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INFLUENZA IN EUROPE

Under date of January 10, 1927, a cablegram was received from the Health Section of the League of Nations regarding influenza in Europe, giving data as follows:

Official telegraphic information now received regularly by the Health Section of the Secretariat of the League of Nations shows no unusual prevalence of influenza in Sweden, Germany, Czechoslovakia, Italy, Scotland, or Ireland. A mild form of the disease is prevalent in Holland, Belgium, and Norway. An epidemic of the disease, mostly mild in character, is reported in southern Jutland, and Fyen, in Denmark. The epidemic in Switzerland was highest in Basel, Geneva, and Bern. It is now decreasing. The deaths occurred mostly among old persons. The disease is prevalent in central, eastern, and southern France. It reached its maximum in Paris the middle of December. During December 332 deaths from influenza and 1,300 deaths from respiratory diseases were recorded in Paris. In England the general death rate increased during the last week in December, but serious prevalence of influenza was not reported. In Spain the disease is generally benign. The epidemic started at the beginning of December in the northeastern provinces and reached Madrid three weeks ago. The League of Nations has not been notified of any frontier measures.

DEATH RATES OF MOTHERS FROM CHILDBIRTH, 1925

The Department of Commerce announces that the changes in the death rates of mothers from childbirth, or puerperal causes, were very slight in 1925 as compared with 1924.

For the 32 States for which figures are available for 1925 and 1924 the rate for puerperal septicemia was 2.4 per 1,000 live births for both years, and the rate for other puerperal causes was 4 for both years. Of these 32 States, 16 showed higher rates for all puerperal causes in 1925 than in 1924.

For the 26 States and the District of Columbia, which constituted the "Birth Registration Area of 1921," the rate for all puerperal causes decreased from 6.7 in 1921 to 6.4 in 1925 per 1,000 live births, and the rate for puerperal septicemia from 2.7 to 2.4 per 1,000 live births.

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Florida had the highest death rate in 1925 for all puerperal causes (12.1 per 1,000 live births), and Connecticut the lowest (4.9).

Separate rates for white and colored are shown for only six States: Florida, Kentucky, Maryland, Mississippi, North Carolina, and Virginia. The highest rates in 1925 for both white and colored were for Florida (10.2 and 16.3 per 1,000 live births, respectively), and the lowest were for Maryland (5.1 and 8.9, respectively).

Death rates of mothers from childbirth, per 1,000 live births, in the birth registration area, 1925

Area	Death rate per 1,000 live births														
	All puerperal causes					Puerperal septicemia					Other puerperal causes				
	1925	1924	1923	1922	1921	1925	1924	1923	1922	1921	1925	1924	1923	1922	1921
The birth registration area	6.5	6.6	6.7	6.6	6.8	2.4	2.4	2.5	2.4	2.7	4.0	4.1	4.1	4.2	4.1
1921 birth registration area [1]	6.4	6.4	6.6	6.5	6.7	2.4	2.4	2.5	2.4	2.7	4.0	4.0	4.1	4.2	4.0
REGISTRATION STATES															
California	6.0	5.9	6.7	7.2	6.8	2.3	2.0	2.6	2.6	3.0	3.7	3.9	4.1	4.6	3.9
Connecticut	4.9	5.7	5.7	5.7	5.3	1.8	2.1	2.1	2.0	2.2	3.1	3.6	3.6	3.7	3.1
Delaware	7.7	7.7	8.4	6.6	6.3	3.9	3.2	4.4	3.0	3.0	3.9	4.5	4.0	3.6	3.4
Florida	12.1	12.1	(2)	(2)	(2)	3.2	3.7	(2)	(2)	(2)	9.0	8.5	(2)	(2)	(2)
White	10.2	9.0	(2)	(2)	(2)	2.2	2.6	(2)	(2)	(2)	8.0	6.4	(2)	(2)	(2)
Colored	16.3	18.7	(2)	(2)	(2)	5.3	5.9	(2)	(2)	(2)	11.0	12.8	(2)	(2)	(2)
Illinois	5.8	6.2	6.4	6.3	(3)	2.4	2.7	2.7	2.4	(3)	3.4	3.5	3.8	3.9	(3)
Indiana	6.0	5.8	6.5	6.6	6.9	2.8	2.7	3.1	3.1	3.4	3.3	3.1	3.3	3.5	3.5
Iowa	5.6	6.0	(2)	(2)	(2)	2.1	2.3	(3)	(3)	(3)	3.5	3.7	(2)	(2)	(3)
Kansas	6.5	6.3	6.8	7.6	6.4	3.0	2.1	3.2	3.3	2.9	3.5	4.2	3.7	4.3	3.6
Kentucky	6.0	6.2	6.0	6.1	6.3	2.6	2.8	2.5	2.8	2.9	3.4	3.4	3.5	3.3	3.3
White	5.4	5.7	5.4	5.4	5.7	2.3	2.5	2.2	2.4	2.6	3.0	3.2	3.3	3.0	3.0
Colored	13.8	13.1	15.4	18.5	14.8	5.9	7.1	7.7	9.4	7.0	7.9	6.0	7.7	9.1	7.7
Maine	7.2	8.2	8.7	7.6	7.4	1.7	2.0	1.8	2.1	1.9	5.5	6.2	6.9	5.5	5.5
Maryland	5.8	6.6	6.0	5.9	6.7	2.6	3.1	2.2	2.0	2.4	3.2	3.4	3.8	3.9	4.3
White	5.1	5.7	5.4	5.3	6.0	2.1	2.5	2.0	1.6	2.0	3.0	3.1	3.4	3.7	3.9
Colored	8.9	10.2	8.3	8.4	9.6	4.7	5.5	2.9	3.6	3.7	4.2	4.6	5.4	4.8	5.9
Massachusetts	6.3	6.5	6.3	6.8	6.5	1.9	2.2	2.0	2.1	2.2	4.4	4.3	4.3	4.6	4.3
Michigan	6.4	6.5	7.0	6.9	6.9	2.6	2.8	3.0	2.5	3.1	3.8	3.7	4.1	4.3	3.8
Minnesota	5.3	5.0	6.0	4.9	5.7	2.0	2.1	2.8	1.8	2.6	3.3	2.9	3.3	3.1	3.1
Mississippi	9.8	9.5	8.8	8.3	9.5	3.2	2.9	3.0	2.7	3.1	6.6	6.6	5.8	5.6	6.4
White	6.7	6.5	6.6	6.5	7.1	1.8	1.8	2.1	1.8	2.2	4.8	4.7	4.4	4.6	4.9
Colored	12.9	12.6	10.9	10.0	12.0	4.5	4.0	3.8	3.6	4.0	8.4	8.5	7.1	6.5	8.0
Montana	8.1	6.6	7.5	7.9	(2)	3.4	2.9	3.8	3.8	(3)	4.7	3.6	3.7	4.1	(2)
Nebraska	5.7	6.3	5.8	5.8	6.6	2.2	2.5	2.3	2.3	2.7	3.5	3.8	3.5	3.5	3.9
New Hampshire	7.1	6.1	7.4	6.5	6.2	2.8	1.3	1.6	0.9	1.7	4.4	4.8	5.8	5.5	4.5
New Jersey	6.4	6.2	5.7	6.4	5.9	2.6	2.6	2.3	2.6	2.4	3.8	3.6	3.4	3.8	3.4
New York	6.0	5.9	5.7	6.0	6.3	2.3	2.2	2.1	2.2	2.5	3.7	3.7	3.6	3.8	3.8
North Carolina	8.7	7.7	8.0	8.0	7.3	1.9	2.0	1.8	2.0	1.9	6.8	5.8	6.2	6.0	5.5
White	6.8	6.6	6.7	7.0	6.1	1.4	1.6	1.4	1.6	1.4	5.4	5.0	5.3	5.5	4.7
Colored	12.8	10.4	10.7	9.9	10.2	2.9	2.8	2.6	2.8	3.0	9.9	7.6	8.1	7.2	7.2
North Dakota	6.2	5.7	(2)	(2)	(2)	2.2	1.6	(2)	(2)	(2)	3.9	4.1	(2)	(2)	(2)
Ohio	6.8	6.4	7.2	6.6	7.2	2.9	2.6	2.9	2.5	3.4	3.8	3.8	4.3	4.2	3.8
Oregon	7.2	6.5	6.9	8.3	7.4	3.1	2.4	2.5	2.7	3.0	4.1	4.1	4.4	5.5	4.5
Pennsylvania	6.4	6.3	6.6	6.2	6.8	2.7	2.5	2.8	2.4	2.9	3.7	3.8	3.8	3.8	3.9
Rhode Island	5.2	6.3	6.3	5.5	7.1	1.5	2.2	2.4	1.5	3.2	3.7	4.1	3.9	4.0	3.9
South Carolina	(3)	10.8	9.7	10.7	9.8	(3)	2.6	2.1	3.1	2.6	(3)	8.2	7.6	7.6	7.2
White	(3)	7.6	7.4	8.5	7.8	(3)	2.0	1.4	1.8	1.7	(3)	5.6	6.0	6.8	6.0
Colored	(3)	14.1	12.2	12.8	11.8	(3)	3.2	2.9	4.5	3.4	(3)	10.9	9.3	8.3	8.4
Utah	5.2	4.5	5.0	5.5	7.3	1.5	1.6	1.7	1.5	2.9	3.6	2.9	3.3	4.0	4.2
Vermont	6.8	8.1	7.0	7.4	7.3	2.0	2.0	1.5	1.5	2.5	4.8	6.1	5.5	6.0	4.8
Virginia	7.0	6.5	7.4	7.2	7.0	2.9	2.3	2.3	2.2	2.3	5.0	4.2	5.1	5.0	4.7
White	5.3	5.0	6.0	5.8	5.7	1.5	1.9	2.0	1.6	1.8	3.7	3.1	4.0	4.3	3.9
Colored	11.0	10.0	10.8	10.2	9.9	3.1	3.1	3.1	3.6	3.5	7.9	6.9	7.7	6.5	6.4
Washington	6.0	7.1	6.7	7.9	7.8	2.4	2.4	3.1	3.0	3.6	3.6	4.7	3.5	4.9	4.2
West Virginia	6.3	(2)	(2)	(2)	(2)	2.6	(2)	(2)	(2)	(2)	3.8	(2)	(2)	(2)	(2)
Wisconsin	5.2	6.0	5.8	5.6	5.8	1.6	2.1	2.3	1.9	2.2	3.6	4.0	3.5	3.7	3.6
Wyoming	9.5	9.8	7.3	7.1	(3)	3.7	3.4	1.2	2.1	(3)	5.8	6.3	6.1	5.6	(3)

[1] Excluding South Carolina, which was dropped in 1925.
[2] Not added to registration area until a later date.
[3] Dropped from the registration area.

EPIDEMIOLOGICAL STUDY OF MINOR RESPIRATORY DISEASES

PROGRESS REPORT II: BASED ON RECORDS FOR FAMILIES OF MEDICAL OFFICERS OF THE ARMY, NAVY, AND PUBLIC HEALTH SERVICE AND OF MEMBERS OF SEVERAL UNIVERSITY FACULTIES[1]

By J. G. TOWNSEND, Surgeon, and EDGAR SYDENSTRICKER, Statistician, United States Public Health Service

In the autumn of 1923 the United States Public Health Service, with effective cooperation from the influenza commission of the Metropolitan Life Insurance Co. undertook to assemble a considerable mass of data which would give a better statistical record than was then available of the frequency, distribution, and characteristics of so-called "common colds" and other minor respiratory affections which may or may not be included within that general designation. Heretofore statistics of the frequency of these ailments have usually been compiled from records of illness reported as a cause of absence from school or from industrial employment, or have been based upon cases applying for dispensary treatment, thus excluding cases of the milder grades. Clinical descriptions likewise have been based upon such cases as came under the observation of physicians, and have, moreover, been largely impressionistic rather than statistical, since it is rarely indeed that a clinician keeps systematic records of the symptoms of such comparatively trivial ailments as "colds." In fact it is not often that a "cold" of moderate severity remains under the observation of a physician throughout its course unless it be in a member of his own household.

It appeared, on considering the matter, that the only practicable method for collecting records which would be truly representative, including the milder as well as the more severe cases, was to enlist the cooperation of a sufficient number of individuals each of whom would undertake for a considerable period of time, to report the occurrence and symptoms of each cold or similar affection occurring in himself or among members of his household. Arrangements for rendering such reports were accordingly made with two fairly large groups, namely:

(1) Some 13,000 college students made up of groups of 100 or more at each one of a number of colleges and universities located in different sections of the United States, each student reporting only for himself (or herself) individually. To this group was added a number of employees of the Treasury Department in Washington.

(2) A smaller group made up of members of the faculties of some of the above colleges, and medical officers of the United States Army, Navy, and Public Health Service, each one reporting for his entire household.

[1] The first progress report upon this study was published in the Public Health Reports, October 24, 1924, pp. 2669–2680 under the following title: Epidemiological Study of the Minor Respiratory Diseases by the United States Public Health Service (Preliminary and Progress Report) by Surg. J. G. Townsend Reprint No. 966).

Some observations on the incidence and character of the minor respiratory diseases in the college-student group during a period of five and a half months have already been presented in a preliminary progress report. Since then the records have been continued over a period of about 18 months for the student group and more than two years for the family group. As compilations and analyses of these records are completed, it is proposed to present them in a series of reports, one of which has already been published.[2] In the meantime, this paper is presented as a preliminary or progress report upon the records received from the "family group." It refers only to the reports rendered during the year 1924 and, for the purpose of calculating incidence rates, is limited to those families which reported *continuously* throughout the whole of that year. For the study of the symptoms associated with each diagnosis the records of all the families reported for any considerable part of the year are used in order to give a larger mass of data. This study is still further limited in its scope in that no attempt is made at this time to correlate the incidence of illness in this group with items of personal history other than sex and age.

METHOD OF COLLECTION

The head of each family undertaking to cooperate in the study furnished, for each member of his family, an individual "enrollment record." This record gave in considerable detail a number of items of past history and habits of life, but it need not be reproduced here since the only items of information used in this study are those relating to sex and age.

Thereafter, shortly before the first and the fifteenth of each month, the clinical report form which is reproduced below (fig. 1) was mailed to the head of each family, to be filled out and returned in an addressed, postage-free envelope. To facilitate the reporting, the names of the several members of the family were listed upon the form before it was sent out, so that completion of the record by the reporter required little more than marking appropriate spaces on the report form. Reminders were sent to those who failed to report promptly and, on the whole, the records were remarkably well sustained.

The total number of families represented in this study, including those which reported for only a part of the year, is 1,189. The families which reported throughout the entire year numbered 775 with a total population[3] of 2,498 persons. As has been stated previously, calculations of morbidity rates are based upon this smaller

[2] See reference to title of this paper.

[3] The population within these families necessarily varied somewhat from week to week, due to either permanent or temporary removals and additions of individuals, but the limits of variation were narrow. The figure given is the mean for the year.

group for which the records are complete. This latter group was made up of families distributed, by profession, as follows: [4]

TABLE 1.—*Number of families and individuals reported upon by medical officers and members of medical faculties in the study of respiratory diseases during the full year 1924*

Group	Number of families	Number of individuals by sex		
		Both	Male	Female
All groups	775	2,498	1,203	1,295
Medical officers, U. S. Public Health Service	276	884	435	449
Medical officers, Army	306	965	462	503
Medical officers, Navy	53	185	85	100
Members of faculties	140	464	221	243

[4] The composition of the larger group, including families which reported for only a part of the year, is similar.

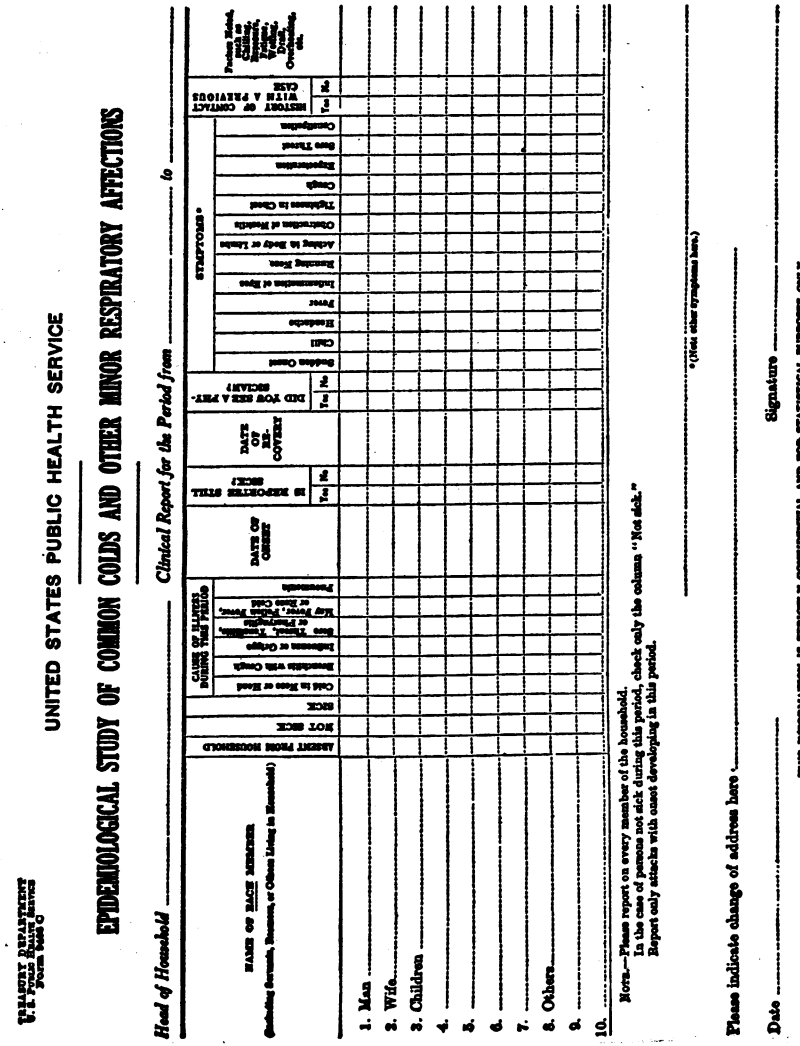

FIG. 1

As will be seen from the above summary, 82 per cent of the reporters are physicians in the medical services of the United States Government. In addition a certain proportion of those belonging to university faculties are physicians, and the remainder, because of their positions, may be considered as skilled observers. Such training on the part of the reporters evidently gives added significance to the records.

With respect to geographic distribution, all sections of the country are represented, though not in proportion to population, there being a relatively large proportion from the Atlantic seaboard and a proportionately greater representation from large cities than from smaller towns and country districts.

The sex and age distributions of the population under observation are shown in Table 2.

TABLE 2.—*Sex and age distribution of individuals in 775 families reporting during the entire year 1924*

Age group	Number of individuals		
	Both sexes	Males	Females
All ages	2,498	1,203	1,295
0–4	311	145	166
5–9	249	120	129
10–14	214	96	118
15–24	159	62	97
25–34	521	196	325
35–44	567	301	266
45–54	325	200	125
55+	152	83	69

If the age distribution is compared with that of the population of the United States, as is done in Table 3, it will be seen that the proportion of persons under 5 years of age and in the age period 25–54 is larger in this group than in the general population, while in the age periods 5–24 and 55 and over it is smaller.

TABLE 3.—*Comparison of the age-distribution of (a) individuals included in the study of respiratory diseases with (b) the population of the United States, 1920*

Age groups	Per cent of population comprised in each age group					
	Males		Females		Both sexes	
	a	*b*	*a*	*b*	*a*	*b*
0–4	+12.1	10.9	+12.8	11.0	+12.4	11.0
5–9	−10.0	10.5	−10.0	10.8	−10.0	10.7
10–14	−8.0	9.8	−9.1	10.0	−8.6	9.9
15–24	−5.2	16.9	−7.5	18.0	−6.4	17.4
25–34	16.3	16.3	+25.1	16.4	+20.9	16.3
35–44	+25.0	13.8	+20.5	13.1	+22.7	13.4
45–54	+16.6	10.5	+9.7	9.6	+13.0	10.0
55+	−6.9	11.4	−5.3	11.1	−6.1	11.3

+ sign indicates higher percentage in "*a*" group as compared with "*b*" group; − sign, the converse.

CLASSIFICATION AND SYMPTOMATIC DESCRIPTION OF REPORTED CASES

Referring to the clinical report-form which is reproduced in Figure 1, it is seen that the reporter is requested to describe each recorded case in two ways, namely: (1) By allocating it to one of the six diagnostic classes which are listed on the record form; and (2) by recording the symptoms associated with the case. It should be possible, therefore, if the records are satisfactory—

(1) To classify the recorded cases according to the diagnosis made by the reporter;

(2) By compilation of the recorded symptoms, to determine the frequency of each symptom in each class of cases; and

(3) Disregarding the diagnostic classification, to make a classification of the cases on the basis of the symptoms recorded.

For the present, however, the classification will be limited to (1) and (2), the purposes in view being:

(*a*) To obtain a description of each diagnostic class in terms of the symptoms associated with it, or in other words to establish for each diagnostic class a statistical definition; and

(*b*) To ascertain, for each diagnostic class, the incidence rate, and the characteristics of its age, sex, and seasonal distributions in that part of the population which was under continuous observation.

It may be well before presenting the results arrived at to note some of the difficulties encountered in classification of the material. The diagnostic classes indicated on the record form (fig. 1) are:

(1) Cold in nose or head.
(2) Bronchitis with cough.
(3) Influenza or grippe.
(4) Sore throat, tonsillitis, or pharyngitis.
(5) Hay fever, pollen fever, or rose cold.
(6) Pneumonia.

This classification was used on the form because the designations are those which actually are commonly used to describe the minor respiratory affections, and it seemed necessary, in providing a report form adapted to use by laymen (i. e., in the student group, which is not considered in this paper) to adhere to common terms. Obviously, however, the classification is unsatisfactory from a statistical viewpoint. In the first place, the classes are not defined on any single consistent principle, and some are less clearly defined than others. Thus, the class "hay fever, pollen fever, or rose cold" is defined on an *etiological* basis, as including those cases attributed, by the reporter, to the effects of irritating pollens; whereas at least three of the other classes (Nos. 1, 2, and 4) have a *definitely specified symptomatic* basis, and the other two, "influenza" and "pneumonia," are likewise symptomatic but refer to symptoms which are not definitely specified. These criticisms, that the classifications are

partly etiological and partly symptomatic and that the various class limits are not equally clearly defined, apply, however, to all the nosological classifications that have as yet been devised, and in the present state of knowledge seem unavoidable.

A further difficulty arises from the fact that the symptomatic classes are not exclusive. For instance, cases may and do occur in

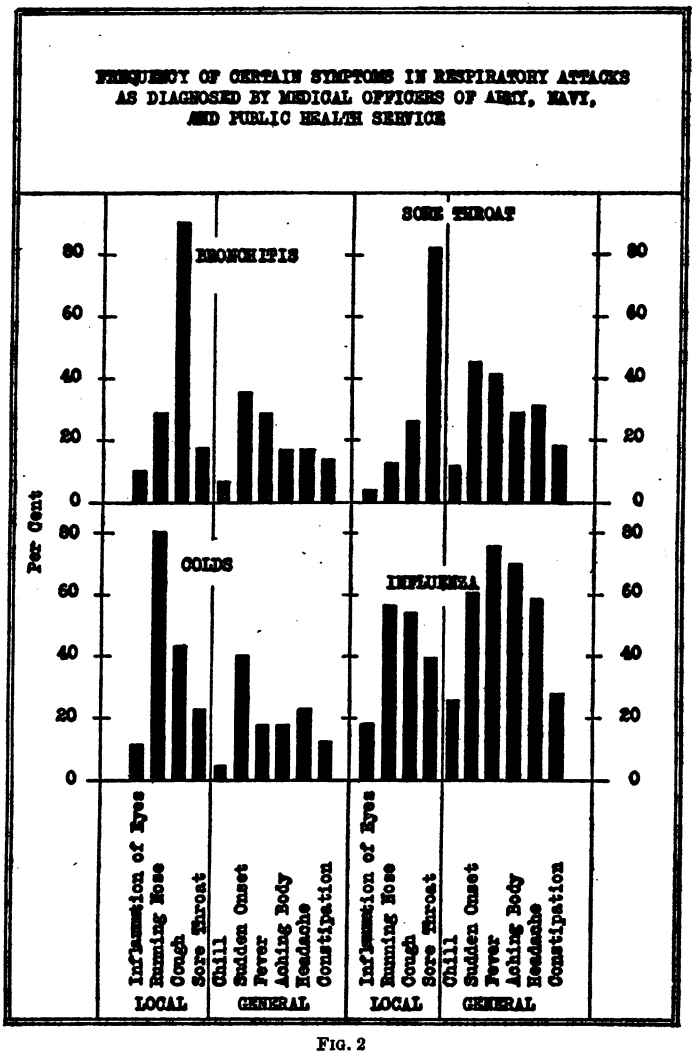

FIG. 2

which "cold in the head," defining class (1), is associated with "bronchitis" or "sore throat," which define classes (2) and (4), respectively. In recording such a case the reporter may either report it under a single diagnosis, leaving it to be shown in the clinical record that the symptoms were of wider range than indicated by the class designation, or he may record it in two or more of the classes

indicated on the report form, thus making a composite diagnosis. A complete classification must, therefore, include not only the six simple classes indicated on the record form but as many additional classes as are formed by the various combinations reported in the records.

Even in such a manifold classification the differences between classes may be more apparent than real, representing to some extent differences in the reporters' judgment or interpretation of the record form rather than objective differences in the cases which are separated in the classification. For example, in recording a case exhibiting symptoms both of rhinitis and bronchitis one reporter might record it as a case of "cold in the head," noting "cough" as a symptom; another as "bronchitis," with "running of the nose" as a symptom; and still another might record the same case under the combined diagnosis "cold and bronchitis," and so on with other combinations.

It is probable that a better choice of class designations on the record form would have diminished these difficulties, but it is not apparent that any simple classification would have eliminated the difficulties altogether, for the ills of the body are not constrained by nature to confine themselves to simple determinative diagnosis, and it is only by arbitrary methods that they can be fitted into *any* simple nosological classification.

A detailed diagnostic classification, showing all the combinations under which cases were actually reported in the group of families which reported throughout the year, is presented in Table 4, which follows:

TABLE 4.—*Distribution of 4,855 respiratory attacks in families of medical officers and faculties reporting throughout the year 1924, according to diagnosis as reported*

Diagnosis or combination of diagnoses as reported [1]	Number of cases	Per cent of total attacks
Cold without other diagnosis	2,463	50.73
Cold with—		
Bronchitis	638	13.14
Sore throat	379	7.81
Bronchitis and sore throat	149	3.07
Any other diagnosis except influenza and pneumonia [2]	42	.86
Bronchitis without other diagnosis	334	6.88
Bronchitis with—		
Sore throat	51	1.05
Any other diagnosis except cold, influenza, and pneumonia [2]	4	.08
Sore throat without other diagnosis	339	6.98
Sore throat with—		
Any other diagnosis except cold, bronchitis, influenza, and pneumonia [2]	1	.02
Pneumonia [3]	10	.21
Influenza without other diagnosis	219	4.51
Influenza with—		
Pneumonia	2	.04
Cold	70	1.44
Cold and bronchitis	65	1.34
Cold and sore throat	39	.80
Bronchitis	23	.47
Sore throat	22	.45
Any other diagnosis or combination of diagnoses [4]	5	.10
Hay fever (includes all cases whether concurrent with other diagnosis or not)	64	----------

[1] See Fig. 1 for exact phraseology used on the report form.
[2] Includes croup, hay fever, and sinusitis.
[3] Total cases except those occurring with influenza.
[4] Includes 3 cases with pleurisy and 2 cases with bronchitis and sore throat.

Excepting "hay fever," which is a fairly well-defined group, and "pneumonia," which is not properly classed as one of the "minor" respiratory diseases and is not considered further in this report, the rest of the groups in this classification are rather vaguely defined, the simple diagnoses merging into each other through their various combinations; and it remains to be ascertained, by compilation of their symptomatology, whether or not they really are differentiated from each other in any objective way.[5]

Considering first the five *simple* diagnostic groups, "cold in head," "bronchitis with cough," "sore throat," "influenza or grippe," and "hay fever," Table 5 shows the frequency, in each of these groups, of each one of the 13 symptoms which are indicated on the record form.

TABLE 5.—*Frequencies of certain symptoms in those respiratory attacks for which only one diagnosis was reported*[1]

Symptom	Percentage of cases in which symptom was noted				
	"Cold in head or nose," 3,545 cases	"Bronchitis with cough," 421 cases	"Sore throat, tonsillitis, or pharyngitis," 496 cases	"Influenza or grippe," 297 cases	"Hay fever, pollen fever, or rose cold," 76 cases
Inflammation of eyes	12	3.8	3.2	14	62
Running nose	81	28	12	39	82
Obstruction of nostrils	44	17	8.0	26	46
Cough	31	91	26	47	13
Expectoration	12	41	13	18	2.6
Tightness of chest	4.9	35	5.8	21	9.2
Sore throat	14	10	83	29	3.9
Sudden onset	37	36	45	59	45
Chill or chilliness	3.4	6.7	12	27	1.3
Fever	13	30	42	79	5.3
Aching in body or limbs	14	15	29	67	8.0
Headache	19	16	31	58	12
Constipation	10	13	18	30	3.9

[1] This table includes cases for which only one diagnosis was reported from families reporting for any part or all of 1924.

It will be seen from this table that in each of the diagnostic groups every one of the 13 symptoms which are listed is included; and that except hay fever the groups are differentiated from each other not by the exhibition of different kinds of symptoms, but by different frequency distributions of the same symptoms.

The next step is to compare the symptom distributions under "combined" diagnoses with those under the four simple diagnoses. The detailed tables necessary for these comparisons have been

[5] It should be noted, as affecting the interpretation of the recorded symptom-frequencies, that symptoms which are *implied* in the class designation are not always recorded. Thus, the class designation "bronchitis with cough" predicates cough as a symptom, yet cough is *recorded* as a symptom in only 91 per cent of the cases; and the symptom "sore throat" is recorded in only 83 per cent of the cases classified as sore throat. Likewise the classification of a case as "cold in the head or nose" would seem to imply among the symptoms either "running nose" or "obstruction of nostrils," or both, yet a special tabulation (not reproduced here) shows that in not all of the cases are either of these symptoms recorded. Presumably similar omissions have occurred in the recording of symptoms which are not specifically implied in the class-designation, introducing a systematic error which may or may not be uniformly distributed through the frequencies.

drawn up for study, but it seems unnecessary to reproduce them here because they show only what is implied in the combinations. For instance, cases reported as "cold in head and bronchitis" show a somewhat greater frequency of the symptoms indicative of bronchitis, namely, "cough," "expectoration," and "tightness of chest" than do cases reported simply as "cold in the head"; and similarly with other combinations. Also, in general, in those groups where two or more diagnoses are combined, there are somewhat higher frequencies of constitutional symptoms, such as "chill," "fever," and "headache." Even in these respects, however, the differences in symptom-frequencies between the simple diagnoses and the combinations in which they occur are less than might be expected, due to the fact that cases which one reporter would classify under combined diagnosis are recorded by another under a simple diagnosis.

It seems justifiable, therefore, for the purposes of further discussion, to condense the classification presented in Table 4 into a simpler one, in which the numerous combinations will be absorbed into the six diagnostic classes indicated on the original record form; and some such condensation is, in fact, almost a necessity because of the small numbers comprised in some of the classes of Table 4.

The rules followed in thus summarizing the material, rules which are necessarily arbitrary in some degree, but which are believed to be reasonable, are as follows:

(1) Cases recorded as "pneumonia" are classified as "pneumonia," regardless of any other diagnosis or complication noted.

(2) Attacks diagnosed as "influenza or grippe" are classified as "influenza," in combination with any other diagnosis given, with the exception of pneumonia. The reason for giving precedence to influenza when it occurs in combination with "cold," "bronchitis," "sore throat," etc., is that "influenza" is symptomatically broader than any other of these classes. Also it was presumed that the reporter had in mind some clinical basis for assigning the diagnosis of influenza.

(3) All attacks with the diagnosis of "cold in head or nose," in combination with any other diagnosis given other than those mentioned in (1) and (2) above, are classified as "colds." The reasoning here is that the term "cold" is a more general one than "bronchitis" or "sore throat," being used at times to include more or less extensive catarrhal inflammation of the respiratory tract. Also it was our impression, from limited observation, that where both rhinitis and bronchitis (or tracheitis) were exhibited the former was more likely to precede.

(4) Attacks diagnosed as "bronchitis with cough," unless also diagnosed as "pneumonia" or "influenza or grippe" or "cold in head or nose," were classified as *bronchitis*. The precedence thus

given to "bronchitis" over "sore throat" where these two diagnoses are combined is arbitrary, but seems at least as reasonable as the alternative.

(5) Attacks diagnosed as "sore throat, tonsillitis, or pharyngitis" without other diagnosis were classified as *sore throat*. In combinations they fall in other classes as indicated above.

(6) All attacks diagnosed as "hay fever, pollen fever, or rose cold" were classified as "hay fever" for the purpose of determining the prevalence of this disease in the population studied; but the attacks reported in combination with other diagnoses occurring among persons affected with hay fever were also classified according to the scheme outlined above.

Cases reported under any of the diagnoses listed on the record form, in combination with an *extraneous* diagnosis, that is, one which is beyond the intended scope of this inquiry (as whooping cough, croup, pleurisy, etc.), have been recorded under the diagnosis pertinent to this study. Such cases, however, are used only in the calculations of incidence rates. They are omitted from symptomatic analyses because it is impossible to distinguish between the symptoms pertaining to the minor respiratory affection and those resulting from the concurrent or complicative disorder.

Table 6, which follows, shows the frequency distributions of recorded symptoms in the four groups of cases which are included under the diagnoses of "colds," "bronchitis," "sore throat," and "influenza," respectively. By comparing the symptom distribution under each of these diagnoses with the distribution in the *uncomplicated* cases of corresponding class, as given in Table 5, it will be seen that the clinical picture exhibited by the uncomplicated cases which are shown in the latter table has not been greatly altered in the process of summarizing the combined with the simple diagnoses.

TABLE 6.—*Frequencies of certain symptoms in all respiratory attacks classified according to the procedure described in this report* [1]

	Symptom	Percentage of cases in which symptom was noted			
		"Cold in head or nose," 5,210 cases	"Bronchitis with cough," 489 cases	"Sore throat, tonsillitis, or pharyngitis," 497 cases	"Influenza or grippe," 599 cases
Local	Inflammation of eyes	12	11	3.4	18
	Running nose	81	29	13	57
	Obstruction of nostrils	48	16	8.2	39
	Cough	43	91	26	55
	Expectoration	21	43	14	26
	Tightness of chest	11	37	5.8	26
	Sore throat	23	18	83	40
General	Sudden onset	40	36	45	60
	Chill or chilliness	4.5	6.5	12	26
	Fever	18	29	42	76
	Aching in body or limbs	18	17	29	70
	Headache	23	17	31	59
	Constipation	12	14	18	28

[1] This table includes all cases from families reporting for any part or all of 1924.

The four broad diagnostic groups may now be compared with each other to ascertain whether they show distinctive clinical characteristics. With respect to localizing symptoms, the differences between the groups classified as "colds," "bronchitis," and "sore throat," respectively, are found to be what the class designations imply. Thus, in colds the predominant local symptoms are running of the nose and obstruction of the nostrils; in bronchitis the predominant symptom is cough; and in sore throat the symptom sore throat is most frequently recorded. The groups are not exclusive as regards these localizing symptoms, but at least when considered as groups, they are quite distinct.

As regards the symptoms indicative of a general constitutional disturbance—chill, fever, pain in head or body, and constipation, these are least common in "colds," somewhat more common in bronchitis and still more so in cases of sore throat. If the frequency of these general symptoms be taken as an index of the severity of the constitutional disturbance, then the order of severity of these groups is: (1) Sore throat,[6] (2) bronchitis, and (3) colds. It is notable, however, that even in common colds, fever is recorded in about 20 per cent of cases.

The symptomatology of the cases reported as "influenza or grippe" is of interest because the record form itself does not specify any distinctive symptomatic basis for this diagnosis as it does for the diagnoses "cold in the head," "bronchitis with cough" and "sore throat"; but leaves it entirely to the reporter to put into this class the cases conforming to his own conception of a clinical picture sufficiently distinctive to justify the diagnosis of influenza. As the reporters are for the most part physicians, the symptomatology of the cases which they have classified as "influenza or grippe" should indicate fairly well the clinical basis upon which physicians in this country are wont to make this diagnosis in a period when no widespread epidemic prevails.

Referring to Table 6, and comparing the symptom distribution of influenza cases with those of the other groups, and to Figure 2 in which the comparisons are presented graphically, it appears that in the cases classed as "influenza" symptoms of rhinitis, though less common than in "colds," are more common than in "bronchitis" or "sore throat"; cough and expectoration are less frequent than in cases of "bronchitis," but more frequent than in the other two groups; and "sore throat" is likewise more common in influenza than in "bronchitis" or "colds." That is, the cases of "influenza" seem to be characterized by a more widespread inflammation of the respiratory tract than the cases classified in the other groups. The

[6] The group of cases reported as "sore throat" presumably includes some cases of acute follicular tonsillitis, and this may to some extent account for the rather high frequency of chill and fever.

influenza cases are further distinguished by a higher frequency of all the symptoms usually associated with a constitutional reaction to infection, namely, chill, fever, headache, body pains, and constipation, and are more frequently of sudden onset.

The distributions suggest what is probably true that individual cases which might be selected from any of the other groups would show symptomatic records identical with other cases selected from those grouped as influenza. However, although such overlapping of groups occurs, it still appears that *as a group* the cases which are classed as "influenza" differ quite definitely and objectively from those classed as "colds," "bronchitis," or "sore throat."

Granting that the cases classed as influenza show a distribution of symptoms which distinguishes them from the other groups defined in Table 6, it may be of interest to compare them further with a *selected* group of "colds," taking for the purpose those in which the diagnosis of "cold in the head" is combined with that of "bronchitis," or "sore throat," or both; also to compare them with a series of cases of influenza as observed in a *frank epidemic* of that disease. For the latter purpose data are available from the report by Armstrong and Hopkins [7] on their study of the epidemiology of an outbreak in an isolated rural community, Kelly Island, Ohio. This epidemic occurred in January and February, 1920, coincidently with a country-wide epidemic and was quite severe on Kelly Island, affecting 53.5 per cent of the population. The clinical records, presented in a table of symptom frequencies, were collected by personal interviews in a canvass which covered the entire population of the island, and refer to the entire series of cases discovered, including 344 diagnosed as influenza and 25 as "doubtful."

Table 7, in which these comparisons are made, shows that the cases of "influenza" in the present study are still, as a group, differentiated from the more severe types of colds by a lesser frequency of coryza and a higher frequency of chill, fever, pain, and constipation. The comparison with epidemic influenza is not altogether satisfactory, as the symptoms are recorded in terms which are not identical; but, so far as the records are comparable, they indicate that the "influenza" cases in this study were clinically more nearly related to cases of epidemic influenza than to common colds.[8] Whether or not this clinical resemblance is sufficient to actually *identify* the cases of "influenza" recorded in this study with the influenza which prevails in pandemics is a question beyond the scope of the present inquiry,

[7] An Epidemiological Study of the 1920 Epidemic of Influenza in an Isolated Rural Community, by Charles Armstrong, Surgeon, United States Public Health Service, and Ross Hopkins, Assistant Epidemiologist, Ohio State Department of Health, Public Health Reports, July 22, 1922. (36:1671-1702.)

[8] Certain symptoms not included in the record form used in this study are noted as fairly common in the table given by Armstrong and Hopkins, namely, epistaxis in 19 per cent, nausea in 38 per cent, vomiting in 34 per cent, and pain in chest in 32 per cent of their cases.

and to which these records afford no certain answer. Nor can it be assumed that the diagnosis of "influenza or grippe," as made in this series, necessarily implies the belief on the part of the reporter that the disease is etiologically identical with pandemic influenza, for the term influenza is not always used in this sense even by physicians.

TABLE 7.—*Comparison of the frequencies of 13 symptoms in cases of colds (for which a diagnosis of bronchitis or sore throat was also given) with those in cases diagnosed as influenza or grippe*

Symptom	Per cent of cases in which specified symptoms were recorded		
	1,665 cases of "cold" with complications [1]	599 cases of influenza (1924)	369 cases of epidemic influenza (1920)
Local:			
Inflammation of eyes	13	18	----
Running of nose	82	57	[2] 60
Obstruction of nostrils	57	39	
Cough	69	55	76
Expectoration	38	26	49
Tightness of chest	23	26	[3] 32
Sore throat	42	40	36
General:			
Sudden onset	48	60	----
Chill or chilliness	7	26	[4] 58
Fever	29	76	----
Pains in body or limbs	26	70	[5] 49
Headache	30	59	68
Constipation	15	28	[6]

[1] Cases reported as "cold" with bronchitis or sore throat or both.
[2] Recorded as "coryza."
[3] Recorded as "pain in chest."
[4] Recorded as "chilliness."
[5] Recorded as "pain in limbs," same frequency (49%) recorded for "backache."
[6] Nausea recorded in 38 per cent and vomiting in 34 per cent of cases.

The cases reported as "influenza" are, therefore, to be considered not as an etiological group, but merely as a clinical group, concerning the etiology of which nothing is predicated. As a clinical group these cases appear to be sufficiently distinct to warrant their separation from the other groups made in this classification, and to bear sufficient resemblance to cases of pandemic influenza to warrant their designation as influenza if this diagnosis be considered as implying clinical similarity rather than etiological identity.

INCIDENCE AND DISTRIBUTION OF CASES

It remains to be ascertained whether the clinical groups marked off in the classification which has been adopted are characterized by distinctive epidemiological features. For this part of the study it seems preferable to use only the data pertaining to the 775 families (2,498 persons) for which records are available for the whole year.[9]

[9] For a fraction of this population records are missing for the first half of January; but rather than discard this group it has seemed preferable and allowable to include it, assuming, for this period, a number and distribution of cases proportionate to those observed in the remainder of the population during the same time interval.

Table 8 shows, for this population, the number of attacks of respiratory diseases reported during the year, with corresponding incidence rates per 1,000 persons. Since the sex and age distribution of this population is peculiar, the observed attack rates have been adjusted to the sex and age distribution of the population of the United States in 1920, by applying the sex and age specific rates shown in Table 11.

TABLE 8.—*Incidence of respiratory diseases during the year 1924 in families reporting throughout the year (775 families; 2,498 persons)*

Diagnosis	Number of cases	Rate per 1,000	
		Actual	Adjusted [1]
All respiratory diseases exclusive of hay fever	5,019	2,009	1,927
Colds	3,794	1,519	1,464
Bronchitis	403	161	161
Sore throat	352	141	132
Influenza	458	183	164
Influenza-pneumonia	2	0.8	----------
Pneumonia	10	4.0	----------
Hay fever	64	25.6	22.5

[1] To the age and sex distribution of the population of the United States, 1920.

It is believed that the records of incidence shown in this table are unusually accurate, being based upon reports rendered at frequent intervals, chiefly by physicians, and referring to individuals with whom they were in daily and intimate contact. The population under observation is, moreover, a selected group, consisting almost exclusively of white persons, mostly residing in cities, and living presumably under exceptionally good hygienic conditions. It can not be assumed, then, that the incidence rates observed in this group, even when adjusted for sex and age distribution, accurately represent the incidence in the general population of the country; but they are probably more representative than any other statistics which have been published up to this time. Judging from official morbidity and mortality records the year 1924 was free from any distinct and general epidemic of influenza, and seems to have been a fairly normal year as regards respiratory diseases.

Incidence by sex.—The incidence rates according to sex for all ages are shown in the following table:

TABLE 9.—*Incidence of respiratory diseases in males and females, respectively, all ages, in families of medical officers and faculty members during 1924*

Diagnosis	Rate per 1,000		Ratio of rate for males to rate for females
	Males	Females	
Total (exclusive of hay fever)	2,076	1,947	1.07
Colds	1,564	1,476	1.07
Bronchitis	175	148	1.18
Sore throat	140	142	.99
Influenza	194	174	1.11
Hay fever	22	29	.76

The rates for males is slightly higher than that for females in all the groups except "sore throat" and "hay fever," the lower frequency of attacks among females being particularly evident for "influenza" and "bronchitis." The rate for sore throat is nearly identical for the two sexes, and the incidence of hay fever is higher

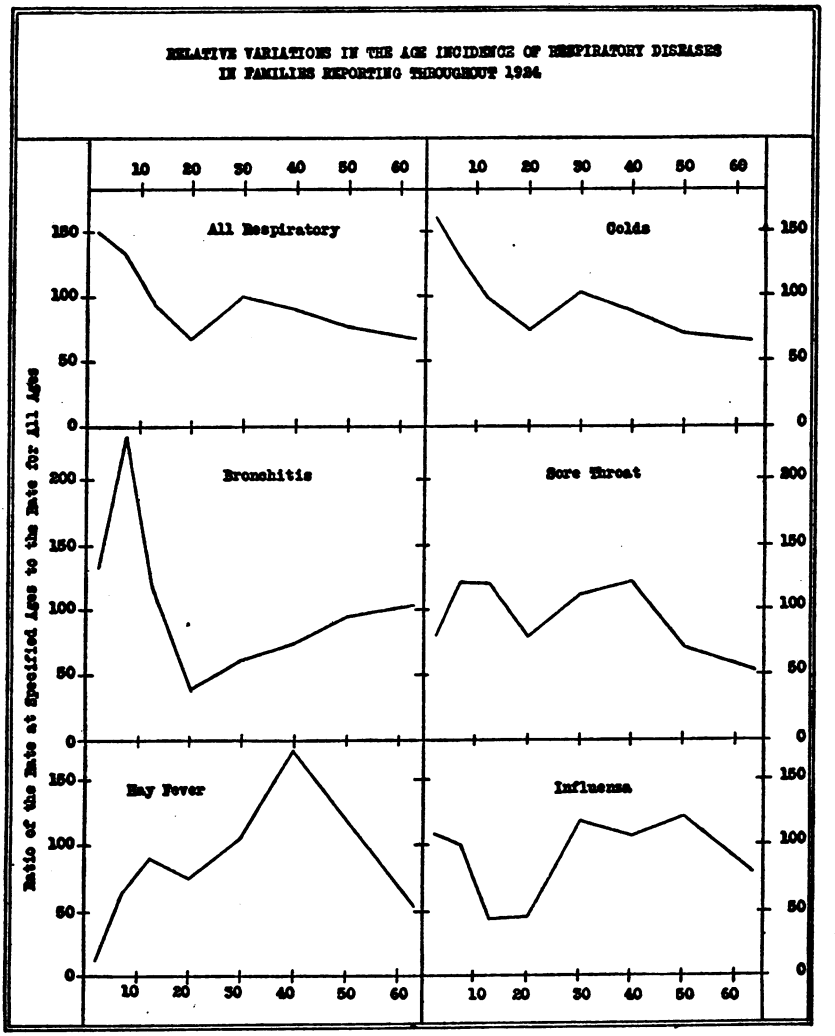

FIG. 3

in females. This generally higher attack rate in males is somewhat different from the results of various morbidity studies made by the Public Health Service and others which show that cases of respiratory diseases which cause disability are usually somewhat more frequent among females than among males. The records in this study have

been made principally by the men in the families concerned, whereas in previous morbidity surveys the women have usually furnished the data. This suggests that the differences in sex ratio may be due to a natural tendency on the part of the reporters to remember their own ills more vividly than those of others. However, the higher male rates in the families under consideration is not adequately explained on this basis, since it is found (Table 10) that it is not confined to the adults.

Incidence by age.—Table 10 shows the number of cases and Table 11 the incidence per 1,000 persons in each age group in both sexes and in males and females. The variations of incidence in relation to age are also shown in Figure 3, in which for each clinical group the incidence rate (both sexes) at each age is expressed as a ratio to the incidence at all ages.

TABLE 10.—*Number of respiratory attacks among persons of different sexes and ages: By diagnosis*

Age groups	Diagnosis								
	Total respiratory (exclusive of hay fever)[1]			Influenza			Colds		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All ages	5,019	2,498	2,521	458	233	225	3,794	1,882	1,912
0–4	929	447	482	64	31	33	756	362	394
5–9	663	333	330	45	24	21	480	234	246
10–14	410	175	235	17	6	11	316	129	187
15–24	219	75	144	13	5	8	177	57	120
25–34	1,050	450	600	113	45	68	805	361	444
35–44	1,036	570	466	111	60	51	760	418	342
45–54	505	333	172	73	47	26	351	238	113
55+	207	115	92	22	15	7	149	83	66

Age groups	Diagnosis								
	Bronchitis			Sore throat			Hay fever[2]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All ages	403	211	192	352	168	184	64	27	37
0–4	67	30	37	35	21	14	1	1	----
5–9	93	54	39	42	21	21	4	1	3
10–14	40	23	17	36	17	19	5	4	1
15–24	10	7	3	18	5	13	3	1	2
25–34	51	18	33	81	26	55	14	4	10
35–44	68	37	31	97	55	42	25	9	16
45–54	49	31	18	32	17	15	10	5	5
55+	25	11	14	11	6	5	2	2	----

[1] Includes 12 cases of influenza-pneumonia.
[2] Includes all cases of hay fever, whether concurrent with other respiratory attacks or not.

TABLE 11.—*Incidence per 1,000 of respiratory attacks among persons of different sexes and ages: By diagnosis*

Age groups	Diagnosis								
	Total respiratory (excluding hay fever)			Influenza			Colds		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All ages	2,009.2	2,076.5	1,946.7	183.3	193.7	173.7	1,518.8	1,564.4	1,476.4
0–4	2,987.1	3,082.7	2,903.6	205.8	213.8	198.8	2,430.9	2,496.6	2,373.5
5–9	2,662.6	2,775.0	2,558.1	180.7	200.0	162.8	1,927.7	1,950.0	1,907.0
10–14	1,915.9	1,822.9	1,991.5	79.4	62.5	93.2	1,476.6	1,343.8	1,584.7
15–24	1,377.3	1,209.7	1,484.5	81.8	80.6	82.5	1,113.2	919.4	1,237.1
25–34	2,015.4	2,295.9	1,846.2	216.9	229.6	209.2	1,545.1	1,841.8	1,366.2
35–44	1,827.2	1,893.9	1,751.7	195.8	199.3	191.7	1,340.4	1,388.7	1,285.7
45–54	1,553.8	1,665.0	1,376.0	224.6	235.0	280.0	1,080.0	1,190.0	904.0
55+	1,361.8	1,385.5	1,333.3	144.7	180.7	101.4	980.3	1,000.0	956.5

Age groups	Diagnosis								
	Bronchitis			Sore throat			Hay fever[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All ages	161.3	175.4	148.3	140.9	139.7	142.1	25.6	22.4	28.6
0–4	215.4	206.9	222.9	112.5	144.8	84.3	3.2	6.9	----
5–9	373.5	450.0	302.3	168.7	175.0	162.8	16.1	8.3	23.3
10–14	186.9	239.6	144.1	168.2	177.1	161.0	23.3	41.7	8.5
15–24	62.9	112.9	30.9	113.2	80.6	134.0	18.9	16.1	20.6
25–34	97.9	91.8	101.5	155.5	132.7	169.2	26.9	20.4	30.8
35–44	119.9	122.9	116.5	171.1	182.7	157.9	44.1	29.9	60.2
45–54	150.8	155.0	144.0	98.5	85.0	120.0	30.8	25.0	40.0
55+	164.5	132.5	202.9	72.4	72.3	72.5	13.2	24.1	----

[1] Includes all cases of hay fever, whether concurrent with other respiratory attacks or not.

Considering all the diseases (except hay fever) and both sexes, the incidence rate is highest in the youngest age group, 0–4; declines to a relatively low level in the age group 15–24; becomes notably higher in the age group 25–34 and then declines regularly until a minimum is reached in the age group "55 years and over." Comparing the two sexes, the rates for males are consistently higher in every age group except 10–14 and 15–24, in which the female rates are in excess. In the oldest age group, 55 and over, the rates in males and females are not significantly different.

Considering each of the five clinical groups separately, the striking fact is that each group shows a distinctive age distribution, quite different from that of any other group, thus confirming the conclusion indicated by clinical comparisons, namely, that the separation of these groups is not altogether artificial, but rests on a real factual basis.

The age distribution of "colds" is similar to and largely determines that of the combined group including all diagnoses together. The fact that colds are more frequent in young children than in adults is

in accordance with common experience; but it is somewhat surprising to find that the incidence diminishes with advancing age, since it is well known that the death rate from respiratory diseases increases rapidly with age beyond middle life.

The incidence of bronchitis in relation to age, as shown here, is generally similar to the curve of mortality from respiratory diseases in relation to age, except that the peak of morbidity here falls in the age group 5–9 rather than in the youngest age group, and that the relative increase in old age is less marked than in mortality statistics.

The age distribution of "sore throat" as shown here is quite peculiar, showing two distinct peaks, one in childhood and one in middle life. Data collected by the Public Health Service in the

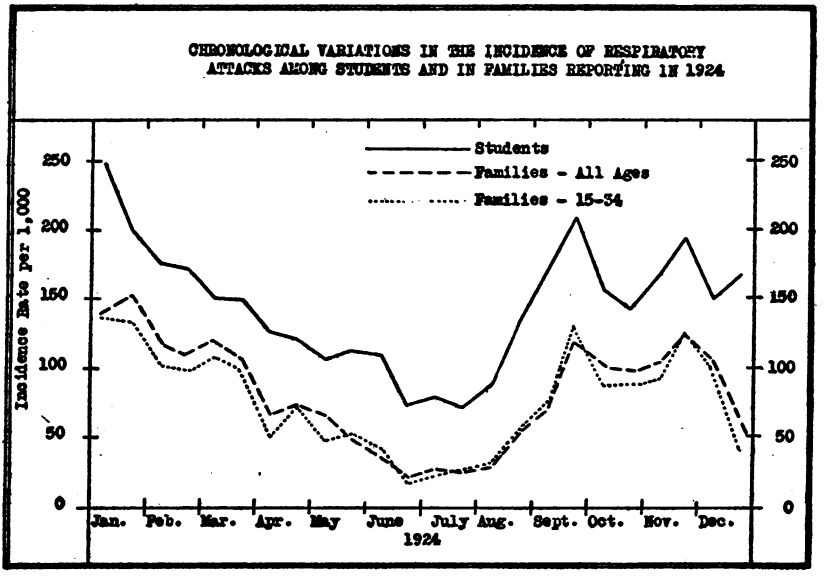

FIG 4.

course of other studies of morbidity in a general population show a much higher relative incidence in the younger ages. It is possible that in this group of families the curve is distorted by the fact that an unusually large proportion of the children have had their tonsils removed at an early age.[10] It is also possible that separation of tonsillitis from pharyngitis (which can not be effected in these records) might exhibit two curves of simpler character.

Regarding the age distribution of the cases reported as influenza, it is quite distinct from that of the other groups, but it is at the same time equally distinct from that observed in the epidemics of 1918 and 1920. Therefore it does not contribute toward the identification of these cases with pandemic influenza.

(10) Tonsillectomy is reported in as high as 60 per cent of the children of certain age groups in these families.

CHRONOLOGICAL DISTRIBUTION

Table 12 shows the rates of incidence of respiratory diseases of all classes in these families (*a*) in persons of all ages, and (*b*) in those aged 15–34 years, in each half-monthly period during 1924. These rates are shown graphically in Figure 4, which also shows the incidence of the same diseases during the same period in some 12,000 students, reporting from a number of different universities and colleges.

TABLE 12.—*Semimonthly incidence of respiratory attacks during 1924 in families reporting for the whole year: For all ages and for persons aged 15–34 years*

Semimonthly period	Rate per 1,000		Number of cases	
	All ages	Ages 15–34	All ages	Ages 15–34
Jan. 1–15	142.1	136.8	355	93
Jan. 16–31	153.3	135.3	383	92
Feb. 1–15	119.7	105.9	299	72
Feb. 16–28	111.7	101.5	279	69
Mar. 1–15	120.1	110.3	300	75
Mar. 16–31	108.9	100.0	272	68
Apr. 1–15	66.1	52.9	165	36
Apr. 16–30	74.1	73.5	185	50
May 1–15	66.9	50.0	167	34
May 16–31	48.8	54.4	122	37
June 1–15	37.6	44.1	94	30
June 16–30	21.2	17.6	53	12
July 1–15	28.0	23.5	70	16
July 16–31	26.4	26.5	66	18
Aug. 1–15	30.8	34.4	77	22
Aug. 16–31	55.2	55.9	138	38
Sept. 1–15	69.7	73.5	174	50
Sept. 16–30	120.1	132.4	300	90
Oct. 1–15	104.1	89.7	260	61
Oct. 16–31	100.1	89.7	250	61
Nov. 1–15	104.5	91.2	261	62
Nov. 16–30	126.1	127.9	315	87
Dec. 1–15	109.3	101.5	273	69
Dec. 16–31	64.5	39.7	161	27

In the family groups, of all ages, the highest incidence (153.3 per 1,000) is recorded in the latter half of January. From that time until the latter half of June there is a fairly regular decline in the rates; then, beginning in July or the first half of August, an increase to a sharp peak (120 per 1,000) during the latter half of September. This is followed by another decline during October and the first half of November, with another sharp rise to a peak (126) in the latter half of November. From this time to the end of the year the incidence rate declined to 65 again.

In the age-group 15–34 of persons in these families the chronological distribution is substantially the same except that the first peak was reached in the first instead of the latter half of January—hardly a significant difference in view of the small numbers.

The reports from students (an entirely independent group of records) show almost identically the same chronological distribution; but in the students the absolute incidence rates throughout the year

are much higher than in the family group as a whole or in the age group 15–34 of this personnel. The similarity in the chronological variations of respiratory attacks in the family and student groups

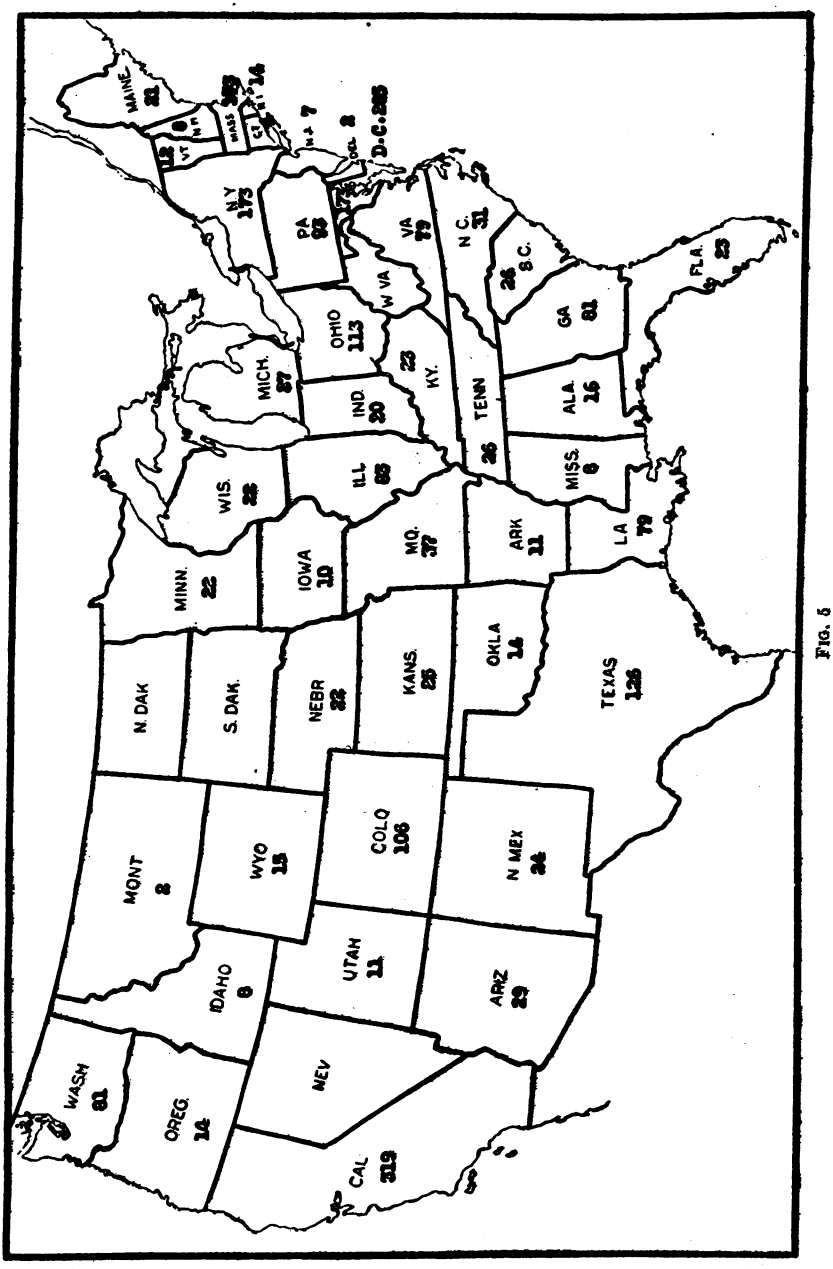

FIG. 5

is all the more striking when it is remembered that both represented scattered sections of the country. The wide geographical distribution of the families is shown in Figure 5 and the student groups were in

Boston, Baltimore, Washington, Rock Hill, S. C., New Orleans, Chicago, Columbus, and San Francisco. Moreover, as was shown in the first report on this study, the chronological variation of attacks among these student groups was remarkably synchronous.

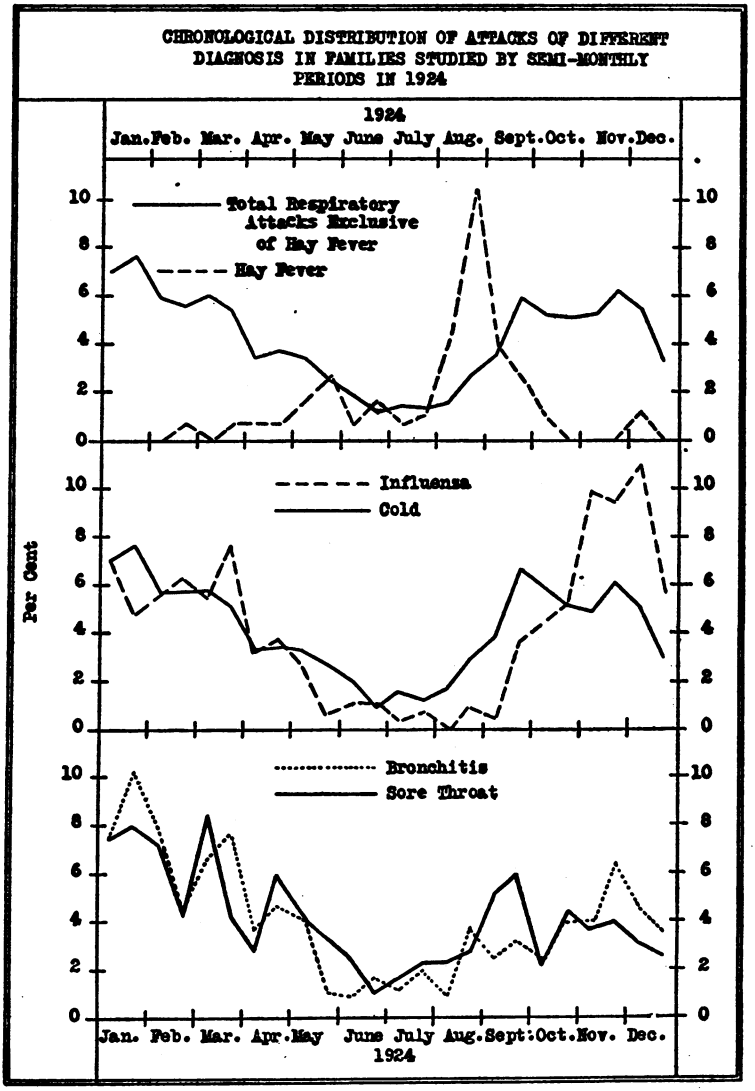

FIG. 6

A higher prevalence in winter and spring than in summer has long been accepted as characteristic of this group of diseases. The sharp increase of incidence rates in the autumn and the subsequent decline in early winter which are shown here have not been recognized as general characteristics of this group of diseases; and it is obvious

that a longer period of observation is required to ascertain whether the seasonal distribution exhibited in 1924 was usual or exceptional. In fact, the collection of records of respiratory attacks in the office of statistical investigations, United States Public Health Service, shows that while the major seasonal variation occurs in other years as well as among other groups of persons observed, minor variations such as the decline in October–November, 1924, are not characteristic of other years.

Table No. 13 and Figure 6 show the chronological distributions, during 1924, of the cases diagnosed respectively as "colds," "bronchitis," "sore throat," and "influenza. In order to reduce the data to a common scale for graphic presentation, these distributions are expressed in terms of the percentage which the cases in each half-monthly period are of the cases during the whole year in each group.

TABLE 13.—*Chronological distribution of attacks in 1924 of different diagnoses in families reporting for the whole year*

Semimonthly period	Per cent of attacks of specified diagnoses in each semimonthly period					
	All diagnoses [1]	Colds	Bronchitis	Sore throat	Influenza	Hay fever [2]
Entire year	100.00	100.00	100.00	100.00	100.00	100.00
Jan. 1–15	7.07	7.04	7.44	7.39	6.99	----------
Jan. 16–31	7.63	7.64	10.17	7.95	4.80	----------
Feb. 1–15	5.96	5.72	7.94	7.10	5.46	----------
Feb. 16–29	5.56	5.69	4.71	4.26	6.33	1.56
Mar. 1–15	5.98	5.77	6.45	8.52	5.46	----------
Mar. 16–31	5.42	5.01	7.69	4.26	7.64	1.56
Apr. 1–15	3.29	3.27	3.72	2.84	3.06	1.56
Apr. 16–30	3.69	3.37	4.71	5.97	3.71	1.56
May 1–15	3.23	3.24	4.22	4.26	2.62	4.69
May 16–31	2.43	2.69	1.24	3.41	.66	7.81
June 1–15	1.87	2.00	.99	2.56	1.09	1.56
June 16–30	1.06	.98	1.74	1.14	1.09	4.69
July 1–15	1.39	1.50	1.24	1.70	.44	1.56
July 16–31	1.32	1.24	1.99	2.27	.66	3.13
Aug. 1–15	1.53	1.71	.99	2.27	----------	12.50
Aug. 16–31	2.75	2.87	3.72	2.84	.87	31.25
Sept. 1–15	3.47	3.80	2.48	5.11	.44	12.50
Sept. 16–30	5.98	6.59	3.23	5.97	3.49	7.81
Oct. 1–15	5.18	5.85	2.48	2.27	4.37	3.13
Oct. 16–31	4.98	5.14	3.97	4.55	5.02	----------
Nov. 1–15	5.20	4.98	3.97	3.69	9.83	----------
Nov. 16–30	6.28	6.11	6.45	3.98	9.39	----------
Dec. 1–15	5.44	4.96	4.71	3.12	10.92	3.13
Dec. 16–31	3.21	2.87	3.72	2.56	5.68	----------

[1] Except hay fever.
[2] Includes all cases of hay fever, whether concurrent with other respiratory attacks or not.

The time distributions in all of the groups (excepting hay fever) are similar in a general way, at least to the extent that in each group there is a period of high prevalence in the early winter, a decline to midsummer, another period of high prevalence in autumn, and some decline again in December. Notwithstanding this general similarity, the distributions are more or less distinctive. Thus, the cases of "influenza" during the latter part of the year show a distribution which is distinctly different from that of the "colds"; and even

though the number of cases of "influenza" is not great, the difference is sufficient to be significant. Bronchitis and sore throat show distributions which are distinctly more irregular than those of "colds" or "influenza," and it would appear that this greater irregularity is not altogether explained by the smaller numbers in these groups. Of these two groups bronchitis is more nearly related in its chronology to influenza, and sore throat to "colds." In fact, throughout most of the year, the parallelism between bronchitis and influenza is rather striking.

The seasonal distribution of cases classified as "hay fever, pollen fever, rose cold" is in sharp contrast to that of the other respiratory diseases, the concentration of cases in the "hay fever season" being quite apparent.

ACKNOWLEDGMENTS

This study was made possible by the long continued and interested cooperation of several hundred medical officers of the Army, Navy, and Public Health Service and of a number of members of the faculties of several universities, and by financial assistance from the influenza commission of the Metropolitan Life Insurance Co. Special acknowledgments are gratefully made by the authors of this report to Surg. W. H. Frost for frequent advice during the course of the study and for counsel and assistance in the preparation of this report. The statistical work was done under the immediate supervision of Miss Lily Vanzee of the United States Public Health Service.

THE EXTENT OF MEDICAL AND HOSPITAL SERVICE IN A TYPICAL SMALL CITY[1]

Hagerstown Morbidity Studies No. III

By EDGAR SYDENSTRICKER, Statistician, United States Public Health Service

In discussions of the amount and kinds of medical service which ought, according to present standards, to be available to persons in ill health as well as to those in good health, the observation is not irrelevant that a good deal more must be known about two rather pertinent points:

1. How much and what sort of *demand* is there for medical service as measured by the prevalence of ill health, as evidenced by the frequency of illness due to various diseases in the general population?

2. How much and what kinds of services are actually *supplied* to the general population under such conditions as are typical?

[1] From the Office of Statistical Investigations, United States Public Health Service. Other Hagerstown Morbidity Studies published are—

I. A Study of Illness in a General Population Group: Method of Study and General Results. Pub. Health Rep., Sept. 24, 1926.

II. The Reporting of Notifiable Diseases in a Typical Small City. Pub Health Rep., Oct. 8, 1926.

These points can be refined, of course, and there are other points just as important as these and other problems just as difficult. Ill health is not, of course, completely revealed by sickness alone, and medical service properly is concerned with the health of the individual long before disease results in sickness. In this discussion, however, we are limited by the data to that ill health which is manifested in actual sickness as the term is ordinarily understood. The questions of what constitutes "adequate" medical service, and of its distribution to meet changing conditions; of supplying proper medical, nursing, and hospital care to groups and classes of persons who are known to lack even the facilities ordinarily possessed by most of the population in any community; of the economic factors involved; of efficiency in organization to meet the needs of the situation; of professional and social standards, and the like, are fundamental to a more satisfactory solution of what we are accustomed to speak of as "the problem of medical service." Much has been written and said about the proper ratio of hospital beds to population, some of which is based upon considerable practical experience and, in some instances, upon carefully made observations. Within broad limits, some general estimates have indicated a tendency toward agreement among those who are giving the matter especial attention. Similarly, there are indications of a consensus of opinion on minimal ratios of physicians and nurses to population. But a *factual* basis for these opinions and estimates is still largely lacking. Many of the questions involved should be and can be answered by collecting the necessary information and subjecting the results to proper statistical analysis.

In the hope of making a small contribution to a few items of this desirable knowledge, it is purposed to present in summarized form the results of some observations on the general kind of medical service actually received in cases of illness occurring during a 28 months' period in a general population group. In a report already published, the incidence and prevalence of illness, classified according to disease, in this population, were shown in some detail and the scope, method, and results of the study were described and discussed. These aspects of the study will not be repeated here except to state that the group included about 8,000 white persons of both sexes and all ages, nearly all of whom were native born of native parents, and that 95 per cent of the illnesses recorded lasted three days or longer. The group composed about one-fourth of the population of Hagerstown, Md., a rather typical city of the kind which is surrounded by purely rural country and contains no predominant or large industry. In another report it was pointed out that there were 45 medically trained physicians, 37 of whom were engaged in general practice, which gave a ratio of one physician to 666 inhabitants or

one physician engaged in general practice to 811 inhabitants. Since some of these physicians had rural practice in addition to urban, the ratios are somewhat larger than the above figures. On the other hand, it was found that 30 of the 37 physicians engaged in general practice were practicing in the 1,800 families regularly observed for the incidence of illness. The supply of physicians, however, for Hagerstown was somewhat below the average for cities and towns having 5,000 or more inhabitants. The observations were made during a period which was probably favorable to a demand for medical service, since a health demonstration was in progress at the time, one of the objects of which was to encourage the demand for medical service.

The records of medical service of different kinds actually received are not as complete nor as detailed as we would wish for a detailed contribution on the subject. In fact, they were not so intended when the particular items concerned were placed upon the schedule form as it was devised in 1921, and this brief contribution is made frankly as a by-product of a study designed more specifically for other purposes. The information called for on the form and in the instructions given to the field assistants was as follows:

1. Whether or not a medically trained person was in attendance upon the case of illness recorded. (If so, the name of the physician was ascertained in all instances primarily for the purpose of referring the case to him for confirmation as to diagnosis.)

2. Whether or not the case was hospitalized. By this was meant hospital care of the patient, as distinguished from occupancy of the operating room and immediate return home or of clinic facilities that may have been provided at the hospitals.

3. Whether or not the patient was regularly attended by a graduate nurse in the home (bedside nursing).

4. Whether or not the patient was attended by osteopath, chiropractor, midwife, or "practitioner of any kind."

5. If no medical or other service of the kinds already mentioned was had, the informant was encouraged to state what sort of self-medication was employed, or whether or not advice from school or industrial nurse or druggist was obtained.

As to the accuracy and completeness of the information obtained, we feel that our records of attendance of medically trained physicians, graduate nurses, and osteopaths, chiropractors, midwives, and others are satisfactory. That is, for all persons who suffered from illness during the period, which in fact means all persons who were in such a condition of ill health as to suffer definitely morbid effects, the record of these services was practically complete. Furthermore, since 67 per cent of the population group was actually under observation for at least two years, and over 90 per cent for at least one

TABLE 1.—*Number of cases of illness, by cause of illness, occurring in a white population group in Hagerstown, Md., during the period December 1, 1921–March 31, 1924, with information as to the number receiving medical, hospital, and other service*

Diseases and conditions causing illness. (Numbers in parentheses refer to those in the International List of the Causes of Death, 1920)	Number of illnesses with information stated	Attended by a physician [1]	In hospital [2]	Attended by a chiropractor	Attended by an osteopath	Self-medication and other [3]
All diseases	17,217	7,953	230	23	48	383
Total respiratory (except operations) (11, 31, 97–107, 109)	10,461	3,555	22	7	18	255
Influenza and grippe (11)	2,317	1,541	1	2	3	77
Pneumonia (all forms) (100, 101)	111	108	8			
Pleurisy (102)	33	29				
Diseases of pharynx (109)	1,061	508		1	8	23
Tonsillitis	465	341		1	6	11
Sore throat	497	103			2	11
Quinsy	49	36				
Other diseases of pharynx	50	28				1
Diseases of larynx (98)	183	62				4
Laryngitis	92	33				3
Croup	86	28				1
Other diseases of larynx	5	1				
Hay fever and asthma (105 and part of 107)	86	40				4
Tuberculosis, pulmonary (31)	48	47	12			
Other diseases of the respiratory system (including head colds, chest and bronchial conditions (97, 99, 103, 107)	6,622	1,220	1	4	7	147
Tonsillectomy, adenoidectomy, or both (part of 109)	119	119	22			
Other operations on throat and nasal fossae	8	8				
Epidemic, endemic, and infectious diseases (1–42, excluding 11 and 31)	1,423	863	11		2	44
Typhoid (1)	19	19	2			
Measles (7)	556	367			1	23
Scarlet fever (8)	34	33			1	
Whooping cough (9)	365	178				9
Diphtheria (10) [1]	45	44				
Cholera nostras (15)	35	17	1			1
Chicken pox (25a)	227	101				9
German measles (25b)	18	7				
Tuberculosis, nonpulmonary (32–37)	14	13	7			
Vaccinia (42)	38	29				
Other diseases in this group [1] (2–6, 12–24, 26–30, 38–41, and part of 42)	72	55	1			2
General diseases (43–69)	335	227	17	2	4	6
Cancer (43–49)	21	21	4			
Rheumatism, acute and chronic (51, 52)	253	157	3	2	4	6
Diabetes mellitus (57)	15	13	1			
Exophthalmic goiter (60a)	9	9	2			
Other general diseases (50, 53, 56, 58, 59, 60b, [4] 61–69)	9	9	2			
Diseases of the nervous system (70–84, part of 205)	686	334	6	4	2	7
Cerebral hemorrhage and apoplexy (74)	9	9	1			
Paralysis (75)	23	22				
Epilepsy (78)	9	5				
Chorea (81)	19	17				1
Neuralgia (part of 82)	100	38		1		2
Neuritis and sciatica (part of 82)	86	50		1	2	1
Headache (part of 82 and 205)	237	27		1		3
Neurasthenia (part of 84)	164	132		1		
Other nervous diseases (71–73, 76, 77, 79, 80, 83, part of 82 and 84)	39	34	5			
Diseases of the eyes and annexa (85)	119	72				4
Pink eye	32	16				
Other conjunctivitis and sore eyes	31	19				
Sty	16	5				3
Other eye conditions	40	32				1
Diseases of the ears and mastoid process (86)	175	112	9			2
Otitis media	114	81				2
Mastoiditis	10	10	9			
Other and unqualified diseases of the ear	51	21				
Diseases of the circulatory system (87–96)	287	239	5		1	4
Diseases of the heart (87–90)	154	144			1	1
Arteriosclerosis (part of 91)	19	19				
Hemorrhoids (part of 93)	18	13	5			1
Adenitis (part of 94)	43	22				1
High blood pressure (part of 96)	19	18				
Other diseases of circulatory system (92, 95, part of 91, 93, 94, 96)	34	23				1

Footnotes at end of table.

TABLE 1.—*Number of cases of illness, by cause of illness, occurring in a white population group in Hagerstown, Md., during the period December 1, 1921–March 31, 1924, with information as to the number receiving medical, hospital, and other service*—Continued

Diseases and conditions causing illness. (Numbers in parentheses refer to those in the International List of the Causes of Death, 1920)	Number of illnesses with information stated	Attended by a physician	In hospital	Attended by a chiropractor	Attended by an osteopath	Self-medication and other
Diseases and disorders of the digestive system (110–127, part of 108 and 205)	1,555	900	63	4	10	42
Ulcers of stomach and duodenum (111)	11	11				
Indigestion and upset stomach (112)	700	322		1	3	24
Biliousness (part of 205)	155	60	1			7
Stomach trouble unqualified (112)	116	55	1	2	1	1
Diarrhea, under 2 years (113)	75	63	1			1
Diarrhea, 2 years and over (114)	135	75				6
Appendicitis (117)	84	72	30	1	4	
Hernia (118a)	23	17	8		1	
Intestinal disorders including constipation (118b, 119)	35	27	6			
Biliary calculi (123)	68	62	11			2
Cholecystitis (part of 124)	30	29	1		1	
Jaundice (part of 124)	45	40				1
Other diseases of liver (part of 124)	26	25	1			
Other diseases of the digestive system (110, 116, 126, and 108, except teeth and gums)	52	42	3			
Diseases of the teeth and gums (part of 108)	118	70				
Toothache	41	12				
Tooth abscess	49	32				
Teeth unqualified	28	26				
Diseases of the kidney and annexa (128–134)	175	153	7		2	2
Acute nephritis	9	8				
Chronic nephritis	42	39			2	
Other and unqualified kidney trouble (131)	69	58	2			2
Cystitis (part of 133)	19	15				
Bladder trouble unqualified (part of 133)	20	17	2			
Calculi of urinary passage (132)	14	14	1			
Other diseases in this group (134)	2	2	2			
Nonvenereal diseases of genito-urinary system (135–142)	180	140	34			1
Diseases of male organs (135, 136)	9	8	5			
Diseases of female genital organs (137–139, part of 140, 141, 142)	98	89	29			[6] 1
Menstruation (part of 141)	47	22				
Menopause (part of 141)	26	21				
Puerperal state (143–150)	390	384	14			6
Abortion and still birth (part of 143)	32	32	6			
Confinements (149 and part of 185) [1]	321	316	5			[5]
Other puerperal conditions (143–150)	37	36	3			1
Diseases of the skin and cellular tissue (151–154, part of 205)	278	154	1		1	4
Furuncle (152)	69	33				
Abscess (153)	27	22	1			
Impetigo contagiosa (part of 154)	24	17				
Scabies and itch (part of 154)	23	12				
Rash (part of 205)	18	7				2
Hives (part of 205)	19	9				
Sores on body (part of 205)	54	15				2
Other and unqualified skin conditions (part of 154 and 205)	44	39			1	
Diseases of bone and organs of locomotion (155–158, part of 205)	103	66	6	2	1	1
Lumbago, myalgia, and myositis (part of 158)	47	30	1			1
Backache (part of 205)	32	18			1	
Other diseases of the bones and organs of locomotion (155, 156, and part of 158)	24	18	5	2		
Congenital malformation and infancy (159–163)	19	17	1			
Senility (164)	11	7				
External causes (165–203)	638	464	10	3	3	4
All poisonings (175–177)	46	27				2
Burns (178–179)	33	19				1
Fractures, wounds, injuries (183–188, 201, 202)	529	395	9	3	3	
Other external causes (165–174, 181–182, 189, 190–196)	30	23	[2] 1			1
Ill-defined and unknown	137	69	2	1	4	1

[1] One each of the following illnesses had a trained nurse at home: Diphtheria, gonococcus infection, confinement.
[2] Hospital cases included in number attended by physician.
[3] Includes cases treated on advice of druggist, school, and industrial nurses or other persons.
[4] Includes only simple goiter when it caused some illness in the period.
[5] Midwife.

year, it is believed that a record of total medical and other attendance was obtained for the cases recorded. The same is true of cases that were hospitalized. We feel, however, that the records of self-medication are an understatement, for the reasons that the inquiry was not always made, although in many instances the information was volunteered, and that probably some persons not becoming ill during the period of study or not complaining of ill health resorted to the use of medicines without our having the opportunity to elicit the information.

The details of the information secured are given in Table 1 for illnesses classified as to cause in order that any one interested may be enabled to make such use of them as he may see fit. For purposes of a brief comment, four summary tables are presented.

TABLE 2.—*Per cent of cases of illness, classified by broad groups according to cause, occurring in a white population group in Hagerstown, Md., which received medical, hospital, and other care, Dec. 1, 1921–Mar. 31, 1924*

Groups of causes (Numbers in parentheses refer to those in the International List of the Causes of Death, 1920)	Number of illnesses for which information was obtained	Per cent with specified type of service				
		Attended by physician	In hospital [1]	Chiropractor	Osteopath	Self-medication and other [2]
All diseases	17,217	46	1.34	0.13	0.28	2.25
Diseases of the respiratory system (11, 31, 97–107, 109) [3]	10,461	34	.21	.07	.17	2.44
Epidemic, endemic, and infectious diseases (1–42 except 11 and 31)	1,423	61	.77	-------	.14	3.09
Other general diseases (43–69)	335	68	5.07	.60	1.19	1.79
Diseases of nervous system (70–84, part of 205)	686	49	.87	.58	.29	1.02
Diseases of eyes and annexa (85)	119	61	-------	-------	-------	3.36
Diseases of ears and mastoid process (86)	175	64	5.14	-------	-------	1.14
Diseases of circulatory system (87–96)	287	83	1.74	-------	.35	1.39
Diseases and disorders of digestive system (110–127, part of 108 and 205)	1,555	58	4.05	.26	.64	2.70
Diseases of teeth and gums (part of 108)	118	59	-------	-------	-------	-------
Diseases of kidney and annexa (128–134)	175	87	4.00	-------	1.14	1.14
Nonvenereal diseases of genito-urinary system (135–142)	180	78	18.89	-------	-------	.56
Confinement and other puerperal conditions (143–150)	390	98	3.59	-------	-------	1.54
Diseases of skin and cellular tissue (151–154, part of 205)	278	55	.36	-------	.36	1.44
Diseases of bones and organs of locomotion (155–158, part of 205)	103	64	5.83	1.94	.97	.97
Congenital malformations and infancy (159–163)	19	89	5.26	-------	-------	-------
Senility (164)	11	64	-------	-------	-------	-------
External causes (165–203)	638	73	1.57	.47	.47	.63
Ill-defined and unknown	137	50	1.46	.73	2.92	.73

[1] Hospital cases included in per cent "Attended by physician."
[2] Includes cases treated on advice of druggist, school, and industrial nurses or other persons.
[3] Excluding 127 tonsillectomies and other operations (nonrespiratory) on throat and nasal fossæ.

The first of these tables is a summarization (Table 2) which shows the proportion of all illnesses attended by physicians, etc., as well as the proportions of illnesses so attended classified according to certain broad groupings under the International List of Causes of Death. Here it is seen that 46 per cent of *all* illnesses lasting about three days or longer were attended by medically trained physicians and

1.34 per cent were hospitalized. Surprising as it may appear, only three cases of illness were attended by trained nurses at home. Chiropractors and osteopaths attended 0.41 of one per cent, osteopaths attending 48 cases and chiropractors 23 cases. Whether or not this distribution of cases according to the kind of attendance is actually typical obviously we are unable to say. It was found to exist for a population which is not unrepresentative of cities of a given size, kind, and geographical section; further studies are necessary to determine whether or not the condition itself is general.

That less than half of the illnesses were attended by physicians may be regarded in one sense as an understatement of the extent of medical service rendered because many of the illnesses recorded were mild cases that ordinarily do not require medical attention. It must be clearly understood, of course, that we are not speaking of "visits," but of cases; the number of visits per case was not ascertained, although for an adequate study of medical service it certainly would be a pertinent item for inquiry. Just what *cases* ought or ought not to have a physician is a question about which opinions will differ; the record of our observations is given in sufficient detail, it is hoped, to permit of an interpretation from almost any broad standard that may be set up for the extent of medical service from the point of view of the disease involved. The proportion of cases attended varies, of course, with their nature (disease), discomfort, and severity Thus, only 34 per cent of respiratory attacks received medical attention as against over 80 per cent of illnesses resulting from diseases of the nervous system and of the kidneys. If, for example, we omit "colds" and minor digestive disturbances, which numbered about 7,500 of the total cases recorded, we find that 65 per cent of the remaining cases were attended by physicians.

A more satisfactory way of considering the results of our observations is to take cases of illness resulting from specific diseases. In Table 3 this has been done for 58 of these categories. The diseases have been arranged in the order of the proportion receiving attention from physicians; for each disease is also shown the percentage which were hospitalized. As a matter of possible interest, the frequency with which cases of the different diseases were attended by osteopaths or chiropractors is also shown. The proportion resorting to self-medication is given, but for comparison by disease only, since, as has been pointed out, we do not feel that a complete record of self-medication, "drug-store treatment," etc., was obtained.

Since so large a proportion of the illnesses were respiratory, it may be interesting to show them in greater detail. During the second half of our study an attempt was made to record more exactly the nature of the illnesses which previously had been recorded as "colds."

TABLE 3.—*Per cent of cases of illness from certain specific causes occurring in a white population group in Hagerstown, Md., which received medical, hospital, and other care, December 1, 1921–March 31, 1924*

Diseases (Numbers in parentheses refer to those in the International List of the Causes of Death, 1920)	Number of illnesses with information stated	Per cent of cases receiving specified type of service			
		Attended by physician [1]	Attended by osteopath or chiropractor	In hospital [2]	Self-medication [3]
Typhoid (1)	19	100		10.53	
Cancer (43–49)	21	100		19.05	
Cerebral hemorrhage (74)	9	100		11.11	
Arterio sclerosis (part of 91)	19	100			
Ulcers of stomach and duodenum (111)	11	100			
Abortion and stillbirths (part of 143)	32	100		18.75	
Mastoiditis (part of 86)	10	100		90.00	
Tonsillectomy, adenoidectomy, or both (part of 109)	119	100		18.49	
Tuberculosis, pulmonary (31)	48	98		25.00	
Diphtheria (10) [1]	45	98			
Confinements (149 and part of 185) [1]	321	98		1.56	[4] 1.56
Pneumonia (100–101)	111	97		7.21	
Scarlet fever (8)	34	97	2.94		
Cholecystitis (part of 124)	30	97	3.33	3.33	
Paralysis (75)	23	96			
High blood pressure (part of 96)	19	95			
Diseases of the heart (87–90)	154	94	.65		.65
Tuberculosis, nonpulmonary (32–37)	14	93		50.00	
Biliary calculi and calculi of urinary passages (123 and 132)	82	93		14.63	2.44
Nephritis (128 and 129)	51	92	3.92		
Jaundice (part of 124)	45	89			2.22
Chorea (81)	19	89			5.26
Congenital malformation and early infancy (159–163)	19	89		5.26	
Pleurisy (102)	33	88			
Diabetes mellitus (57)	15	87		6.67	
Appendicitis (117)	84	86	5.95	35.71	
Diarrhea, under two years (113)	75	84		1.33	1.33
Cystitis and "bladder trouble" (133)	39	82		5.13	
Menopause (part of 141)	26	81			
Abscess (153)	27	81		3.70	
Neurasthenia (part of 84)	164	80	.61		
Fractures, wounds, and other injuries (183–188, 201, 202)	529	75	1.14	1.70	
Hernia (118a)	23	74	4.35	34.78	
Tonsillitis (part of 109)	465	73	1.51		2.37
Quincy (part of 109)	49	73			
Otitis media (part of 86)	114	71			1.75
Impetigo contagiosa (part of 154)	24	71			
Influenza and grippe (11)	2,317	67	.22	.04	3.32
Measles (7)	556	66	.18		4.14
Lumbago, myalgia, myositis (part of 158)	47	64		2.13	2.13
Rheumatism (51 and 52)	253	62	2.37	1.19	2.37
Poisoning, food and others (175–177)	46	59			4.34
Burns (178–179)	33	58			3.03
Neuritis and sciatica (part of 82)	86	58	3.49		1.16
Diarrhea, 2 years and over (114)	135	56			4.44
Scabies (part of 154)	23	52			
Adenitis (part of 94)	43	51			2.33
Whooping cough (9)	365	49			2.47
Furuncle (152)	69	48		[5]	
Hay fever and asthma (105 and part of 107)	86	47			4.65
Menstruation (part of 141)	47	47			
Stomach trouble (part of 112 and 205)	971	45	.72	.20	3.29
Chicken pox (part of 25)	227	44			3.96
Neuralgia (part of 82)	100	38	1.00		2.00
Laryngitis (part of 98)	92	36			3.26
Sore throat (part of 109)	497	21	.40		2.21
Colds and bronchial conditions (97, 99, 103, 107)	6,622	18	.17	.02	2.22
Headache (part of 82 and 205)	237	11	.42		1.27

[1] One each of the following illnesses had trained nurse at home: Diphtheria, confinement.
[2] Hospital cases included in "Per cent attended by physician."
[3] Cases treated on advice of druggists, school, and industrial nurses or other persons.
[4] Mid-wife.

Hence in Table 4 the observations on medical and other service are given for seven fairly definite respiratory classes in addition to a group which, for lack of more specific information, had to be called "colds, unqualified." Only 7 per cent of the coryzas recorded were attended by physicians, 20 of sore throats, as against 30–40 per cent of bronchitis and laryngitis, 67 per cent of influenza and grippe, and 73 per cent of tonsillitis. It is impossible to judge of the disparity between the 21 per cent of sore-throat cases attended by physicians and the 73 per cent of tonsillitis cases, for the reason that no diagnosis, other than that reported by the patient or the lay informant, was made of 80 per cent of the sore throats.

TABLE 4.—*Per cent of 6,992 cases of illnesses from certain respiratory diseases occurring in a white population group in Hagerstown, Md., which received medical, hospital, and other care* [1]

Diseases (Numbers in parentheses refer to those in the International List of the Causes of Death, 1920)	Number of illnesses with information stated	Per cent with specified type of service			
		Attended by physician	Attended by osteopath or chiropractor	In hospital [2]	Self-medication [3]
Tonsillitis (part of 109)	465	73	1.51	----	2.4
Influenza and grippe (11)	2,317	67	.22	0.04	3.3
Laryngitis (part of 98)	92	36	----	----	3.3
Bronchitis, chronic (99)	29	35	----	----	6.9
Bronchitis, acute (99)	984	31	.41	.10	2.3
Sore throat (part of 109)	497	21	.40	----	2.2
Coryza (97)	1,780	7	.11	----	2.3
Colds unqualified (107)	828	14	.24	----	3.6

[1] The cases of colds, coryza, and chronic and acute bronchitis included in this table occurred during the period February, 1923–March, 1924. The other cases occurred during the period December, 1921–March, 1924.
[2] Hospital cases included in per cent "Attended by physician."
[3] Includes cases treated on advice of druggist, school, and industrial nurses or other persons.

It may be of interest to consider these records from another point of view, namely, What sort of cases is the physician, the hospital, or other service chiefly concerned with under actual conditions as found in a typical small city? As a general answer to this question, Table 5 has been prepared, in which the percentage distribution of each of these services is given according to the customary broad groups of diseases. Thus it is seen that nearly half of the cases attended by physicians are respiratory attacks, 11 per cent are diseases and disorders of the digestive system, and another 11 per cent those diseases which are commonly grouped under the general heading "Epidemic, endemic, and infectious." Two-thirds of the physician's cases fall in these three classes—respiratory, digestive, and infectious. About 6 per cent are cases arising from "external causes," chiefly accidents, 5 per cent are confinements and conditions incident to childbirth, and 4 per cent are due to diseases and conditions of the nervous system. The distribution of cases receiving hospital care shows a sharp contrast to the distribution of those attended by physicians

in their practice, although hospitalized cases are included in the physician's cases. Thus, in this particular locality, more than one-fourth (27.4 per cent) of the hospital cases were due to diseases and disorders of the digestive system, chiefly appendicitis, hernia, and biliary calculi, as may be seen by reference to Table 1; 15 per cent were due to nonvenereal diseases of the genito-urinary system, nearly all of which were in females; 10 per cent were tonsillectomies and adenoidectomies, and another 10 per cent were respiratory, nearly all of which were pulmonary tuberculosis and pneumonias. Only 6 per cent of the hospital cases were maternity cases—an extraordinarily small proportion in comparison with what has been observed in larger cities. Only 5 of the 321 confinements (exclusive of abortions and stillbirths) occurring in the population observed were hospitalized, although 316 of the 321 cases were attended by physicians. This is to be explained, we believe, chiefly on the ground of local tradition and custom, since Hagerstown is an old settled community.

TABLE 5.—*Distribution, according fo disease group, of illnesses receiving medical, hospital, and other care in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924*

Diseases (Numbers in parentheses refer to those in the International List of the Causes of Death, 1920)	Per cent each disease group is of total cases receiving specified care				
	Attended by physician	In hospital [1]	Attended by chiropractor	Attended by osteopath	Self-medication [2]
All diseases	100.0	100.00	100.0	100.0	100.0
Diseases of the respiratory system (11, 31, 97–107, 109)	44.7	9.57	30.4	37.5	66.6
Diseases and disorders of the digestive system (110–127, pts. 108 and 205)	11.3	27.39	17.4	20.8	11.0
Epidemic, endemic, and infectious diseases (1–42, except 11 and 31)	10.9	4.78		4.2	11.5
External causes (165–203)	5.8	4.35	13.0	6.2	1.0
Confinements and other puerperal conditions (143–150)	4.8	6.09			[3] 1.6
Diseases of the nervous system (70–84, pt. 205)	4.2	2.61	17.4	4.2	1.8
Diseases of the circulatory system (87–96)	3.0	2.17		2.1	1.0
Other general diseases (43–69)	2.9	7.39	8.7	8.3	1.6
Diseases of skin and cellular tissue (151–154, pt. 205)	1.9	.43		2.1	1.0
Diseases of kidney and annexa (128–134)	1.9	3.04		4.2	.5
Nonvenereal diseases of the genito-urinary system (135–142)	1.8	14.78			.3
Tonsillectomy, adenoidectomy, and others [4]	1.6	9.57			
Diseases of ear and mastoid process (86)	1.4	3.91			.5
Diseases of eyes and annexa (85)	.91				1.0
Diseases of teeth and gums (part of 108)	.88				
Ill-defined and unknown	.86	.87	4.3	8.3	.3
Diseases of bones and organs of locomotion (155–158, part of 205)	.83	2.61	8.7	2.1	.3
Congenital malformation and infancy (159–163)	.21	.43			
Senility (164)	.09				

[1] Hospital cases included in per cent "Attended by physician."
[2] Includes cases treated by druggist, school, and industrial nurse or other persons.
[3] Midwife.
[4] Eight other operations on throat and nasal fossae included.

Of the limited practice engaged in by osteopaths and chiropractors in this locality, about one-third of the cases were minor respiratory disorders, and about one-fourth were digestive ailments. The de-

tails of the 71 cases attended by osteopaths and chiropractors are shown in Table 1. Two-thirds of the cases treated by self-medication, upon advice of druggists, etc., were for respiratory ailments, the great majority of which were common colds, and 11 per cent for digestive disorders.

The data presented in this brief communication suggest, it is believed, the desirability of further and more detailed studies in communities of varying types and in populations of different racial and economic conditions in order to furnish answers to a number of questions on which there is at present a good deal of debate and not a little confusion.

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PUBLIC HEALTH ENGINEERING ABSTRACTS

Chlorination of Water and Sewage.—Earle B. Phelps. (Discussion by L. H. Enslow.) Journal of the Boston Society of Civil Engineers, vol. 13, Nos. 4 and 5, April and May, 1926, pp. 233–243. (Abstract by L. H. Enslow.)

Chlorination of water.—For the production of the desired efficacy of chlorine in water sterilization, a trace or more of residual chlorine as determined by the orthotolodine test is essential. The period of contact between the water and the chlorine is relatively unimportant provided the proper quantity of residual chlorine is maintained in a relatively clean water after a contact period of 10 minutes.

Substitution compounds formed between the chlorine and organic matters in the water may produce a sterilizing effect upon effecting long periods of contact. When such compounds are formed and great length of storage is available, residual chlorine is sometimes unnecessary. The effect is similar to that obtained with chloramines. The more dependable procedure is to maintain a measurable excess of residual chlorine and thus insure a rapid removal of bacteria and algae. Thus, also, a "measuring stick" is available for sterilization efficiency control where the residual chlorine test is applied.

Residual chlorine in the water leaving the plant, preventing "aftergrowths," likewise stands as a preventive against accidental pollution in reservoirs, and the mains following repair service.

In general, the greater the soluble organic matter or ammonia content carried by the water, the greater the permissible residual chlorine content without taste and odor production. Also in organic waters the higher the residual chlorine content (within reason), the less likelihood there is of residual *by-product tastes* remaining in the water supplies to consumers. Waters of extremely low organic or ammonia content may have a chlorinous odor with as little as 0.2 p. p. m. residual chlorine present. In chlorinating organic water the liability of producing an excess, and consequently a chlorinous taste, is less to be dreaded than the by-product taste resulting from underchlorination.

The rate of dissipation of available chlorine is governed to an extent by the hydrogen ion concentration (pH value) of the water. Waters nearly void of bicarbonate and possessing mainly normal carbonates alkalinity will form hypochlorites, which do not give up their available chlorine readily in the absence of hydrogen ions. Softened water without recarbonation is thus likely to cause complaints, due to failure of the available chlorine to dissipate in the high pH medium.

Chlorine by-products resulting from chlorination of waters containing dead vegetable matter may be destroyed with excess chlorine, i. e., superchlorination.

Split chlorination wherein the raw water receives prechlorination and the filter effluent secondary chlorination is gaining prestige. The reduction of the bacterial load on the filters, although the primary reason for prechlorination, is accompanied by other advantages such as operating economy. In split chlorination practice, dual protection is afforded; and with increasing pollution of the raw-water supply, prechlorination and dual chlorination is gaining greater recognition.

Chlorination of sewage.—In sewage chlorination it is evident that the efficacy of the process is dependent upon maintaining excess or residual chlorine. The period of contact when residual chlorine is present is of secondary importance—not more than a 10-minute period being necessary. In the absence of residual chlorine the bacterial efficiency is low. Long contact periods have some merit when the chlorine dosage is barely less than sufficient to produce residual after a 10-minute contact. Without residual chlorine tests being systematically made, there is no "measuring stick" available to apply to the process, except the bacteriological test. In the absence of residual chlorine such must be made immediately following sampling if misleading results are to be avoided. The long contact period in the sample bottle has an effect which does not exist at the

treating plant, and apparent reduction in bacteria is not obtained similarly in the plant effluent subject to less period of contact before discharge.

The chlorine demand of sewages is quite variable. This is not alone true for various sewages, but the demand varies materially for a particular sewage effluent at various seasons of the year. Frequently the demand in summer is double that observed in winter. Septic sewage, and particularly such when the carriage water initially contains appreciable sulphate content, has a considerably higher chlorine demand than fresh sewage.

Odors from sewage effluents are destroyed through addition of chlorine, which combines directly with the odor-producing matters, such as hydrogen sulphide. The decay and subsequent odor production in sewage may be materially reduced or eliminated if chlorine is applied early in the life of the sewage. Less chlorine than required to produce residual chlorine retards septization and odor production markedly.

In prechlorination of crude sewage the solids play a very limited rôle in chlorine demand. Residual chlorine in crude sewage remains but little diminished after several hours' contact unless there is further breaking up of the solids during the contact period.

Chlorine demand of sewage is influenced by an increase or decrease of the pH value above or below the neutral point pH 7.

Chlorine, as a result of its direct combination with organic radicals to form substitution products, rather than oxidation products of the organic matter in solution or pseudo solution, reduces the potential power of sewage to decay. The biochemical oxygen demand is reduced as a result of chlorination. This reduction is permanent or *actual reduction* as contrasted with temporary reduction or delayed oxygen demanding power previously considered to be the case. Such decrease in oxygen demand is observed well ahead of satisfactory disinfection or the presence of residual chlorine. For maximum reduction, however, chlorine sufficient to produce residual is requisite. The reduction of the 24-hour oxygen demand is approximately one-half that of the 5-day demand reduction.

The residual chlorine control test, being simple, is applicable in the smallest or the largest sewerage plant. It is the only sure index of continuous performance and indicates simultaneously optimum disinfection and oxygen demand reduction of the effluent. Its use is productive of chlorine economy and chlorination efficiency.

Sludge Digestion at Small Plants. T. C. Schaetzle. Public Works, Vol. 57, No. 9, October, 1926, pp. 346–349. (Abstract by M. S. Foreman.)

A review is made of a number of small institutional sewage treatment plants in Maryland by the State bureau of sanitary engineering.

The application of lime to sludge, without chemical control, was tried at a number of small institutional plants. The results obtained were quite variable, and generally unsatisfactory. "At the Maryland Tuberculosis Sanatorium, Imhoff installations, where the addition of lime to the gas vent failed, all the sludge was withdrawn from the tank and it was seeded with secondary Imhoff tank sludge." This resulted in a well-digested primary tank sludge. A number of other plants facilitated their sludge digestion by the addition of the contents of an old privy or by adding horse or cow manure.

Samples of water, sewage, and sludge were obtained from the institutions studied in order to determine their relation in preparation to producing a chemically controlled sludge. An analysis of these materials and their relations is presented in two tables and two charts. Table 1 shows the relation of types of tanks, volatile matter, nitrogen, grease content, and pH values of various sludges. Table 2 gives the relation between the pH values of tap water, influents, effluents, and sludges of the sewage treatment plants.

The conclusions are as follows: (1) There is a relation between the pH value of tap water and degree of digestion of the sludge. (2) When the tap water has a pH value greater than 8.0, the sludge probably will be well digested. When the tap water has a pH value less than 8.0, the sludge may not be well digested, unless its pH is artificially regulated. (3) In spite of the increase of pH value of the tank influents, probably due to soaps, there is an apparent acid decomposition taking place in the tank and sludge. (4) For primary or separate digestion tanks, the sludge probably will be undigested when the pH value is less than 7.0. (5) For secondary tanks, the sludge is apparently well digested when the pH value is 6.8 or above, extending perhaps as high as 8.8. (6) A definite relation exists between pH values and grease content of the sludge and between pH values and volatile matter of the sludge. The higher the pH value, the lower the grease content, and the higher the pH value the lower the volatile matter content. (7) A definite relation exists between the grease and volatile matter contents of sewage; with an increase in volatile matter, there is an increase in grease content.

Stream Pollution. Edgar Whedbee, C. E., District Sanitary Engineer, Texas State Board of Health. Bulletin No. 1, Proceedings of Eighth Texas Water Works Short School, Ft. Worth Tex., January 18–23, 1926, pp. 133–318. (Abstract by H. B. Hommon.)

A general treatise on stream pollution, with the following table showing the decrease in the *B coli* of a stream receiving sewage in the winter and the summer:

From maximum density,[1] hours	Winter B. coli per c. c.	Summer B. coli per c. c.
0	10,000	40,000
10	6,000	14,000
25	3,500	5,900
50	2,000	2,000
75	1,200	600
100	840	270
125	600	120
150	420	57
175	300	27
200	200	14

[1] Maximum density occurs 10 to 30 hours after sewage enters a stream.

Activated Sludge Processes. Walter C. Roberts. Public Works, vol. 57, No. 10, November, 1926, pp. 378–381. (Abstract by C. L. Pool.)

A terse explanatory survey of the process is given, with historical outline and descriptive list of domestic and foreign plants. Four primary units are usual: (1) Some method for removing coarser solids; (2) aeration tanks; (3) clarifier; (4) sludge disposal works.

Purposes and details of units are described, including screens and settling tanks, maintenance of aerobic conditions in aeration tanks by agitation with air and by agitation with mechanical devices. Ridge and furrow and Manchester, or circulating, types of aeration tanks are described; also devices for return and reconditioning the sludge. Mechanical squeegeeing of sludge to the center of the clarifier is the commoner type. Sludge disposal experience with sand beds, fertilizer production, mechanical filters, chemical treatment, lagoons, and direct irrigation on agricultural land is reviewed.

Uses and prospects of the process are noted, with reference to use as a preliminary treatment for sprinkling filters and for trade wastes. Initial costs of plants vary from $10 to $30 per capita, and operating costs vary from $20 to $50 per million gallons. Advantages summarized are (1) little odor or fly nuisance; (2) small area and nearness to city possible; (3) effluent easy to chlorinate and throws no burden on receiving stream; (4) effluent does little or no harm to aqueous life; (5) adaptable to sewage containing trade wastes; (6) sludge has relatively high fertilizing value; (7) effluent is well adapted for crops.

The Sterilization of Food Utensils. Anon. New Jersey State Department of Health Bulletin, vol. 9, No. 9, September, 1926, pp. 1–3. (Abstract by H. V. Pedersen.)

Regulations for the washing and sterilization of all cooking and eating utensils have been adopted by the New Jersey State Department of Health. All hotels, restaurants, cafes, soda fountains, and all other places where food is cooked will be required to provide

adequate facilities for the treatment of cooking and eating utensils by boiling water or by steam under pressure. All utensils intended for a second use must be subjected to treatment with boiling water or steam under pressure for at least three minutes after each service or by such other method as shall be considered effective sterilization.

No objection will be made to the use of washing compounds provided they are removed by proper rinsing; but sterilization by either washing compounds or chlorine is not considered satisfactory or sufficient to take the place of sterilization by boiling water or steam under pressure.

The department of health will not attempt to dictate the type or kind of apparatus necessary to effect sterilization, but will leave this question entirely in the hands of the owner to work out a scheme that best suits his location. The health department will simply judge results.

All drug stores or other places that find it impossible to install sterilization equipment will be permitted to use individual paper cups.

Regional Planning in Relation to Public Health. Thomas Adams, General Director of Plans and Surveys, Regional Plan of New York and its Environs, Russell Sage Foundation, New York City. American Journal of Public Health, vol. 16, No. 11, November, 1926, pp. 1114–1121. (Abstract by E. S. Tisdale.)

This article describes in a general way the relation of regional planning to public health. Regional planning is not a substitute for what has heretofore been known as city or town planning, but is the planning for large areas which have as their nucleus cities or towns.

The object of regional planning is to secure health, order, safety, convenience, and general welfare in connection with the physical growth of the communities. Health comes first and is involved in every phase of regional planning, more especially water supply and sewage disposal, housing in the central and suburban areas, from the points of view of land development and sanitation, parks, playgrounds and other open areas, placing and surroundings of schools, refuse collection and disposal, and placing and planning of correctional and welfare institutions.

As an example of the necessity for regional planning and the accomplishment of having the same, the Buffalo Metropolitan Region is cited.

Living conditions in New York, unbalanced development, underlying cause of defective urban growth, high buildings, planning for future growth, etc., are all discussed briefly.

DEATHS DURING WEEK ENDED DECEMBER 25, 1926

Summary of information received by telegraph from industrial insurance companies for week ended December 25, 1926, and corresponding week of 1925. (From the Weekly Health Index, December 30, 1926, issued by the Bureau of the Census, Department of Commerce)

	Week ended Dec. 25, 1926	Corresponding week, 1925
Policies in force	66, 348, 549	62, 446, 446
Number of death claims	11, 629	9, 652
Death claims per 1,000 policies in force, annual rate	9. 1	8. 1

Deaths from all causes in certain large cities of the United States during the week ended December 25, 1926, infant mortality, annual death rate, and comparison with corresponding week of 1925. (From the Weekly Health Index, December 30, 1926, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Dec. 25, 1926		Annual death rate per 1,000 corresponding week, 1925	Deaths under 1 year		Infant mortality rate, week ended Dec. 25, 1926 [2]
	Total deaths	Death rate [1]		Week ended Dec. 25, 1926	Corresponding week, 1925	
Total (64 cities)	6, 985	12. 7	12. 1	718	677	59
Akron	26			4	5	43
Albany [4]	34	14. 9	9. 3	1	1	21
Atlanta	76			10	12	
White	43			6	4	
Colored	33	[3]		4	8	
Baltimore [4]	232	15. 0	13. 3	19	22	58
White	181			11	16	41
Colored	51	[3]		8	6	127
Birmingham	56	13. 8	12. 7	3	6	
White	23			1	4	
Colored	33	[3]		2	2	
Boston	258	17. 1	14. 3	28	22	78
Bridgeport	42			1	3	17
Buffalo	119	11. 4	11. 5	14	16	59
Cambridge	26	11. 1	12. 2	3	0	53
Camden	41	16. 3	15. 0	7	8	117
Canton	14	6. 6	13. 2	2	6	44
Chicago [4]	647	11. 1	10. 3	77	55	67
Cincinnati	110	14. 0	16. 1	3	12	19
Cleveland	192	10. 4	9. 0	19	20	49
Columbus	81	14. 8	14. 5	5	8	47
Dallas	41	10. 5	10. 8	4	6	
White	34			3	4	
Colored	7	[3]		1	2	
Dayton	51	15. 0	12. 1	6	5	99
Denver	71	13. 0	11. 5	8	8	
Des Moines	44	15. 7	8. 1	4	2	67
Detroit	293	11. 8	10. 8	50	47	81
Duluth	17	7. 8	9. 9	2	2	46
El Paso	21	10. 0	18. 4	8	7	
Erie	27			4	1	78
Fall River [4]	37	14. 7	15. 0	1	7	16
Flint	17	6. 5	5. 2	4	2	68
Fort Worth	35	11. 5	13. 1	4	5	
White	30			3	5	
Colored	5	[3]		1	0	
Grand Rapids	32	10. 7	7. 8	6	2	86
Houston	52			4	6	
White	36			3	5	
Colored	16	[3]		1	1	
Indianapolis	94	13. 4	12. 8	6	8	45
White	81			4	5	35
Colored	13	[3]		2	3	115
Jersey City	77	12. 6	10. 4	12	3	91
Kansas City, Kans	29	12. 9	7. 2	2	1	39
White	24			1	1	22
Colored	5	[3]		1	0	152
Kansas City, Mo	94	13. 1	12. 6	8	8	
Los Angeles	251			21	15	59

Footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended December 25, 1926, infant mortality, annual death rate, and comparison with corresponding week of 1925—Continued

City	Week ended Dec. 25, 1926		Annual death rate per 1,000 corresponding week, 1925	Deaths under 1 year		Infant mortality rate, week ended Dec. 25, 1926 [2]
	Total deaths	Death rate [1]		Week ended Dec. 25, 1926	Corresponding week, 1925	
Louisville	75	12.6	16.6	5	8	43
White	60			4	4	39
Colored	15	(5)		1	4	70
Lowell	24			3	2	58
Lynn	20	10.0	11.6	1	5	26
Memphis	63	18.6	15.8	6	6	
White	29			3	3	
Colored	34	(5)		3	3	
Milwaukee	105	10.6	7.8	11	17	52
Minneapolis	92	11.1	9.7	6	12	33
Nashville [4]	43	16.4	11.5	5	3	
White	22			3	2	
Colored	21	(5)		2	1	
New Bedford	28			2	2	35
New Haven	46	13.2	12.5	0	4	0
New Orleans	161	20.0	19.1	18	13	
White	87			8	8	
Colored	74	(5)		10	5	
New York	1,451	12.8	11.4	138	123	56
Bronx Borough	158	9.2	8.6	12	6	40
Brooklyn Borough	469	10.9	10.6	46	59	47
Manhattan Borough	645	17.9	14.6	68	51	75
Queens Borough	131	8.9	7.7	10	7	46
Richmond Borough	48	17.5	15.1	2	0	35
Newark, N. J.	95	10.8	9.4	11	13	53
Oakland	57	11.4	9.9	8	5	93
Oklahoma City	22			3	0	
Omaha	48	11.6	12.5	5	3	53
Philadelphia	542	14.1	13.7	56	47	75
Pittsburgh	148	12.1	13.2	19	21	63
Portland, Oreg.	68			3	8	30
Providence	61	11.6	12.5	6	10	50
Richmond	61	16.8	16.8	6	4	75
White	39			3	4	58
Colored	22	(5)		3	0	104
Rochester	68	11.0	13.2	7	5	55
St. Louis	217	13.6	14.4	22	15	
St. Paul	44	9.3	13.4	2	4	18
Salt Lake City [4]	33	12.9	12.3	5	0	76
San Antonio	50	12.7	12.4	6	9	
San Diego	46	21.8	10.8	2	1	42
San Francisco	154	14.2	13.5	6	11	36
Schenectady	18	10.1	12.4	3	2	86
Seattle	73			4	3	39
Somerville	20	10.4	11.6	1	3	28
Spokane	28	13.4	12.9	7	1	162
Springfield, Mass.	37	13.3	14.3	6	6	92
Syracuse	45	12.7	14.3	4	3	51
Tacoma	24	11.8	11.5	4	2	95
Toledo	74	13.1	10.4	8	7	77
Trenton	27	10.5	12.2	3	4	51
Utica	32	16.2	13.3	3	0	68
Washington, D. C.	116	11.5	16.6	9	6	52
White	88			7	5	58
Colored	28	(5)		2	1	36
Waterbury	20			1	4	24
Wilmington, Del.	22	9.3	9.8	1	0	22
Worcester	46	12.4	18.0	4	6	48
Yonkers	22	9.9	12.8	3	5	68
Youngstown	31	9.8	9.8	5	4	63

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in registration area for births.
[3] Data for 62 cities.
[4] Deaths for week ended Friday, Dec. 24, 1926.
[5] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

DEATHS DURING WEEK ENDED JANUARY 1, 1927

Summary of information received by telegraph from industrial insurance companies for week ended January 1, 1927 and corresponding week of 1926. (From the Weekly Health Index, January 7, 1927, issued by the Bureau of the Census, Department of Commerce)

	Week ended Jan. 1, 1927	Corresponding week, 1926
Policies in force	66, 378, 884	62, 530, 137
Number of death claims	13, 103	11, 655
Death claims per 1,000 policies in force, annual rate	10. 3	9. 7

Deaths from all causes in certain large cities of the United States during the week ended January 1, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, January 7, 1927, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Jan. 1, 1927		Annual death rate per 1,000 corresponding week, 1926	Deaths under 1 year		Infant mortality rate, week ended Jan. 1, 1927 [2]
	Total deaths	Death rate [1]		Week ended Jan. 1, 1927	Corresponding week 1926	
Total (65 cities)	7,829	14.2	14.5	804	820	[3] 68
Akron	42			6	8	65
Albany [4]	41	18.0	19.0	4	7	83
Atlanta	73			8	12	
White	42			5	6	
Colored	31	(5)		3	6	
Baltimore [4]	275	17.7	16.6	33	27	101
White	198			21	20	79
Colored	77	(5)		12	7	191
Birmingham	85	21.0	17.7	12	10	
White	38			7	3	
Colored	47	(5)		5	7	
Boston	255	16.9	18.3	30	25	84
Bridgeport	36			4	5	68
Buffalo	127	12.2	13.3	11	16	46
Cambridge	34	14.5	11.3	4	1	71
Camden	20	11.5	15.8	2	1	34
Canton	27	12.8	14.7	3	6	66
Chicago [4]	761	13.0	13.0	73	96	64
Cincinnati	140	17.8	16.4	13	7	81
Cleveland	205	11.1	11.5	22	19	57
Columbus	87	15.9	16.6	7	10	65
Dallas	51	13.1	15.3	9	12	
White	42			8	9	
Colored	9	(5)		1	3	
Dayton	43	12.7	12.7	5	7	82
Denver	87	15.9	16.9	9	11	
Des Moines	36	12.9	9.2	7	0	117
Detroit	311	12.6	13.7	62	46	101
Duluth	34	15.7	10.9	2	0	46
El Paso	27	12.9	15.4	3	2	
Erie	38			4	3	78
Fall River [4]	31	12.3	19.0	12	7	188
Flint	24	9.2	8.8	4	1	68
Fort Worth	36	11.8	10.8	2	2	
White	25			0	2	
Colored	11	(5)		2	0	
Grand Rapids	35	11.7	11.5	5	6	72
Houston	71			5	7	
White	46			4	4	
Colored	25	(5)		1	3	
Indianapolis	106	15.1	15.8	6	4	45
White	92			5	1	44
Colored	14	(5)		1	3	57
Jersey City	74	12.1	14.5	11	21	83
Kansas City, Kans	24	10.7	15.7	5	6	97
White	19			4	2	89
Colored	5	(5)		1	4	152
Kansas City, Mo	112	15.6	16.5	11	11	
Los Angeles	327			23	21	64

Footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended January 1, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926—Continued

City	Week ended Jan. 1, 1927		Annual death rate per 1,000 corresponding week, 1926	Deaths under 1 year		Infant mortality rate, week ended Jan. 1, 1927 [2]
	Total deaths	Death rate [1]		Week ended Jan. 1, 1927	Corresponding week 1926	
Louisville	102	17.1	17.8	10	10	85
White	76			7	9	68
Colored	26	(3)		3	1	210
Lowell	29			3	4	58
Lynn	33	16.5	15.7	4	6	106
Memphis	68	20.0	16.1	9	8	
White	32			2	4	
Colored	36	(3)		7	4	
Milwaukee	122	12.3	11.6	14	24	66
Minneapolis	89	10.7	11.9	7	12	39
Nashville	41	15.6	23.4	4	7	
New Bedford	26			4	5	69
New Haven	49	14.0	14.6	3	3	41
New Orleans	144	17.9	22.2	7	14	
White	91			2	3	
Colored	53	(3)		5	11	
New York	1,602	14.1	13.2	160	153	65
Bronx Borough	212	12.3	10.8	17	15	57
Brooklyn Borough	569	13.2	11.6	58	56	59
Manhattan Borough	625	17.4	17.1	64	61	71
Queens Borough	156	10.6	10.1	17	17	77
Richmond Borough	40	14.6	15.1	4	4	70
Newark, N. J	105	11.9	16.7	15	22	72
Oakland	84	16.8	15.2	3	6	35
Oklahoma City	23			2	1	
Omaha	49	11.8	15.7	3	15	32
Paterson	29	10.6	17.3	0	4	0
Philadelphia	570	14.8	14.6	51	44	68
Pittsburgh	201	16.5	14.2	17	19	56
Portland, Oreg	83			6	2	60
Providence	49	9.3	17.9	4	10	33
Richmond	66	18.2	15.1	4	6	50
White	37			2	0	39
Colored	29	(3)		2	6	69
Rochester	74	12.0	12.5	5	7	40
St. Louis	269	16.9	16.6	22	18	
St. Paul	63	13.2	12.5	7	2	62
Salt Lake City [4]	37	14.5	16.7	3	2	46
San Antonio	59	15.0	20.3	8	10	
San Diego	46	21.8	26.6	4	6	85
San Francisco	173	15.9	15.4	6	2	36
Schenectady	18	10.1	13.5	3	0	86
Seattle	93			6	4	58
Somerville	29	15.1	9.5	4	3	113
Spokane	22	10.5	19.6	4	1	93
Springfield, Mass	43	15.5	14.3	4	3	62
Syracuse	49	13.8	12.3	4	3	51
Tacoma	25	12.3	16.0	1	2	24
Toledo	67	11.8	14.9	8	7	29
Trenton	35	13.6	16.2	5	3	85
Utica	34	17.2	10.8	3	1	68
Washington, D. C	138	13.6	17.2	11	15	63
White	89			3	6	25
Colored	49	(3)		8	9	146
Waterbury	24			4	5	94
Wilmington, Del	31	13.0	16.7	4	3	89
Worcester	45	12.2	16.7	6	2	72
Yonkers	26	11.7	11.9	4	3	90
Youngstown	46	14.5	11.1	11	3	139

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in registration area for births.
[3] Data for 63 cities.
[4] Deaths for week ended Friday, December 31, 1926.
[5] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Louisville, 17; Memphis, 38; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

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

CURRENT WEEKLY STATE REPORTS

These reports are preliminary and the figures are subject to change when later returns are received by the State health officers

Reports for Week Ended January 8, 1927

ALABAMA	Cases
Cerebrospinal meningitis	1
Chicken pox	116
Dengue	2
Diphtheria	52
Influenza	74
Lethargic encephalitis	1
Malaria	13
Measles	34
Mumps	31
Ophthalmia neonatorum	1
Pellagra	3
Pneumonia	64
Scarlet fever	20
Smallpox	27
Trachoma	1
Tuberculosis	31
Typhoid fever	8
Whooping cough	21
ARIZONA	
Chicken pox	3
Diphtheria	4
Measles	10
Mumps	1
Scarlet fever	9
Trachoma	1
Tuberculosis	36
ARKANSAS	
Chicken pox	31
Diphtheria	7
Hookworm disease	3
Influenza	109
Malaria	18
Measles	1
Mumps	11
Paratyphoid fever	1

ARKANSAS—continued	Cases
Pellagra	7
Scarlet fever	13
Smallpox	6
Tuberculosis	6
Typhoid fever	7
Whooping cough	41
CALIFORNIA	
Cerebrospinal meningitis:	
Los Angeles	1
Pittsburg	1
San Diego	3
Chicken pox	416
Diphtheria	178
Influenza	37
Leprosy:	
Berkeley	1
Los Angeles	1
Lethargic encephalitis—Bakersfield	1
Measles	1,115
Mumps	128
Poliomyelitis:	
Los Angeles	1
San Diego	1
Scarlet fever	220
Smallpox	20
Tuberculosis	149
Typhoid fever	24
Whooping cough	85
COLORADO	
Chicken pox	21
Diphtheria	12
Influenza	1
Measles	44
Mumps	3

COLORADO—continued

	Cases
Pneumonia	10
Scarlet fever	47
Smallpox	3
Tuberculosis	16
Typhoid fever	3

CONNECTICUT

Cerebrospinal meningitis	1
Chicken pox	135
Diphtheria	34
German measles	3
Influenza	12
Lethargic encephalitis	3
Measles	26
Mumps	27
Paratyphoid fever	1
Pneumonia (broncho)	44
Pneumonia (lobar)	58
Scarlet fever	93
Septic sore throat	3
Tuberculosis (all forms)	31
Typhoid fever	3
Whooping cough	62

DELAWARE

Anthrax	2
Chicken pox	4
Diphtheria	1
Measles	1
Scarlet fever	39
Tuberculosis	6
Whooping cough	7

FLORIDA

Cerebrospinal meningitis	2
Chicken pox	37
Diphtheria	42
Influenza	1
Malaria	9
Measles	15
Mumps	2
Pneumonia	20
Scarlet fever	19
Smallpox	37
Tuberculosis	9
Typhoid fever	4
Whooping cough	3

GEORGIA

Chicken pox	47
Conjunctivitis (infectious)	1
Diphtheria	31
Dysentery	1
Hookworm disease	1
Influenza	101
Lethargic encephalitis	1
Malaria	15
Measles	54
Mumps	18
Pellagra	3
Pneumonia	49
Scarlet fever	31
Septic sore throat	3
Smallpox	61
Tetanus	2
Tuberculosis	18
Typhoid fever	4

GEORGIA—continued

	Cases
Typhus fever	2
Whooping cough	49

IDAHO

Diphtheria	2
Measles	61
Mumps	10
Scarlet fever	35
Smallpox	3
Typhoid fever	1
Whooping cough	1

ILLINOIS

Cerebrospinal meningitis—Cook County	4
Chicken pox	582
Diphtheria	179
Influenza	47
Lethargic encephalitis:	
Saline County	1
Tazewell County	1
Measles	1,444
Mumps	234
Pneumonia	462
Poliomyelitis—Sangamon County	1
Scarlet fever	384
Smallpox:	
Clay County	16
Cumberland	11
Scattering	16
Tuberculosis	597
Typhoid fever	21
Whooping cough	196

INDIANA

Chicken pox	217
Diphtheria	92
Influenza	79
Measles	186
Pneumonia	17
Poliomyelitis	1
Scarlet fever	255
Smallpox	180
Tuberculosis	27
Typhoid fever	4
Whooping cough	73

IOWA

Cerebrospinal meningitis—Sanborn	1
Chicken pox	53
Diphtheria	54
German measles	1
Measles	228
Mumps	6
Scarlet fever	59
Smallpox	5
Tuberculosis	2
Whooping cough	4

KANSAS

Cerebrospinal meningitis:	
Kansas City	1
McCune	1
Topeka	1
Chicken pox	265
Diphtheria	21
German measles	4
Influenza	12

KANSAS—continued

	Cases
Measles	165
Mumps	18
Pneumonia	72
Scarlet fever	201
Smallpox:	
Topeka	10
Scattering	19
Tuberculosis	37
Typhoid fever	6
Whooping cough	50

LOUISIANA

Cerebrospinal meningitis	1
Diphtheria	27
Influenza	27
Lethargic encephalitis	1
Malaria	5
Pellagra	1
Pneumonia	29
Scarlet fever	14
Smallpox	7
Tuberculosis	15
Typhoid fever	15

MAINE

Chicken pox	73
Diphtheria	3
German measles	18
Influenza	24
Measles	202
Mumps	8
Pneumonia	24
Poliomyelitis	1
Scarlet fever	34
Vincent's angina	3
Whooping cough	63

MARYLAND [1]

Cerebrospinal meningitis	1
Chicken pox	154
Diphtheria	65
German measles	3
Influenza	61
Measles	34
Mumps	16
Pneumonia (broncho)	48
Pneumonia (lobar)	56
Pneumonia (undefined)	1
Scabies	1
Scarlet fever	52
Septic sore throat	1
Tuberculosis	36
Typhoid fever	4
Vincent's angina	3
Whooping cough	141

MASSACHUSETTS

Cerebrospinal meningitis	2
Chicken pox	515
Conjunctivitis (suppurative)	9
Diphtheria	131
German measles	18
Influenza	15
Lethargic encephalitis	1
Measles	176

MASSACHUSETTS—continued

	Cases
Mumps	284
Ophthalmia neonatorum	49
Pneumonia (lobar)	160
Poliomyelitis	2
Scarlet fever	515
Septic sore throat	5
Trachoma	1
Tuberculosis (pulmonary)	95
Tuberculosis (other forms)	22
Typhoid fever	12
Whooping cough	149

MICHIGAN

Diphtheria	112
Measles	109
Pneumonia	171
Scarlet fever	332
Smallpox	41
Tuberculosis	266
Typhoid fever	7
Whooping cough	139

MINNESOTA

Cerebrospinal meningitis	1
Chicken pox	289
Diphtheria	55
Lethargic encephalitis	1
Measles	147
Pneumonia	1
Scarlet fever	256
Smallpox	4
Tuberculosis	56
Typhoid fever	6
Whooping cough	24

MISSISSIPPI

Cerebrospinal meningitis	1
Diphtheria	37
Scarlet fever	21
Smallpox	9
Typhoid fever	10

MISSOURI

Cerebrospinal meningitis	1
Chicken pox	67
Diphtheria	58
Influenza	51
Malaria	12
Measles	247
Mumps	16
Ophthalmia neonatorum	1
Rabies (in animals)	4
Scarlet fever	101
Smallpox	4
Trachoma	1
Tuberculosis	41
Typhoid fever	7
Whooping cough	27

MONTANA

Cerebrospinal meningitis	1
Chicken pox	32
Diphtheria	7
Influenza	1
Measles	60

[1] Week ended Friday.

MONTANA—continued

	Cases
Mumps	21
Scarlet fever	138
Smallpox	5
Tuberculosis	3
Typhoid fever [1]	2
Whooping cough [1]	1

NEBRASKA

Chicken pox	78
Diphtheria	6
German measles	2
Influenza	1
Lethargic encephalitis	1
Measles	74
Mumps	32
Pneumonia	4
Poliomyelitis	1
Scarlet fever	51
Septic sore throat	7
Smallpox	46
Tuberculosis	1
Typhoid fever	4
Whooping cough	11

NEW JERSEY

Cerebrospinal meningitis	2
Chicken pox	304
Diphtheria	151
Influenza	23
Measles	27
Paratyphoid fever	1
Pneumonia	201
Poliomyelitis	1
Scarlet fever	285
Typhoid fever	6
Whooping cough	194

NEW MEXICO

Chicken pox	23
Conjunctivitis	6
Diphtheria	4
German measles	4
Measles	15
Mumps	2
Pneumonia	23
Poliomyelitis	1
Rabies (in animals)	1
Scarlet fever	23
Smallpox	1
Trachoma	1
Tuberculosis	11
Typhoid fever	2
Whooping cough	23

NEW YORK

(Exclusive of New York City)

Botulism	1
Chicken pox	732
Diphtheria	95
Dysentery	3
German measles	99
Lethargic encephalitis	1
Measles	1,092
Mumps	255

[1] Delayed report.

NEW YORK—continued

	Cases
Pneumonia	413
Poliomyelitis	3
Scarlet fever	265
Septic sore throat	6
Smallpox	7
Tetanus	1
Trachoma	1
Typhoid fever	39
Vincent's angina	17
Whooping cough	319

NORTH CAROLINA

Chicken pox	172
Diphtheria	64
German measles	6
Measles	161
Scarlet fever	78
Septic sore throat	1
Smallpox	77
Typhoid fever	8
Whooping cough	327

OKLAHOMA

(Exclusive of Oklahoma City and Tulsa)

Chicken pox	47
Diphtheria	31
Influenza	265
Malaria	11
Measles	23
Pneumonia	91
Scarlet fever	33
Smallpox	10
Typhoid fever	9

OREGON

Cerebrospinal meningitis	1
Chicken pox	62
Diphtheria	30
Influenza	30
Measles	44
Mumps	29
Pneumonia	[2] 8
Scarlet fever	54
Smallpox:	
Jackson County	12
Klamath County	14
Scattering	8
Tuberculosis	[2] 3
Typhoid fever	3
Whooping cough	3

PENNSYLVANIA

Anthrax—Philadelphia	1
Cerebrospinal meningitis—Philadelphia	1
Chicken pox	704
Diphtheria	231
German measles	26
Impetigo contagiosa	2
Lethargic encephalitis—Philadelphia	1
Malaria	3
Measles	795
Mumps	138
Ophthalmia—Philadelphia	8

[2] Deaths.

PENNSYLVANIA—continued	Cases
Pneumonia	95
Rabies—Sharpsburg	1
Scabies	3
Scarlet fever	566
Trachoma—Philadelphia	1
Tuberculosis	138
Typhoid fever	34
Whooping cough	309
SOUTH CAROLINA	
Chicken pox	113
Diphtheria	34
Hookworm disease	16
Influenza	779
Malaria	128
Measles	83
Pellagra	24
Poliomyelitis	2
Scarlet fever	11
Smallpox	9
Tuberculosis	43
Typhoid fever	18
Whooping cough	24
SOUTH DAKOTA	
Chicken pox	23
Diphtheria	9
Influenza	2
Measles	102
Mumps	1
Pneumonia	16
Poliomyelitis	1
Scarlet fever	18
Smallpox	6
Tuberculosis	1
Typhoid fever	8
Whooping cough	10
TENNESSEE	
Chicken pox	89
Diphtheria	25
Influenza	57
Malaria	7
Measles	98
Mumps	3
Ophthalmia neonatorum	1
Pellagra	1
Pneumonia	46
Rabies	1
Scarlet fever	71
Smallpox	6
Tuberculosis	23
Tularaemia	1
Typhoid fever	26
Whooping cough	106
TEXAS	
Chicken pox	6
Diphtheria	52
Influenza	42
Measles	11
Pneumonia	24
Scarlet fever	50
Smallpox	9
Trachoma	1
Tuberculosis	17
Typhoid fever	9

TEXAS—continued	Cases
Typhus fever	3
Whooping cough	1
UTAH	
Chicken pox	76
Diphtheria	3
Measles	688
Mumps	35
Pneumonia	10
Scarlet fever	13
Smallpox	4
Whooping cough	1
VERMONT	
Chicken pox	32
Diphtheria	2
Measles	90
Mumps	32
Pneumonia	4
Scarlet fever	16
Whooping cough	32
WASHINGTON	
Cerebrospinal meningitis	7
Chicken pox	154
Diphtheria	29
German measles	20
Measles	392
Mumps	68
Pneumonia	1
Poliomyelitis	1
Scarlet fever	172
Smallpox	81
Tuberculosis	32
Typhoid fever	8
Whooping cough	18
WEST VIRGINIA	
Chicken pox	80
Diphtheria	27
German measles	3
Influenza	44
Measles	86
Scarlet fever	38
Smallpox	2
Tuberculosis	10
Typhoid fever	6
Whooping cough	67
WISCONSIN	
Milwaukee:	
Cerebrospinal meningitis	3
Chicken pox	68
Diphtheria	20
German measles	2
Influenza	1
Measles	72
Mumps	33
Pneumonia	20
Scarlet fever	33
Tuberculosis	6
Whooping cough	54
Scattering:	
Chicken pox	136
Diphtheria	22

WISCONSIN—continued

Scattering—Continued.	Cases
German measles	8
Influenza	37
Measles	746
Mumps	55
Pneumonia	24
Scarlet fever	149
Smallpox	13
Tuberculosis	12
Typhoid fever	7
Whooping cough	80

WYOMING

	Cases
Cerebrospinal meningitis — Hot Springs County	1
Chicken pox	20
German measles	5
Influenza	9
Measles	71
Paratyphoid fever	3
Pneumonia	3
Scarlet fever	36
Septic sore throat	1
Typhoid fever	1
Whooping cough	1

Reports for Week Ended January 1, 1927

DISTRICT OF COLUMBIA

	Cases
Chicken pox	43
Diphtheria	20
Measles	1
Pneumonia	40
Scarlet fever	23
Tuberculosis	20
Typhoid fever	5
Whooping cough	6

NORTH DAKOTA

Chicken pox	5
Diphtheria	2
German measles	15
Measles	98
Mumps	1
Pneumonia	4
Scarlet fever	29
Trachoma	1
Tuberculosis	2
Whooping cough	5

PENNSYLVANIA

Anthrax:	Cases
Bridgeport	1
Norristown	1
Philadelphia	1
Chicken pox	657
Diphtheria	187
German measles	11
Impetigo contagiosa	2
Lethargic encephalitis—Philadelphia	1
Measles	523
Mumps	123
Ophthalmia—Scranton	1
Pneumonia	40
Scabies	9
Scarlet fever	524
Trachoma—Philadelphia	1
Tuberculosis	57
Typhoid fever	31
Whooping cough	250

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State	Cerebrospinal meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
August, 1926										
Florida	-------	55	83	59	47	-------	2	27	51	97
Pennsylvania	5	403	-------	0	605	0	16	378	0	226
September, 1926										
Pennsylvania	4	525	-------	3	-------	0	19	542	-------	386
October, 1926										
Pennsylvania	6	774	-------	1	-------	2	31	996	-------	351
November, 1926										
Florida	-------	206	7	14	18	-------	0	44	35	22
Rhode Island	0	50	35	-------	12	-------	1	90	0	8
South Dakota	1	10	1	-------	209	-------	0	275	32	9
Virginia	2	651	1,649	106	240	11	7	501	10	123
West Virginia	3	241	97	-------	89	-------	1	266	13	124

October, 1926	Cases
Anthrax—Pennsylvania	2
Lethargic encephalitis—Pennsylvania	2
November, 1926	
Chicken pox:	
Florida	13
Rhode Island	40
South Dakota	119
Virginia	431
West Virginia	311
Dengue—Florida	1
Dysentery:	
Florida	5
Virginia	50
German measles—Rhode Island	5
Hookworm disease:	
Florida	169
Virginia	9
Lethargic encephalitis—Florida	2
Mumps:	Cases
Florida	2
Rhode Island	4
South Dakota	9
Ophthalmia neonatorum—Rhode Island	4
Paratyphoid fever—Florida	1
Septic sore throat—Rhode Island	1
Tetanus:	4
Florida	4
South Dakota	1
Trachoma—South Dakota	4
Trichinosis—South Dakota	1
Typhus fever—Florida	3
Whooping cough:	
Florida	25
Rhode Island	17
South Dakota	53
Virginia	962
West Virginia	242

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

Diphtheria.—For the week ended December 25, 1926, 42 States reported 1,678 cases of diphtheria. For the week ended December 26, 1925, the same States reported 1,372 cases of this disease. Ninety-four cities, situated in all parts of the country and having an aggregate population of more than 29,300,000, reported 933 cases of diphtheria for the week ended December 25, 1926. Last year for the corresponding week they reported 688 cases. The estimated expectancy for these cities was 1,237 cases. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Measles.—Thirty-eight States reported 3,968 cases of measles for the week ended December 25, 1926, and 3,949 cases of this disease for the week ended December 26, 1925. Ninety-four cities reported 1,172 cases of measles for the week this year and 2,380 cases last year.

Poliomyelitis.—The health officers of 42 States reported 12 cases of poliomyelitis for the week ended December 25, 1926. The same States reported 12 cases for the week ended December 26, 1925.

Scarlet fever.—Scarlet fever was reported for the week as follows: Forty-two States—this year, 3,291 cases; last year, 2,887 cases; 94 cities—this year, 1,438 cases; last year, 1,146 cases; estimated expectancy, 1,085 cases.

Smallpox.—For the week ended December 25, 1926, 42 States reported 599 cases of smallpox. Last year for the corresponding week they reported 349 cases. Ninety-four cities reported smallpox for the week as follows: 1926, 83 cases; 1925, 100 cases; estimated expectancy, 71 cases. No deaths from smallpox were reported by these cities for the week this year.

Typhoid fever.—Two hundred and ninety-one cases of typhoid fever were reported for the week ended December 25, 1926, by 42 States. For the corresponding week of 1925 the same States re-

ported 334 cases of this disease. Ninety-four cities reported 58 cases of typhoid fever for the week this year and 51 cases for the corresponding week last year. The estimated expectancy for these cities was 59 cases.

Influenza and pneumonia.—Deaths from influenza and pneumonia were reported for the week by 88 cities, with a population of more than 28,600,000, as follows: 1926, 845 deaths; 1925, 799 deaths.

City reports for week ended December 25, 1926

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence how many cases of the disease under consideration may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding week of the preceding years. When the reports include several epidemics or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during nonepidemic years.

If reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1917 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population July 1, 1925, estimated	Chickenpox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	75,333	18	2	0	0	0	0	0	1
New Hampshire:									
Concord	22,546	0	0	0	0	0	34	0	0
Manchester	83,097	0	4	1	0	0	0	0	4
Vermont:									
Barre	10,008	0	0	0	0	0	17	0	1
Burlington	24,089	0	0	0	0	0	0	0	0
Massachusetts:									
Boston	779,620	84	67	33	5	0	15	42	28
Fall River	128,993	5	5	5	2	2	1	11	2
Springfield	142,065	5	4	3	0	0	1	1	4
Worcester	190,757	17	5	4	0	0	0	4	7
Rhode Island:									
Pawtucket	69,760	6	2	1	0	0	0	0	2
Providence	267,918	0	10	8	0	0	2	0	7
Connecticut:									
Bridgeport	(1)	3	9	10	1	1	1	1	4
Hartford	160,197	5	9	2	0	0	0	0	2
New Haven	178,927	16	4	2	0	0	0	2	6
MIDDLE ATLANTIC									
New York:									
Buffalo	538,016	31	25	19	----	1	2	5	14
New York	5,873,356	198	233	150	50	15	9	111	187
Rochester	316,786	6	10	5	----	2	3	0	8
Syracuse	182,003	23	10	2	----	0	9	1	3
New Jersey:									
Camden	128,642	2	5	25	3	0	6	0	7
Newark	452,513	18	20	10	8	0	0	18	18
Trenton	132,020	1	8	1	1	0	0	0	5
Pennsylvania:									
Philadelphia	1,979,364	136	82	52	----	9	5	20	69
Pittsburgh	631,563	37	28	16	1	2	10	1	20
Reading	112,707	9	6	0	----	0	0	4	2
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	409,333	20	16	6	0	2	0	16	16
Cleveland	986,485	121	42	78	1	2	2	10	20
Columbus	279,836	19	6	4	0	2	0	0	4
Toledo	287,380	39	15	1	0	5	1	0	6

[1] No estimate made.

City reports for week ended December 25, 1926—Continued

Division, State, and city	Population July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria: Cases, estimated expectancy	Diphtheria: Cases reported	Influenza: Cases reported	Influenza: Deaths reported	Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
EAST NORTH CENTRAL—continued									
Indiana:									
Fort Wayne	97,846	6	5	4	0	0	17	0	3
Indianapolis	358,819	44	14	15	0	1	1	0	12
South Bend	80,091	2	1	0	0	0	10	0	2
Terre Haute	71,071		3						
Illinois:									
Chicago	2,995,239	139	139	72	13	5	214	31	58
Peoria	81,564	6	2	1	0	0	50	3	4
Springfield	63,923	11	2	3	0	0	61	0	2
Michigan:									
Detroit	1,245,824	62	70	52	1	2	0	10	23
Flint	130,316	11	11	0	0	0	0	0	0
Grand Rapids	153,698	11	6	0	0	0	1	0	3
Wisconsin:									
Kenosha	50,891	18	1	0	0	0	18	10	1
Madison	46,385	31	1	3	0	0	7	2	3
Milwaukee	509,192	60	25	28	0	0	37	21	13
Racine	67,707	32	3	2	0	0	1	4	0
Superior	39,671		1						
WEST NORTH CENTRAL									
Minnesota:									
Duluth	110,502	5	2	1	0	0	12	0	2
Minneapolis	425,435	198	20	9	0	1	0	0	9
St. Paul	246,001	20	19	7	0	1	3	0	7
Iowa:									
Des Moines	141,441	0	5	0	0		0	0	3
Sioux City	76,411	9	3	0	0		2	0	
Waterloo	36,771	28	1	0	0		1	0	
Missouri:									
Kansas City	367,481	17	13	8	2	2	8	2	14
St. Joseph	78,342	0	4	0	0	0	0	0	2
St. Louis	821,543	33	55	28	0	1	3	2	
North Dakota:									
Fargo	26,403	2	0	0	0	0	2	0	0
Grand Forks	14,811	0	0	0	0		8	0	
South Dakota:									
Aberdeen	15,036	9	0	0	0		0	0	
Sioux Falls	30,127	1	0	0	0		1	0	
Nebraska:									
Lincoln	60,941	4	2	0	0	0	1	0	3
Omaha	211,768	11	5	3	0	0	6	1	5
Kansas:									
Topeka	55,411	18	2	0	0	0	1	0	3
Wichita	88,367	23	6	0	0	0	0	0	1
SOUTH ATLANTIC									
Delaware:									
Wilmington	122,049	4	3	0	0	0	0	0	3
Maryland:									
Baltimore	796,296	125	32	46	23	4	1	5	24
Cumberland	33,741	2	1	0	2	2	0	0	0
Frederick	12,035	1	0	0	0	0	1	0	0
District of Columbia:									
Washington	497,906	38	19	27	0	0	1	0	17
Virginia:									
Lynchburg	30,395		1						
Norfolk	(1)		3						
Richmond	186,403	1	9	6	0	3	16	0	6
Roanoke	58,208	1	3	4	0	3	1	0	1
West Virginia:									
Charleston	49,019	14	2	1	0	0	1	0	1
Wheeling	56,208	11	2	0	0	0	0	0	1
North Carolina:									
Raleigh	30,371	1	1	0	0	0	0	0	2
Wilmington	37,061	2	0	0	0	0	0	0	2
Winston-Salem	69,031	7	1	3	0	0	0	0	2
South Carolina:									
Charleston	73,125	0	2	1	12	0	0	0	0
Columbia	41,225	3	1	0	0	0	0	0	0
Greenville	27,311		1						

[1] No estimate made.

City reports for week ended December 25, 1926—Continued

Division, State, and city	Population July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
SOUTH ATLANTIC—con.									
Georgia:									
Atlanta	(1)	1	4	6	5	1	2	0	7
Brunswick	16,809	1	0	0	0	1	0	1	0
Savannah	93,134	0	1	2	1	0	0	0	4
Florida:									
Miami	69,754	9		0	2	0	1	0	3
St. Petersburg	26,847		1			0			2
Tampa	94,743	1	1	8	0	2	5	0	2
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,309	0	2	3	0	0	0	0	3
Louisville	305,935		10						
Tennessee:									
Memphis	174,533	20	8	2	0	1	2	0	5
Nashville	136,220	0	3	2	0	2	1	0	2
Alabama:									
Birmingham	205,670	19	4	12	5	3	3	0	0
Mobile	65,955	2	1	0	0	1	0	0	3
Montgomery	46,481	0	0	7	0	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	31,643	3	2	0	0		0	2	
Little Rock	74,216	0	2	2	0		0	0	
Louisiana:									
New Orleans	414,493		13						
Shreveport	57,857	4	1	1	0	0	0	1	1
Oklahoma:									
Oklahoma City	(1)	0	2	2	0	0	0	0	5
Texas:									
Dallas	194,450	3	11	20	2	2	1	0	2
Galveston	48,375	0	2	0	0	0	0	0	1
Houston	164,954	4	4	3	0	1	0	0	3
San Antonio	198,069	0	3	7	0	1	0	0	12
MOUNTAIN									
Montana:									
Billings	17,971	2	0	0	0	0	25	0	2
Great Falls	29,883	5	1	0	0	0	2	0	0
Helena	12,037	0	0	0	0	0	0	0	0
Missoula	12,668	1	0	0	0	0	0	7	1
Idaho:									
Boise	23,042	1	1	1	0	0	3	0	0
Colorado:									
Denver	280,911	10	12	8		3	37	0	8
Pueblo	43,787	2	4	0	0	0	0	0	2
New Mexico:									
Albuquerque	21,000	11	0	0	0	0	0	1	6
Arizona:									
Phoenix	38,669	0	1	0	0	1	0	0	1
Utah:									
Salt Lake City	130,948	26	3	6	0	0	238	1	5
Nevada:									
Reno	12,665	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	(1)	33	7	2	0		4	23	
Spokane	108,897	26	5	5	0		189	0	
Tacoma	104,455	18	3	3	0	1	0	1	4
Oregon:									
Portland	282,383	8	10	6	0	0	3	2	7
California:									
Los Angeles	(1)	35	38	38	21	0	20	2	29
Sacramento	72,260	2	2	1	0	0	34	2	3
San Francisco	557,530	11	21	35	1	0	81	10	6

[1] No estimate made.

City reports for week ended December 25, 1926—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	3	1	0	0	0	0	0	0	0	5	22
New Hampshire:											
Concord	0	2	0	0	0	0	0	0	0	0	10
Manchester	1	4	0	0	0	0	0	0	0	0	15
Vermont:											
Barre	1	0	0	0	0	0	0	0	0	4	1
Burlington	1	0	0	0	0	0	0	0	0	6	13
Massachusetts:											
Boston	47	54	0	0	0	11	1	17	1	21	258
Fall River	3	1	0	0	0	4	1	0	0	4	37
Springfield	8	5	0	0	0	2	0	0	0	0	35
Worcester	11	9	0	0	0	1	0	0	0	12	------
Rhode Island:											
Pawtucket	1	2	0	0	0	0	0	0	1	0	14
Providence	7	2	0	0	0	1	1	0	0	1	61
Connecticut:											
Bridgeport	7	16	0	0	0	3	0	0	0	0	42
Hartford	8	11	0	0	0	1	0	0	0	4	30
New Haven	9	2	0	0	0	3	1	0	1	0	46
MIDDLE ATLANTIC											
New York:											
Buffalo	24	4	0	0	0	8	2	0	0	4	119
New York	169	235	0	0	0	[1] 100	14	6	1	53	1,451
Rochester	13	6	0	0	0	6	2	0	1	7	64
Syracuse	12	8	0	0	0	0	0	1	0	7	45
New Jersey:											
Camden	3	8	0	0	0	1	0	1	0	2	41
Newark	17	37	0	0	0	14	1	0	0	11	102
Trenton	3	0	0	0	0	4	1	0	0	3	27
Pennsylvania:											
Philadelphia	68	101	0	0	0	25	4	1	0	30	542
Pittsburgh	34	24	0	0	0	5	1	1	0	4	148
Reading	1	3	0	0	0	1	1	0	0	4	21
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	12	28	1	0	0	6	0	0	0	0	110
Cleveland	32	32	1	1	0	14	2	0	0	15	192
Columbus	11	19	0	2	0	7	0	0	0	5	81
Toledo	13	9	1	1	0	7	1	0	0	15	74
Indiana:											
Fort Wayne	3	8	0	0	0	1	0	0	0	2	33
Indianapolis	10	17	6	16	0	4	0	0	1	8	94
South Bend	4	3	1	0	0	1	0	0	0	1	17
Terre Haute	3	------	0	------	------	------	0	------	------	------	------
Illinois:											
Chicago	120	112	1	1	0	52	7	0	0	54	647
Peoria	6	1	0	0	0	1	0	0	0	3	21
Springfield	2	1	0	0	0	0	0	1	1	0	20
Michigan:											
Detroit	86	85	3	0	0	26	3	1	1	35	293
Flint	7	17	0	3	0	0	0	1	0	0	17
Grand Rapids	9	8	1	0	0	0	1	2	0	1	32
Wisconsin:											
Kenosha	2	4	1	0	0	1	0	0	0	8	5
Madison	3	3	0	0	0	0	0	1	0	0	10
Milwaukee	26	25	2	0	0	8	1	0	1	53	105
Racine	5	7	1	0	0	0	0	0	0	1	12
Superior	2	------	1	------	------	------	0	------	------	------	------
WEST NORTH CENTRAL											
Minnesota:											
Duluth	7	5	1	0	0	2	1	1	0	0	17
Minneapolis	47	41	6	0	0	3	0	0	0	0	92
St. Paul	22	27	10	1	0	4	0	1	0	5	44

[1] Pulmonary tuberculosis only.

City reports for week ended December 25, 1926—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—contd.											
Iowa:											
Des Moines	6	1	1	1	----	1	0	0	----	0	----
Sioux City	2	5	0	1	----	----	0	0	----	1	----
Waterloo	3	0	0	0	----	----	0	0	----	1	----
Missouri:											
Kansas City	12	27	1	2	0	3	0	0	0	2	94
St. Joseph	2	2	0	0	0	0	0	0	0	0	27
St. Louis	34	37	1	0	0	12	2	3	1	15	217
North Dakota:											
Fargo	2	11	0	0	0	0	0	0	0	0	6
Grand Forks	1	4	0	0	----	----	0	0	----	0	----
South Dakota:											
Aberdeen	1	3	0	0	----	----	0	0	----	1	----
Sioux Falls	1	1	0	0	----	----	0	0	----	0	----
Nebraska:											
Lincoln	2	7	0	0	0	0	0	1	0	0	13
Omaha	5	22	5	0	0	1	0	0	0	0	48
Kansas:											
Topeka	2	2	0	10	0	0	0	0	0	3	10
Wichita	4	5	0	0	0	1	0	0	0	3	21
SOUTH ATLANTIC											
Delaware:											
Wilmington	3	8	0	0	0	1	0	0	0	1	22
Maryland:											
Baltimore	26	16	0	0	0	17	3	4	2	46	232
Cumberland	1	1	0	0	0	0	0	0	1	5	15
Frederick	0	2	0	0	0	0	0	0	0	4	5
District of Columbia:											
Washington	22	14	0	0	0	8	3	1	0	5	116
Virginia:											
Lynchburg	0	----	0	----	----	----	0	----	----	----	----
Norfolk	2	----	0	----	----	----	0	----	----	----	----
Richmond	6	8	0	0	0	5	1	1	0	1	67
Roanoke	1	1	0	4	0	1	1	0	0	0	16
West Virginia:											
Charleston	1	2	0	0	0	0	0	0	1	0	24
Wheeling	2	2	0	0	0	0	0	0	0	0	15
North Carolina:											
Raleigh	1	3	0	0	0	1	0	0	0	4	14
Wilmington	0	0	0	0	0	0	0	0	0	0	7
Winston-Salem	2	2	1	0	0	3	0	0	0	10	20
South Carolina:											
Charleston	0	0	0	0	0	1	0	1	1	0	17
Columbia	1	1	1	0	0	0	0	0	0	2	----
Greenville	0	----	1	----	----	----	0	----	----	----	----
Georgia:											
Atlanta	4	9	1	9	0	2	0	1	0	0	76
Brunswick	0	0	0	0	0	1	0	0	0	0	6
Savannah	1	4	0	1	0	4	0	0	0	0	33
Florida:											
Miami	----	0	----	0	0	1	----	1	1	4	39
St. Petersburg	0	----	0	----	0	1	0	----	0	----	14
Tampa	1	2	0	1	0	1	0	0	0	0	30
EAST SOUTH CENTRAL											
Kentucky:											
Covington	2	2	0	0	0	0	0	1	0	0	14
Louisville	5	----	0	----	----	----	1	----	----	----	----
Tennessee:											
Memphis	5	13	0	4	0	4	0	1	1	7	63
Nashville	2	14	0	0	0	6	0	1	0	5	43
Alabama:											
Birmingham	4	7	1	1	0	4	1	0	0	0	56
Mobile	1	0	0	0	0	0	0	0	0	0	18
Montgomery	1	1	1	2	0	0	0	0	0	0	12

City reports for week ended December 25, 1926—Continued

Division, State, and city	Scarlet fever		Cases, estimated expectancy	Smallpox		Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported		Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	0	1	1	0	-------	-----	0	0	-------	0	-------
Little Rock	2	1	1	0	-------	1	0	0	-------	0	-------
Louisiana:											
New Orleans	5	-------	0	-------	-------	-------	2	-------	-------	-------	-------
Shreveport	0	1	1	0	0	2	0	0	0	0	22
Oklahoma:											
Oklahoma City	2	2	0	0	0	2	0	0	0	0	22
Texas:											
Dallas	3	11	0	5	0	4	0	0	0	0	41
Galveston	1	4	0	0	0	1	0	0	0	0	12
Houston	3	6	1	1	0	4	0	0	0	0	52
San Antonio	1	2	0	0	0	6	0	1	0	0	55
MOUNTAIN											
Montana:											
Billings	2	1	0	1	0	0	0	0	0	0	12
Great Falls	1	10	1	0	0	1	0	0	0	0	12
Helena	1	5	0	0	0	0	0	0	0	0	3
Missoula	0	13	0	0	0	0	0	0	0	0	3
Idaho:											
Boise	1	0	1	1	0	0	0	0	0	0	5
Colorado:											
Denver	10	76	3	0	0	12	0	0	0	1	71
Pueblo	2	0	0	0	0	1	0	0	0	0	11
New Mexico:											
Albuquerque	0	7	0	0	0	1	0	0	0	0	16
Arizona:											
Phoenix	2	0	0	0	0	10	0	0	1	0	34
Utah:											
Salt Lake City	3	2	1	0	0	1	0	0	0	2	33
Nevada:											
Reno	1	0	0	0	0	0	0	0	0	0	3
PACIFIC											
Washington:											
Seattle	7	4	3	2	-------	-------	0	2	-------	0	-------
Spokane	5	37	4	5	-------	-------	0	0	-------	0	-------
Tacoma	3	1	2	7	0	0	0	0	0	1	24
Oregon:											
Portland	7	10	7	0	0	3	0	1	0	0	68
California:											
Los Angeles	18	55	4	0	0	22	2	1	1	3	251
Sacramento	2	2	1	0	0	0	0	0	0	0	9
San Francisco	11	14	1	2	0	6	1	5	0	6	-------

Division, State, and city	Cerebrospinal meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston	0	0	1	0	0	0	0	1	0
Connecticut:									
Bridgeport	0	0	1	0	0	0	0	0	0
Hartford	1	1	0	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York	3	1	1	3	1	2	1	0	0
Pennsylvania:									
Philadelphia	1	1	1	0	0	0	0	0	0
Pittsburgh	0	0	0	1	0	0	0	0	0

City reports for week ended December 25, 1926—Continued

Division, State, and city	Cerebrospinal meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
EAST NORTH CENTRAL									
Ohio:									
Cleveland	1	0	0	0	0	0	0	0	0
Illinois:									
Chicago	3	1	0	0	0	0	0	0	0
Michigan:									
Detroit	1	0	1	1	0	0	0	1	0
Grand Rapids	0	0	0	0	0	0	0	1	0
Wisconsin:									
Milwaukee	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis	0	0	0	0	0	0	0	1	
Missouri:									
Kansas City	0	0	0	0	1	1	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore [1]	1	0	0	0	0	0	0	0	0
District of Columbia:									
Washington	0	0	0	0	0	1	0	0	0
Georgia:									
Atlanta	0	0	0	0	3	3	0	0	0
EAST SOUTH CENTRAL									
Alabama:									
Birmingham	0	1	0	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Oklahoma:									
Oklahoma City	0	0	0	1	1	0	0	0	0
Texas:									
Galveston	0	0	1	1	0	1	0	0	0
San Antonio	0	0	0	0	0	1	0	0	0
MOUNTAIN									
Colorado:									
Pueblo	1	0	0	0	0	0	0	0	0
PACIFIC									
California:									
Los Angeles	1	2	2	1	0	0	0	0	0

[1] Typhus fever: 1 case at Baltimore, Md.

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended December 25, 1926, compared with those for a like period ended December 26, 1925. The population figures used in computing the rates are approximate estimates as of July 1, 1925 and 1926, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had an estimated aggregate population of nearly 30,000,000 in 1925 and nearly 30,500,000 in 1926. The 95 cities reporting deaths had more than 29,200,000 estimated population in 1925 and more than 29,730,000 in 1926. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, November 21 to December 25, 1926—Annual rates per 100,000 population, compared with rates for the corresponding period of 1925 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Nov. 28, 1925	Nov. 27, 1926	Dec. 5, 1925	Dec. 4, 1926	Dec. 12, 1925	Dec. 11, 1926	Dec. 19, 1925	Dec. 18, 1926	Dec. 26, 1925	Dec. 25, 1926
101 cities	154	212	165	224	159	[3] 201	[3] 158	[4] 189	122	[5] 166
New England	101	132	120	173	103	163	132	161	89	161
Middle Atlantic	150	154	137	176	138	160	147	167	108	139
East North Central	155	257	164	267	158	223	154	[4] 217	150	[6] 185
West North Central	170	191	272	209	239	193	178	129	184	113
South Atlantic	207	284	207	242	192	239	192	218	94	[7] 213
East South Central	110	218	116	361	121	[3] 275	89	145	74	[8] 208
West South Central	172	301	264	318	176	267	[3] 241	258	128	[9] 217
Mountain	129	200	231	228	166	246	176	164	166	137
Pacific	157	305	122	270	191	240	177	253	88	226

MEASLES CASE RATES

101 cities	205	133	342	175	427	[3] 199	[3] 515	[4] 191	416	[5] 208
New England	798	57	1,526	102	1,953	165	2,082	229	1,579	168
Middle Atlantic	238	30	338	37	451	23	518	24	382	22
East North Central	118	131	243	145	293	218	479	[4] 244	537	[6] 243
West North Central	29	109	18	113	25	129	35	109	70	77
South Atlantic	330	23	516	49	539	54	570	90	240	[7] 57
East South Central	32	16	37	26	21	[3] 83	79	21	116	[8] 48
West South Central	4	103	4	142	4	146	[3] 9	82	9	[9] 7
Mountain	9	2,540	9	2,840	37	3,214	28	2,349	28	2,777
Pacific	25	340	55	704	52	617	77	607	36	884

SCARLET FEVER CASE RATES

101 cities	197	215	211	242	223	[2] 238	[3] 232	[4] 279	203	[5] 256
New England	206	286	216	326	187	340	192	388	240	248
Middle Atlantic	149	137	166	156	172	177	189	214	146	212
East North Central	210	202	261	239	288	236	286	[4] 242	234	[6] 252
West North Central	438	411	405	435	476	431	454	413	438	371
South Atlantic	134	158	119	182	152	175	154	201	157	[7] 153
East South Central	168	239	163	244	110	[3] 149	116	249	168	[8] 296
West South Central	132	198	106	211	141	142	[3] 88	237	97	[9] 171
Mountain	166	783	240	929	157	801	277	1,111	213	974
Pacific	237	251	215	267	185	232	243	386	182	305

SMALLPOX CASE RATES

101 cities	16	5	13	14	21	[2] 11	[3] 20	[4] 16	18	[5] 15
New England	0	0	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	0	1	0	1	1	1	0	0
East North Central	31	7	13	21	33	7	26	[4] 11	25	[6] 16
West North Central	10	30	18	48	18	38	37	46	20	28
South Atlantic	2	4	4	19	8	19	12	26	10	[7] 31
East South Central	11	5	11	0	5	[2] 22	11	78	0	[8] 56
West South Central	9	4	13	9	9	9	[3] 23	43	9	[9] 39
Mountain	9	0	0	18	102	18	37	0	9	18
Pacific	94	5	105	35	124	43	113	40	130	43

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1925 and 1926, respectively.
[2] Covington, Ky., not included.
[3] Shreveport, La., not included.
[4] Superior, Wis., not included.
[5] Terre Haute, Ind., Superior, Wis., Lynchburg, Va., Norfolk, Va., Greenville, S. C., Louisville, Ky., and New Orleans, La., not included.
[6] Terre Haute, Ind., and Superior, Wis., not included.
[7] Lynchburg, Va., Norfolk, Va., and Greenville, S. C., not included.
[8] Louisville, Ky., not included.
[9] New Orleans, La., not included.

Summary of weekly reports from cities, November 21 to December 25, 1926—Annual rates per 100,000 population, compared with rates for the corresponding period of 1925 [1]—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	Nov. 28, 1925	Nov. 27, 1926	Dec. 5, 1925	Dec. 4, 1926	Dec. 12, 1925	Dec. 11, 1926	Dec. 19, 1925	Dec. 18, 1926	Dec. 26, 1925	Dec. 25, 1926
101 cities	13	12	19	10	20	[2] 13	[3] 16	[4] 12	9	[5] 10
New England	17	7	22	7	22	2	10	31	10	40
Middle Atlantic	14	13	26	9	25	18	17	8	11	5
East North Central	3	4	8	6	12	3	13	[4] 5	7	[6] 4
West North Central	8	8	10	10	12	4	14	10	4	10
South Atlantic	27	19	19	17	23	24	17	19	12	[7] 16
East South Central	21	31	53	42	26	[2] 44	26	21	5	[8] 24
West South Central	31	17	40	9	31	13	[3] 28	22	9	[9] 7
Mountain	18	18	0	9	18	9	9	9	18	0
Pacific	14	22	14	16	14	16	17	24	8	22

INFLUENZA DEATH RATES

95 cities	9	10	11	14	13	[2] 17	[3] 14	[4] 14	12	[5] 15
New England	12	9	10	7	10	9	14	7	12	7
Middle Atlantic	8	7	10	13	12	12	8	13	9	14
East North Central	5	9	6	9	11	14	17	[4] 12	8	[6] 10
West North Central	2	2	6	4	6	15	4	15	6	11
South Atlantic	10	15	17	21	8	34	10	26	17	[7] 33
East South Central	26	42	42	42	47	[2] 44	53	5	32	[8] 56
West South Central	34	33	39	43	44	43	[3] 36	43	48	[9] 30
Mountain	9	36	18	46	18	36	0	9	28	27
Pacific	4	0	4	11	4	11	18	7	15	4

PNEUMONIA DEATH RATES

95 cities	126	126	144	122	130	[2] 129	[3] 149	[4] 138	136	[5] 139
New England	156	132	180	118	132	135	158	149	165	151
Middle Atlantic	145	138	161	150	132	139	148	147	145	166
East North Central	95	99	142	87	116	103	132	[4] 119	101	[6] 110
West North Central	81	74	54	74	84	118	133	120	99	91
South Atlantic	134	165	159	105	173	154	200	126	205	[7] 147
East South Central	179	104	131	135	184	[2] 171	215	130	142	[8] 104
West South Central	150	213	155	161	208	151	[3] 184	184	174	[9] 145
Mountain	157	146	157	209	176	109	120	273	203	164
Pacific	98	124	98	153	76	114	98	124	87	149

[2] Covington, Ky., not included.
[3] Shreveport, La., not included.
[4] Superior, Wis., not included.
[5] Terre Haute, Ind., Superior, Wis., Lynchburg, Va., Norfolk, Va., Greenville, S. C., Louisville, Ky., and New Orleans, La., not included.
[6] Terre Haute, Ind., and Superior, Wis., not included.
[7] Lynchburg, Va., Norfolk, Va., and Greenville, S. C., not included.
[8] Louisville, Ky., not included.
[9] New Orleans, La., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities in each group, approximated as of July 1, 1925 and 1926, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1925	1926	1925	1926
Total	101	95	29,900,058	30,427,598	29,221,531	29,733,613
New England	12	12	2,176,124	2,206,124	2,176,124	2,206,124
Middle Atlantic	10	10	10,346,970	10,476,970	10,346,970	10,476,970
East North Central	16	16	7,481,656	7,655,436	7,481,656	7,655,436
West North Central	12	10	2,550,024	2,589,131	2,431,253	2,468,448
South Atlantic	21	21	2,716,070	2,776,070	2,716,070	2,776,070
East South Central	7	7	993,103	1,004,953	993,103	1,004,953
West South Central	8	6	1,184,057	1,212,057	1,078,198	1,103,694
Mountain	9	9	563,912	572,773	563,912	572,773
Pacific	6	4	1,888,142	1,934,084	1,434,245	1,469,144

FOREIGN AND INSULAR

THE FAR EAST

Report for week ended December 11, 1926.—The following report for the week ended December 11, 1926, was transmitted by the eastern bureau of the secretariat of the health section of the League of Nations, located at Singapore, to the headquarters at Geneva:

Maritime towns	Plague		Cholera		Smallpox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
British India:						
Bombay	----	0	----	0	5	4
Calcutta	----	0	----	62	60	42
Rangoon	----	0	----	0	1	1
Negapatam	----	0	----	2	2	1
Ceylon: Colombo	0	0	0	0	0	0
Straits Settlements:						
Singapore	0	0	2	1	1	1
Dutch East Indies:						
Cheribon	0	0	0	0	0	0
Surabaya	4	4	0	0	0	0
Siam: Bangkok	0	0	2	1	4	1
French Indo-China:						
Saigon and Cholon	0	0	1	0	0	0
Turane	0	0	9	5	0	0
Haiphong	0	0	----	13	0	0
Manchuria:						
Changchun	0	0	0	0	1	0
Mukden	0	0	0	0	1	0
Mauritius	----	5	0	0	0	0
Port Louis	----	3	0	0	0	0

Telegraphic reports from the following maritime towns indicated that no case of plague, cholera, or smallpox was reported during the week:

ASIA

Arabia.—Aden, Jeddah, Kamaran, Perim.
Iraq.—Basrah.
Persia.—Mohammerah, Bender-Abbas, Bushire.
British India.—Karachi, Chittagong, Cochin, Madras, Vizagapatam, Tuticorin.
Portuguese India.—Nova Goa.
Federated Malay States.—Port Swettenham.
Straits Settlements.—Penang.
Dutch East Indies.—Samarang, Batavia, Sabang, Makassar, Banjermasin, Palembang, Belawan-Deli, Padang, Tarakan, Balikpapan, Samarinda, Pontianak.
Sarawak.—Kuching.
British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.
Portuguese Timor.—Dilly.
Philippine Islands.—Manila, Iloilo, Jolo, Cebu, Zamboanga.
China.—Amoy, Shanghai (International Settlement).
Hong Kong.
Macao.
Formosa.—Keelung.
Japan.—Yokohama, Osaka, Nagasaki, Niigata, Tsuruga, Hakodate, Shimonoseki, Moji, Kobe.
Korea.—Chemulpo, Fusan.
Manchuria.—Harbin, Antung, Yingkow.
Kwantung.—Port Arthur, Dairen.

AUSTRALASIA AND OCEANIA

Australia.—Adelaide, Melbourne, Sydney, Brisbane, Rockhampton, Townsville, Port Darwin, Broome, Fremantle, Carnarvon, Thursday Island.
New Guinea.—Port Moresby.
New Britain Mandated Territory.—Rabaul and Kokopo.
New Zealand.—Auckland, Wellington, Christchurch, Invercargill, Dunedin.
New Caledonia.—Noumea.
Fiji.—Suva.
Hawaii.—Honolulu.
Society Islands.—Papeete.

AFRICA

Egypt.—Port Said, Suez, Alexandria.
Anglo-Egyptian Sudan.—Port Sudan, Suakin.
Eritrea.—Massaua.
French Somaliland.—Jibuti.
British Somaliland.—Berbera.
Italian Somaliland.—Mogadiscio.
Kenya.—Mombasa.
Zanzibar.—Zanzibar.
Tanganyika.—Dar-es-Salaam.
Seychelles.—Victoria.
Madagascar.—Majunga, Tamatave.
Portuguese East Africa.—Mozambique, Beira, Lourenco-Marques.
Union of South Africa.—East London, Port Elizabeth, Cape Town, Durban.

Reports had not been received in time for distribution from—

Dutch East Indies.—Menado.
U. S. S. R.—Vladivostok.

Belated information—

Union of South Africa.—Durban remained free from plague, cholera, and smallpox during the week ended December 4.

Japan.—Hiogo, three cholera cases have been reported during the week ended November 20.

French India.—Week ended December 4, smallpox, 1 case, 1 death at Pondicherry; Karikal, nil.

Dutch East Indies.—Week ended December 4, plague, 1 case, 1 death at Surabaya; rats were examined during the week but none were found infected.

BRAZIL

Mortality from communicable diseases—Para—October 31–November 27, 1926.—During the four weeks ended November 27, 1926, 87 deaths from communicable diseases were reported at Para, Brazil, including gastroenteritis, 26; leprosy, 6; malaria, 20; smallpox, 1; and tuberculosis, 34.

Prevailing diseases in surrounding country.—Gastroenteritis, leprosy, malarial fevers, smallpox, and tuberculosis were stated to be the prevailing diseases in the surrounding country.

CANADA

Communicable diseases—Week ended December 18, 1926.—The Canadian Ministry of Health reports cases of certain communicable diseases from six Provinces of Canada for the week ended December 18, 1926, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Total
Cerebrospinal fever				1			1
Lethargic encephalitis				1			1
Influenza	23						23
Poliomyelitis				1			1
Smallpox				35	1	2	38
Typhoid fever	1	1	2	5		1	10

Vital statistics—Quebec—October, 1926.—Births and deaths in the Province of Quebec for the month of October, 1926, have been reported as follows:

Estimated population	2,570,000
Births	6,303
Birth rate per 1,000 population	29.43
Deaths (all causes)	2,728
Death rate per 1,000 population	12.73
Deaths under 1 year	918
Infant mortality rate	145.64
Deaths from—	
Cancer	148
Cerebrospinal meningitis	6
Diabetes	25
Diphtheria	46
Deaths from—Continued.	
Heart disease	340
Influenza	59
Measles	14
Poliomyelitis (infantile paralysis)	1
Scarlet fever	11
Syphilis	5
Tuberculosis (pulmonary)	163
Tuberculosis (other forms)	53
Typhoid fever	17
Whooping cough	46

EGYPT

Plague—November 19–December 2, 1926.—Plague has been reported in Egypt as follows: Week ended November 25, 1926—three cases, of which one case occurred in the city of Alexandria; week ended December 2, 1926—one case occurring at Alexandria.

Summary—January 1–December 2, 1926.—Cases, 147; corresponding period, year 1925, 137 cases.

GREAT BRITAIN (SCOTLAND)

Epidemic scarlet fever—Glasgow—July–November, 1926.—Epidemic prevalence of scarlet fever was reported at Glasgow, Scotland, for the period July to November, 1926, according to months, as follows: July, 305 cases; August, 331; September, 543; October, 758; November, 605 cases. The case mortality during the period under report was stated to have been less than 1 per cent. The low fatality rate was attributed to the mildness of the type of the disease and the administration of serum treatment in the severe cases.

HAITI

Gastroenteritis—Malaria.—Reports received under recent dates through the Public Health Service of Haiti, indicate prevalence of gastrointestinal disorders as the most important health problem of Haiti. Malaria is reported in many sections of the country.

IRELAND (IRISH FREE STATE)

Typhus fever (suspect)—Cork County—November 28–December 4, 1926.—During the week ended December 4, 1926, four cases of (suspect) typhus fever were reported in the district of Fermoy, Cork County, Irish Free State.

LATVIA

Communicable diseases—October, 1926.—During the month of October, 1926, communicable diseases were reported in the Republic of Latvia as follows:

Disease	Cases	Disease	Cases
Diphtheria	57	Paratyphus fever	5
Erysipelas	24	Puerperal fever	2
Leprosy	1	Scarlet fever	465
Lethargic encephalitis	1	Tetanus	2
Malaria	3	Trachoma	25
Measles	61	Typhoid fever	84
Mumps	1	Whooping cough	40

Population, estimated, 1,844,805.

MALTA

Communicable diseases—November, 1926.—During the month of November, 1926, communicable diseases were reported in the Island of Malta as follows:

Disease	Cases	Disease	Cases
Broncho-pneumonia	3	Measles	7
Chicken pox	2	Pneumonia	10
Diphtheria	10	Puerperal fever	2
Erysipelas	4	Trachoma	74
Influenza	4	Tuberculosis	21
Malaria[1]	2	Typhoid fever	58
Malta fever	33	Whooping cough	33

[1] Contracted abroad.

Population of island (civil), estimated, 225,242.

SALVADOR

Mortality from certain communicable diseases—July–September, 1926.—Reports received for the Republic of Salvador for the three months ended September 30, 1926, show 1 death from diphtheria, 363 deaths from gastroenteritis, 316 from measles, 136 from tuberculosis, and 7 from typhoid fever. Population, 1,600,000.

San Salvador—September, 1926.—During the month of September, 1926, 46 deaths from communicable diseases were reported for the city of San Salvador, including gastroenteritis, 21; measles, 2; tuberculosis, 23. Population, 85,000.

Prevailing diseases.—Malarial and other tropical fevers were stated to be the prevailing diseases in the Republic of Salvador.

SENEGAL

Plague—Yellow fever—Diourbel.—Under date of December 6, 1926, plague and yellow fever were reported at Diourbel, a locality in the interior of Senegal, as follows: *Plague*—November 20 to 30, 1926, cases, 12; deaths, 11. *Yellow fever*—December 6, 1926, one fatal case.

Yellow fever—Rufisque—November 27, 1926.—A fatal case of yellow fever occurring in a European, was reported at Rufisque, Senegal, West Africa, November 27, 1926.

SPAIN

Mortality—Madrid—July–September, 1926.—During the three months ended September 30, 1926, 3,598 deaths from all causes were reported at Madrid, Spain, distributed by months as follows: July, 1,391; August, 1,209; September, 998. The number of deaths for the previous quarterly period was 4,041.

Mortality from communicable diseases.—During the period under report deaths were reported from communicable diseases as follows:

Disease	Deaths	Disease	Deaths
Diphtheria	16	Scarlet fever	38
Measles	18	Tuberculosis (all forms)	445
Meningitis	195	Typhoid fever	56

Population, estimated at end of quarter: 766,552.

UNION OF SOUTH AFRICA

Plague—Cape Province—Orange Free State—November 7–20, 1926.—During the two weeks ended November 20, 1926, plague was reported in the Union of South Africa as follows: *Cape Province*—November 14–20, 1926, one case, native, occurring in Hanover district; *Orange Free State*—November 7–13, 1926, one fatal case in Hoopstad district. Both cases occurred on farms.

Smallpox—Natal—Orange Free State—Transvaal.—Six cases of smallpox were reported in Durban District, Natal, during the two weeks ended November 20, 1926. The occurrence was in Hindus. In Durban municipality two cases were reported. A total for Durban and vicinity of 56 cases and 11 deaths, all occurring in natives or Hindus, has been reported since the outbreak on October 14 last. *Orange Free State.*—Outbreaks reported November 14–20, 1926. *Transvaal.*—During the two weeks ended November 20, 1926, two cases, in Europeans.

Typhus fever—October, 1926.—During the month of October, 1926, 71 cases of typhus fever with 8 deaths were reported in the Union of South Africa. The occurrence was in the colored population. The distribution according to Provinces was as follows: *Cape Province*—cases, 47; deaths, 7; *Natal*—one case; *Orange Free State*—cases, 22; deaths, 1; *Transvaal*—one case.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

The reports contained in the following tables must not be considered as complete or final as regards either the lists of countries included or the figures for the particular countries for which reports are given.

Reports Received During Week Ended January 14, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Chungking	Nov. 14–20			Present.
Tsingtao	Nov. 21–27			Do.
India				Oct. 17–23, 1926: Cases, 1,261; deaths, 753.
Calcutta	Nov. 14–20	39	34	Nov. 7–20, 1926: Cases, 61; deaths, 49. Total, Apr. 1–Nov. 20, 1926: Cases, 7,714; deaths, 5,080.
Siam				
Bangkok	Nov. 7–20	5	1	

[1] From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

Reports Received During Week Ended January 14, 1927—Continued

PLAGUE

Place	Date	Cases	Deaths	Remarks
Ceylon:				
Colombo	Nov. 21–27	1	1	Plague rat, 1. The human case terminated fatally outside city.
China:				
Nanking	Oct. 31–Nov. 20			Prevalent.
Egypt				Nov. 19–25, 1926: Cases, 3; Nov. 26–Dec. 2, 1926: Cases, 1. Total, Jan. 1–Dec. 2, 1926: Cases, 147; corresponding period, year 1925, cases, 137.
Alexandria	Nov. 19–Dec. 2	2		
Tanta district	Nov. 19–25	2		
Greece:				
Patras	Nov. 28–Dec. 4		1	
India	Oct. 17–23			Cases, 1,987; deaths, 1,106.
Rangoon	Nov. 14–20	3	2	
Java:				
Batavia	Nov. 14–20	1	1	Province.
Surabaya	Oct. 24–Nov. 6	8	8	
Senegal:				
Dlourbel	Nov. 20–30	12	11	
Union of South Africa:				
Cape Province—				
Hanover district	Nov. 14–20	1		Native. On farm.
Orange Free State—				
Hoopstad district	Nov. 7–13	1	1	Do.

SMALLPOX

Brazil:				
Bahia	Nov. 14–20	1		
Para	Oct. 31–Nov. 6		1	
Pernambuco	Oct. 24–Dec. 4	42		
Sao Paulo	Aug. 23–Oct. 3	10	8	
Canada:				
Alberta—				
Calgary	Dec. 19–25	2		
Manitoba				Dec. 12–18, 1926: Cases, 1.
Winnipeg	Dec. 19–25	1		
Ontario				Dec. 12–18, 1926: Cases, 35.
Saskatchewan				Dec. 12–18, 1926: Cases, 2.
China:				
Chungking	Nov. 7–20			Present.
Swatow	Nov. 21–27			Prevalent.
Egypt:				
Cairo	June 11–Aug. 26	27	4	
Great Britain:				
England and Wales	Dec. 5–11	318		
Newcastle-on-Tyne	do	2		
India				Oct. 17–23, 1926: Cases, 836; deaths, 239.
Bombay	Nov. 7–13	4	2	
Calcutta	Nov. 14–20	12	10	
Madras	Nov. 21–Dec. 4	4	1	
Iraq:				
Baghdad	Oct. 31–Nov. 6	1	1	
Basra	Nov. 7–13	1	1	
Java:				
Batavia	Nov. 14–20	2		Province.
Surabaya	Oct. 31–Nov. 6	4		
Mexico:				
Chihuahua	Dec. 31			Several cases; mild.
Mexico City	Nov. 21–27	1		Including municipalities in Federal District.
San Luis Potosi	Nov. 12–18		2	
Torreon	Dec. 12–25		6	
Poland				Oct. 11–30, 1926: Cases, 30.
Portugal:				
Lisbon	Nov. 22–Dec. 18	24	3	
Siam				Nov. 16–20, 1926: Cases, 23; deaths, 4. Apr. 1–Nov. 20, 1926: Cases, 1,301; deaths, 511.
Bangkok	Nov. 6–20	9	2	
Union of South Africa:				
Natal—				
Durban District	Nov. 7–20	8		Including Durban municipality. Total, from date of outbreak, Oct. 14, 1926, cases, 56; deaths, 11.
Orange Free State	Nov. 14–20			Outbreaks.
Transvaal	Nov. 7–20	2		Europeans.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

Reports Received During Week Ended January 14, 1927—Continued

TYPHUS FEVER

Place	Date	Cases	Deaths	Remarks
Palestine:				
Haifa	Nov. 23–29	2		
Jaffa	do	2		
Nazareth	do	1		
Poland				Oct. 11–Nov. 13, 1926: Cases, 82; deaths, 8.
Union of South Africa				October, 1926: Cases, 71; deaths, 8. Colored.
Cape Province				October, 1926: Cases, 47; deaths, 7.
Do	Nov. 14–20			Outbreaks.
East London	Nov. 21–27	1		Native. Imported.
Natal				October, 1926: 1 case.
Orange Free State				October, 1926: Cases, 22; death, 1.
Transvaal				October, 1926: Case, 1.

YELLOW FEVER

Senegal (West Africa):				
Diourbel	Dec. 6	1	1	
Rufisque	Nov. 27	1	1	In European.

Reports Received from January 1 to 7, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Tsingtao	Nov. 14–20			Present.
French Settlements in India	Aug. 29–Oct. 2	93	64	
India	Oct. 10–16			Cases, 1,397; deaths, 755.
Calcutta	Oct. 31–Nov. 13	45	35	
Indo-China	July 1–31			Cases, 2,204; deaths, 1,350. European, 1.
Saigon	Oct. 31–Nov. 13	2	2	
Province—				
Annam	July, 1926	215	178	July, 1925; Cases, none.
Cambodia	do	571	352	One European, fatal. July, 1925: Cases, 3.
Cochin-China	do	390	317	July, 1925: Cases, 6; deaths, 2.
Kwang-Chow-Wan	do	220		July, 1925: Cases, 22; deaths, 15.
Laos	do	24	21	July, 1925: One case.
Tonkin	do	784	482	July, 1925: Cases, 3; deaths, 1.
Philippine Islands:				
Manila	Oct. 31–Nov. 6	1		
Siam	do			Case, 1.
Do	Apr. 1–Nov. 6			Cases, 7,706; deaths, 5,075.
Bangkok	Oct. 31–Nov. 6	1		
Straits Settlements	July 25–Aug. 21		11	

PLAGUE

Algeria:				
Algiers	Reported Nov. 26	1		
Oran	Nov. 21–28	21	18	
Tafaraoui	do		2	Near Oran.
Brazil:				
Rio de Janeiro	Nov. 28–Dec. 4	2	2	
Ceylon:				
Colombo	Nov. 14–20			One plague rodent.
Ecuador:				
Guayaquil	Nov. 1–30	12	3	Rats taken, 24,887; found infected, 77.

[1] From medical officers of the Public Health Service, American consuls, and other sources. For reports received from June 26 to December 31, 1926, see Public Health Reports for December 31, 1926. The tables of epidemic diseases are terminated semiannually and new tables begun.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

Reports Received from January 1 to 7, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
Greece	Nov. 1-30	10	1	Athens and Piræus.
Athens	do		3	
India	Oct. 10-16			Cases, 1,565; deaths, 957.
Madras	Oct. 17-23	83	45	
Indo-China	July 1-31			Cases, 24; deaths, 10.
Province—				
Cambodia	July, 1926	6	6	July, 1925: Cases, 16; deaths, 13.
Cochin-China	do	8	4	July, 1925: No case.
Kwang-Chow-Wan	do	10		July, 1925: Cases, 22; deaths, 15.
Java:				
Batavia	Nov. 7-13	8	8	Province.
Surabaya	Oct. 24-Nov. 6	4	1	
Nigeria	Aug. 1-31	187	164	
Senegal	July 1-31	178	162	
Syria:				
Beirut	Nov. 11-20	1		

SMALLPOX

Algeria	Sept. 21-Oct. 20	160		
Belgium	Oct. 1-10	1		
Brazil:				
Bahia	Oct. 30-Nov. 13	2	2	
Pernambuco	Oct. 17-23	14	2	
Rio de Janeiro	Nov. 14-27	80	41	
Canada	Dec. 5-11			Cases, 59.
Alberta	do	14		
Calgary	Nov. 28-Dec. 18	10		
Manitoba	Dec. 5-11	3		
Ontario	do	33		
Ottawa	Dec. 12-18	4		
Toronto	Dec. 14-20	11		
Saskatchewan	Dec. 5-11	9		
China:				
Foochow	Nov. 7-13			Present.
Hankow	Nov. 6-30			Do.
Chosen	Aug. 1-31	33	10	
Estonia	Oct. 1-30	2		
France	Sept. 1-30	66		
French Settlements in India	Aug. 29-Sept. 25	40	40	
Gold Coast	Aug. 1-31	41	5	
Great Britain:				
England and Wales	Nov. 14-Dec. 4	982		
Greece	Nov. 1-30	20		
India	Oct. 10-16			Cases, 509; deaths, 145.
Calcutta	Oct. 31-Nov. 13	4	4	
Indo-China	July 1-31			Cases, 29; deaths, 10.
Province—				
Annam	July, 1926	6	3	July, 1925: Cases, 39; deaths, 7.
Cambodia	do	11	4	July, 1925: Cases, 62; deaths, 18.
Cochin-China	do	6	1	July, 1925: Cases, 12; deaths, 7.
Laos	do	3	1	July, 1925: Cases, none.
Tonkin	do	3	1	July, 1925: Cases, 31; deaths, 3.
Italy	Aug. 29-Sept. 11	4		
Jamaica	Dec. 5-11	20		Reported as alastrim.
Japan:				
Kobe	Nov. 14-20	1		
Java:				
Surabaya	Oct. 24-30	2		
Mexico:				
Ciudad Juarez	Dec. 14-20		1	
Mexico City	Dec. 5-11	3		Including municipalities in Federal District.
San Luis Potosi	do		1	
Torreon	Nov. 28-Dec. 4		1	
Portugal:				
Lisbon	do	13		
Rumania	Jan. 1-Sept. 30	7	1	
Siam	Apr. 1-Nov. 6			Cases, 631; deaths, 252.
Bangkok	Oct. 31-Nov. 6	3	1	
Tunisia	Oct. 1-20	1		
Union of South Africa:				
Transvaal—				
Johannesburg	Nov. 14-20	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

Reports Received from January 1 to 7, 1927—Continued

TYPHUS FEVER

Place	Date	Cases	Deaths	Remarks
Algeria	Sept. 21–Oct. 20	12		
Bulgaria	July 1–Sept. 30	221	24	
Chile:				
Valparaiso	Nov. 21–Dec. 4	2		
China:				
Chefoo	Oct. 24–Nov. 6			Present.
Chosen	Aug. 1–31	5		
Greece	Nov. 1–30	12	1	
Italy	Aug. 29–Sept. 11	1		
Lithuania	Sept. 1–30	12	2	
Mexico:				
Mexico City	Dec. 5–11	3		Including municipalities in Federal District.
Palestine:				
Nahalal	Nov. 16–22	1		Nazareth district.
Rumania	Aug. 1–Sept. 30	72	3	
Russia	Aug. 1–31	1,156		
Tunisia	Oct. 1–20	3		

YELLOW FEVER

Gold Coast	Aug. 1–31	7	2	
Upper Volta:				
Gaoua district	Oct. 25	2		