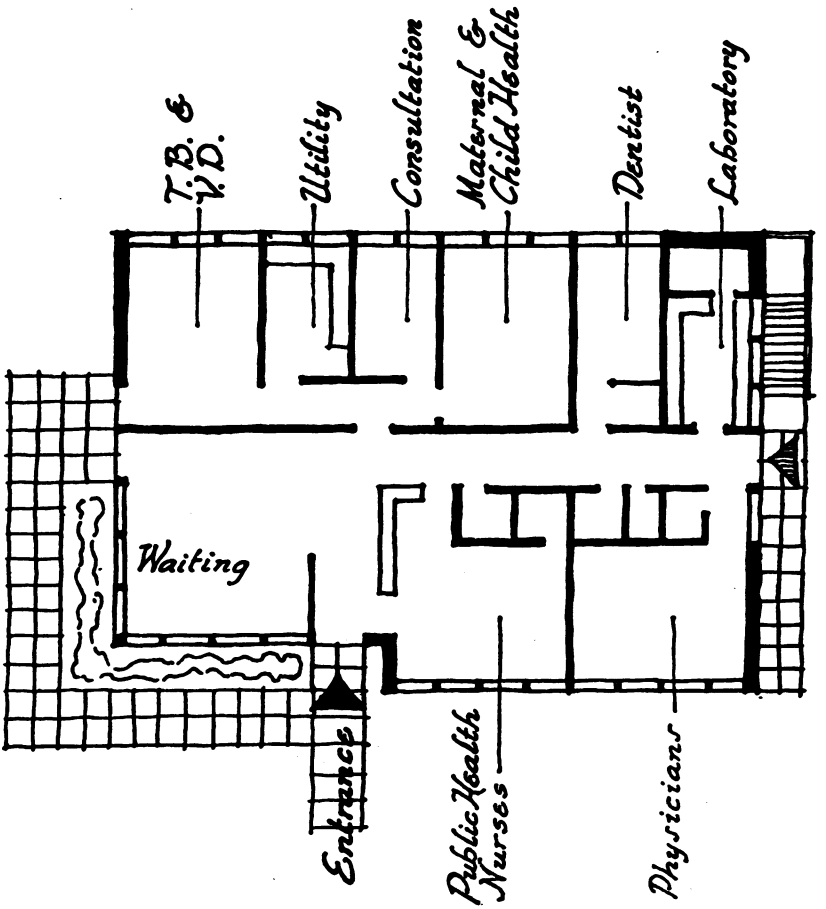

FIGURE 2.—Suggested plan for a neighborhood or rural sub-health center.

tingent in great measure on the existence of additional resources elsewhere which can be drawn upon as occasions demand.

A thought often expressed is that health centers in areas remote from general hospitals might be designed to include a few beds—perhaps eight or ten. Implicit in this idea is their use for ordinary emergencies and obstetrical cases. Irrespective of how inappropriate the facilities actually provided may be, there is likely to develop a strong urge to use them for purposes that should be carried out only in a good general hospital. Proposals for the inclusion of a few beds in outpost health centers therefore should not be adopted without due reflection on the responsibilities entailed. In a word, such responsibilities are little short of those attached to full hospitalization of patients. Quite another matter is the combination of a health center

with a general hospital of size sufficient for efficient operation and suitable staff organization.

In varying degrees joint housing of the hospital and the health department is both practicable and desirable. Where a community maintains only a single small public hospital and a correspondingly small health department, unity of structure, function, and management should be sought. Figure 3 represents a building designed for such an arrangement. In addition to housing the health department and providing service units to be used alike by bed and ambulatory

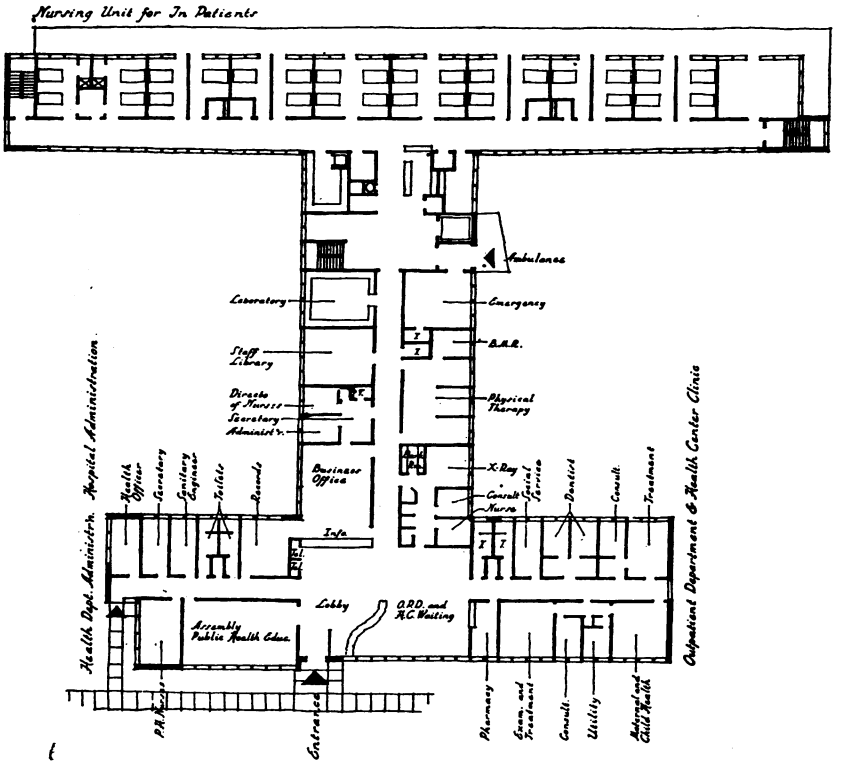

FIGURE 3.—First floor plan of a rural 40-bed hospital and health center with adjunct diagnostic facilities easily accessible to both in-patients and clinic patients.

patients, the building depicted has space for about 40 beds in the hospital section proper. This is believed to be about the minimum bed complement which is compatible with economical operation and a type of staff organization necessary to assure care of acceptable quality.

As a usual thing several hospitals, each operating under separate auspices, will be found in a single health jurisdiction. If the headquarters of the health department were to be accommodated by any one of the hospitals, an additional structure, very likely, would be

required. For reasons of policy, the health officer might not desire intimate association with a particular hospital to the exclusion of others, especially if he does not have administrative responsibility for its operation. A preferable arrangement for the health department is one whereby all hospitals make specified service contributions to the general health programs. Suitable physical accommodations further this scheme, since the essential purpose to be accomplished is making technological resources of hospitals available to the community at large. Units of any hospital particularly involved in such a relationship are radiology, physiotherapy, and laboratory. These units need to be placed so that they are readily accessible to ambulatory patients without causing disturbance to bed patients or otherwise interfering with necessary hospital routines. A point often overlooked is that patients coming to a hospital for service on a visit basis present requirements that differ in many respects from patients who are admitted for bed care. They should not be subjected to the usual admission routines. Their passage through the several diagnostic and treatment units also should be scheduled and expedited. Comfortable waiting space and dressing rooms represent essentials that are often skimped even in new designs. If it is desirable for an existing hospital, designed originally to serve only bed patients, to meet the added requirements of general community service, it may be necessary to concentrate units for use alike by bed and ambulatory patients in a new section constructed especially for the purpose.

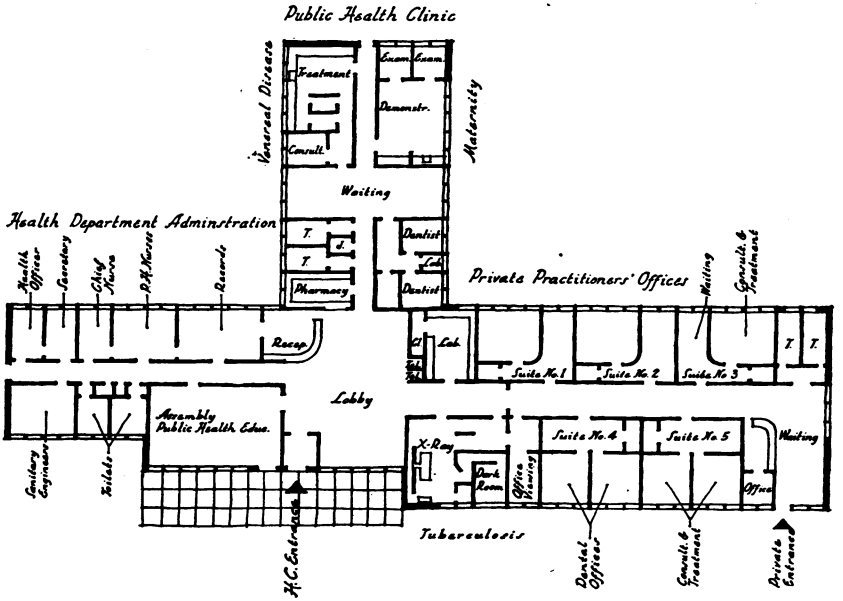

FIGURE 4.—An arrangement whereby private physicians and the health department have joint use of X-ray and laboratory equipment and yet occupy separate sections of the building.

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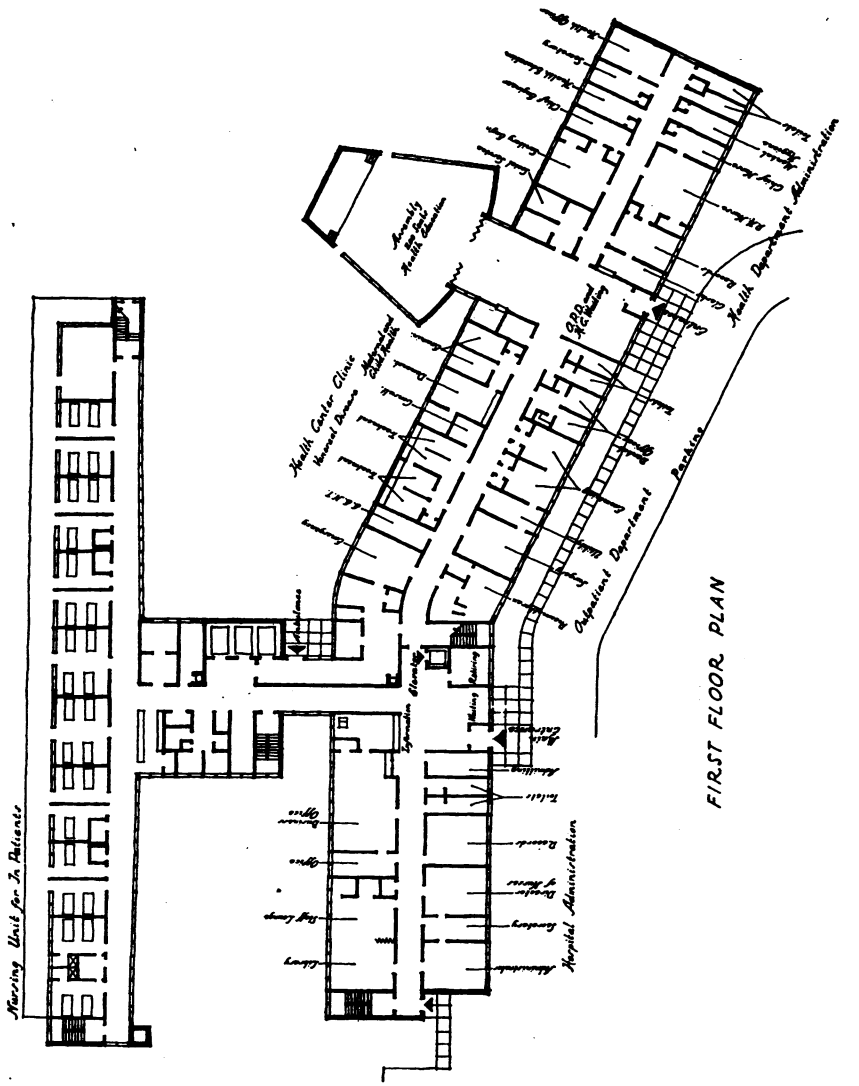
Nursing Unit for In Patients
Health Center Clinic
Hospital Administration
Occupational Department
Health Department Administration
FIRST FLOOR PLAN

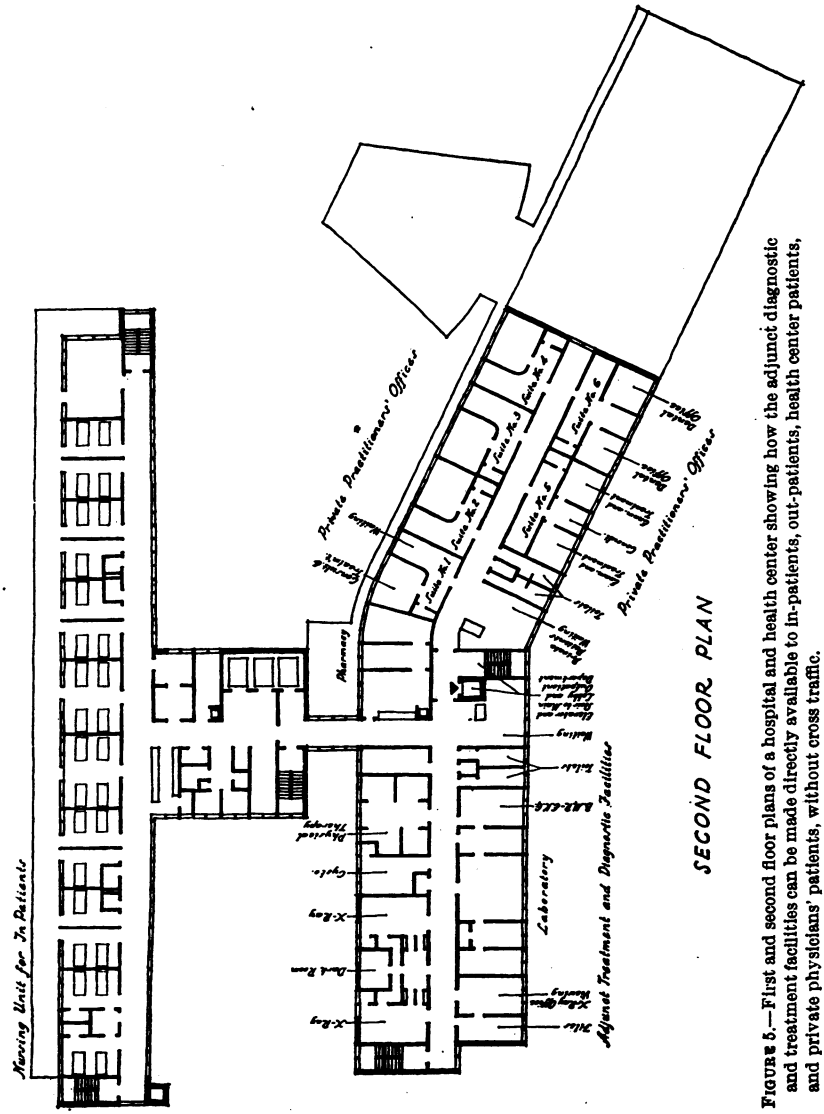

FIGURE 5.—First and second floor plans of a hospital and health center showing how the adjunct diagnostic and treatment facilities can be made directly available to in-patients, out-patients, health center patients, and private physicians' patients, without cross traffic.

Particularly in remote areas, where the establishment of a hospital is not comtemplated at all or within the near future, improvement of both medical practice and public health organization should be promoted by pooling of local personnel and physical equipment. Accomplishment of this end often can be advanced by bringing personnel into that close association which is made possible by joint housing. Such a scheme is depicted in figure 4. Here space is arranged so that health department employees and practicing physicians may work together when occasions so indicate and yet each group occupies distinct sections of the building. The degree to which functions may be separated or, on the other hand, integrated, depends on the desires of occupants and needs of those who apply for service. In any case, combined use of laboratory, radiological, and other types of equipment together with technical personnel involved in their operation, is contemplated.

The fourth basic service plan mentioned earlier contemplates bringing together in physical as well as operating relationship the health department, the hospital, and the practicing physicians. Where the entire population of an area is tributary to a single community hospital, and all local physicians are represented on the staff, this arrangement should present no great difficulty from an administrative standpoint. Structurally the plan may be executed in a single building, especially if an entire new development is contemplated. Figure 5 should aid in visualizing such a unitary type of health center. Its capacity may be altered up or down depending on the size of the population to be served. If the service scheme must take into account a pre-existing hospital, then erecting additional buildings on the same or adjoining sites may be the only feasible arrangement. Even so, the hospital might require essential alterations so as to make selected units readily available for ambulatory patients.

Throughout this discussion emphasis has been placed on structural design with a view to facilitating operating relationships among occupants participating in the services afforded. This consideration, while of primary importance, should not be allowed to overshadow others of equal weight—especially general location and site characteristics. Unless it is necessary to relate new construction to existing buildings, health centers should always be placed so as to assure maximum accessibility to the population served. The site itself should be chosen with a view to beauty as well as utility. Not alone is ample space essential to those ends, but in no other way is it possible to provide for orderly expansion of accommodations.

The several types of plans set out in this paper for implementing a flexible health center concept should not be regarded as rigid from

either a structural or a functional standpoint. They are used more than anything else to illustrate methods by which community resources may be coordinated through the device of appropriate physical facilities. No one of them is specific for any particular locality. As a matter of fact, localities quite similar in most respects may choose different devices. The community should not be unduly critical if the type plan selected originally does not fulfill every expectation. Health organization is now passing through an evolutionary stage, and no person can be certain of its ultimate form. In the final analysis a health center, like any other physical structure, will be no more than an instrument for accomplishing a purpose. First of all, the purpose must be conceived as clearly as possible, and second, those who are responsible for its execution must exercise that degree of patience and persistence which always is required in the conduct of delicate human relationships.

SEROLOGICAL RELATIONSHIPS IN THE EPIDEMIC-ENDEMIC TYPHUS GROUP AS DETERMINED BY COMPLEMENT FIXATION [1]

By IDA A. BENGTSON, *Senior Bacteriologist, United States Public Health Service*

During the course of the recent war, opportunity was afforded to collect a considerable number of strains of epidemic typhus fever in connection with vaccine studies. Also on hand was the Breinl strain which had been maintained by guinea pig passage at the National Institute of Health for a number of years. Three endemic typhus strains were available for study, including the Wilmington strain which had also been maintained in guinea pigs at the National Institute of Health. The strains included in this study of serological relationships in the epidemic-endemic typhus group are the following:

Epidemic Typhus

Breinl strain obtained from Dr. F. Breinl in Prague by Dr. K. F. Maxcy, in 1928.

Strains M 1 and M 4, isolated in the Madrid epidemic of 1941. (Received from Maj. J. C. Snyder, M.C., A.U.S., of the United States of America Typhus Commission.)

Strains MBL and MBB, isolated in the typhus outbreak in Barcelona, Spain, 1941. (Received from Dr. H. Mooser.)

Strain P, isolated from a typical case of exanthematic typhus. (Received from Dr. L. Patino-Camargo of Bogota, Colombia, in February 1942.)

Cairo strain, isolated from a case of epidemic typhus in Cairo, Egypt. (Received from Dr. C. H. Andrews, National Institute for Medical Research, London, England, in 1942.)

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[1] From the Division of Infectious Diseases, National Institute of Health.

Nine strains, obtained in July 1943 through the United States of America Typhus Commission, in the form of frozen guinea pig brains as follows:

Egyptian strains:		
F. H. 2667	Blood isolation	Second passage in guinea pigs.
F. H. 3023	Blood isolation	Third passage in guinea pigs.
F. H. 3930	Blood isolation	Second passage in guinea pigs.
F. H. 3558	Blood isolation	Second passage in guinea pigs.
F. H. 5038	Blood isolation	First passage in guinea pigs.
Nit Raheina (Egypt):		
Zeinab	Louse isolation	Sixth passage in guinea pigs.
Teheran strains:		
Pt. 27	Blood isolation	Fourth passage in guinea pigs.
Pt. 3	Louse isolation	Fourth passage in guinea pigs.
Algiers strain:		
Algiers No. 4	Louse isolation	Second passage in guinea pigs.

Endemic Typhus

Wilmington strain, isolated from a case of endemic typhus fever in Wilmington, N. C., by Dr. K. F. Maxcy, in 1928.

Brigham strain (R2451-15), isolated from wild rats by Dr. George D. Brigham in 1941, at Savannah, Ga.

W. R. strain, isolated from a wild rat by Dr. N. H. Topping in 1941, at Washington, D. C.

All strains were cultivated in the yolk sac of chick embryos and antigens prepared as discussed below. Complement-fixation tests were performed as has been previously described (*1*). Fixation was carried out in the 37° C. water bath for 1 hour, and readings were made the following morning after the test had been kept at cold-room temperature overnight. Two full units of complement were employed in the test.

The serums employed were obtained from recovered guinea pigs used in the maintenance of the various virus strains. The animals were bled from the heart 2 to 3 weeks after fever had subsided. The clear serum without preservative was transferred in 5-cc. amounts to ampules and lyophilized, the dry serum being restored to the original volume with distilled water at the time of use.

Antigens were prepared from infected yolk sacs according to the method of Craigie (*2*) with certain modifications. Ten-percent suspensions of heavily infected yolk sacs were prepared by grinding in a Waring Blendor with 0.85 percent saline containing 0.01 percent merthiolate. After standing overnight the suspension was shaken with an equal volume of diethyl ether in a separatory funnel. The aqueous layer which forms contains both rickettsiae and soluble antigen (*3*), most of the tissue collecting in an interface between the aqueous layer and the clear ether layer above. The aqueous layer was usually relatively clear. Further purification was effected by one or

more additional treatments with ether, depending upon the turbidity, and occasionally by filtration through filter-cel, these processes serving to remove more tissue. The final product was practically water clear and usually showed only a slight tinge of color.

The method employed to determine the serological relationship of the various strains was the following: An epidemic typhus serum (Breinl strain) of moderately high titer was employed in the titration of the various epidemic typhus antigens. A fixed dilution of serum 1:16 was tested against varying dilutions of the antigens. An endemic typhus serum (Wilmington strain) was likewise used in the titration of endemic typhus antigens. The titer or antigenic unit of each antigen was considered to be the highest dilution in which complete fixation occurred. All serums tested were then titrated against a fixed amount of each antigen, which was four times the antigenic unit. In the tests carried out, 10 epidemic typhus antigens and 3 endemic typhus antigens were employed. Twelve epidemic typhus serums and 2 endemic typhus serums were tested. The results of these tests are shown in tables 1 and 2. Table 2 is a continuation of table 1, but in table 2 a greater number of serums were tested against fewer antigens.

TABLE 1.—*Titration of epidemic and endemic typhus serums by complement fixation*

Serum	Antigen	Dilution of antigen	Titer of serums: 1:16	1:32	1:64	1:128	1:256	1:512
Ereinl strain (epidemic typhus).	Endemic typhus T 51 (Wilmington).	1:32	------	4	1	------	------	------
	Endemic typhus T 62 (Wilmington).	1:64	------	4	1	------	------	------
	Endemic typhus T 57 (Brigham).	1:16	------	4	4—	------	------	------
	Endemic typhus T 73 (Brigham).	1:64	------	4	1	------	------	------
	Endemic typhus T 75 (Wild rat).	1:64	------	4	2	------	------	------
	Epidemic typhus ET 171 (Breinl).	1:32	------	------	------	4	1	0
	Epidemic typhus ET 208 (Breinl).	1:128	------	------	------	4	1	0
	Epidemic typhus ET 203 (MBB).	1:64	------	------	------	4	0	0
	Epidemic typhus ET 206 (MBB).	1:128	------	------	------	4	0	0
	Epidemic typhus ET 169 (MBL).	1:4	------	------	------	4	0	0
	Epidemic typhus ET 186 (MBL).	1:16	------	------	------	4	0	0
	Epidemic typhus ET 202 (M1).	1:64	------	------	------	4	1	0
	Epidemic typhus ET 205 (M1).	1:32	------	------	------	4	1	0
	Epidemic typhus ET 189 (M4).	1:128	------	------	------	4	1	0
	Epidemic typhus ET 215 (M4).	1:128	------	------	------	4	0	0
	Epidemic typhus ET 170 (P).	1:8	------	------	------	4	1	0
	Epidemic typhus ET 204 (P).	1:128	------	------	------	4	1	0
	Epidemic typhus ET 185 (Cairo).	1:32	------	------	------	4	Trace	0
	Epidemic typhus ET 196 (Cairo).	1:64	------	------	------	4	Trace	0

TABLE 1.—*Titration of epidemic and endemic typhus serums by complement fixation*—Continued

Serum	Antigen	Dilution of antigen	Titer of serums: 1:16	1:32	1:64	1:128	1:256	1:512
MBL strain (epidemic typhus).	Endemic typhus T 51 (Wilmington).	1:32	4	4	0	-----	-----	-----
	Endemic typhus T 62 (Wilmington).	1:64	4	2	0	-----	-----	-----
	Endemic typhus T 57 (Brigham).	1:16	4	4—	1	-----	-----	-----
	Endemic typhus T 73 (Brigham).	1:64	4	4—	0	-----	-----	-----
	Endemic typhus T 75 (Wild rat).	1:64	4	4—	0	-----	-----	-----
	Epidemic typhus ET 171 (Breinl).	1:32	-----	-----	4	4	1	-----
	Epidemic typhus ET 208 (Breinl).	1:128	-----	-----	4	4	0	-----
	Epidemic typhus ET 203 (MBB).	1:64	-----	-----	4	4	0	-----
	Epidemic typhus ET 206 (MBB).	1:128	-----	-----	4	4	0	-----
	Epidemic typhus ET 169 (MBL).	1:4	-----	-----	4	4	0	-----
	Epidemic typhus ET 186 (MBL).	1:16	-----	-----	4	4	0	-----
	Epidemic typhus ET 201 (M1)	1:64	-----	-----	4	4	Trace	-----
	Epidemic typhus ET 205 (M1)	1:32	-----	-----	4	4	1	-----
	Epidemic typhus ET 189 (M4)	1:128	-----	-----	4	4	1	-----
	Epidemic typhus ET 215 (M4)	1:128	-----	-----	4	4—	0	-----
	Epidemic typhus ET 170 (P)	1:8	-----	-----	4	4	Trace	-----
	Epidemic typhus ET 204 (P)	1:128	-----	-----	4	4	0	-----
	Epidemic typhus ET 185 (Cairo).	1:32	-----	-----	4	4	0	-----
	Epidemic typhus ET 196 (Cairo).	1:64	-----	-----	4	4—	0	-----
MBB strain (epidemic typhus).	Endemic typhus T 51 (Wilmington).	1:32	4	4	0	-----	-----	-----
	Endemic typhus T 62 (Wilmington).	1:64	4	2	0	-----	-----	-----
	Endemic typhus T 57 (Brigham).	1:16	4	4	Trace	-----	-----	-----
	Endemic typhus T 73 (Brigham.)	1:64	4	4—	Trace	-----	-----	-----
	Endemic typhus T 75 (Wild rat).	1:64	4	4—	0	-----	-----	-----
	Epidemic typhus ET 171 (Breinl).	1:32	-----	-----	4	4	Trace	-----
	Epidemic typhus ET 208 (Breinl).	1:128	-----	-----	4	4	0	-----
	Epidemic typhus ET 203 (MBB).	1:64	-----	-----	4	4	0	-----
	Epidemic typhus ET 206 (MBB).	1:128	-----	-----	4	4	0	-----
	Epidemic typhus ET 169 (MBL).	1:4	-----	-----	4	4	0	-----
	Epidemic typhus ET 186 (MBL).	1:16	-----	-----	4	4	0	-----
	Epidemic typhus ET 202 (M1)	1:64	-----	-----	4	4	Trace	-----
	Epidemic typhus ET 205 (M1)	1:32	-----	-----	4	4	1	-----
	Epidemic typhus ET 189 (M4)	1:128	-----	-----	4	4	1	-----
	Epidemic typhus ET 215 (M4)	1:128	-----	-----	4	4—	0	-----
	Epidemic typhus ET 170 (P)	1:8	-----	-----	4	4	Trace	-----
	Epidemic typhus ET 204 (P)	1:128	-----	-----	4	4	0	-----
	Epidemic typhus ET 185 (Cairo).	1:32	-----	-----	4	4	0	-----
	Epidemic typhus ET 196 (Cairo).	1:64	-----	-----	4	4—	0	-----

TABLE 1.—*Titration of epidemic and endemic typhus serums by complement fixation*—Continued

Serum	Antigen	Dilution of antigen	Titer of serums: 1:16	1:32	1:64	1:128	1:256	1:512
Brigham strain (endemic typhus).	Endemic typhus T 51 (Wilmington).	1:32	------	------	------	4	Trace	------
	Endemic typhus T 62 (Wilmington).	1:64	------	------	------	4	1	------
	Endemic typhus T 57 (Brigham).	1:16	------	------	------	4	1	------
	Endemic typhus T 73 (Brigham).	1:64	------	------	------	4	1	------
	Endemic typhus T 75 (Wild rat).	1:64	------	------	------	4	3	------
	Epidemic typhus ET 171 (Breinl).	1:32	------	4	4	1	------	------
	Epidemic typhus ET 208 (Breinl).	1:128	------	4	4—	1	------	------
	Epidemic typhus ET 203 (MBB).	1:64	------	4	4	0	------	------
	Epidemic typhus ET 206 (MBB).	1:128	------	4	2	0	------	------
	Epidemic typhus ET 169 (MBL).	1:4	------	4	4	0	------	------
	Epidemic typhus ET 186 (MBL).	1:16	------	4	4	0	------	------
	Epidemic typhus ET 201 (M1)	1:64	------	4	4	0	------	------
	Epidemic typhus ET 205 (M1)	1:32	------	4	4	0	------	------
	Epidemic typhus ET 189 (M4)	1:128	------	4	4—	0	------	------
	Epidemic typhus ET 215 (M4)	1:128	------	4	1	0	------	------
	Epidemic typhus ET 170 (P)	1:8	------	4	4	0	------	------
	Epidemic typhus ET 204 (P)	1:128	------	4	3	0	------	------
	Epidemic typhus ET 185 (Cairo).	1:32	------	4	4	0	------	------
	Epidemic typhus ET 196 (Cairo).	1:64	------	4	3	0	------	------
Wilmington strain (endemic typhus).	Endemic typhus T 51 (Wilmington).	1:32	------	------	------	4	4	0
	Endemic typhus T 62 (Wilmington).	1:64	------	------	------	4	4—	0
	Endemic typhus T 57 (Brigham).	1:16	------	------	------	4	4	Trace
	Endemic typhus T 73 (Brigjahm).	1:64	------	------	------	4	4	1
	Endemic typhus T 75 (Wild rat).	1:32	------	------	------	4	3	0
	Epidemic typhus ET 171 (Breinl).	1:32	------	------	4	1	Trace	------
	Epidemic typhus ET 208 (Breinl).	1:128	------	------	4	3	0	------
	Epidemic typhus ET 203 (MBB).	1:64	------	------	4	4	0	------
	Epidemict yphus ET 206 (MBB).	1:128	------	------	4	1	0	------
	Epidemic typhus ET 169 (MBL).	1:4	------	------	4	4	0	------
	Epidemic typhus ET 186 (MBL).	1:16	------	------	4	1	0	------
	Epidemic typhus ET 201 (M1)	1:64	------	------	4	4—	0	------
	Epidemic typhus ET 205 (M1)	1:32	------	------	4	4	Trace	------
	Epidemic typhus ET 189 (M4)	1:128	------	------	4	2	0	------
	Epidemic typhus ET 215 (M4)	1:128	------	------	4	Trace	0	------
	Epidemic typhus ET 170 (P)	1:8	------	------	4	4	1	------
	Epidemic typhus ET 204 (P)	1:128	------	------	4	1	0	------
	Epidemic typhus ET 185 (Cairo).	1:32	------	------	4	4	0	------
	Epidemic typhus ET 196 (Cairo).	1:64	------	------	4	1	0	------

TABLE 2.—*Titration of epidemic typhus serums by complement fixation*

Serum	Antigen	Dilution of antigen	Titer of serum: 1:16	1:32	1:64	1:128	1:256	1:512	1:1,024
F. H. 5038 strain (epidemic typhus).	Endemic typhus T 94 (Wilmington).	1:64	-----	4	4	Trace	-----	-----	-----
	Epidemic typhus ET 283 (Breinl).	1:32	-----	-----	-----	-----	-----	4	4
	Epidemic typhus ET 218 (Zeinab).	1:16	-----	-----	-----	-----	-----	4	2
	Epidemic typhus ET 219 (F. H. 2667).	1:128	-----	-----	-----	-----	-----	4	4
	Epidemic typhus ET 220 (F. H. 5038).	1:128	-----	-----	-----	-----	-----	4	0
F. H. 2667 strain (epidemic typhus).	Endemic typhus T 94	1:64	4	4	1	-----	-----	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	2	0
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	4	0
	Epidemic typhus ET 219	1:128	-----	-----	-----	-----	4	4	0
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	2	0
F. H. 3930 strain (epidemic typhus).	Endemic typhus T 94	1:64	-----	-----	4	2	1	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	1	0
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	4	Trace
	Epidemic typhus ET 219	1:128	-----	-----	-----	-----	4	4	Trace
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	1	0
F. H. 3023 strain (epidemic typhus).	Endemic typhus T 94	1:64	-----	-----	4	1	Trace	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	4	0
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	4	Trace
	Epidemic typhus ET 219	1:128	-----	-----	-----	-----	4	4	3
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	2	Trace
F. H. 3558 strain (epidemic typhus).	Endemic typhus T 94	1:64	-----	4	Trace	0	-----	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	1	0
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	3	0
	Epidemic typhus ET 219	1:128	-----	-----	-----	-----	4	2	0
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	1	0
Algiers No. 4 strain (epidemic typhus).	Endemic typhus T 94	1:64	-----	4	Trace	0	-----	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	1	0
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	3	Trace
	Epidemic typhus ET 219	1:128	-----	-----	-----	-----	4	4	Trace
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	2	0
Teheran Pt. 3 strain (epidemic typhus).	Endemic typhus T 94	1:64	-----	4	4	0	-----	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	4	1
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	4	4
	Epidemic typhus ET 219	1:128	-----	-----	-----	-----	4	4	4
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	4	Trace
Teheran Pt. 27 strain (epidemic typhus).	Endemic typhus T 94	1:64	-----	4	2	0	-----	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	-----	-----	4	4	Trace
	Epidemic typhus ET 218	1:16	-----	-----	-----	-----	4	3	Trace
	Epidemic thypus ET 219	1:128	-----	-----	-----	-----	4	4	1
	Epidemic typhus ET 220	1:128	-----	-----	-----	-----	4	4—	0
Zeinab strain (epidemic typhus).	Endemic typhus T 94	1:64	4	Trace	0	-----	-----	-----	-----
	Epidemic typhus ET 283	1:32	-----	-----	4	1	0	-----	-----
	Epidemic typhus ET 218	1:16	-----	-----	4	1	0	-----	-----
	Epidemic typhus ET 219	1:128	-----	-----	4	3	0	-----	-----
	Epidemic typhus ET 220	1:128	-----	-----	4	1	0	-----	-----

DISCUSSION

Complement-fixation results show very marked uniformity among all the epidemic typhus strains and likewise among the endemic typhus strains tested. This confirms earlier work on three strains of epidemic typhus and one strain of endemic typhus (*4*). The titer of the Breinl serum in table 1 was uniformly 1:128 against the epidemic typhus antigens prepared from seven different strains of epidemic

typhus. The titer of this serum was 1:32 against three strains of endemic typhus except in the case of one antigen (T57) in which nearly complete fixation was obtained in the dilution 1:64. Similar results are evident with the MBL and MBB serums. The Brigham endemic typhus serum had a titer of 1:128 against three endemic typhus antigens and titers of 1:32 and 1:64 against all epidemic typhus strains. The Wilmington serum had a titer of 1:256 against the endemic typhus strains and 1:64 or 1:128 against epidemic typhus strains. In table 2, nine epidemic typhus serums were tested against four epidemic typhus antigens and one endemic typhus antigen. With a few exceptions, uniform results were obtained in the titration of each serum against the different epidemic typhus antigens. The titer against the endemic typhus antigen was two or three dilutions lower.

The results obtained point to serological similiarity among the 17 strains of epidemic typhus, and also among the 3 strains of endemic typhuss tudied. Epidemic typhus guinea pig serums fixed complement in two or more twofold dilutions higher against epidemic typhus antigens than against endemic typhus antigens. Endemic typhus guinea pig serums fixed complement in one and sometimes two twofold dilutions higher against endemic typhus than against epidemic typhus antigens.

SUMMARY

In a serological study of 16 strains of epidemic typhus and 3 strains of endemic typhus by complement-fixation tests, in which titrations of guinea pig immune serums were made against suitable predetermined dilutions of antigen, it has been shown that serological homogeneity exists among all of the epidemic typhus strains and also among the 3 endemic typhus strains tested. Though a common antigenic factor is present, differentiation between epidemic and endemic typhus is indicated by higher titers against the homologous strain than against the heterologous strain.

REFERENCES

(*1*) Bengtson, Ida A.: Complement fixation in the rickettsial diseases: Technique of the test. Pub. Health Rep., **59**: 402–405 (1944).

(*2*) Craigie, James.: Application and control of ethyl ether-water interface effects to the separation of rickettsiae from yolk sac suspensions. Confidential communication to National Institute of Health. (Feb. 10, 1942.)

(*3*) Topping, N. H., and Shear, M. J.: Studies of antigens in infected yolk sacs. Pub. Health Rep., **59**: 1671–1675 (1944).

(*4*) Topping, N. H.; Bengtson, Ida A.; and Henderson, R. G.: Epidemic typhus fever: A study of the antigenicity of various strains of typhus virus. Nat. Inst. of Health. Bull. No. 183: Govt. Print. Off., 1945, pp. 57–64.

CHANGES IN STATE AND TERRITORIAL HEALTH AUTHORITIES

Change No. 1 to Directory of State and Territorial Health Authorities (Supplement No. 180 to the Public Health Reports—1945 Revision)

Listed below are all changes of which notice has been received since the compilation of the 1945 revision. Further changes will be published monthly, as received. The editor will appreciate notification of any changes not listed herein, as well as of those which occur in the future.

Arizona State Department of Health

Tuberculosis control:
A. B. Kurlander, M. D., director
Division of Tuberculosis Control.

Louisiana State Department of Health

Administration, general:
Waldo Louis Treuting, M. D., M. P. H., State health officer.

Massachusetts Department of Public Health

Communicable disease control, general:
Roy F. Feemster, M. D., D. P. H., director
Division of Communicable Diseases.
Crippled children's services:
Otto C. Yens, M. D., supervisor, crippled children's clinics
Division of Maternal and Child Health.
Laboratory services:
Bacteriological laboratories—
Roy F. Feemster, M. D., D. P. H., director
Division of Communicable Diseases.
Local health administration:
John J. Poutas, M. D., M. P. H., director
Division of Local Health Administration.

Nevada State Department of Health

Administration, general:
Fred S. Loe, M. D., State health officer.

New York State Department of Health

Administration, general:
Personnel administration—
Richard Mattox, senior personnel administrator.
Venereal disease control:
William A. Brumfield, director
Division of Syphilis Control.

Pennsylvania State Department of Health

Communicable disease control, general:
Ira C. Miller, M. D., acting chief
Division of Epidemiology.
Crippled children's services:
W. C. Edwards, chief
Division of Crippled Children.
Laboratory services:
Claude P. Brown, M. D., chief
Division of Laboratories.
Tuberculosis control:
Dale C. Stahle, M. D., acting director
Bureau of Tuberculosis Control.

DEATHS DURING WEEK ENDED AUG. 24, 1946

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended Aug. 24, 1946	Corresponding week, 1945
Data for 93 large cities of the United States:		
Total deaths	8,091	8,557
Average for 3 prior years	7,963	
Total deaths, first 34 weeks of year	313,148	308,436
Deaths under 1 year of age	777	617
Average for 3 prior years	628	
Deaths under 1 year of age, first 34 weeks of year	21,585	20,573
Data from industrial insurance companies:		
Policies in force	66,986,013	67,388,970
Number of death claims	9,925	12,857
Death claims per 1,000 policies in force, annual rate	7.7	9.9
Death claims per 1,000 policies, first 34 weeks of year, annual rate	9.8	10.4

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 AUGUST 31, 1946

Summary

For the second consecutive week a slight decrease was recorded in the incidence of poliomyelitis. A total of 1,780 cases was reported, as compared with 1,806 last week, 1,814 for the next earlier week, 1,682 for the corresponding week in 1944, and a 5-year (1941–45) median of 917. Increases were reported in the East North Central area (422 to 542), Mountain area (126 to 131), and Pacific area (238 to 261). Reporting 5 or more cases currently, 17 States showed an increase (752 to 979), while 22 States reported a decrease (1,024 to 772). Virginia and New Mexico reported the same numbers for both weeks (5 and 11 respectively). The 28 States reporting currently 14 or more cases are as follows (last week's figures in parentheses): *Increases*—Massachusetts 18 (17), New Jersey 21 (16), Indiana 27 (20), Illinois 201 (183), Michigan 87 (76), Wisconsin 184 (95), North Dakota 74 (40), Nebraska 51 (29), Alabama 24 (21), Oklahoma 14 (13), Idaho 14 (12), Oregon 15 (12), California 218 (195); *decreases*—New York 89 (105), Pennsylvania 14 (16), Ohio 43 (48), Minnesota 208 (263), Iowa 24 (43), Missouri 63 (95), South Dakota 22 (74), Kansas 48 (60), Tennessee 18 (19), Mississippi 20 (22), Arkansas 23 (35), Louisiana 16 (21), Texas 23 (34), Colorado 77 (78), Washington 28 (31).

The cumulative total is 12,429, as compared with 9,474 for the same period in 1944 and a 5-year median of 5,886.

Of the total of 193 cases of diphtheria (as compared with 239 last week and a 5-year median of 245), California reported 14, Maryland 13, New York, Texas, and Washington 11 each, and Mississippi 10. The cumulative total is 10,334, as compared with 8,894 for the same period last year and a 5-year median of 7,871.

Of 28 cases of Rocky Mountain spotted fever reported for the week (last week 32 and a 5-year median 14) 24 occurred east of the Mississippi River, 15 in South Atlantic States. The total to date is 476, as compared with 386 for the same period last year and a 5-year median of 389.

A total of 7,918 deaths was recorded for the week in 93 large cities of the United States, as compared with 8,091 last week, 8,549 and 7,610, respectively, for the corresponding weeks in 1945 and 1944, and a 3-year (1943–45) average of 8,032. The total to date is 321,066, as compared with 316,985 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended Aug. 31, 1946, and comparison with corresponding week of 1945 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1941–45	Week ended—		Median 1941–45	Week ended—		Median 1941–45	Week ended—		Median 1941–45
	Aug. 31, 1946	Sept. 1, 1945		Aug. 31, 1946	Sept. 1, 1945		Aug. 31, 1946	Sept. 1, 1945		Aug. 31, 1946	Sept. 1, 1945	
NEW ENGLAND												
Maine	2	0	0	-	-	-	7	1	11	1	0	0
New Hampshire	0	0	0	-	-	-	1	-	-	0	0	0
Vermont	1	0	0	-	-	-	15	14	4	0	0	0
Massachusetts	6	3	1	-	-	-	35	46	38	1	2	2
Rhode Island	0	0	0	1	-	-	12	-	3	0	0	0
Connecticut	1	0	0	-	-	-	16	11	11	0	3	3
MIDDLE ATLANTIC												
New York	11	13	10	[1] 15	[1] 2	[1] 2	73	24	50	4	2	8
New Jersey	5	2	2	1	-	2	29	12	12	1	3	1
Pennsylvania	7	10	7	-	3	1	49	27	27	2	12	11
EAST NORTH CENTRAL												
Ohio	4	4	4	-	-	5	58	7	24	5	2	2
Indiana	2	4	8	-	3	3	1	2	2	0	1	1
Illinois	7	1	5	-	1	2	14	128	10	1	3	3
Michigan [2]	6	7	6	-	-	1	28	24	16	2	5	5
Wisconsin	3	3	2	11	13	11	51	17	43	0	1	1
WEST NORTH CENTRAL												
Minnesota	7	7	2	-	-	-	5	2	3	0	1	1
Iowa	1	3	2	-	-	-	4	-	3	3	0	0
Missouri	3	2	2	-	2	1	1	3	4	3	0	3
North Dakota	2	0	1	-	8	5	1	1	3	1	0	0
South Dakota	1	3	3	-	-	-	-	2	3	0	0	0
Nebraska	2	0	1	-	1	-	4	1	1	1	0	0
Kansas	6	8	5	3	-	-	3	13	8	0	1	1
SOUTH ATLANTIC												
Delaware	0	0	0	-	-	-	1	3	-	1	0	0
Maryland [2]	13	6	3	4	-	1	33	3	9	4	0	0
District of Columbia	0	0	0	-	-	-	2	-	1	4	0	0
Virginia	4	5	5	82	83	30	7	4	4	1	0	1
West Virginia	2	8	5	-	-	-	3	-	2	0	1	2
North Carolina	9	34	32	-	-	-	15	4	10	2	1	2
South Carolina	1	10	10	86	143	64	7	4	4	0	2	1
Georgia	3	9	12	-	2	18	4	1	7	0	0	0
Florida	4	6	6	-	2	3	4	1	4	1	2	2
EAST SOUTH CENTRAL												
Kentucky	6	7	7	-	-	1	1	4	4	0	1	1
Tennessee	6	8	8	106	5	5	6	5	3	2	2	1
Alabama	8	18	18	13	1	12	7	-	5	3	1	1
Mississippi [2]	10	13	11	-	-	-	-	-	-	0	0	0
WEST SOUTH CENTRAL												
Arkansas	8	11	7	4	47	2	-	7	6	1	2	1
Louisiana	2	4	2	-	5	1	-	1	1	0	0	1
Oklahoma	0	5	5	1	3	6	2	5	5	0	0	0
Texas	11	41	20	254	285	226	29	22	28	4	4	2
MOUNTAIN												
Montana	0	2	2	-	3	-	14	24	10	0	0	0
Idaho	1	3	0	12	6	-	3	20	3	0	0	0
Wyoming	1	0	0	-	-	-	5	1	1	0	0	0
Colorado	1	1	3	1	4	11	5	5	5	1	2	0
New Mexico	0	2	1	2	2	-	1	2	2	0	0	0
Arizona	1	2	1	17	12	28	9	-	4	1	0	0
Utah [2]	0	0	0	-	-	1	64	43	7	0	0	0
Nevada	0	0	0	-	-	-	-	-	-	0	0	0
PACIFIC												
Washington	11	2	2	-	-	-	2	30	30	0	2	2
Oregon	0	2	1	-	3	3	11	9	16	0	1	1
California	14	15	15	4	10	16	64	129	90	6	4	4
Total	193	284	245	617	649	524	706	662	668	56	61	61
35 weeks	10,334	8,894	7,871	193,041	72,310	82,813	640,085	102,559	539,146	4,568	6,329	6,329

[1] New York City only.
[2] Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended Aug. 31, 1946, and comparison with corresponding week of 1945 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [2]		
	Week ended—		Median, 1941–45	Week ended—		Median, 1941–45	Week ended—		Median, 1941–45	Week ended—		Median, 1941–45
	Aug. 31, 1946	Sept. 1, 1945		Aug. 31, 1946	Sept. 1, 1945		Aug. 31, 1946	Sept. 1, 1945		Aug. 31, 1946	Sep. 1, 1945	
NEW ENGLAND												
Maine	4	3	1	10	5	5	0	0	0	0	1	1
New Hampshire	7	3	2	0	9	2	0	0	0	1	0	0
Vermont	0	5	3	3	0	1	0	0	0	0	0	0
Massachusetts	18	32	21	11	29	47	0	0	0	12	38	3
Rhode Island	5	0	1	0	2	3	0	0	0	0	2	1
Connecticut	3	20	20	3	7	8	0	0	0	2	2	2
MIDDLE ATLANTIC												
New York	89	138	69	72	73	62	0	0	0	20	10	13
New Jersey	21	96	29	21	18	18	0	0	0	5	5	4
Pennsylvania	14	61	61	22	41	41	0	0	0	9	11	18
EAST NORTH CENTRAL												
Ohio	43	33	33	57	44	50	0	1	0	7	6	13
Indiana	27	22	7	9	11	11	0	0	0	1	3	3
Illinois	201	94	37	32	37	37	0	0	0	2	2	6
Michigan [3]	87	13	18	26	32	31	0	0	0	3	3	6
Wisconsin	184	15	15	17	47	35	0	0	0	0	0	1
WEST NORTH CENTRAL												
Minnesota	208	9	11	11	15	15	0	0	0	0	0	0
Iowa	24	31	7	10	5	7	0	0	0	2	2	2
Missouri	63	29	11	6	14	11	0	0	0	1	4	9
North Dakota	74	0	1	0	10	2	0	1	0	0	0	0
South Dakota	22	4	1	1	2	9	0	0	0	0	1	1
Nebraska	51	9	7	3	2	3	0	0	0	0	0	0
Kansas	48	15	8	2	30	23	0	0	0	1	1	4
SOUTH ATLANTIC												
Delaware	1	4	3	1	2	2	0	0	0	0	1	0
Maryland [2]	10	3	3	18	9	9	0	0	0	1	2	2
District of Columbia	4	8	8	2	0	2	0	0	0	3	1	1
Virginia	8	32	5	4	17	8	0	0	0	1	3	5
West Virginia	5	1	2	18	23	23	0	0	0	1	8	8
North Carolina	5	10	10	11	38	27	0	0	0	1	1	7
South Carolina	0	12	4	1	6	4	0	0	0	0	6	4
Georgia	8	6	6	7	7	7	0	1	0	3	7	7
Florida	10	4	2	2	3	2	0	0	0	3	2	2
EAST SOUTH CENTRAL												
Kentucky	6	2	10	2	22	17	0	0	0	2	7	8
Tennessee	18	23	5	8	29	19	0	0	0	1	12	12
Alabama	24	2	2	5	7	11	0	0	0	1	3	5
Mississippi [2]	20	3	3	4	8	7	0	0	0	3	1	5
WEST SOUTH CENTRAL												
Arkansas	23	4	3	1		3	0	0	0	3	2	7
Louisiana	16	7	1	18	1	1	0	0	0	2	3	4
Oklahoma	14	16	2	2	4	4	0	0	0	0	2	5
Texas	23	33	8	18	43	18	0	0	0	8	17	17
MOUNTAIN												
Montana	9	0	2	3	6	6	0	0	0	2	4	1
Idaho	2	3	1	1	3	3	0	0	0	2	1	1
Wyoming	14	2	0	0	3	1	0	0	0	1	0	0
Colorado	77	15	5	5	10	10	0	0	0	1	4	0
New Mexico	11	0	1	1	2	3	0	0	0	0	3	2
Arizona	7	1	1	3	2	1	0	0	0	3	3	3
Utah [2]	11	34	3	11	0	2	0	0	0	0	0	0
Nevada	0	0	0	2	0	0	0	0	0	0	0	0
PACIFIC												
Washington	28	22	12	14	15	14	0	0	0	3	2	2
Oregon	15	5	5	3	8	7	0	0	0	2	0	1
California	218	33	12	46	81	58	0	0	0	10	7	2
Total	1,780	917	917	527	782	683	0	3	3	123	193	193
35 weeks	*12,429	6,156	5,886	87,912	136,195	99,317	279	273	616	2,785	3,111	3,655

[2] Period ended earlier than Saturday.

[3] Including paratyphoid fever reported separately, as follows: Massachusetts (salmonella infection) 12; New York 4; New Jersey 2; Indiana 1; Illinois 1; Michigan 1; Virginia 1; Georgia 1; Florida 1; Texas 2: California 4.

*Correction: North Carolina, poliomyelitis, week ended July 27, 1 case (instead of 2).

Telegraphic morbidity reports from State health officers for the week ended Aug. 31, 1946, and comparison with corresponding week of 1945 and 5-year median—Con.

Division and State	Whooping cough			Week ended Aug. 31, 1946							
	Week ended—		Median 1941–45	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever, endemic	Undulant fever
	Aug. 31, 1946	Sept. 1, 1945		Amebic	Bacillary	Unspecified					
NEW ENGLAND											
Maine	1	16	19								
New Hampshire		2	1								1
Vermont	23	14	16								1
Massachusetts	108	131	110					1			
Rhode Island	12	18	10								
Connecticut	23	45	38	1							2
MIDDLE ATLANTIC											
New York	134	293	293	22	4						7
New Jersey	123	138	127	1		1		1			3
Pennsylvania	96	135	135		1						
EAST NORTH CENTRAL											
Ohio	87	141	141	1		1		1			4
Indiana	26	9	17				3	1	1		5
Illinois	146	70	156	5	1		1	1			9
Michigan [2]	249	142	221		3						
Wisconsin	295	51	208	1							8
WEST NORTH CENTRAL											
Minnesota	1	7	41	3							5
Iowa	41	10	11	3							1
Missouri	13	17	13					1	1		
North Dakota	1	4	13			3	5				
South Dakota		6	4								
Nebraska	1	2	3								
Kansas	20	50	38								3
SOUTH ATLANTIC											
Delaware	7	1	1								
Maryland [2]	43	45	55				1	1			3
District of Columbia	20	8	10								
Virginia	37	23	23			54		6	2		1
West Virginia	34	23	17					3			
North Carolina	43	147	100		1			2		2	2
South Carolina	14	62	61		4			1			
Georgia	2	21	19	2	2			2		19	2
Florida	33	3	19						1	11	
EAST SOUTH CENTRAL											
Kentucky	13	36	36	1							
Tennessee	23	28	27		3			3	1	3	2
Alabama	16	3	16	3			1			15	4
Mississippi [2]									1		7
WEST SOUTH CENTRAL											
Arkansas	1	10	10							2	1
Louisiana		1	1							1	1
Oklahoma	1	20	7		1		1	3			
Texas	138	125	139	18	175	25			1	25	10
MOUNTAIN											
Montana	3	2	17								
Idaho	6	1	1						1		2
Wyoming		5	5								
Colorado	11	33	33	1							
New Mexico	19	9	8		5	6					1
Arizona	4	4	7			15	1				6
Utah [2]	8	35	35				1				1
Nevada											
PACIFIC											
Washington	26	36	36								3
Oregon	8	12	19					1			
California	60	130	130	2	2		4				2
Total	1,970	2,124	2,536	64	202	105	18	28	9	78	97
Same week, 1945	2,124			45	563	340	35	14	13	151	72
Average, 1943–45	2,117			38	542	270	34	[4] 14	10	[4] 128	
35 weeks: 1946	68,302			1,995	11,756	4,742	425	476	647	2,296	3,445
1945	88,869			1,274	17,223	6,983	337	386	539	3,050	3,253
Average, 1943–45	97,649		[4]128,043	1,296	14,493	5,951	418	[4] 389	517	[4]2,469	

[2] Period ended earlier than Saturday.
[4] 5-year median, 1941–45.

WEEKLY REPORTS FROM CITIES

City reports for week ended Aug. 24, 1946

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	3	0	0	1	1	0	0	------
New Hampshire:												
Concord	0	0	------	0	------	0	0	1	0	0	0	------
Vermont:												
Barre	0	0	------	0	------	0	0	0	0	0	0	------
Massachusetts:												
Boston	1	0	------	0	17	0	9	8	11	0	1	21
Fall River	0	0	------	0	------	0	0	0	2	0	0	------
Springfield	0	0	------	0	2	0	0	2	0	0	0	9
Worcester	0	0	------	0	4	0	5	6	1	0	0	33
Rhode Island:												
Providence	1	0	------	0	10	0	0	0	3	0	0	35
Connecticut:												
Hartford	0	0	------	0	6	0	0	0	0	0	0	3
New Haven	0	0	------	0	1	0	0	1	1	0	0	------
MIDDLE ATLANTIC												
New York:												
Buffalo	1	0	------	0	1	0	2	1	3	0	1	5
New York	8	3	3	1	19	2	27	50	11	0	15	45
Rochester	0	0	------	0	------	0	0	1	0	0	0	------
Syracuse	0	0	------	0	------	0	1	6	1	0	0	1
New Jersey:												
Camden	0	0	------	0	1	0	1	2	0	0	0	2
Newark	0	0	------	0	4	0	2	1	4	0	1	29
Trenton	0	0	------	0	------	0	0	1	0	0	0	1
Pennsylvania:												
Philadelphia	0	0	1	0	3	1	6	3	5	0	1	33
Pittsburgh	0	0	------	0	3	0	5	3	1	0	0	5
Reading	0	0	------	0	1	0	1	0	0	0	1	3
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	1	0	------	0	1	0	0	7	5	0	0	2
Cleveland	0	0	1	0	35	3	3	24	6	0	0	8
Columbus	1	0	------	0	1	0	1	0	2	0	0	7
Indiana:												
Fort Wayne	0	0	------	0	------	0	0	0	0	0	0	------
Indianapolis	0	1	------	0	1	0	1	3	2	0	1	4
South Bend	0	0	------	0	------	0	0	0	0	0	0	------
Terre Haute	0	0	------	0	------	0	0	0	0	0	0	------
Illinois:												
Chicago	0	0	------	0	3	1	16	64	11	0	0	89
Springfield	0	0	------	0	------	0	1	11	1	0	0	5
Michigan:												
Detroit	6	0	------	0	8	0	8	29	8	0	2	69
Flint	0	0	------	0	------	0	1	1	0	0	0	9
Grand Rapids	0	0	------	0	1	0	0	4	1	0	1	3
Wisconsin:												
Kenosha	0	0	------	0	------	0	0	22	1	0	0	4
Milwaukee	1	0	------	0	2	0	1	14	3	0	0	92
Racine	0	0	------	0	------	0	0	2	0	0	0	6
Superior	1	0	------	0	3	0	0	4	0	0	0	5
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	------	0	1	14	1	0	0	------
Minneapolis	1	0	------	0	1	0	2	68	2	0	0	2
St. Paul	2	0	------	0	1	0	1	26	2	0	0	5
Missouri:												
Kansas City	0	0	------	0	------	0	4	12	2	0	0	17
St. Joseph	0	0	------	0	------	0	0	1	11	0	0	1
St. Louis	1	1	------	0	------	0	6	31	3	0	0	1

City reports for week ended Aug. 24, 1946—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo	0	0	------	0	------	0	0	14	0	0	0	1
Nebraska:												
Omaha	0	0	------	0	------	0	2	14	3	0	0	------
Kansas:												
Topeka	0	0	------	0	------	0	0	2	1	0	0	1
Wichita	0	0	------	0	------	0	3	0	0	0	0	------
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	------	0	------	0	0	0	1	0	0	------
Maryland:												
Baltimore	6	0	------	0	8	1	1	0	1	0	0	20
Cumberland	0	0	------	0	------	0	0	0	0	0	0	------
Frederick	0	0	------	0	------	0	0	0	0	0	0	------
District of Columbia:												
Washington	0	0	------	0	10	2	3	2	3	0	2	5
Virginia:												
Richmond	2	0	------	0	------	0	1	2	0	0	0	9
Roanoke	1	0	------	0	------	0	0	1	0	0	0	------
West Virginia:												
Charleston	0	0	------	0	------	0	0	0	1	0	0	------
Wheeling	1	0	------	0	------	0	1	0	0	0	0	7
North Carolina:												
Raleigh	1	0	------	0	------	0	0	0	0	0	0	4
Wilmington	0	0	------	0	------	0	1	0	0	0	0	------
Winston-Salem	0	0	------	0	------	0	0	0	0	0	0	6
South Carolina:												
Charleston	0	0	1	0	1	0	0	0	0	0	0	------
Georgia:												
Atlanta	0	0	------	0	------	0	0	1	1	0	0	1
Brunswick	0	0	------	0	------	0	1	0	0	0	0	------
Savannah	0	0	------	0	1	0	0	1	1	0	0	1
Florida:												
Tampa	6	0	------	0	------	0	0	1	0	0	0	7
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	------	0	1	0	10	2	0	0	1	7
Nashville	0	0	------	0	------	0	4	0	0	0	0	------
Alabama:												
Birmingham	0	0	------	0	------	0	4	12	1	0	0	------
Mobile	1	0	1	0	------	1	2	1	0	0	0	------
WEST SOUTH CENTRAL												
Louisiana:												
New Orleans	0	0	------	0	4	0	8	26	0	0	4	------
Shreveport	0	0	------	0	------	0	0	0	1	0	1	------
Texas:												
Dallas	1	0	------	0	------	0	1	6	1	0	0	1
Galveston	1	0	------	0	------	0	1	1	0	0	0	------
Houston	0	0	------	0	2	0	3	0	3	0	0	------
San Antonio	0	0	------	0	------	0	1	0	1	0	0	1
MOUNTAIN												
Montana:												
Billings	0	0	------	0	------	0	1	0	0	0	0	------
Great Falls	0	0	------	0	3	0	1	1	0	0	0	------
Helena	0	0	------	0	------	0	0	0	0	0	1	3
Missoula	0	0	------	0	------	0	0	0	0	0	0	------
Idaho:												
Boise	0	0	------	0	------	0	1	0	0	0	0	------
Colorado:												
Denver	4	0	3	0	1	0	3	17	16	0	0	12
Pueblo	0	0	------	0	------	0	1	2	0	0	0	------
Utah:												
Salt Lake City	0	0	------	0	------	0	0	4	2	0	0	------

City reports for week ended Aug. 24, 1946—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	1	0	------	0	-------	0	2	7	3	0	0	9
Spokane	0	0	------	0	-------	0	0	5	2	0	0	------
Tacoma	0	1	------	0	-------	0	0	0	1	0	0	1
California:												
Los Angeles	1	0	2	0	18	0	1	71	6	0	0	4
Sacramento	0	0	------	0	-------	0	1	0	0	0	1	------
San Francisco	2	0	------	0	2	1	3	2	6	0	0	2
Total	53	6	12	1	183	12	166	619	160	0	34	656
Corresponding week, 1945	51	------	13	5	194	------	212	------	229	0	34	957
Average, 1941–45	43	----	23	[1] 6	[2] 204	------	[1] 219	------	194	0	32	928

[1] 3-year average, 1943–45.
[2] 5-year median, 1941–45.

Dysentery, amebic.—Cases: Boston 1; New York 1; Philadelphia 1; Chicago 1; Atlanta 1; Los Angeles 4.
Dysentery, bacillary.—Cases: New York 1; Chicago 2; Detroit 3; Charleston, S. C., 3; Memphis 1; Los Angeles 4.
Dysentery, unspecified.—Cases: San Antonio 2.
Leprosy.—Cases: New Orleans 1.
Rocky Mountain spotted fever.—Cases: Philadelphia 1; Richmond 1; Atlanta 1.
Typhus fever, endemic.—Cases: Omaha 1; Charleston, S. C., 3; Atlanta 1; Tampa 2; Birmingham 2; Mobile 2; New Orleans 2; Dallas 2; Galveston 3; Houston 4; Los Angeles 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 87 cities in the preceding table (estimated population, 1943, 34,109,500)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	5.7	0.0	0.0	0.0	122	0.0	39.6	53.8	54	0.0	2.8	286
Middle Atlantic	4.2	1.4	1.9	0.5	15	1.4	20.8	31.5	12	0.0	8.8	57
East North Central	6.1	0.6	0.6	0.0	33	2.4	19.5	112.5	24	0.0	2.4	184
West North Central	8.0	2.0	0.0	0.0	4	0.0	37.8	362.1	50	0.0	0.0	56
South Atlantic	28.1	0.0	1.7	0.0	33	5.0	13.2	13.2	13	0.0	3.3	99
East South Central	5.9	0.0	5.9	0.0	6	5.9	118.0	88.5	6	0.0	5.9	41
West South Central	6.0	0.0	0.0	0.0	18	0.0	42.3	99.8	18	0.0	15.1	6
Mountain	31.8	0.0	23.8	0.0	32	0.0	55.6	190.6	143	0.0	7.9	119
Pacific	6.3	1.6	3.2	0.0	32	1.6	11.1	134.4	28	0.0	1.6	25
Total	8.1	0.9	1.8	0.2	28	1.8	25.4	94.9	25	0.0	5.2	101

PLAGUE INFECTION IN SCOTT COUNTY, KANS.

Under date of Aug. 27, 1946, plague infection was reported proved, on Aug. 27, in tissue from 1 prairie dog, *Cynomys* sp., taken Aug. 16, in Scott County, Kans., from a ranch 12 miles west of Scott City and 6 miles north of State Highway No. 96. (For previous report of plague infection in this area, see PUBLIC HEALTH REPORTS, Aug. 30, 1946, p. 1287.)

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended August 10, 1946.—During the week ended August 10, 1946, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		4		65	81	9	6	17	15	197
Diphtheria				41	5	2	1			49
Dysentery, amebic					1					1
German measles				3	6		1	2	5	17
Influenza						4				4
Measles		2		52	149	41	20	62	25	351
Meningitis, meningococcus			1	1	1	2			1	6
Mumps				8	91	17	60	17	42	235
Poliomyelitis	4		5	141	25	5		4	1	185
Scarlet fever		3		18	42	2	6	6	3	80
Tuberculosis (all forms)		8	11	78	53	14	9	2	36	211
Typhoid and paratyphoid fever				25	3				9	37
Undulant fever					2			11		13
Venereal diseases:										
Gonorrhea		11	14	121	137	40	32	34	89	478
Syphilis		19	8	106	62	10	15	10	40	270
Whooping cough		13		145	72	5		7		242

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during recent months. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

Cholera

China.—Cholera has been reported in China as follows: Anhwei Province—July 21–31, 1946, 504 cases, 66 deaths; Chekiang Province—July 11–20, 206 cases, 24 deaths; Fukien Province—July 21–31, 1946, 265 cases, 44 deaths, including 264 cases with 43 deaths reported in Foochow; Honan Province—July 21–31, 1946, 425 cases, 73 deaths Hunan Province—July 21–31, 1946, 297 cases, 69 deaths; Kiangsi Province—August 1–10, 1946, 305 cases, 47 deaths reported in Nanchang; Kiangsu Province—August 1–10, 1946, 124 cases, 7 deaths, reported in Nanking; Kwangtung Province—August 1–10, 1946, 94 cases, 11 deaths reported in Swatow.

Plague

China—Fukien Province.—Plague has been reported in Fukien Province, China, as follows: July 1–10, 1946, 92 cases, 52 deaths, including 32 cases with 14 deaths reported in Futsing; July 11–20, 1946, 48 cases, 15 deaths, including 28 cases with 12 deaths reported in Futsing; July 21–31, 1946, 45 cases, 16 deaths, including 38 cases with 13 deaths reported in Foochow.

Typhus Fever

Mexico.—During the month of July 1946, 201 cases of typhus fever were reported in Mexico. States reporting the highest incidence are: Mexico, 38 cases; Mexico, D. F., 26 cases; Oaxaca, 24 cases; Nuevo Leon, 20 cases; Coahuila, 14 cases; Guanajuato, 12 cases; Puebla, 12 cases; Nayarit, 8 cases; Zacatecas, 7 cases; Michoacan, 7 cases; Hidalgo, 5 cases; San Luis Potosi, 5 cases.

Yellow Fever

Nigeria—Oyo Province.—Under date of August 28, 1946, 2 cases of suspected yellow fever were reported in Ilesha and 5 cases of suspected yellow fever were reported in Sapele, Oyo Province, Nigeria.