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EXAMINATION OF FOOD HANDLERS

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Since the discovery that diseases can be carried by the hand through food to the mouth, an effort has been made in many places to keep food handlers as a class free from communicable diseases. This effort in many cities has taken the form of periodical, compulsory physical examination of food handlers, and the results obtained have been startingly beneficial.

The food handler gains a knowledge of his bodily state of health, and if it is poor he can set about restoring it. The city limits the spread of communicable disease, while the public at large is assured that its food is being handled by individuals unable to disseminate any disease by contact.

The systematic physical examination of food handlers serves two important ends: First, to protect restaurant and hotel patrons from communicable diseases; and, second, to improve the health of a large group of workers subjected to the stresses of their occupations. Examinations of food handlers have been conducted in Newark since 1920. The work was started with restaurant employees and has been gradually extended until at the present time, grocers, confectioners, delicatessen-store workers, and milk handlers are examined.

At this time no description will be given concerning the procedure of examination. However, in view of the fact that after taking 27,000 nose and throat cultures none were found positive, it was deemed unwise to continue this procedure, and in July, 1926, it was stopped. At present the throat of every case is inspected, and if it is suspicious a culture is taken. For the same reason that the taking of nose and throat cultures was stopped Widal tests for typhoid have been discontinued.

In spite of the widely recognized benefits resulting from the examination of food handlers, it has been ascertained by means of a questionnaire that most foreign countries and a great number of large cities in this country make no provision for such examination. This can be attributed, probably, to a feeling that still exists that compulsory examinations are an insult to personal liberty. This feeling can be overcome by proper education, as has been the case in Newark.

It will be interesting at this time to survey the plan for examination of food handlers in the other countries. From a personal communication in the form of a questionannaire sent out by the author to the principal cities all over the world, it was found that in Tokio, for instance, no particular examination for food handlers was being conducted, although examinations of persons engaged in specified occupations (including food handlers) was being carried out whenever it was deemed necessary. However, this is only in accordance with a law for prevention of tuberculosis.

In Moscow, Soviet Russia, all food handlers are said to be examined prior to entrance into employment, and all persons having a communicable disease are rejected. A periodic examination of all the employees of food-handling establishments is made every three months by paid specialists of the Government.

In Warsaw, Poland, there is no examination of food handlers.

In Vienna, Austria, examination is made for communicable disease only of employees of bakeries; and these examinations are made by physicians engaged by the baker unions.

In Cairo, Egypt, the question of examining food handlers with a view of detecting communicable disease is still under consideration.

In Budapest, Hungary, there is an initial examination upon which a medical certificate is issued before the employee enters employment. The employees are not examined periodically; the shops are inspected annually.

In Berlin, Germany, there is contemplation of a law providing for the examination of food handlers for communicable diseases. This will apply to the entire country and is before the Reichstag for passage.

In Dublin, Ireland, there is no general examination of food handlers in operation; but in case of an outbreak of infectious disease in which the medium of infection is found to be a food commodity investigation and examination of food handlers are carried out.

In Stockholm, Sweden, there is a law stating that no person may be occupied in dairies or in the sale of milk who has not shown a certificate signed by a physician and declaring that he is free from pulmonary tuberculosis.

In London, England, the only regulations operative are those in force with regard to persons engaged in duties associated with the milk supply.

In Sydney, Australia, there is no law at all concerning the examinations of food handlers *per se*.

In Montreal, Canada, there is under consideration a law requiring a semiyearly examination by a licensed physician; and in Toronto, Canada, private physicians make examinations every six months.

The results of the questionnaire prove the inadequacy of most of the laws concerning food handlers in foreign countries. There seems to be no effort at compulsory examination by paid physicians of the individual cities, and a great majority have no examinations at all, consequently there can be no statistics regarding the success or failure of the procedure in foreign countries. In the cases where there is an initial examination a food handler might acquire a communicable disease any time after the medical certificate has been issued and the city authorities would have no knowledge of it.

Most of the health authorities, having no statistics to refer to, could recall only a few cases of communicable disease ever having been discovered in food handlers. Even in this country there is still too much reliance placed upon examinations by private physicians.

Dr. L. B. Gloyne, of Kansas City, states that of 2,622 food handlers examined by physicians of the board of health 61 cases were refused cards, whereas of 283 patients examined by private physicians none was found to be even suspicious. None of these latter cases had the benefit of sputum, Wassermann, or any other kind of laboratory test.

Of 48,000 food handlers examined in New York City by private physicians only 2 were found to be suspicious.

The following figures show the results obtained in Newark:

Results of examinations of food handlers in Newark, N. J., 1920–1925

1920	
Number examined by health department	2,314
Number examined outside	434
Number rejected for tuberculosis by health department	26
Number rejected for venereal disease by health department	10
	36
1921	
Number examined by health department	4,728
Number examined outside	706
Number of reexaminations	625
Number rejected for tuberculosis by health department	48
Number rejected for venereal disease by health department	18
	66
1922	
Number of restaurant employees examined by health department	4,456
Number of restaurant employees examined outside	531
Number of milk dealers examined by health department	1,053
Number of milk dealers examined by private physicians	654
Number of reexaminations	712
Number rejected for tuberculosis by health department	24
Number rejected for venereal disease by health department	0
	24
1923	
Number of restaurant employees examined by health department	4,962
Number of restaurant employees examined outside	210
Number of milk dealers examined by health department	1,507
Number of milk dealers examined by private physicians	899
Number of reexaminations	751
Number rejected for tuberculosis by health department	20
Number rejected for venereal disease by health department	3
	23

1924

Number of restaurant employees examined by health department	5,290
Number of restaurant employees examined outside	437
Number of milk dealers examined by health department	2,062
Number of milk dealers examined by private physicians	797
Number of reexaminations	796
Number rejected for tuberculosis by health department	20
Number rejected for venereal disease by health department	4
	24

1925

Number of restaurant employees examined by health department	7,610
Number of restaurant employees examined outside	501
Number of milk dealers examined by health department	2,255
Number of milk dealers examined by private physicians	642
Number of reexaminations	938
Number rejected for tuberculosis by health department	17
Number rejected for venereal disease by health department	10
	27

Summary, 1920–1925

Number of restaurant employees examined by health department	29,369
Number of restaurant employees examined outside	2,819
Number of milk dealers examined by health department	6,877
Number of milk dealers examined by private physicians	2,992
Number of reexaminations	3,822
Number of rejections for tuberculosis by health department	155
Number of rejections for venereal disease by health department	45
Number of temporary cards issued in 1925	14
Number of temporary cards issued in 1926	81

It should be borne in mind that the food handlers who visited the diagnostic clinic for so-called health certificates were probably individuals who felt reasonably certain that they were free from the evidence of communicable diseases. This self-selection undoubtedly had some influence in keeping down the percentage of tuberculous and venereal diseased individuals who came to the clinic.

A very evident conclusion that may be drawn from this survey is that the public is not protected against food handlers who may be affected with communicable diseases.

This study made manifest the need for the appointment of a medical adviser to give counsel to those who show evidence of incipient or advanced disease conditions of which they were unaware with respect to methods for the conservation of health and to urge them to secure timely medical care. Those suffering from defects of varied character are given instruction and urged to secure treatment, thus initiating with large groups of the community the practice of periodic medical examination for the conservation of health.

The examination of food handlers at the clinics by physicians who are engaged in this particular work is beneficial to the physician in the community. First, it takes away from the private physician the responsibility of causing the patient to be rejected and avoids a possible resultant break with the family. Second, a patient found to have a communicable disease is referred back to his private physician, which would not have been the case had there been no examination. Third, the fear of developing a communicable disease and, hence, of being rejected, stimulates the individual to seek periodical examinations.

The results recorded in Newark have shown that each year since 1920 there have been less and less rejections, because persons with tuberculosis or venereal disease know that no cards for employment will be issued unless they are free from communicable diseases and, therefore, they secure other occupations. Out of 36,246 examinations at the hands of board of health physicians 155 active cases of tuberculosis and 45 cases of venereal disease were found and rejected and 3,822 suspicious cases were reexamined. There were 95 temporary cards issued to individuals who had tuberculosis or a venereal disease, but whose condition was not active. It is interesting to note that out of 5,811 food handlers examined by private physicians not one suspicious case of tuberculosis was found.

The public at large benefits by having food handled by individuals free from contagious disease. The efforts and expenditures incident to establishing a system of examination of food handlers are vastly repaid by the results obtained. The city profits by limiting the spread of communicable diseases and by detecting both early and advanced cases of tuberculosis and venereal disease which otherwise would not have been discovered.

Histories have little value, however, in this type of examination; the compulsory character of the examination and the fear that any admission as to the past or present unfavorable clinical history might result in a denial of a health certificate undoubtedly seal the lips of a number of the applicants and deprive the examiners of a valuable aid to diagnosis. A similar condition prevailed in the examinations for service in the World War in the case of men anxious to get into the service and having a history of a disease.

If the present report does nothing else it should arouse those who are coworkers in the fertile field of industrial hygiene to a realization of the necessity of getting together for an agreement upon standard methods of medical examination.

As a protection for the health of the community, the examination of food handlers seems thoroughly justified in the light of the results of this study.

The outstanding point in our work and investigation is that periodical examinations of food handlers by health department physicians are unquestionably worth while and important for the following general reasons:

Such examinations prevent a great number of diseased individuals from handling food, either by detection at examination or by the deterrent effect in causing many to secure other work rather than risk such a detection.

The early discovery of a number of incipient cases of tuberculosis and subsequent treatment educate the public as to the value of periodical examinations.

The examinations benefit physicians at large by relieving them of embarrassment in cases of private patients who might lose positions, and they send more patients to them for treatment, or, in many cases, for preliminary examination before visiting the health department.

ENDEMIC THYROID ENLARGEMENT IN MASSACHUSETTS

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GENERAL CONSIDERATIONS

There is ample reason for believing that proximity to the sea confers a comparative freedom from endemic goiter. Not only are the food and drinking water obtained near the sea more likely to contain the iodine needed to prevent goiter, but the wafting in of ocean spray is believed by some to contribute measurable quantities of the requisite element. Moreover, the inclusion of sea food in the dietary undoubtedly aids in maintaining the equilibrium of the thyroid gland.

The observation that endemic goiter is least frequent along the seacoasts apparently holds true, with minor exceptions, in America and Europe; for the disease is most conspicuous in the interior of these continents. There is, however, a relatively high incidence of endemic goiter in the Pacific Northwest, especially in the States of Oregon and Washington. As yet, no studies appear to have been made to determine whether the distribution in these States is uniform in character or whether there is an increasing incidence of the affection away from the seacoast. Quite recently another exception to the general rule has been noted in New Zealand. Despite the fact that the inhabited localities of the two chief islands of the Dominion of New Zealand are within a hundred miles of the sea, a widespread prevalence of endemic thyroid enlargement has been discovered among school children and also among the lower animals.[1] However, the experience with goiter in New Zealand is by no means an isolated one, for McCarrison has pointed out that the malady "occurs in the Delta of the Ganges, in the island of Cutch, on the coast near Manila Bay, in the island of Arran, in Algeria, on the shores of the Mediterranean Sea, and on the shores of the Barry estuary in Glamorganshire."[2]

The State of Massachusetts has an extensive coast line. Consequently, a relatively large proportion of the inhabitants are in a zone of presumably light goiter incidence. That there is relatively

[1] Herscus, C. E., Benson, W. N., and Carter, C. S.: Endemic goiter in New Zealand and its relation to the soil-iodine. Jour. Hyg. 24: 321. (Dec.) 1925.

[2] The thyroid gland. Robert McCarrison. 1917. P. 85.

little thyroid enlargement in the State was first indicated by the results of the draft examinations.[3] During these examinations 29 simple goiters, a ratio of 0.32 per 1,000 drafted men, were discovered. In comparison with 50 States and territories in which similar thyroid observations were made, Massachusetts ranked forty-eighth. In fact, only two States, Texas and Florida, had less simple goiter, according to the draft examinations. Unfortunately the total number of thyroid enlargements detected in Massachusetts during the draft was too small to indicate the variations in distribution within the State.

A preliminary survey.—Actuated by a desire to learn whether simple goiter prevailed to a sufficient extent among Massachusetts school children to warrant the institution of prophylactic measures, Doctors Bigelow, Aub, and Sisco made thyroid examinations of 330 grammar school children in 1924.[4] Observations were made in 3 localities: (1) In small towns near Pittsfield; (2) in Pepperell and Townsend, about 30 miles northwest of Boston; and (3) in a Boston school attended by children of mixed racial stock. Two degrees of thyroid enlargement were noted—(1) those which were palpable but not visible and (2) visible enlargements. Only the visible goiters were recorded. The results of this investigation are shown in Table 1.

TABLE 1.—*Percentages of visible thyroid enlargements among 330 grammar school children in 3 localities in Massachusetts*

Places	Percentage of enlargements			
	Girls			Boys 11 years and over
	All ages	10 years and under	11 years and over	
Berkshire towns	17	7	28	4
Pepperell and Townsend	5	0		0
Boston	7	0	10	0

A study of these data shows that visible thyroid enlargement was more frequent among the girls, especially in those over 11 years of age. Moreover, the malady was considerably more frequent in the Berkshire region than in or near Boston.

With the idea of obtaining more extensive information concerning the distribution of simple goiter in Massachusetts, the commissioner

[3] Defects found in drafted men. A. G. Love and C. B. Davenport. Prepared under the direction of the Surgeon General, M. W. Ireland, War Department, Washington D. C. Government Printing Office, 1920. P. 111.

[4] Unpublished study by Drs. George H. Bigelow, commissioner of health, State department of health, and J. C. Aub and Dwight Sisco, Massachusetts General Hospital.

of health requested the Public Health Service to undertake a statewide survey. Subsequently, the writers were assigned to the duty of making the desired observations in the State. During the survey, the commissioner of health and the members of his staff, particularly the district health officers, participated actively in the work. Dr. Fredrika Moore, pediatrician of the State department of health, conducted the surveys in 11 of the 57 places included in the present report, having first become familiar with the methods during preliminary examinations made with the writers. Much of the success which attended the efforts to secure satisfactory information concerning goiter incidence was due to the energetic, sympathetic, and intelligent assistance afforded by the State department of health.[5]

Methods.—In making the thyroid survey in Massachusetts the standards evolved and employed in previous studies were utilized.[6] Inasmuch as these methods have been used in a number of surveys in different parts of the country, it is now possible to compare the results of investigations made in Cincinnati, Colorado, Minnesota, Connecticut, and Massachusetts.

Scope of the survey.—In all, 7,140 boys and 10,057 girls residing in 57 different localities were examined. Practically all of the children included in the study were attending high schools. In a few instances, however, children in the upper grades of grammar schools were also included. The locations of the places surveyed are shown on the accompanying map. It will be noted that the communities visited are well distributed throughout the State, rural as well as urban centers of population being represented.

RESULTS

Among the 7,140 boys inspected, 625 thyroid enlargements of all degrees were noted, a percentage of 8.7. Some degree of thyroid enlargement was found among 2,213, or 22 per cent of the 10,057 girls examined. These data, together with the degrees of thyroid enlargement discovered in each of the 57 places visited, are presented in Table 2. In order that the information available may be readily located, the communities are listed alphabetically.

Generally speaking, thyroid enlargement among the boys was of little moment, 550, or 7.7 per cent, of the deviations from normal being of very slight degree. There were also 63 slight, 10 moderate, and only 2 marked goiters among this relatively large group of boys.

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[5] Appreciative acknowledgements are also due the local health officers, nurses, school superintendents, principals, and teachers for valuable assistance, without which the thyroid examinations could not have been made so expeditiously and accurately.

[6] Thyroid survey of 47,493 elementary school children in Cincinnati. Robert Olesen. Pub. Health Rept., vol. 39, No. 30, pp. 1777-1802. (July 25, 1924). Reprint No. 941.

Map showing percentage distribution of thyroid enlargement as disclosed by a survey of 7,140 boys and 10,057 girls in 57 localities in Massachusetts

TABLE 2.—*Numbers, degrees, and percentages of thyroid enlargements among 7,140 boys and 10,057 girls in 57 localities in Massachusetts*

Place	Boys								Girls							
	With thyroid enlargement						Normal	Total	With thyroid enlargement						Normal	Total
	Degree of enlargement				Total	Per cent			Degree of enlargement				Total	Per cent		
	Very slight	Slight	Moderate	Marked					Very slight	Slight	Moderate	Marked				
Acton	8	5	1		14	15.5	76	90	17	4	2		23	26.1	65	88
Adams	26	6	1		33	13.0	220	253	64	13	4		81	30.3	186	267
Agawam	17				17	11.7	128	145	25	9	1		35	20.4	137	172
Amherst	27	1			28	13.1	185	213	45	16	1		62	26.5	172	234
Athol	6				6	3.6	160	166	39	13	3		55	28.8	136	191
Barnstable	1				1	1.5	94	95	10	5			15	13.1	99	114
Boston									239	53	8		300	15.9	1,585	1,885
Brimfield	3				3	9.7	28	31	8	3			11	25.0	33	44
Brockton	21				21	8.3	233	254	69	15	3	1	88	19.2	370	458
Brookfield	11	3			14	24.2	44	58	9	4	1		14	41.2	20	34
Charlemont	1				1	2.2	44	45	6	7			13	38.2	21	34
Chatham	2				2	4.0	47	49	2				2	3.3	58	60
Chelmsford							71	71	14	4			18	16.5	91	109
Chester	7				7	11.6	53	60	15	14	3		32	51.6	30	62
Chicopee	36	4	1		41	17.0	200	241	74	28	6	1	109	37.2	184	293
Concord	6	2			8	5.3	143	151	11	3	1		15	10.0	135	150
Cotuit							24	24	1				1	5.2	18	19
Danvers	5				5	1.9	250	255	54	11	1		66	24.9	199	265
Deerfield	7	2			9	12.3	64	73	18	4	2		24	33.8	47	71
East Hampton	18	3			21	16.3	108	129	33	17	3		53	34.2	102	155
Fall River	11				11	5.1	206	217	50	13	1		64	15.5	348	412
Gloucester	6				6	1.8	313	319	51	6		1	58	13.3	378	436
Great Barrington	14	3			17	14.0	104	121	22	10			32	25.6	93	125
Greenfield	10				10	6.8	137	147	28	9			37	24.4	115	152
Groveland	3				3	4.0	72	75	7	3			10	13.5	64	74
Hadley	4				4	8.1	45	49	14	4	3		21	35.0	39	60
Harvard	2	1			3	10.7	25	28	3	1			4	23.6	13	17
Hatfield	5	1			6	9.5	57	63	10	7			17	29.3	41	58
Holden	1				1	2.0	49	50	10	4	2		16	28.0	41	57
Huntington	3		1		4	10.8	33	37	4	4			8	15.4	44	52
Ipswich	3				3	1.7	173	176	10	2			12	7.1	156	168
Lee	14	2			16	18.0	73	89	23	6			29	32.2	61	90
Lenox	15	2			17	23.3	56	73	13	4			17	27.9	44	61
Ludlow	9	1			10	10.4	86	96	26	5			31	25.2	92	123
Marlborough	7				7	3.5	192	199	38	11	1		50	20.3	197	247

Medway	3				3	5.0	57	60	8	2	1		11	18.3	49	60
Methuen	8	1			9	6.3	133	142	23	7	1		31	17.2	149	180
North Adams	30	2	1		33	11.1	263	296	41	14	3		58	19.0	247	305
Norwood	40		1		41	15.5	223	264	59	16	3		78	29.7	185	263
North Brookfield	9	3			12	13.3	78	90	14	5	2		21	24.2	66	87
North Bridge	5				5	4.6	104	109	33	13			46	37.1	78	124
Orange	14	2			16	9.3	155	171	35	10	1		46	21.6	167	213
Orleans							43	43	3				3	5.9	48	51
Pittsfield	28	5	2	2	37	13.7	232	269	74	34	4		112	41.5	158	270
Provincetown	1				1	1.7	92	93	4				4	3.3	118	122
Rutland Center	3				3	8.8	31	34	8	4	1	1	14	45.2	17	31
Saugus	9				9	2.9	297	306	33	5			38	11.8	285	323
Shelburn	7				7	8.7	73	80	28	6	1		35	27.0	95	130
South Hadley	5				5	5.6	84	89	29	7			36	30.8	81	117
Stow	1	1			2	4.3	44	46	7	2			9	20.5	35	44
Ware	25	3			28	13.8	175	203	44	14	2		60	28.6	150	210
Webster	14	2			16	9.3	156	172	21	8	2		31	19.4	129	160
Westboro	6				6	7.3	76	82	16	8	1		25	28.4	63	88
Winchendon	7	2	1		10	13.0	67	77	14	8	3		25	27.8	65	90
Williamsburg	3				3	7.5	37	40	7	6			13	34.2	25	38
Worcester	22	6	1		29	9.0	292	321	64	21	5	2	92	32.1	194	286
Yarmouth	1				1	9.1	10	11	2				2	7.1	26	28
Total	550	63	10	2	625		6,515	7,140	1,620	502	76	6	2,213		7,844	10,057
Percentage	7.7	.88	.14	.028		8.7	91.3	100.0	16.2	4.9	.75	.059		22.0	78.0	100.0

As may have been expected, simple goiter was more frequently encountered among the girls. Thus, there were 1,629, or 16.2 per cent, very slight and 502, or 4.9 per cent, slight enlargements. There were also 76 moderate and 6 marked thickenings. It is apparent that the enlargements among the girls were largely of the very slight and slight varieties, the aggregate being not unduly large. Approximately two and one-half times more thyroid enlargements were noted among the girls than among the boys. This disparity in incidence between the sexes indicates a relatively light general prevalence of the affection in the State.

The total numbers and percentages of thyroid enlargements in each of the places visited are shown in Table 3. The communities included in this tabulation have been combined in groups, according to their approximate distance from the ocean. By using Boston as a center and constructing 25-mile zones, as shown on the map, it has been possible to make groupings which indicate, in general, an increase in the incidence of thyroid enlargement in the localities removed from the coast. Localities with comparatively high percentages among the boys were Brookfield, Lee, and Lenox. Places with high prevalence rates among the girls were Brookfield, Charlemont, Chester, Pittsfield, and Rutland Center. However, these findings must be interpreted with caution, because the percentages are based upon comparatively small numbers in each of the communities. Particularly noteworthy in connection with the percentage distribution of simple goiter are the low rates among both girls and boys living on Cape Cod and in the eastern portion of the State.

The infrequency of simple goiter among the school children of Cape Cod is all the more interesting because of the apparent conflict with the theory expounded by McClendon.[7] As a result of a large number of iodine determinations in various sections of the United States McClendon concluded that an inverse ratio exists between the incidence of simple goiter and the amount of iodine in the drinking water. However, according to several determinations made by Clark,[8] iodine is absent from the drinking water obtained from wells located in Truro and used in Provincetown, in which locality endemic goiter is rare. Undoubtedly the consumption of marine food and the proximity to salt water supply ample quantities of iodine for normal maintenance of the thyroids in this community.

[7] McClendon, J. F., and Hathaway, J. C.: Inverse relation between iodine in food and drink and goiter, simple and exophthalmic. Jour. Amer. Med. Assoc. 82:21, 1668. (May 24, 1924.)

[8] A detailed report of iodine findings in Massachusetts is in preparation by H. W. Clark, chemist, Massachusetts Department of Health.

TABLE 3.—*Total numbers and percentages of thyroid enlargements among 7,140 boys and 10,057 girls and among both sexes combined in each of 57 localities in Massachusetts, in order of increasing distance from the seacoast*

Locality	Percentage			Number		
	Both sexes	Boys	Girls	Both sexes	Boys	Girls
All localities	16.5	8.7	22.0	2,838	625	2,213
WITHIN 25 MILES OF THE COAST						
Chatham	3.6	4.0	3.3	4	2	2
Orleans	3.2		5.9	3		3
Provincetown	2.3	1.7	3.3	5	1	4
Yarmouth	7.7	9.1	7.1	3	1	2
Barnstable	7.6	1.5	13.1	16	1	15
Cotuit	2.3		5.2	1		1
Gloucester	8.5	1.8	13.3	64	6	58
Ipswich	4.3	1.7	7.1	15	3	12
Danvers	13.6	1.9	24.9	71	5	66
Saugus	7.5	2.9	11.8	47	9	38
Groveland	8.7	4.0	13.5	13	3	10
Brockton	15.3	8.3	19.2	109	21	88
Boston	15.9		15.9	369		369
Fall River	11.9	5.1	15.5	75	11	64
Norwood	22.6	15.5	29.7	119	41	78
Methuen	12.4	6.3	17.2	40	9	31
Chelmsford	10.0		16.5	18		18
Medway	11.6	5.0	18.3	14	3	11
Concord	7.6	5.3	10.0	23	8	15
Acton	20.8	15.5	26.1	37	14	23
Stow	12.2	4.3	20.5	11	2	9
Marlborough	12.8	3.5	20.3	57	7	50
25 TO 50 MILES FROM THE COAST						
Harvard	15.5	10.7	23.6	7	3	4
Westboro	18.2	7.3	28.4	31	6	25
North Bridge	21.9	4.6	37.1	51	5	46
Worcester	19.9	9.0	32.1	121	29	92
Webster	14.2	9.3	19.4	47	16	31
Holden	15.9	2.0	28.0	17	1	16
Rutland Center	26.1	8.8	45.2	17	3	14
50 TO 75 MILES FROM THE COAST						
Winchendon	20.9	13.0	27.8	35	10	25
North Brookfield	18.6	13.3	24.2	33	12	21
Brookfield	30.4	24.2	41.2	28	14	14
Brimfield	18.7	9.7	25.0	14	3	11
Ware	21.3	13.8	28.6	88	28	60
Athol	17.1	3.6	28.8	61	6	55
Orange	16.1	9.3	21.6	62	16	46
Ludlow	18.7	10.4	25.2	41	10	31
Chicopee	28.1	17.0	37.2	150	41	109
75 TO 100 MILES FROM THE COAST						
Amherst	20.1	13.1	26.5	90	28	62
South Hadley	19.9	5.6	30.8	41	5	36
Hadley	22.9	8.1	35.0	25	4	21
Agawam	16.4	11.7	20.4	52	17	35
Hatfield	19.0	9.5	29.3	23	6	17
Deerfield	22.9	12.3	33.8	33	9	24
Greenfield	15.7	6.8	24.4	47	10	37
East Hampton	26.0	16.3	34.2	74	21	53
Shelburn	20.0	8.7	27.0	42	7	35
Williamsburg	20.5	7.5	34.2	16	3	13
Huntington	13.5	10.8	15.4	12	4	8
Charlemont	17.7	2.2	38.2	14	1	13
Chester	31.9	11.6	51.6	39	7	32
100 TO 125 MILES FROM THE COAST						
North Adams	15.1	11.1	19.0	91	33	58
Adams	21.9	13.0	30.3	114	33	81
Lee	25.1	18.0	32.2	45	16	29
Pittsfield	27.6	13.7	41.5	149	37	112
Lenox	25.4	23.3	27.9	34	17	17
Great Barrington	19.9	14.0	25.6	49	17	32

The tendency of goiter to increase in frequency toward the central and western portions of the State is clearly shown on the map by symbols indicative of varying percentages of thyroid involvement. This map has been arranged with zones showing the approximate distance from the sea of each of the localities in which thyroid surveys were made. It is clear that goiter, in so far as Massachusetts is concerned, is least prevalent along and near the seacoast, and increases in prevalence as the central portion of the State is approached. There is an area of considerable prevalence in the western-central portion, increasing to slightly greater proportions in the extreme western, or Berkshire, region. These are, of course, generalizations to which there are numerous minor exceptions. For instance, it is readily apparent that goiter is considerably more prevalent in the town of Adams than in North Adams, though the latter is only a few miles away. An admirable opportunity for an epidemiological study is afforded by the variations in goiter incidence among the school children of these adjoining communities.

On considering the ages at which the children examined are more prone to thyroid enlargements, it will be seen, upon examining Table 4, that tendencies noted in previous investigations were likewise present in the Massachusetts survey. Thus, it is apparent that thyroid enlargement decreases in frequency among the boys as the higher ages are reached. Among the girls, on the contrary, the percentage prevalence continues to increase as the ages become greater.

Comparisons in goiter incidence.—Inasmuch as thyroid surveys have been made in several States under similar conditions by the same examiners, it is now possible to compare the results. A chart comparing the prevalence of simple goiter in Minnesota and Cincinnati appeared in a former report.[9] From this graphical representation it was apparent that endemic thyroid enlargement was much more prevalent in Minnesota.

The completion of the thyroid survey in Connecticut made available additional material for comparative purposes. Thus, in the report dealing with the Connecticut survey it was shown that, while the curves of thyroid incidence observed similar trends in Minnesota, Cincinnati, and Connecticut, the disease was relatively least frequent in the last named.[10]

The rates of goiter incidence in Connecticut and Massachusetts should show marked similarity. When the comparison is made graphically, as in the accompanying chart, it is evident that the trends are similar, though simple goiter appears to be slightly more frequent among the boys examined in Massachusetts and less frequent

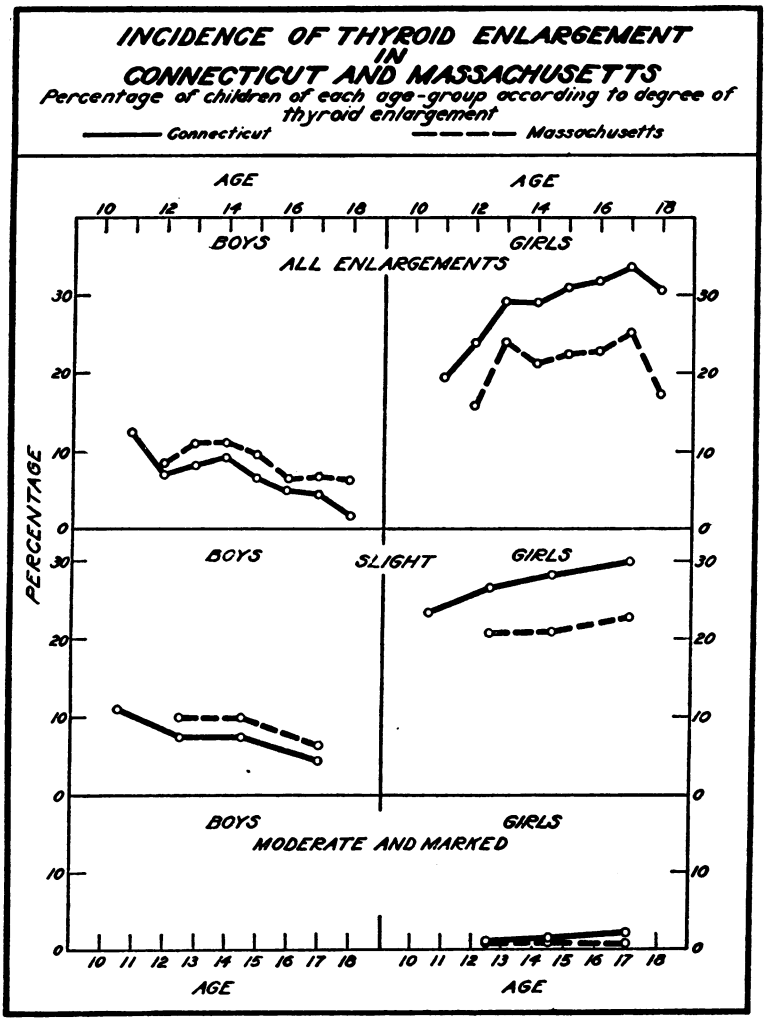
[9] Thyroid enlargement among Minnesota school children. Robert Olesen and Taliaferro Clark. Pub. Health Rep. vol. 39, No. 41, pp. 2561-2572. (Oct. 10, 1924.) Reprint No. 963.

[10] Incidence of endemic thyroid enlargement in Connecticut. Robert Olesen and Neil E. Taylor. Pub. Health Rep., vol. 41, No. 33, pp. 1695-1707. (Aug. 13, 1926.) Reprint No. 1102.

TABLE 4.—*Numbers and degrees of thyroid enlargement among 7,140 boys and 10,057 girls (by ages) in 57 localities in Massachusetts*

Age	Boys								Girls							
	With enlarged tonsils						Normal	Total	With enlarged tonsils						Normal	Total
	Degree of enlargement				Total	Per cent			Degree of enlargement				Total	Per cent		
	Very slight	Slight	Moderate	Marked					Very slight	Slight	Moderate	Marked				
12	30	5			35	8.2	389	424	51	19	2		72	15.9	379	451
13	86	11			97	10.9	790	887	197	56	10	1	264	23.9	840	1,104
14	143	12	5	1	161	11.0	1,306	1,467	312	91	19	3	425	21.0	1,593	2,018
15	144	16	1		161	9.6	1,511	1,672	447	120	16		583	22.1	2,060	2,643
16	74	11	1		86	6.5	1,242	1,328	336	120	19	1	476	22.7	1,624	2,100
17	47	5	2	1	55	6.4	809	864	217	77	8	1	303	24.8	918	1,221
18	17	2	1		20	5.1	370	390	57	18	2		77	17.9	352	429
19	6	1			7	8.0	80	87	8	1			9	12.3	64	73
20 and over	3				3	14.3	18	21	4				4	22.2	14	18
Total	550	63	10	2	625	8.7	6,515	7,140	1,629	502	76	6	2,213	22.0	7,844	10,057
Per cent	7.7	.88	.14	.028		8.7	91.3	100.0	16.2	4.9	.75	.059		22.0	78.0	100.0

among the girls. The moderate and marked thyroid enlargements are so few in number that they can not be shown to advantage on the chart.



SUMMARY

1. The thyroid survey in Massachusetts included 7,140 boys and 10,057 girls residing in 57 localities and attending high school or upper grades of grammar school.

2. A total of 2,838 thyroid enlargements, a percentage of 16.5 were found among the 17,197 children examined.

3. Thyroid enlargements of all degrees prevailed among the boys to the extent of 8.7 per cent and among the girls to the extent of 22 per cent.

4. By far the greatest number of thyroid enlargements were very slight in character and consequently dubious as to significance. Very slight thyroid involvements were present in 7.7 per cent of the boys and among 16.2 per cent of the girls.

5. Slight thyroid thickenings were noted in 63 boys, moderate thickenings in 10, and marked thickenings in only 2. Slight enlargements were recorded in 502 girls, moderate enlargements in 76, and marked enlargements in 6.

6. The customary decline in thyroid involvement as the higher ages are reached among the boys and the reverse condition among the girls, was noted.

7. In Massachusetts, goiter is least prevalent in the eastern portion, the rates being particularly low on Cape Cod. In the central and western sections of the State, endemic thyroid enlargement is present to a relatively greater, though not undue, extent.

8. A comparison of thyroid enlargement in Minnesota, Cincinnati, and Massachusset shows that while the trends are distinctive and similar, the malady is least prevalent in the last named.

9. When thyroid incidence in Connecticut and Massachusetts is compared it is found that the affection is slightly more frequent among the Massachusetts boys and less frequent among the Massachusetts girls.

COMMENT [11] [12]

From the evidence which has been presented it is apparent that endemic goiter is present to a far less extent in Massachusetts than in certain States in the Great Lakes Basin. Moreover, the incidence of goiter is not uniform in Massachusetts, being least along the seacoast and greatest in the central and western portions.

Because of the relatively slight incidence of thyroid enlargement in the State and the fact that a large majority of the involvements are of the very slight type, there is believed to be no reason for special preventive measures on the part of the State and local health departments. Certainly there is no necessity for universal prophylaxis such as may be attained by iodization of table salt or municipal water supplies.

At the same time there are local problems of goiter incidence which may well receive consideration. This observation applies

[11] Concerning the general recommendations which have been made under this heading, Dr. H. S. Plummer, Consultant in Goiter Studies, United States Public Health Service, says, in a personal communication: "I am wholly in accord with the suggestions made. The efforts to control endemic goiter should at present be confined to sections where it is sufficiently prevalent to make the interpretations of results fairly definite. I am somewhat skeptical about the advisability of the general use of iodine in the form of iodized salt and in public water supplies."

[12] Discussing the same subject, Dr. David Marine, Consultant in Goiter Studies, United States Public Health Service, says, in a personal communication: "I am in entire accord with the recommendations made. The greatest incidence of thyroid enlargement found in the State is, in my opinion, not sufficient to warrant community prophylaxis. Most of the slight enlargements will spontaneously disappear."

particularly to a few localities in the central and western portions of the State, in which the incidence of the malady is a matter of common knowledge. In these communities individual oral prophylaxis among the adolescent girls is indicated. Because of the light incidence among the boys and the frequent disappearance of the slight enlargements as they grow older, prophylaxis for this sex may be omitted.

Whatever action is taken should be predicated upon a harmonious understanding between the State and local health officials, the medical profession, and the school authorities. As prevention is primarily a function of public-health workers, the direction of this portion of the program may well be intrusted to these officials. The inclusion of the thyroid examination as a phase of the routine appraisal of school children should be encouraged. This examination can be made expeditiously and yet yield valuable information. The procedure will be greatly facilitated by following standard methods.

The treatment of existing enlargements, on the other hand, falls within the province of the practicing physician. At the same time it should be remembered that the treatment of endemic goiter is frequently disappointing. Especially should it be recalled that iodine, when used in treating goiter, is a two-edged sword. When used injudiciously, either in improper doses or in certain types of goiter which are made worse by such medication, iodine may inflict irreparable damage. Only the well trained and experienced medical practitioner should undertake to treat existing goiters.

Provided there are no contraindications, medical attendants should institute prophylatic measures during pregnancy in accordance with the recommendations of Marine.[13] By so doing the thyroid glands of the prospective mother and of the fetus will be safeguarded. Commenting on this procedure and its applicability, Marine says, in a personal communication: "The administration of iodine, possibly to the extent of a milligram a day during pregnancy and lactation, would be an excellent physiological procedure, whether the individual resides in a district where the incidence of goiter is high or in a district where the incidence is extremely low. Iodine would be beneficial in meeting the increased physiological demands during these periods even though the natural supply of the element is always sufficient to prevent thyroid enlargement."

Summarizing, it may be said that the endemic goiter problem in Massachusetts is not a pressing one, the need for special action being limited to individuals in a few localities.

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[13] Marine, David: The importance of our knowledge of thyroid physiology in the control of thyroid diseases. Arch. of Int. Med. 32:6, 811. (December, 1923.)

AN EXPERIMENT IN GOITER PREVENTION[1]

In view of the widespread interest in goiter incidence and prevention in the United States, a brief abstract of the above-named article by Doctor McCarrison has been prepared by Surg. Robert Olesen and is printed below for the information of health officers and other persons concerned with the cause and prevention of endemic goiter in this country, many of whom have an opportunity to note any effect produced on goiter incidence by the change in water supplies affecting large numbers of persons.

In 1914 McCarrison submitted a report to the Indian Research Fund Association[2] dealing with the causation of endemic goiter at the Lawrence Royal Military School, Sanawar, Punjab, Northern India. As a result of his investigations he concluded that the disease was not due to any chemical substances, such as lime or magnesium in suspension or solution, in the water used for drinking purposes. On the other hand, he was convinced that the malady was due to the presence in the water of living microorganisms. Consequently he believed that goiter could be eradicated by furnishing a chemically and bacteriologically pure water.

According to McCarrison, goiter has been endemic in Sanawar since the foundation of the school in 1848. In some years as many as 50 per cent of the children suffered from it. After a residence of 8 years about 80 per cent of the children became goitrous. When McCarrison first examined the children in 1913 no less than 66 per cent of the girls over 16 years of age had noticeable goiters.

In 1918 the old water supply of Sanawar was abandoned and a new supply was piped from the neighboring station of Kasauli. Thereafter goiter began to diminish and, according to the reports of the medical officers attached to the school, disappeared within three years. McCarrison revisited the school in 1923, at which time he found only 1 boy and 10 girls, at or over the age of puberty, with small, barely noticeable goiters. The remaining 489 children were free from the disease. The percentage of goitrous involvement, 2.2 per cent, was no greater than that among the children living in non-goitrous sections of India. Commenting upon the eradication of this affection from the school within the short space of three years, McCarrison states that the result is, so far as he is aware, unparalleled in the history of goiter prophylaxis.

Searching for an explanation of this result, McCarrison learned from the school authorities that there had been no increase in the iodine intake of the children by way of food. Analyses of the new

[1] By Robert McCarrison, M. D., etc., Indian Medical Service. British Med. Jour., January 15, 1927, p. 94.

[2] McCarrison, R.: Indian Jour. of Med. Research, 1:3, 1, 1914.

water by several chemists, using McClendon's method of iodine determination, showed only traces of lime and magnesium and no iodine.

McCarrison later had chemical determinations made of the soil and water in Sanawar and Kasauli by three chemists, each working independently. Their findings showed a close correspondence and a general agreement which may be summarized as follows:

1. The soils and waters of both Sanawar and Kasauli were poor in iodine.

2. There was no significant difference in the iodine content of the soil in the two places.

3. The old water supply of the Sanawar school contained appreciably more iodine than the new, which contained little or none, thus confirming the previous reports of the chemical examiner of Punjab in regard to the new supply.

Commenting upon these results McCarrison says: "The conclusion arrived at in my first report, that endemic goiter in the Sanawar school was due to the bacteriological impurity of the old water supply, is thus substantiated; and the prediction that it could be eradicated by the provision of a chemically and bacteriologically pure water supply has been justified by the disappearance of the disease."

ABSTRACTOR'S COMMENTS

McCarrison, who began the study of the thyroid gland in 1902, became convinced, after years of investigation, that endemic goiter was caused by a living microorganism in drinking water. His experiments and observations are given in detail in the Milroy lectures delivered before the Royal College of Physicians in London.[3] An interesting summary of the facts presented in these lectures was prepared by Clark and Pierce of the Public Health Service in 1914.[4]

Later, when Marine and his colleagues presented convincing evidence that endemic goiter was due to a relative or absolute deficiency of iodine, McCarrison accepted the newer theory in conjunction with his earlier conceived living organism hypothesis.[5] He also cited other factors responsible for endemic goiter, such as infections and intoxications, as well as the inclusion in the diet of excessive quantities of fat.

Inasmuch as safe water supplies are constantly being substituted for polluted supplies in the United States, an excellent opportunity exists in this country for making comparisons of conditions before and after the change as was done in India by McCarrison. Accurate

[3] McCarrison, R.: The Etiology of Endemic Goiter. Milroy lectures before the Royal College of Physicians, London. The Lancet, Jan. 18 and 25 and Feb. 8, 1913.

[4] Clark, Taliaferro, and Pierce, C. C.: Endemic Goiter: Its Possible Relation to Water Supply. Pub. Health Rep., 29:16, 939, Apr. 17, 1914. (Reprint 184, revised May, 1921.)

[5] McCarrison, R.: Simple Goiter. British Med. Jour., p. 636, Apr. 22, 1926.

thyroid surveys, before and after new water supplies become available, are essential. There is a growing impression in this country that the improvement of water supplies has failed to influence the incidence of endemic goiter. In the Pacific Northwest, for instance, goiter apparently increased following the use of uncontaminated water supplies from the Cascade Mountains. However, opportunities are constantly becoming available in the United States for noting the changes which follow the substitution of new and safe water supplies for those that were questionable in character. It is hoped that health officers, physicians, and others will note the changes in goiter incidence which occur under these circumstances.

ACTION TAKEN BY THE HEALTH SECTION OF THE LEAGUE OF NATIONS IN THE INFLUENZA EPIDEMIC OF 1926–27

In a recently issued bulletin, the health section of the League of Nations sets forth briefly the action taken by it in connection with the influenza epidemic of 1926–27, and summarizes the course of the epidemic in the various countries as indicated by the reports of the respective health administrations sent to the health section of the League. The information contained in these reports has been furnished regularly to the United States Public Health Service and has been printed each week in PUBLIC HEALTH REPORTS, beginning with the issue for January 14, 1927.

The following statements outlining the action taken by the health section and, in some instances, by the health administrations, are contained in the bulletin:

Statistics of influenza cases and deaths for December having shown epidemic prevalence in Switzerland and France and higher incidence than usual in various other European countries, a telegram was dispatched on January 6 to all European health administrations asking for information regarding the actual situation. This action was all the more indicated as the daily press contained numerous references to influenza outbreaks, many of which appeared to be of doubtful character and verification was therefore desirable. The Singapore Bureau was instructed to obtain information as to whether any unusual prevalence of influenza existed in any country in its area. About the same time, telegraphic requests for information regarding the influenza situation in Europe was received from the Surgeon General of the United States Public Health Service and from the Director of the Australian Health Service.

Telegraphic replies were received during the following days from the health services of all European countries and from Egypt. The various health services continued to send information on the

prevalence of influenza once a week, or more, throughout January and the beginning of February. This information was published in special bulletins appearing twice a week on Tuesdays and on Fridays, the latter issue being combined with the regular Weekly Record of the health section. The first of these bulletins was issued on January 11, and nine reports had been published up to February 11, 1927.

The health section arranged at the same time for broadcast of short summaries of the official intelligence received by the Transocean Wireless Co. through the Nauen station. These messages were sent at the end of the English bulletins transmitted at 12.20 and 23 hours (central European time) on the 18,000-meter wave length. The administrations and the Singapore Bureau were telegraphically advised as to the time for these broadcasts. Messages were broadcast on the 15th, 19th, 22d, 26th, 29th of January, and the 2d, 4th, and 11th of February. A message sent on January 16 was by mistake not transmitted from the Nauen station. This service will be continued as long as the situation requires it.

The information received from the various health services consists of—(*a*) a general statement of the influenza situation; (*b*) regular returns of cases and deaths communicated in advance of their usual time of publication; (*c*) special information, such as sickness returns of insurance societies, of employees of public services, and of military forces.

Several administrations have issued new regulations regarding the prompt reporting of influenza cases. In Denmark, on January 7, the local health officers were required to notify immediately the appearance of the first influenza case and to send weekly reports of the number of cases instead of the former monthly reports. In Spain, on January 8, the provincial health officers were instructed to transmit telegraphic information. In the Kingdom of the Serbs, Croats, and Slovenes, on January 11, the local health officers were asked to report weekly. The same action was taken in Hungary on the same date. In Poland, compulsory notification of influenza cases in large towns was introduced on January 11. In Czechoslovakia, on the same date, the provincial authorities were asked to report weekly on the prevalence of influenza.

Telegraphic requests for continuing the information were received from the health services of Bulgaria, Germany, Italy, Latvia, Poland, Spain, and the United States. The Singapore Bureau was instructed to continue to keep the Australian Health Service informed according to its request.

The various administrations have been asked whether they have been able to pick up the broadcast from Nauen. So far only the health services of Austria, Greece, and Lithuania have answered in the affirmative.

The provisional study of the information received seems to indicate that the present is a more severe outbreak than that in 1924, but that it has been less serious in most countries than the epidemic of 1922.

It may be of interest to mention that the first reports showing abnormal prevalence of influenza came from the National Epidemic Prevention Bureau of China. During the months of June, July, and August influenza was reported to be epidemic in the Provinces of Szechuan, Kweichow, Hupek, and Kansu; that is, in the whole area of the interior of China between Mongolia in the north and Yunnan in the south, and bordering Tiber in the west and the more densely populated part of China in the east. The disease was stated to be prevalent but not epidemic in most of the coast Provinces.

A detailed analysis of the epidemic can be given only when more detailed information and, especially, statistics of causes of death are available for all countries, or at least for the principal towns. As it appears of considerable interest to obtain as much and as detailed information as possible regarding the epidemic before lapse of time prevents the collection of much of this material, the Section has asked all European health administrations to prepare a general report as soon as the epidemic is over in each country. It was suggested that the factors presenting general interest would be, in the first instance—

1. The geographical distribution of the epidemic and the chronological order in which it appeared in the various towns or districts of the country.
2. The reported incidence in the various parts of the country in so far as this can be ascertained.
3. The movement from week to week of the general mortality and of deaths from influenzal affections of the respiratory system and of the heart. (It would be important to know the rules for statistical classification of deaths in which influenza is known to have played a part but which have in the end been caused by other diseases.)
4. The age distribution of deaths from influenza and whether there have been any peculiarities in this respect in particular localities or at a given time of the epidemic.
5. Description of the clinical types of the disease prevailing at different periods; frequency of the various complications.
6. Particulars of previous influenza outbreaks, however mild, within the preceding six months and of other epidemics occurring at the same moment.
7. Bacteriological findings.
8. Measures which have been taken toward the control of the epidemic.

A comparative study of this report may reveal facts of value in dealing with the new outbreaks of influenza when they occur. This first experiment of telegraphic exchange of information on an influ-

enza outbreak offers many points of interest and may be of value on future occasions. The health committee will no doubt consider what conclusions can be drawn from it.

PATIENTS IN INSTITUTIONS FOR THE FEEBLE-MINDED

Data for April and May, 1926

Reports for the month of April, 1926, were received from 23 institutions for the care of the feeble-minded. The reports for May, 1926, included 24 institutions, but some institutions which are included in the April tabulation did not report for May and others were added to the list.

The following table gives a summary of the reports:

Patient population of institutions for the feeble-minded, April and May, 1926

	April, 1926	May, 1926
Number of public institutions included	22	22
Number of private institutions included	1	2
Total	23	24
Patients on books first day of month:		
In institutions	16,993	17,132
On temporary leave	1,871	1,860
Total	18,864	18,992
Admitted during month:		
First admissions	189	164
Readmissions	7	9
Admitted by transfer	0	9
Not accounted for	0	2
Total received during month	196	184
Total on books during month	19,060	19,176
Discharged or placed on indefinite parole during month	25	61
Transferred to other institutions	3	13
Died during month	49	57
Total discharged, transferred, and died during month	77	131
Patients on books last day of month:		
In institutions	17,093	17,059
On temporary leave	1,890	1,986
Total	18,983	19,540
Males	9,301	9,440
Females	9,682	9,605

Analysis of movement of patient population of institutions for the feeble-minded, April and May, 1926

	April, 1926	May, 1926
Per cent increase in number of patients during month:		
Total	0.63	0.28
In hospital	.59	[1] —.43
On temporary leave	1.02	6.77
Per cent of total patients absent on temporary leave at end of month	9.96	10.43
Per cent of total admissions (excluding transfers) which were—		
First admissions	96.43	94.80
Readmissions	3.57	5.20
Per cent of total patients discharged during month (based on average number during month)	.13	.32
Males per 100 females at end of month	96.06	98.28
Deaths per 1,000 patients under treatment (annual basis)	31.28	35.00

[1] Decrease.

Some institutions did not report any patients on temporary leave. Others reported only one or two patients absent from the institution. One institution reported more than 25 per cent of its patients on temporary leave.

The following table gives a summary of the leave status of patients in institutions which reported 1 per cent or more of their patients on temporary leave:

	April, 1926	May, 1926
Total number of patients at end of month	15,102	16,564
Number of patients on temporary leave	1,877	1,979
Per cent of total patients on temporary leave	12.4	11.9

PUBLIC HEALTH ENGINEERING ABSTRACTS

How Industrial Pollution Affects Water Supplies. Alvin D. McCormick, manager, Dunbar, West Virginia, Water Co. *Water Works Engineering*, vol. 80, No. 2, pp. 85–86. (Abstract by H. V. Pederson.)

The city of Dunbar, W. Va., secures its water supply from the Kanawha River which, in normal times, is a delightful body of green water. During the dry, hot season of 1925 and 1926 the water turned to a blackish brown color. Objectionable taste and odor accompanied the color, which could not be removed by the water filtration plant.

At first the color and odor were attributed to vegetation and algae, but upon careful investigation by the State health authorities it was learned that it was due to waste discharged into the river by a paper mill and tannery located 50 miles upstream. The odors, taste, and color disappeared with the coming of the fall rains.

The remainder of the paper is an appeal to the people of West Virginia, urging a concerted effort to inaugurate a sane program for protecting the beautiful streams of West Virginia against pollution without causing undue hardships upon the industries.

Disinfection of New Water Mains. William W. Brush. *Journal American Water Works Association*, vol. 17, No. 1, January, 1927, pp. 79–86. (Abstract by J. K. Hoskins.)

This article is a discussion by the author and others presented before the Buffalo convention of the association in June, 1926.

All newly laid mains in New York City are sterilized by the use of one-half ounce of chloride of lime per 12-foot length of pipe in pipes up to 12 inches in diameter. After a section of pipe between two valves has been laid, one of the valves is opened to let the water pass into the main over the total required amount of chloride of lime which is thus dissolved. The water is then blown off and a sample

is later examined bacteriologically before the main is placed in service. Additional blowing of such main is sometimes required before a satisfactory analysis is obtained, presumably owing to the accumulations of sediments which are not penetrated by the chlorine.

Discussion brought out that sterilization of newly laid mains was also practiced at Charleston, S. C., and St. Petersburg, Fla.

How Tastes and Odors in Water are Eliminated. Maj. Francis E. Daniels. *Water Works Engineering*, vol. 80, No. 1, January 5, 1927, pp. 17–18 and 37–38. (Abstract by Frank Raab.)

The writer stresses the importance of skilled supervision and then proceeds to discuss the various causes which may contribute offensive tastes and odors. The most common ones are gas-house wastes, by-product coke furnaces, wood-distillation plants, and oil refineries. In some cases chlorination reduces the trouble; in others it intensifies it tenfold. The tastes and odors in swampy and peaty waters are usually removed by aeration. The writer refers to the Manual of Water Works Practice as giving the lethal dose of copper sulphate for destroying algae; he also gives a table which shows the effect of copper sulphate upon various fish. Early dosing is recommended in order to avoid the odors resulting from the disintegration of great masses of algae. The article describes the characteristic odors common to many diatoms, blue green, and green algae. The article also cites a legal case in which a water company was restrained from collecting its fees because the water delivered had an offensive taste and odor. The court laid down the rule that a water delivered to the consumer must be free from tastes or odors which make it unfit for domestic use.

The Nature of Bacteriophage. E. B. McKinley and M. Holden. *Journal of Infectious Diseases*, vol. 39, 1926, p. 451. From Abstracts of Current Public Health Literature, Department of Health, Ottawa, Canada, February, 1927, p. 5.

"The vexed question regarding the nature of bacteriophage is as yet unsettled. d'Herelle maintains that it is a living virus, whilst Bordet upholds that, particulate though it be, it is inanimate and is simply a diastatic principle elaborated through the action of the host's tissues upon the invading bacterium.

"These authors, after an elaborate dilution study of bacteriophage, come to a conclusion similar to that of Bordet, and regard d'Herelle's criteria of the bacteriophage being a living 'ultra-microbe' (protobe) lacking in conviction. Those interested in this question will be well repaid by careful reading of the original article."

Iron Removal Plant at Selma, Ala. J. A. Fulkman and E. J. Taylor, with Morris Knowles (Inc.), engineer, Pittsburgh, Pa. *Journal American Water Works Association*, vol. 17, No. 1, January, 1927, pp. 69–74. (Abstract by J. K. Hoskins.)

This article describes the 1.5 m. g. d. iron removal plant recently constructed by the city of Selma, Ala., to serve a population of 18,000. The source of supply is wells 450 feet deep, the principal one of which is pumped by a motor-driven pump. The water as pumped is clear, but contains 18 p. p. m. of free CO_2 and 2 p. p. m. of iron, which latter soon oxidizes and discolors the water.

Aeration, sedimentation, coagulation, and rapid sand filtration are provided in the new plant to treat properly the supply. These various devices are briefly described. The plant is so arranged that the chemical treatment, including mixing and coagulation, may be by-passed if found advisable. Three one-half m. g. rapid sand filter units, of reinforced concrete and completely equipped, are provided. The filtering material consists of 18 inches of graded gravel and 30 inches of sand, effective size 0.37 mm. and uniformity coefficient of 1.7.

Results of operation show that the free CO_2 was reduced to 3 p. p. m. and the iron to 0.25 p. p. m. using aeration, sedimentation, and filtration only. The pH of the treated water was 8.6. This being considered a satisfactory effluent, coagulation is not regularly employed. However, during operation, with the addition of lime at the rate of 45 pounds per million gallons the CO_2 was completely removed and only 0.06 p. p. m. or iron remained in the effluent. The plant cost $65,000.

Notes on the Rôle of Iron in the Activated Sludge Process. Abel Wolman, chief engineer, Maryland Department of Health. *Engineering News-Record*, vol. 98, No. 5, February 3, 1927, pp. 202–204. (Abstract by T. C. Schaetzle.)

The author reviews the work of Otto Warburg, of the Kaiser Wilhelm Institute for Biology in Berlin, of L. Horowitz-Wlassowa, of the Hygienic Laboratory of the Institute of Medicine in Petrograd, of Dallyn and Delaporte of Toronto, Canada, and of the Maryland State Department of Health, to show that iron may play an important part in oxidation reactions and consequently in the treatment of sewage by the activated sludge process.

Warburg states that oxidation of organic material through molecular oxygen rarely takes place. He suggests that, in the cycle of oxygen reactions, molecular oxygen reacts with bivalent iron, forming iron in a higher state of oxidation which, in turn, reacts with the organic substances and is again reduced to bivalent iron. A diagram showing the activation of oxidation by iron in the presence of charcoal, from work done by Warburg, is presented.

The Maryland laboratory experiments indicate that the oxidation of raw sewage, in the presence of iron, without the addition of any activated sludge, and in the presence of an oxygen supply varying between 0.25 to 1 cubic foot per gallon, was reasonably successful.

By the addition of iron or aluminum salts in the activated sludge process, Horowitz-Wlassowa has found it possible to reduce the percentage of activated sludge returned to the incoming sewage to approximately 2 per cent instead of the usual 10 to 25 per cent of sludge by volume which is the usual American practice.

The author states that both hypothetical and experimental data so far available are inadequate, but believes that much is to be gained by further study of the significance of iron, or similar compounds, in the activated sludge process. He says: "There is some theoretical and some practical foundation for assuming that iron may be helpful both as an oxygen carrier and as an absorbent and coagulant. In addition, thought should be directed to the function as 'catalyst' which the iron compounds most probably perform."

Sewage Disposal. Paul Hansen. Proceedings of Eighth Texas Water Works Short School, Texas Section, Southwest Water Works Association, January 18–23, 1926, Fort Worth, Tex., pp. 138–151. (Abstract by G. N. McDaniel, jr.)

Stream pollution and methods of sewage disposal are discussed in an analytical manner. The question of sewage disposal is considered under six phases: (1) The normal uses of streams and bodies of water; (2) the causes of stream pollution; (3) the effect of causes of pollution on uses of streams; (4) classification of cases met with in stream pollution; (5) means of measuring the extent of stream pollution with reference to uses; (6) methods of treating polluting substances and their applicability to cases.

Sewage-treatment devices are adapted to attain—(1) The removal of suspended solids; (2) the oxygenation and nitrification of organic matter; (3) the removal of bacteria.

Improvements in the sewage treatment which give promise of development are—(1) Methods of separate sludge digestion; (2) process of dewatering and marketing of sludge; (3) digestion of activated sludge; (4) activated sludge as a preliminary treatment to trickling filters; (5) disinfection of sewage and sewage effluents.

Public Health Services in Australia. Dr. J. H. L. Cumpston and Dr. Frank McCallum. Monograph of the League of Nations, pp. 1–63. (Abstract by E. C. Sullivan.)

This monograph, issued under the auspices of the League of Nations, describes the health organization of the Commonwealth of Australia, including that of the six States which comprise the Federation. The Commonwealth administration and functions, as well as those of the State and local authorities, are described.

Among the subjects taken up are those of infectious diseases, venereal diseases, tropical diseases, maternity and infant welfare, school hygiene, industrial hygiene, food and drugs, the relationship

between the medical practitioner and public health, hospitals, care of the insane, and certain vital statistics rates.

Among the subjects of sanitary engineering interest, is mentioned the establishment in 1923 of a division of sanitary engineering of the Commonwealth Department of Health. Several publications of the division are referred to. Advice is given by the director of the division on the protection of water supplies, drainage, and other engineering questions affecting health. Arrangements exist whereby any student of the engineering school of the University of Melbourne who desires to specialize in sanitary engineering may take a course in bacteriology, chemical analysis, and microscopy at the Commonwealth serum laboratory.

Under the local government acts of the several States, there are provisions empowering local authorities to make by-laws regulating the supply and distribution of water, with power to raise a special water rate. The delegation of control to various water authorities varies in each State, a summary of the authorities concerned being given.

In certain of the States there are special water supply and sewerage boards for metropolitan areas, while in the country regions water works are constructed by the public works departments of the States. This is particularly true of New South Wales, Victoria, and Queensland. In New South Wales, after such construction, the water works are completely handed over to the municipalities concerned, by which the cost is repaid and the administration is carried out. In the case of South Australia, the water supply systems are constructed and maintained by the public works department. In the State of Victoria, most of the country water works are controlled by the State Rivers and Water Supply Commission. In Queensland the water supplies of the country towns are constructed and maintained by the municipalities. In Western Australia, the water supply systems are all under the management of government departments and the control of all works is vested in a ministry for water supplies, sewerage, and drainage. In Tasmania, the metropolitan water supplies are under the control of the city councils. In the country towns in Tasmania, the majority of the water works are under the control of the municipal councils, although there are some under the control of trustees.

The administration of sewerage and drainage systems in the States, as with the water supplies, is allocated to various authorities, either or both under the respective State health acts or the local government acts or under separate drainage and sewerage acts. A summary is given of the delegation of authority in the various States in connection with the installation and maintenance of sewerage systems.

In this connection it is interesting to note that in New South Wales and in South Australia the public works department constructs sewerage works. In the instance of New South Wales, it is done upon application of the local municipal council, to whom the control is transferred upon the completion of the works. In South Australia, both construction and maintenance are carried out by the public works department, which has power to levy sewerage rates. The responsibility for night soil removal in each State is placed upon the local authorities, who are empowered to collect sanitary rates for this purpose. Supervisory power in respect to the services provided and the disposal areas is vested in the State health departments.

The collection and disposal of garbage and refuse is dealt with either in the health acts or the local government acts of the various States (and sometimes in both), the responsibility being placed upon the local authorities. The levy of a special tax to provide for scavenger service is usually arranged for. Disposal is carried out through incineration or "tips" at approved sites or in special plants installed by the councils.

The local authorities in the various States are empowered to make by-laws regulating buildings in regard to areas, building materials, dangerous or dilapidated structures, etc. Various regulations are in force under these acts in regard to special classes of buildings. Provision is made for registration by the local authority and the enforcement of compliance with prescribed conditions for boarding houses, common lodging houses, and eating places. Town planning is receiving considerable stimulus through active town-planning associations. In Victoria a commission of town planning is maintained jointly by the municipalities.

There is legislation in force in the various States for supervision to insure the purity of the milk supplies and of dairy products, the legislation being administered by the health departments and the departments of stock and agriculture. The legislation in effect in the various States is given in summarized form.

Organization of the Public Health Services in the Kingdom of the Netherlands. N. M. Josephus Jitta, M. D., Monograph of the League of Nations, pp. 1–37. (Abstract by E. C. Sullivan.)

This publication is one of a series of monographs published by the League of Nations, describing the organizations and workings of the health administrations of different countries. In this particular publication are outlined the various laws and regulations in effect in the Kingdom of the Netherlands and some explanations of the same. Among the subjects covered are notification of general diseases, occupational diseases, and births and deaths; census; health legislation, including international regulations; organization of health inspection;

legislation against infectious diseases; and description of central and local public health organizations.

No mention is apparently made in this monograph of the subject of water supply and sewage disposal. Vessel sanitation is touched upon only in so far as persons suffering from infectious diseases or quarantine inspection are concerned. The subject of housing is taken up, particularly from the standpoint of obtaining improvement in housing and provisions for overpopulation. There appear to be special regulations as a consequence of a housing scarcity, and royal decrees to take care of this situation are cited.

Typhoid Carriers in Up-State New York in 1926. Anon. *Health News*, New York State Department of Health, vol. 4, No. 4, January 24, 1927, p. 14. (Abstract by I. W. Mendelsohn.)

During 1926, 27 typhoid carriers (including one paratyphoid B) were added to the list of known carriers in up-State New York, exclusive of inmates in State institutions. These carriers definitely caused 39 cases of typhoid and probably 12 others. Twenty-one of the cases were infected through milk. Interesting facts in connection with the new carriers are given. The active list (excluding State institutions) now comprises 137 carriers.

What is Known about the Effect of Smoke on Health. Wm. Charles White, M. D., pathologist, United States Public Health Service. *American City*, vol. 36, No. 2, February, 1927, pp. 204–205. (Abstract by D. W. Evans.)

Smoke prevention will be more readily secured if it can be shown that smoke-laden atmosphere has a harmful effect on the human system. The chief arguments heretofore have been for comfort and cleanliness.

The city of Pittsburgh has been suggested as an experiment center to determine definitely the effect of smoke on health. Data collected by the author show that Pittsburgh has a low tuberculosis death rate but a high pneumonia death rate. An analysis by wards shows that the higher rates occur where the smoke-laden air is the denser. Observations also showed that many children in these dense smoke areas suffered from respiratory diseases. The number of physicians specializing in respiratory disease treatment is higher per capita in Pittsburgh than in Baltimore, showing a greater demand for this type in the smoke areas.

The article is concluded by the remark that the evidence is indicative, but not conclusive, that smoke must be controlled from the viewpoint of its effects on public health.

DEATHS DURING WEEK ENDED MARCH 12, 1927

Summary of information received by telegraph from industrial insurance companies for week ended March 12, 1927, and corresponding week of 1926. (From the Weekly Health Index, March 17, 1927, issued by the Bureau of the Census, Department of Commerce)

	Week ended Mar. 12, 1927	Corresponding week, 1926
Policies in force	66, 961, 185	63, 606, 360
Number of death claims	14, 258	14, 724
Death claims per 1,000 policies in force, annual rate	11. 1	12. 1

Deaths from all causes in certain large cities of the United States during the week ended March 12, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, March 17, 1927, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Mar. 12, 1927		Annual death rate per 1,000 corresponding week, 1926	Deaths under 1 year		Infant mortality rate, week ended Mar. 12, 1927 [2]
	Total deaths	Death rate [1]		Week ended Mar. 12, 1927	Corresponding week, 1926	
Total (68 cities)	8,202	14.4	17.5	867	1,099	[3] 72
Akron	37			7	4	75
Albany [4]	40	17.4	18.4	3	1	63
Atlanta	91			13	11	
White	34			3	7	
Colored	57	(5)		10	4	
Baltimore [4]	314	20.0	16.5	41	26	127
White	239		13.2	29	13	112
Colored	75	(5)	35.5	12	13	187
Birmingham	67	16.2	26.7	8	11	
White	40		17.9	4	2	
Colored	27	(5)	40.2	4	9	
Boston	267	17.6	18.0	33	39	92
Bridgeport	38			4	5	74
Buffalo	147	13.9	16.5	17	21	71
Cambridge	24	10.1	15.0	4	4	71
Camden	46	18.0	22.7	7	9	120
Canton	14	6.5	8.1	1	1	24
Chicago [4]	759	12.8	16.1	78	126	68
Cincinnati	142	18.0	16.4	8	12	50
Cleveland	186	9.9	12.2	20	30	53
Columbus	75	13.4	11.9	6	3	56
Dallas	37	9.2	14.6	8	10	
White	30		12.7	7	10	
Colored	7	(5)	27.0	1	0	
Dayton	56	16.2	14.7	7	5	115
Denver	104	18.7	19.9	8	6	
Des Moines	27	9.4	14.6	1	3	17
Detroit	333	13.0	18.4	64	99	101
Duluth	23	10.4	7.8	5	0	108
El Paso	29	13.3	17.2	9	8	
Erie	30			4	5	78
Fall River [4]	32	12.5	10.7	2	1	35
Flint	28	10.2	14.6	1	6	16
Fort Worth	41	13.0	15.7	3	6	
White	31		16.8	2	5	
Colored	10	(5)	8.2	1	1	
Grand Rapids	44	14.4	14.4	2	9	29
Houston	45			9	9	
White	28			6	5	
Colored	17	(5)		3	4	
Indianapolis	83	11.6	16.2	7	15	55
White	67		15.5	3	10	27
Colored	16	(5)	21.3	4	5	244
Jersey City	78	12.6	21.0	12	13	90
Kansas City, Kans	41	18.3	19.2	3	2	58
White	32		17.8	3	2	67
Colored	9	(5)	25.4	0	0	0

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Data for 64 cities.
[4] Deaths for week ended Friday, Mar. 11, 1927.
[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, Norfolk 38, Richmond 32, and Washington, D. C., 25.

Deaths from all causes in certain large cities of the United States during the week ended March 12, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926—Continued

City	Week ended Mar. 12, 1927		Annual death rate per 1,000 corresponding week, 1926	Deaths under 1 year		Infant mortality rate, week ended Mar. 12, 1927 [4]
	Total deaths	Death rate [1]		Week ended Mar. 12, 1927	Corresponding week, 1926	
Kansas City, Mo.	105	14.3	16.3	14	14	
Los Angeles	276			21	15	60
Louisville	78	12.7	17.4	4	15	34
White	57		15.4	3	11	29
Colored	21	(5)	28.8	1	4	70
Lowell	32	15.1	14.2	10	2	193
Lynn	24	11.9	16.5	4	2	106
Memphis	71	20.7	21.8	3	5	
White	38		16.9	0	3	
Colored	33	(5)	30.6	3	2	
Milwaukee	131	13.0	10.3	22	17	103
Minneapolis	89	10.5	13.6	10	12	56
Nashville [4]	54	20.4	25.9	3	4	
White	22		21.3	2	3	
Colored	32	(5)	37.4	1	1	
New Bedford	24	10.5	10.9	4	4	69
New Haven	51	14.4	16.9	7	7	98
New Orleans	159	19.6	21.2	14	18	
White	101		17.3	7	10	
Colored	58	(5)	32.1	7	8	
New York	1,705	14.9	19.2	158	228	65
Bronx Borough	184	10.4	15.6	21	20	67
Brooklyn Borough	613	14.1	17.3	64	83	66
Manhattan Borough	690	19.8	25.6	56	93	66
Queens Borough	168	10.8	12.7	16	23	68
Richmond Borough	50	17.7	23.3	1	9	19
Newark, N. J.	131	14.7	15.3	17	14	84
Norfolk	36	10.5	14.7	4	6	81
White	14		10.8	0	2	0
Colored	22	(5)	21.5	4	4	212
Oakland	52	10.2	10.2	6	8	70
Oklahoma City	25			4	6	
Omaha	54	12.9	14.7	3	8	30
Paterson	38	13.8	17.5	3	7	50
Philadelphia	617	15.8	24.3	57	85	70
Pittsburgh	194	15.7	17.0	12	30	42
Portland, Oreg.	65			3	3	32
Providence	84	15.6	16.5	8	2	68
Richmond	56	15.2	18.8	6	4	79
White	29		15.6	3	3	61
Colored	27	(5)	26.5	3	1	114
Rochester	94	15.1	27.0	11	9	93
St. Louis	238	14.8	16.8	19	11	
St. Paul	55	11.5	10.5	5	6	45
Salt Lake City [4]	19	7.3	9.8	4	2	61
San Antonio	61	15.1	16.5	11	8	
San Diego	63	28.6	21.8	5	2	106
San Francisco	160	14.5	15.0	11	14	69
Schenectady	15	8.4	10.7	1	2	30
Seattle	67			5	6	52
Somerville	19	9.7	12.0	0	2	0
Spokane	33	15.8	19.1	3	3	75
Springfield, Mass.	35	12.4	15.5	1	8	15
Syracuse	51	13.5	25.1	3	9	39
Tacoma	34	16.6	12.8	3	2	71
Toledo	77	13.2	13.4	9	9	87
Trenton	51	19.4	19.1	6	6	104
Utica	31	15.7	19.7	4	2	91
Washington, D. C.	178	17.2	17.7	16	22	93
White	111		13.0	8	10	68
Colored	67	(5)	31.6	8	12	147
Waterbury	22			4	4	94
Wilmington, Del.	32	13.2	23.5	4	4	99
Worcester	62	16.6	15.4	7	6	84
Yonkers	26	11.4	16.2	2	6	45
Youngstown	46	14.2	12.3	8	8	112

[4] Deaths for week ended Friday, Mar. 11, 1927.

[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, Norfolk 38, 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 March 19, 1927

ALABAMA	Cases
Cerebrospinal meningitis	3
Chicken pox	30
Diphtheria	10
Influenza	141
Lethargic encephalitis	1
Malaria	11
Measles	231
Mumps	44
Pellagra	7
Pneumonia	94
Scarlet fever	13
Smallpox	66
Tuberculosis	133
Typhoid fever	14
Whooping cough	75

ARIZONA	
Chicken pox	5
Diphtheria	2
Influenza	3
Measles	12
Pneumonia	3
Scarlet fever	8
Tuberculosis	16

ARKANSAS	
Chicken pox	19
Diphtheria	9
Influenza	64
Malaria	14
Measles	113
Mumps	17
Pellagra	3
Poliomyelitis	1
Scarlet fever	10
Smallpox	2
Trachoma	1

ARKANSAS—continued	Cases
Tuberculosis	4
Typhoid fever	24
Whooping cough	82

CALIFORNIA	
Cerebrospinal meningitis:	
Los Angeles	3
Sacramento	1
San Francisco	1
Chicken pox	563
Diphtheria	122
Influenza	81
Jaundice (epidemic)	1
Measles	2,865
Mumps	238
Poliomyelitis—Fresno County	1
Scarlet fever	204
Smallpox	26
Tuberculosis	184
Typhoid fever	10
Whooping cough	149

COLORADO	
Chicken pox	40
Diphtheria	7
German measles	4
Influenza	2
Measles	324
Mumps	6
Pneumonia	5
Scabies	1
Scarlet fever	172
Smallpox	13
Tuberculosis	5
Typhoid fever	1
Whooping cough	3

CONNECTICUT

	Cases
Chicken pox	126
Diphtheria	27
German measles	15
Influenza	13
Measles	211
Mumps	47
Pneumonia (broncho)	42
Pneumonia (lobar)	50
Scarlet fever	151
Septic sore throat	2
Tuberculosis (all forms)	25
Whooping cough	53

DELAWARE

Chicken pox	4
Measles	6
Mumps	3
Pneumonia	3
Scarlet fever	29
Tuberculosis	6
Whooping cough	3

FLORIDA

Chicken pox	56
Diphtheria	21
Malaria	2
Measles	153
Mumps	14
Pneumonia	12
Scarlet fever	14
Smallpox	52
Tetanus	1
Typhoid fever	14
Whooping cough	23

GEORGIA

Chicken pox	53
Diphtheria	10
Dysentery	4
Hookworm disease	1
Influenza	361
Malaria	13
Measles	244
Mumps	49
Pellagra	4
Pneumonia	35
Scarlet fever	12
Septic sore throat	7
Smallpox	88
Tetanus	1
Tuberculosis	16
Typhoid fever	1
Whooping cough	58

IDAHO

Chicken pox	4
Diphtheria	10
Measles	64
Mumps	8
Scarlet fever	19
Smallpox	11
Tuberculosis	3

ILLINOIS

Cerebrospinal meningitis—Madison County	1
Chicken pox	381
Diphtheria	137

ILLINOIS—continued

	Cases
Influenza	54
Lethargic encephalitis	2
Measles	2,585
Mumps	517
Pneumonia	426
Poliomyelitis:	
Du Page County	1
Marshall County	1
Scarlet fever	348
Smallpox	61
Tuberculosis	176
Typhoid fever	11
Whooping cough	199

INDIANA

Chicken pox	120
Diphtheria	19
Influenza	21
Measles	200
Mumps	4
Pneumonia	8
Scarlet fever	213
Smallpox	158
Tuberculosis	32
Typhoid fever	3
Whooping cough	26

IOWA

Cerebrospinal meningitis:	
Iowa City	1
Sioux City	1
Chicken pox	39
Diphtheria	12
Measles	912
Mumps	33
Scarlet fever	77
Smallpox	47
Tuberculosis	7
Typhoid fever	1
Whooping cough	22

KANSAS

Cerebrospinal meningitis—Emporia	1
Chicken pox	168
Diphtheria	20
German measles	15
Influenza	10
Measles	1,105
Mumps	82
Pellagra	2
Pneumonia	49
Poliomyelitis:	
Kansas City	1
Marion	1
Scarlet fever	205
Smallpox	58
Trachoma	3
Tuberculosis	14
Typhoid fever	2
Whooping cough	62

LOUISIANA

Diphtheria	15
Influenza	26
Malaria	5
Measles	133

LOUISIANA—continued

	Cases
Pneumonia	31
Poliomyelitis	1
Scarlet fever	4
Smallpox	15
Trachoma	1
Tuberculosis	34
Typhoid fever	9
Whooping cough	12

MAINE

Cerebrospinal meningitis	1
Chicken pox	25
Conjunctivitis	1
Diphtheria	11
German measles	67
Influenza	3
Measles	141
Mumps	18
Pneumonia	11
Poliomyelitis	1
Scarlet fever	20
Tuberculosis	9
Typhoid fever	8
Vincent's angina	1
Whooping cough	47

MARYLAND [1]

Cerebrospinal meningitis	1
Chickenpox	117
Diphtheria	46
German measles	7
Influenza	370
Measles	61
Mumps	23
Paratyphoid fever	1
Pneumonia (broncho)	90
Pneumonia (lobar)	85
Scarlet fever	118
Septic sore throat	7
Smallpox	2
Tuberculosis	31
Typhoid fever	9
Whooping cough	118

MASSACHUSETTS

Cerebrospinal meningitis	1
Chicken pox	226
Conjunctivitis (suppurative)	5
Diphtheria	91
German measles	19
Influenza	22
Lethargic encephalitis	2
Measles	270
Mumps	396
Ophthalmia neonatorum	37
Pneumonia (lobar)	125
Scarlet fever	586
Septic sore throat	2
Tetanus	1
Tuberculosis (pulmonary)	121
Tuberculosis (other forms)	51
Typhoid fever	9
Whooping cough	153

[1] Week ended Friday.

MICHIGAN

	Cases
Diphtheria	108
Measles	286
Pneumonia	189
Scarlet fever	363
Smallpox	53
Tuberculosis	188
Typhoid fever	7
Whooping cough	145

MINNESOTA

Cerebrospinal meningitis	5
Chicken pox	154
Diphtheria	19
Influenza	3
Measles	228
Pneumonia	9
Poliomyelitis	1
Scarlet fever	257
Smallpox	1
Tuberculosis	43
Typhoid fever	6
Whooping cough	27

MISSISSIPPI

Diphtheria	7
Poliomyelitis	1
Scarlet fever	16
Smallpox	3
Typhoid fever	6

MISSOURI

Cerebrospinal meningitis	4
Chicken pox	102
Diphtheria	51
Epidemic sore throat	6
Influenza	11
Measles	254
Mumps	67
Ophthalmia neonatorum	1
Pneumonia	10
Rabies	2
Scarlet fever	132
Smallpox	29
Trachoma	8
Tuberculosis	56
Typhoid fever	1
Whooping cough	45

MONTANA

Cerebrospinal meningitis	8
Chicken pox	15
German measles	2
Measles	49
Mumps	22
Scarlet fever	56
Smallpox	25
Tuberculosis	2
Whooping cough	3

NEBRASKA

Chicken pox	43
Diphtheria	12
German measles	117
Influenza	36

NEBRASKA—continued

	Cases
Measles	200
Mumps	76
Pneumonia	2
Scarlet fever	45
Septic sore throat	4
Smallpox	15
Whooping cough	20

NEW JERSEY

Cerebrospinal meningitis	3
Chicken pox	374
Diphtheria	113
Dysentery	1
Influenza	63
Measles	40
Pneumonia	227
Poliomyelitis	1
Scarlet fever	387
Typhoid fever	3
Whooping cough	235

NEW MEXICO

Chicken pox	49
Conjunctivitis	1
Diphtheria	6
German measles	96
nfluenza	2
Measles	75
Mumps	59
Pneumonia	7
Scarlet fever	15
Smallpox	4
Trachoma	2
Tuberculosis	36
Typhoid fever	1
Whooping cough	16

NEW YORK

(Exclusive of New York City)

Cerebrospinal meningitis	1
Chicken pox	423
Diphtheria	74
German measles	206
Lethargic encephalitis	1
Malaria	1
Measles	784
Mumps	444
Ophthalmia neonatorum	1
Pneumonia	333
Scarlet fever	369
Septic sore throat	2
Smallpox	9
Tetanus	1
Typhoid fever	12
Vincent's angina	16
Whooping cough	244

NORTH CAROLINA

Cerebrospinal meningitis	2
Chicken pox	170
Diphtheria	30
German measles	7
Measles	542
Ophthalmia neonatorum	1

NORTH CAROLINA—continued

	Cases
Poliomyelitis	1
Scarlet fever	36
Smallpox	34
Whooping cough	774

OKLAHOMA

(Exclusive of Oklahoma City and Tulsa)

Cerebrospinal meningitis—	
Seminole County	2
Sequoyah County	1
Chicken pox	25
Diphtheria	13
Influenza	139
Measles	227
Mumps	38
Pneumonia	75
Scarlet fever	33
Smallpox	57
Typhoid fever	23
Whooping cough	22

OREGON

Cerebrospinal meningitis	2
Chicken pox	40
Diphtheria	16
Influenza	123
Measles	101
Mumps	15
Pneumonia	[1] 5
Scarlet fever	63
Smallpox	17
Tuberculosis	11
Whooping cough	1

PENNSYLVANIA

Cerebrospinal meningitis—Reading	1
Chicken pox	777
Diphtheria	232
German measles	147
Impetigo contagiosa	6
Lethargic encephalitis	4
Measles	804
Mumps	640
Pneumonia	324
Rabies	1
Scabies	9
Scarlet fever	705
Tuberculosis	175
Typhoid fever	20
Whooping cough	268

RHODE ISLAND

Cerebrospinal meningitis—Providence	1
Chicken pox	19
Diphtheria	9
Lethargic encephalitis	1
Measles	1
Ophthalmia neonatorum	1
Pneumonia	1
Scarlet fever	37
Tuberculosis	4
Whooping cough	2

[1] Deaths.

SOUTH CAROLINA

	Cases
Chicken pox	93
Dengue	1
Diphtheria	21
Hookworm disease	24
Influenza	1,977
Malaria	91
Measles	94
Paratyphoid fever	2
Pellagra	58
Poliomyelitis	1
Scarlet fever	7
Smallpox	22
Tuberculosis	56
Typhoid fever	5
Whooping cough	106

SOUTH DAKOTA

Chicken pox	9
Influenza	1
Measles	270
Mumps	3
Pneumonia	6
Scarlet fever	49
Smallpox	11
Typhoid fever	2
Whooping cough	9

TENNESSEE

Chicken pox	37
Diphtheria	9
Influenza	164
Measles	163
Mumps	10
Pellagra	2
Pneumonia	48
Scarlet fever	21
Smallpox	15
Trachoma	1
Tuberculosis	27
Typhoid fever	14
Whooping cough	65

TEXAS

Chicken pox	121
Diphtheria	32
Influenza	69
Measles	121
Mumps	36
Pellagra	1
Pneumonia	14
Scarlet fever	28
Smallpox	72
Trachoma	2
Tuberculosis	21
Typhoid fever	2
Whooping cough	49

UTAH

Chicken pox	33
Diphtheria	10
German measles	29
Influenza	2
Measles	234
Mumps	5
Pneumonia	8
Scarlet fever	21
Smallpox	9
Tuberculosis	1

UTAH—continued

	Cases
Typhoid fever	1
Whooping cough	30

VERMONT

Chicken pox	20
Measles	64
Mumps	74
Scarlet fever	4
Whooping cough	25

WASHINGTON

Cerebrospinal meningitis	4
Chicken pox	90
Diphtheria	14
German measles	333
Measles	230
Mumps	122
Scarlet fever	91
Smallpox	36
Tuberculosis	2
Typhoid fever	3
Whooping cough	33

WEST VIRGINIA

Chicken pox	86
Diphtheria	16
Influenza	37
Measles	218
Scarlet fever	29
Smallpox	66
Tuberculosis	16
Typhoid fever	1
Whooping cough	71

WISCONSIN

Milwaukee:	
Cerebrospinal meningitis	5
Chicken pox	107
Diphtheria	28
German measles	4
Influenza	1
Measles	78
Mumps	79
Pneumonia	32
Scarlet fever	58
Tuberculosis	24
Whooping cough	30
Scattering:	
Cerebrospinal meningitis	2
Chicken pox	112
Diphtheria	12
German measles	22
Influenza	69
Measles	496
Mumps	175
Pneumonia	20
Poliomyelitis	1
Scarlet fever	127
Smallpox	6
Whooping cough	63

WYOMING

Chicken pox	5
German measles	10
Measles	82
Mumps	17
Pneumonia (lobar)	1
Scarlet fever	30
Smallpox	6
Tuberculosis (pulmonary)	1

Reports for Week Ended March 12, 1927

DISTRICT OF COLUMBIA

	Cases
Chicken pox	75
Diphtheria	24
Influenza	18
Measles	7
Pneumonia	51
Scarlet fever	14
Tuberculosis	20
Whooping cough	10

ILLINOIS

Cerebrospinal meningitis	4
Chicken pox	371
Diphtheria	123
Influenza	63
Lethargic encephalitis	4
Measles	2,539
Mumps	674
Pneumonia	440
Scarlet fever	348
Smallpox	149
Tuberculosis	311
Typhoid fever	11
Whooping cough	243

IOWA

Cerebrospinal meningitis—Fort Dodge	1
Chicken pox	73

IOWA—continued

	Cases
Diphtheria	28
German measles	2
Measles	787
Mumps	16
Pneumonia	1
Scarlet fever	120
Smallpox	16
Tuberculosis	12
Typhoid fever	1
Whooping cough	35

NORTH DAKOTA

Cerebrospinal meningitis	2
Chicken pox	23
Diphtheria	4
German measles	1
Measles	216
Mumps	12
Pneumonia	5
Poliomyelitis	2
Scarlet fever	54
Smallpox	1
Tuberculosis	3
Typhoid fever	1
Whooping cough	8

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
December, 1926										
Arkansas	1	37	313	108	22	16	0	51	12	41
January, 1927										
Arkansas	3	58	539	87	45	26	0	44	20	41
Delaware	1	18	4	-------	6	-------	0	167	0	0
District of Columbia	0	85	17	-------	8	1	0	123	1	0
February, 1927										
Arizona	1	12	1	-------	76	-------	0	94	2	5
District of Columbia	1	104	52	-------	16	1	0	78	3	3
New Jersey	7	442	148	-------	218	-------	2	1,432	0	20
North Dakota	9	10	4	-------	468	-------	0	302	18	6
Vermont	-------	5	-------	-------	367	-------	0	-------	0	6

December, 1926

Arkansas:

	Cases
Chicken pox	89
Hookworm disease	9
Mumps	31
Whooping cough	59

January, 1927

Anthrax:

Delaware	3

Chicken pox:

Arkansas	190
Delaware	12
District of Columbia	278

January, 1927—Continued

	Cases
Hookworm disease:	
Arkansas	5
Mumps:	
Arkansas	76
Ophthalmia neonatorum:	
Arkansas	3
Paratyphoid fever:	
Arkansas	1
Rabies in animals:	
District of Columbia	5

[1] Includes 20 cases in delayed report for February.

January, 1927—Continued

Whooping cough:	Cases
Arkansas	156
Delaware	20
District of Columbia	44

February, 1927

Anthrax:	
New Jersey	1
Chicken pox:	
Arizona	108
District of Columbia	262
New Jersey	1,278
North Dakota	53
Vermont	146
German measles:	
New Jersey	71
North Dakota	202
Lead poisoning:	
New Jersey	4

February, 1927—Continued

Lethargic encephalitis:	Cases
District of Columbia	5
Mumps:	
Arizona	9
North Dakota	29
Vermont	191
Ophthalmia neonatorum:	
New Jersey	1
Rabies in animals:	
District of Columbia	7
Vermont	16
Trachoma:	
Arizona	2
New Jersey	1
Whooping cough:	
Arizona	22
District of Columbia	72
New Jersey	990
North Dakota	12
Vermont	177

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 100 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,570,000. The estimated population of the 94 cities reporting deaths is more than 29,900,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended March 5, 1927, and March 6, 1926

	1926	1927	Estimated expectancy
Cases reported			
Diphtheria:			
41 States	1,520	1,811	----------
100 cities	714	1,081	931
Measles:			
39 States	21,715	15,178	----------
100 cities	10,861	5,041	----------
Poliomyelitis:			
41 States	18	11	----------
Scarlet fever:			
41 States	4,832	6,216	----------
100 cities	1,665	2,452	1,275
Smallpox:			
41 States	983	984	----------
100 cities	297	117	148
Typhoid fever:			
41 States	166	243	----------
100 cities	57	52	37
Deaths reported			
Influenza and pneumonia:			
94 cities	1,806	1,132	----------
Smallpox (94 cities)	9	0	----------
Los Angeles	8	0	----------
San Francisco	1	0	----------

City reports for week ended March 5, 1927

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 1918 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	Chicken pox, 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	8	2	0	0	0	3	1	4
New Hampshire:									
Concord	22,546	0	0	1	0	0	13	0	0
Manchester	83,097	0	3	0	0	1	0	0	3
Nashua	29,723	0	0	0	0	0	0	0	2
Vermont:									
Barre	10,008	0	1	3	0	0	2	0	0
Burlington	24,089	2	0	1	0	0	0	1	1
Massachusetts:									
Boston	779,620	91	57	35	7	1	41	132	29
Fall River	128,993	6	4	8	1	1	0	1	4
Springfield	142,065	5	3	4	2	1	1	5	2
Worcester	190,757	2	3	2	2	0	0	4	8
Rhode Island:									
Pawtucket	69,760	3	1	0	0	0	0	0	0
Providence	267,918	0	10	7	0	1	2	0	8
Connecticut:									
Bridgport	(1)	2	8	7	1	0	9	4	3
Hartford	160,197	5	9	3	0	0	3	6	15
New Haven	178,927	23	2	0	0	0	0	2	14
MIDDLE ATLANTIC									
New York:									
Buffalo	538,016	21	12	10	-------	1	6	14	17
New York	5,873,356	368	188	328	150	27	28	0	228
Rochester	316,786	6	10	8	-------	1	10	0	7
Syracuse	182,008	16	5	1	-------	0	13	5	5
New Jersey:									
Camden	128,642	17	5	12	1	1	3	0	7
Newark	452,513	58	17	9	16	0	9	53	13
Trenton	132,020	6	4	1	0	1	0	1	10
Pennsylvania:									
Philadelphia	1,979,364	139	77	68	-------	17	17	97	66
Pittsburgh	631,563	61	21	14	-------	1	51	2	34
Reading	112,707	5	3	2	-------	0	0	40	5
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	409,333	13	9	16	0	2	1	24	12
Cleveland	936,485	121	28	59	14	2	1	40	36
Columbus	279,836	13	4	8	0	2	5	0	5
Toledo	287,380	28	6	3	2	2	7	10	7
Indiana:									
Fort Wayne	97,846	4	3	0	0	0	29	0	4
Indianapolis	358,819	69	8	6	0	0	9	17	10
South Bend	80,091	1	1	2	0	0	33	0	2
Terre Haute	71,071	4	1	1	0	0	16	0	1
Illinois:									
Chicago	2,995,239	95	89	86	24	17	1,302	136	65
Peoria	81,564	4	1	0	0	0	24	10	3
Springfield	63,923	10	1	0	4	5	111	0	2

[1] No estimate made.

City reports for week ended March 5, 1927—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			
EAST NORTH CENTRAL—continued									
Michigan:									
Detroit	1,245,824	107	58	57	8	7	25	105	40
Flint	130,316	55	5	2	0	0	8	0	5
Grand Rapids	153,698	5	3	0	0	0	1	0	1
Wisconsin:									
Kenosha	50,891	3	2	0	0	0	153	41	0
Madison	46,385	16	0	1	0	0	8	1	3
Milwaukee	509,192	96	16	26	0	0	50	73	14
Racine	67,707	12	2	0	0	0	14	33	1
Superior	39,671	0	0	1	0	0	1	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	110,502	15	1	0	0	0	35	0	0
Minneapolis	425,435	76	16	15	0	6	8	1	9
St. Paul	246,001	48	14	7	0	0	13	2	15
Iowa:									
Davenport	52,469	0	1	0	0	----	7	1	----
Des Moines	141,441	0	3	2	0	----	15	0	----
Sioux City	76,411	8	2	0	0	----	18	1	----
Waterloo	36,771	7	0	2	0	----	130	1	----
Missouri:									
Kansas City	367,481	42	8	2	0	1	52	16	13
St. Joseph	78,342	2	2	0	0	1	7	0	4
St. Louis	821,543	22	46	30	0	0	24	41	----
North Dakota:									
Fargo	26,403	1	0	0	0	0	63	3	1
Grand Forks	14,811	0	0	0	0	----	0	0	----
South Dakota:									
Aberdeen	15,036	4	0	0	0	----	57	1	----
Sioux Falls	30,127	0	1	0	0	----	1	0	----
Nebraska:									
Lincoln	60,941	11	1	3	0	0	40	0	2
Omaha	211,768	17	4	0	0	0	90	33	7
Kansas:									
Topeka	55,411	6	1	1	0	0	40	1	0
Wichita	88,367	30	3	1	0	0	1	1	1
SOUTH ATLANTIC									
Delaware:									
Wilmington	122,049	9	2	1	0	0	1	0	0
Maryland:									
Baltimore	796,296	143	26	43	278	12	3	12	59
Cumberland	33,741	3	0	3	0	0	0	0	2
Frederick	12,035	0	0	0	0	0	0	1	0
District of Columbia:									
Washington	497,906	59	13	36	21	8	4	0	34
Virginia:									
Lynchburg	30,395	16	0	3	0	0	6	0	0
Norfolk	(1)	4	1	0	0	0	43	1	7
Richmond	186,403	2	3	3	0	0	218	2	4
Roanoke	58,208	7	1	0	0	0	0	1	2
West Virginia:									
Charleston	49,019	10	0	0	0	1	1	0	0
Wheeling	56,208	8	1	1	0	3	8	0	2
North Carolina:									
Raleigh	30,371	7	1	1	0	0	0	0	0
Wilmington	37,061	6	0	0	0	0	2	5	1
Winston-Salem	69,031	17	0	3	0	1	1	19	3
South Carolina:									
Charleston	73,125	5	0	0	32	1	22	0	1
Columbia	41,225	7	1	1	0	----	0	8	----
Greenville	27,311	1	1	0	0	0	0	1	2
Georgia:									
Atlanta	(1)	5	2	5	89	0	38	4	7
Brunswick	16,809	0	0	0	0	0	3	0	0
Savannah	93,134	1	1	2	13	0	0	0	2
Florida:									
Miami	69,754	20	2	3	1	0	4	6	1
St. Petersburg	26,847	----	0	----	----	0	----	----	0
Tampa	94,743	4	2	6	0	0	90	1	1

[1] No estimate made.

City reports for week ended March 5, 1927—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			
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,309	3	1	1	0	0	0	0	2
Louisville	305,935	14	6	6	2	0	0	5	17
Tennessee:									
Memphis	174,583	11	4	2	0	3	5	0	10
Nashville	136,220	11	1	3	0	0	0	2	9
Alabama:									
Birmingham	205,670	7	2	3	10	1	61	1	11
Mobile	65,955	1	1	0	0	0	30	1	2
Montgomery	46,481	9	0	1	0	0	10	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	31,643	4	1	0	0	----	46	12	----
Little Rock	74,216	0	0	2	0	0	0	0	2
Louisiana:									
New Orleans	414,493	1	11	14	4	5	85	0	18
Shreveport	57,857	10	1	0	0	0	0	14	2
Oklahoma:									
Oklahoma City	(1)	0	1	2	3	0	0	0	3
Texas:									
Dallas	194,450	22	5	10	0	1	38	4	5
Galveston	48,375	0	1	0	0	0	0	0	2
Houston	164,954	4	2	5	0	0	4	2	6
San Antonio	198,069	1	2	5	0	3	1	0	8
MOUNTAIN									
Montana:									
Billings	17,971	2	0	2	0	0	4	0	0
Great Falls	29,893	5	1	0	0	0	3	2	1
Helena	12,037	1	0	0	0	0	1	0	1
Missoula	12,668	6	0	0	0	0	0	33	0
Idaho:									
Boise	23,042	0	0	0	0	0	11	2	0
Colorado:									
Denver	280,911	16	9	14	----	5	798	1	8
Pueblo	43,787	18	1	0	0	0	17	0	0
New Mexico:									
Albuquerque	21,000	4	0	0	0	0	63	10	0
Arizona:									
Phoenix	38,669	0	0	0	0	0	4	0	3
Utah:									
Salt Lake City	130,948	13	2	9	6	1	73	0	4
Nevada:									
Reno	12,665	0	0	1	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	(1)	50	6	0	0	----	23	78	----
Spokane	108,897	11	2	1	0	----	47	0	----
Tacoma	104,455	0	2	4	0	0	39	3	3
Oregon:									
Portland	282,383	9	6	4	3	4	54	3	7
California:									
Los Angeles	(1)	92	34	23	47	4	835	19	19
Sacramento	72,280	4	1	3	0	0	56	7	1
San Francisco	557,530	53	21	20	4	1	100	81	12

1 No estimate made.

City reports for week ended March 5, 1927—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	4	1	0	0	0	0	0	1	0	11	24
New Hampshire:											
Concord	1	4	0	0	0	0	0	0	0	0	9
Manchester	3	0	0	0	0	1	0	0	0	0	23
Nashua	0	2	0	0	0	3	0	0	0	0	13
Vermont:											
Barre	1	0	0	0	0	1	0	0	0	0	3
Burlington	1	1	0	0	0	0	0	0	0	0	8
Massachusetts:											
Boston	70	128	0	0	0	12	2	0	0	19	220
Fall River	3	3	0	0	0	5	1	0	0	1	34
Springfield	7	5	0	0	0	3	0	0	0	5	34
Worcester	9	12	0	0	0	2	0	0	0	8	64
Rhode Island:											
Pawtucket	1	0	0	0	0	0	0	0	0	2	8
Providence	8	10	0	0	0	6	0	0	0	4	78
Connecticut:											
Bridgeport	11	11	0	0	0	4	0	0	0	0	43
Hartford	6	6	0	0	0	2	0	0	0	8	55
New Haven	10	2	0	0	0	1	0	0	0	4	40
MIDDLE ATLANTIC											
New York:											
Buffalo	21	28	0	0	0	9	1	0	0	12	146
New York	257	783	0	0	0	[1] 126	6	8	0	101	1,517
Rochester	16	13	0	0	0	1	1	0	0	9	65
Syracuse	15	16	0	0	0	1	0	0	0	0	52
New Jersey:											
Camden	4	6	0	0	0	0	0	0	0	0	34
Newark	25	68	0	0	0	8	0	0	0	45	103
Trenton	5	0	0	0	0	0	1	0	0	2	42
Pennsylvania:											
Philadelphia	81	135	0	0	0	22	3	1	0	27	525
Pittsburgh	32	25	0	0	0	13	0	1	0	6	202
Reading	3	7	0	0	0	3	0	0	0	1	27
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	15	47	2	0	0	12	1	1	0	2	124
Cleveland	47	88	1	0	0	20	1	0	0	11	201
Columbus	12	12	3	0	0	1	0	0	0	9	85
Toledo	14	4	3	0	0	5	0	0	0	33	87
Indiana:											
Fort Wayne	5	5	0	12	0	0	0	0	0	0	25
Indianapolis	11	32	13	12	0	7	0	0	0	20	98
South Bend	3	4	1	0	0	0	0	0	0	1	13
Terre Haute	3	3	1	2	0	1	0	0	0	0	18
Illinois:											
Chicago	129	151	3	4	0	49	3	6	1	76	750
Peoria	4	2	1	0	0	0	0	0	0	0	21
Springfield	2	2	1	0	0	0	0	0	0	1	29
Michigan:											
Detroit	93	122	3	0	0	25	1	1	0	80	314
Flint	6	53	0	1	0	1	0	0	0	4	38
Grand Rapids	9	18	1	0	0	1	1	0	0	5	32
Wisconsin:											
Kenosha	3	8	1	0	0	0	0	0	0	6	7
Madison	4	4	0	0	0	1	0	0	0	23	11
Milwaukee	29	48	3	0	0	5	0	1	0	35	122
Racine	3	2	1	0	0	1	0	0	0	17	10
Superior	3	4	4	0	0	1	0	0	0	0	11

[1] Pulmonary tuberculosis only.

City reports for week ended March 5, 1927—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											
Minnesota:											
Duluth	7	3	1	0	0	2	1	0	0	0	16
Minneapolis	50	76	10	0	0	2	0	2	0	1	113
St. Paul	32	33	7	1	0	2	0	0	1	0	69
Iowa:											
Davenport	2	0	2	1	-------	-------	0	0	-------	0	-------
Des Moines	8	11	2	0	-------	-------	0	0	-------	0	-------
Sioux City	2	1	1	5	-------	-------	0	0	-------	6	-------
Waterloo	2	0	1	0	-------	-------	0	0	-------	1	-------
Missouri:											
Kansas City	11	35	2	11	0	7	1	0	0	10	97
St. Joseph	2	8	0	0	0	1	0	0	0	2	30
St. Louis	32	42	5	2	0	12	1	1	0	28	235
North Dakota:											
Fargo	2	4	0	0	0	0	0	0	0	0	13
Grand Forks	0	7	0	0	-------	-------	0	0	-------	0	-------
South Dakota:											
Aberdeen	3	7	0	0	-------	-------	0	0	-------	0	-------
Sioux Falls	3	1	0	0	-------	-------	0	0	-------	0	-------
Nebraska:											
Lincoln	2	0	0	0	0	0	0	1	0	0	19
Omaha	5	13	10	3	0	4	0	0	0	0	65
Kansas:											
Topeka	2	2	0	5	0	1	0	0	0	8	20
Wichita	2	7	1	0	0	0	0	2	0	2	23
SOUTH ATLANTIC											
Delaware:											
Wilmington	3	19	0	0	0	1	0	0	0	3	27
Maryland:											
Baltimore	40	30	1	0	0	14	2	2	1	67	276
Cumberland	1	0	0	0	0	0	0	0	0	1	11
Frederick	1	3	0	0	0	0	0	0	0	0	6
District of Columbia:											
Washington	27	20	1	1	0	13	1	3	0	9	185
Virginia:											
Lynchburg	0	1	0	0	0	0	0	0	0	0	8
Norfolk	2	2	1	0	0	6	0	0	0	8	-------
Richmond	4	3	0	0	0	0	0	1	0	8	40
Roanoke	1	1	1	0	0	1	0	0	0	1	15
West Virginia:											
Charleston	0	0	1	0	0	3	0	0	0	3	18
Wheeling	2	2	0	0	0	1	0	0	0	5	18
North Carolina:											
Raleigh	1	1	1	0	0	0	0	0	0	15	10
Wilmington	0	1	0	0	0	1	0	0	0	12	12
Winston-Salem	0	0	3	0	0	0	0	0	0	39	21
South Carolina:											
Charleston	0	2	0	0	0	4	1	0	0	0	18
Columbia	0	1	1	2	-------	-------	0	0	-------	4	-------
Greenville	0	0	1	0	0	0	0	0	0	0	5
Georgia:											
Atlanta	4	12	3	24	0	5	0	0	0	10	90
Brunswick	0	0	0	1	0	1	0	0	0	0	5
Savannah	1	0	1	1	0	2	0	0	0	2	17
Florida:											
Miami	1	0	-------	0	0	1	1	0	1	6	41
St. Petersburg	0	-------	1	-------	0	2	0	-------	0	-------	13
Tampa	1	2	0	0	0	3	1	7	1	0	36

City reports for week ended March 5, 1927—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		
EAST SOUTH CENTRAL											
Kentucky:											
Covington	2	1	1	0	0	3	0	0	0	0	27
Louisville	5	13	0	1	0	5	0	0	0	60	97
Tennessee:											
Memphis	4	18	2	15	0	2	1	1	0	13	72
Nashville	4	5	2	0	0	4	1	1	0	3	51
Alabama:											
Birmingham	2	6	8	6	0	7	0	5	0	6	60
Mobile	0	0	2	2	0	1	0	1	0	0	24
Montgomery	0	0	0	0	0	0	0	0	0	7	8
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	0	0	1	0	-------	1	0	0	-------	11	5
Little Rock	1	1	0	0	0	1	0	0	0	0	-------
Louisiana:											
New Orleans	6	0	2	0	0	16	2	0	0	1	169
Shreveport	1	0	1	1	0	3	0	0	0	3	16
Oklahoma:											
Oklahoma City	3	0	3	4	0	0	0	0	1	5	23
Texas:											
Dallas	2	9	5	6	0	2	0	1	0	3	45
Galveston	1	2	1	0	0	0	1	0	0	0	11
Houston	1	3	3	5	0	2	0	1	0	0	60
San Antonio	1	1	1	0	0	9	1	0	0	0	68
MOUNTAIN											
Montana:											
Billings	1	4	0	0	0	1	0	0	0	0	4
Great Falls	2	6	1	0	0	0	0	0	0	0	7
Helena	0	0	0	0	0	0	0	0	0	1	5
Missoula	1	14	0	0	0	0	0	0	0	0	2
Idaho:											
Boise	1	1	1	0	0	0	0	0	0	0	3
Colorado:											
Denver	15	80	2	0	0	5	0	0	0	0	99
Pueblo	1	4	0	0	0	2	0	1	0	0	12
New Mexico:											
Albuquerque	1	4	0	0	0	11	0	0	0	0	18
Arizona:											
Phoenix	0	4	0	0	0	6	-------	0	0	0	25
Utah:											
Salt Lake City	3	9	1	0	0	3	0	0	0	6	45
Nevada:											
Reno	0	2	0	0	0	0	0	0	0	0	4
PACIFIC											
Washington:											
Seattle	10	8	4	0	-------	-------	0	1	-------	10	-------
Spokane	5	28	5	4	-------	-------	0	0	-------	8	-------
Tacoma	3	8	3	0	0	0	0	0	0	1	26
Oregon:											
Portland	5	14	9	0	0	3	0	0	0	3	62
California:											
Los Angeles	27	41	8	0	0	37	1	1	0	18	266
Sacramento	1	0	0	1	0	6	0	1	0	0	28
San Francisco	15	41	[illegible]	0	0	13	1	0	0	5	167

City reports for week ended March 5, 1927—Continued

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	2	2	1	0	1	1	0
Worcester	0	0	0	0	0	0	0	0	1
MIDDLE ATLANTIC									
New York:									
New York	4	2	7	5	0	0	1	1	0
New Jersey:									
Newark	0	0	1	0	0	0	0	0	0
Pennsylvania:									
Philadelphia	0	1	0	0	0	0	0	0	0
Pittsburgh	1	1	0	0	0	0	1	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	1	0	0	0	0	0	0	0	0
Cleveland	1	0	1	0	0	0	0	0	0
Toledo	0	0	1	0	0	0	0	0	0
Illinois:									
Chicago	2	1	0	0	0	0	0	0	0
Michigan:									
Detroit	2	0	2	0	0	0	1	1	0
Wisconsin:									
Milwaukee	2	2	0	0	0	0	0	0	0
Racine	0	0	1	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	2	1	0	0	0	0	0	0	0
Minneapolis	0	1	0	0	0	0	0	0	0
Missouri:									
St. Louis	0	0	0	0	0	0	0	1	0
SOUTH ATLANTIC									
District of Columbia:									
Washington	0	0	1	1	0	0	0	0	0
South Carolina:									
Charleston	0	0	0	0	1	0	0	0	0
Georgia:									
Atlanta	0	0	0	0	0	1	0	0	0
Florida:									
Miami	1	0	0	0	0	0	0	0	0
St. Petersburg	0	1	0	0	0	0	0	0	0
EAST SOUTH CENTRAL									
Kentucky:									
Louisville	0	0	1	0	0	0	0	0	0
Tennessee:									
Memphis	0	0	0	1	0	1	0	0	0
Nashville	1	0	0	0	0	0	0	0	0
Alabama:									
Mobile	0	0	0	0	0	1	0	0	0
Montgomery	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
Shreveport	0	0	0	0	0	1	0	0	0
Texas:									
Dallas	0	0	0	0	1	0	0	0	0
Houston	0	0	0	0	0	1	0	0	0
MOUNTAIN									
Colorado:									
Pueblo	1	1	0	0	0	0	0	0	0
PACIFIC									
Oregon:									
Portland	3	1	0	0	0	0	0	0	0
California:									
Los Angeles	1	0	1	1	0	0	0	0	0
San Francisco	0	0	1	1	0	0	0	0	0

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended March 5, 1927, compared with those for a like period ended March 6, 1926. The population figures used in computing the rates are approximate estimates as of July 1, 1926 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 30,440,000 in 1926 and 30,960,000 in 1927. The 95 cities reporting deaths had nearly 29,780,000 estimated population in 1926 and nearly 30,290,000 in 1927. 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, January 30 to March 5, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926 [1]

DIPHTHERIA CASE RATES

	Week ended									
	Feb. 6, 1926	Feb. 5, 1927	Feb. 13, 1926	Feb. 12, 1927	Feb. 20, 1926	Feb. 19, 1927	Feb. 27, 1926	Feb. 26, 1927	Mar. 6, 1926	Mar. 5, 1927
101 cities	134	195	[2] 136	178	137	204	134	[3] 179	[4] 124	182
New England	97	146	123	174	116	132	101	149	94	163
Middle Atlantic	129	229	141	188	132	277	119	200	111	224
East North Central	119	202	[2] 132	179	134	169	141	198	123	177
West North Central	222	123	171	155	206	165	246	109	[4] 241	115
South Atlantic	132	143	134	223	104	192	73	192	108	196
East South Central	41	127	47	61	57	87	52	[3] 113	47	82
West South Central	137	235	116	151	90	172	116	197	103	151
Mountain	128	189	173	153	219	162	210	72	73	234
Pacific	188	217	139	168	204	188	214	152	188	134

MEASLES CASE RATES

101 cities	1,481	560	[2] 1,719	642	1,995	784	2,066	[3] 844	[4] 1,884	858
New England	2,403	378	2,342	339	2,703	181	2,184	228	2,441	172
Middle Atlantic	1,350	41	1,514	45	1,917	69	2,044	75	1,843	68
East North Central	2,155	647	[2] 2,637	738	2,933	899	3,084	930	2,695	1,078
West North Central	395	455	551	685	676	566	901	963	[4] 842	955
South Atlantic	2,557	538	3,086	361	3,248	795	3,269	654	2,675	797
East South Central	708	270	729	453	957	469	1,231	[3] 492	1,319	540
West South Central	34	570	13	457	9	570	9	600	17	730
Mountain	91	7,237	109	7,866	137	9,691	82	10,653	210	8,154
Pacific	104	1,542	166	2,225	201	2,780	161	2,872	276	3,037

SCARLET FEVER CASE RATES

101 cities	298	402	[2] 298	392	309	439	285	[3] 425	[4] 289	419
New England	401	508	361	536	361	469	354	541	347	423
Middle Atlantic	209	434	197	424	208	582	187	532	185	533
East North Central	338	319	[2] 359	327	372	323	340	365	346	398
West North Central	754	522	782	500	782	542	706	447	[4] 807	445
South Atlantic	162	246	169	259	149	250	199	219	162	181
East South Central	119	245	114	224	243	245	171	[3] 189	186	219
West South Central	137	126	107	75	107	67	112	117	90	67
Mountain	155	1,519	219	1,250	237	1,250	100	1,196	337	1,079
Pacific	324	437	308	390	330	340	311	314	311	330

[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, 1926 and 1927, respectively.
[2] Madison, Wis., not included.
[3] Covington, Ky., not included.
[4] Kansas City, Mo., not included.

Summary of weekly reports from cities January 30 to March 5, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued

SMALLPOX CASE RATES

	Week ended									
	Feb. 6, 1926	Feb. 5, 1927	Feb. 13, 1926	Feb. 12, 1927	Feb. 20, 1926	Feb. 19, 1927	Feb. 27, 1926	Feb. 26, 1927	Mar. 6, 1926	Mar. 5, 1927
101 cities	47	25	[2] 53	26	41	33	41	[3] 25	[4] 50	22
New England	0	0	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	1	0	0	0	0	0	0	0
East North Central	16	22	[2] 23	15	33	28	18	15	23	21
West North Central	52	54	32	71	65	81	79	64	[4] 61	54
South Atlantic	101	43	80	63	50	60	65	45	99	53
East South Central	41	102	52	82	103	132	52	[3] 76	67	122
West South Central	155	80	112	67	142	63	133	50	193	50
Mountain	73	9	73	18	36	27	46	0	36	0
Pacific	321	63	458	76	193	94	244	105	300	13

TYPHOID FEVER CASE RATES

101 cities	7	7	[2] 6	7	7	9	5	[3] 8	[4] 10	9
New England	14	9	5	5	7	2	5	9	12	2
Middle Atlantic	3	9	6	5	4	10	2	1	4	5
East North Central	3	5	[2] 4	2	5	4	1	6	5	6
West North Central	6	4	4	6	6	10	2	8	[4] 0	10
South Atlantic	13	5	15	18	4	24	11	29	6	24
East South Central	21	5	10	10	5	31	10	[3] 27	10	41
West South Central	4	17	0	13	21	8	30	4	39	8
Mountain	36	0	0	0	18	0	18	18	146	9
Pacific	16	8	13	18	16	3	8	8	16	8

INFLUENZA DEATH RATES

95 cities	34	19	[2] 33	24	50	23	46	[3] 22	[4] 51	25
New England	12	5	19	2	2	9	19	12	12	9
Middle Atlantic	20	21	15	28	27	25	39	22	68	24
East North Central	12	9	[2] 11	22	11	19	14	17	14	23
West North Central	19	12	4	15	19	23	23	10	[4] 5	17
South Atlantic	68	28	64	24	138	31	96	42	47	48
East South Central	103	56	62	36	160	41	134	[3] 43	259	20
West South Central	168	65	282	39	278	39	212	26	124	39
Mountain	109	45	128	72	109	27	100	54	109	54
Pacific	67	7	35	21	95	17	35	17	32	17

PNEUMONIA DEATH RATES

95 cities	206	168	[2] 212	148	259	146	259	[3] 164	[4] 269	172
New England	200	188	156	165	175	102	165	183	186	202
Middle Atlantic	213	197	212	174	290	149	317	177	358	193
East North Central	145	122	[2] 161	128	181	120	179	146	206	134
West North Central	125	135	78	96	127	91	108	91	[4] 97	104
South Atlantic	346	226	408	171	490	239	454	257	342	234
East South Central	248	199	222	112	295	168	300	[3] 108	310	260
West South Central	362	151	516	146	516	207	353	164	362	185
Mountain	228	144	328	144	173	189	410	135	237	126
Pacific	184	121	110	114	173	176	141	131	117	121

[2] Madison, Wis., not included.
[3] Covington, Ky., not included.
[4] Kansas City, Mo., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities in each group, approximated as of July 1, 1926, and 1927, 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	
			1926	1927	1926	1927
Total	101	95	30,438,500	30,960,600	29,778,400	30,289,800
New England	12	12	2,211,000	2,245,900	2,211,000	2,245,900
Middle Atlantic	10	10	10,457,000	10,567,000	10,457,000	10,567,000
East North Central	16	16	7,644,900	7,804,500	7,644,900	7,804,500
West North Central	12	10	2,585,500	2,626,600	2,470,600	2,510,000
South Atlantic	21	20	2,799,500	2,878,100	2,757,700	2,835,700
East South Central	7	7	1,008,300	1,023,500	1,008,300	1,023,500
West South Central	8	7	1,213,800	1,243,300	1,181,500	1,210,400
Mountain	9	9	572,100	580,000	572,100	580,000
Pacific	6	4	1,946,400	1,991,700	1,475,300	1,512,800

FOREIGN AND INSULAR

THE FAR EAST

Report for week ended February 26, 1927.—The following report for the week ended February 26, 1927, 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		Maritime towns	Plague		Cholera		Smallpox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths
Ceylon: Colombo	6	6	0	0	0	0	Siam: Bangkok	0	0	13	5	6	5
British India:							China:						
Karachi	----	0	----	0	2	1	Shanghai	0	0	0	0	----	1
Bombay	----	2	----	0	48	25	Hongkong	0	0	0	0	8	6
Calcutta	----	0	----	43	170	105	Union of Socialist Soviet Republics:						
Rangoon	----	4	----	5	27	6	Vladivostok	0	0	0	0	7	----
Madras	----	0	----	0	32	----	Manchuria: Mukden	0	0	0	0	1	1
Straits Settlements: Singapore	0	0	0	0	1	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, Lingah.

British India.—Chittagong, Cochin, Tuticorin, Negapatam, Vizagapatam.

Portuguese India.—Nova Goa.

Federated Malay States.—Port Swettenham.

Straits Settlements.—Penang.

Dutch East Indies.—Batavia, Sabang, Samarinda, Makassar, Belawan-Deli, Pontianak, Semarang, Menado, Banjermasin, Cheribon, Padang, Palembang, Tarakan, Samarinda, Balikpapan, Surabaya.

Sarawak.—Kuching.

British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.

Portuguese Timor.—Dilly.

French Indo-China.—Haiphong, Turane, Saigon and Cholon.

Philippine Islands.—Manila, Iloilo, Jolo, Cebu, Zamboanga.

China.—Amoy.

Macao.

Formosa.—Keelung.

Chosen.—Chemulpo, Fusan.

Manchuria.—Harbin, Antung, Yingkow, Changchun.

Kwantung.—Port Arthur, Dairen.

Japan.—Yokohama, Nagasaki, Niigata, Hakodate, Shimonoseki, Moji, Tsuruga, Osaka, Kobe.

AUSTRALASIA AND OCEANIA

Australia.—Adelaide, Melbourne, Sydney, Brisbane, Rockhampton, Townsville, Port Darwin, Broome, Fremantle, Carnarvon, Thursday Island, Cairns.

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.—Jibutl.
British Somaliland.—Berbera.
Italian Somaliland.—Mogadiscio.
Kenya.—Mombasa.
Zanzibar.—Zanzibar.
Tanganyika.—Dar-es-Salaam.
Seychelles.—Victoria.
Portuguese East Africa.—Mozambique, Beira, Lourenço Marques.
Union of South Africa.—East London, Port Elizabeth, Cape Town, Durban.
Reunion.—St. Denis.
Mauritius.—Port Louis.
Madagascar.—Tamatave, Majunga.

Other epidemiological information received by the Singapore bureau:

Hongkong.—Steamship *Takliwa* arrived on February 28 from Shanghai infected with smallpox.

INFLUENZA IN FOREIGN COUNTRIES

A telegram from the health section of the Secretariat of the League of Nations, received March 17, 1927, states that the influenza epidemic is decreasing everywhere in Europe. During the week ended March 12, 572 deaths from influenza were reported in 105 great towns of England. In Bulgaria, 177 influenza deaths occurred during the week ended March 12. For the last week in February, 299 deaths from influenza were reported in Yugoslavia.

ANGOLA (PORTUGUESE WEST AFRICA)

Disease conditions—Loanda and vicinity.—Under date of February 9, 1927, prevailing diseases were reported for Loanda, Angola, and the surrounding country, as follows: Blackwater fever, chicken pox, influenza, malaria, sleeping sickness, smallpox, tuberculosis, whooping cough, and diseases of the skin.

Loanda—Mortality—January 1–15, 1927.—During the period January 1 to 15, 1927, 32 deaths from all causes were reported at Loanda, Angola. Population, 20,000.

BRAZIL

Plague—Porto Alegre—January 23, 1927.—Information received under date of February 21, 1927, shows the occurrence on January 23, 1927, at Porto Alegre, Brazil, of two fatal cases of plague. The occurrence was in employees of the garbage-collecting department, who came in contact with a dead rat.

CANADA

Communicable diseases—Week ended March 5, 1927.—The Canadian Ministry of Health reports cases of certain communicable diseases in six Provinces of Canada for the week ended March 5, 1927, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Manitoba	Saskatchewan	Alberta	Total
Influenza	9			5	4		18
Smallpox				1	2	14	17
Typhoid fever		1	16	3			20

ESTONIA

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

Disease	Cases	Disease	Cases
Diphtheria	49	Tuberculosis	142
Measles	994	Typhoid fever	79
Paratyphus fever	9	Typhus fever	1
Scarlet fever	605		

Population, 1,107,059.

SENEGAL

Relapsing fever—Dakar—February 16, 1927.—Under date of February 16, 1927, a case of relapsing fever, occurring in a native, was reported at Dakar, Senegal.

TUNISIA

Pneumonic plague—Achache District—February 11, 1927.—Information received under date of March 1, 1927, shows the occurrence, reported February 11, 1927, of 13 fatal cases of pneumonic plague in the district of Achache, Tunisia, and a further fatal case reported February 14, 1927.

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

Reports Received During Week Ended March 25, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
India:				
Calcutta	Jan. 23-29	47	38	Declared epidemic since week ended Dec. 11, 1926.
Rangoon	do	1	1	
Siam				Jan. 23-29, 1927: Cases, 28; deaths, 20. Apr. 1, 1926-Jan. 1, 1927: Cases, 7,847; deaths, 5,164.
Bangkok	Jan. 2-29	1	1	

PLAGUE

Brazil:				
Porto Alegre	Jan. 23	2	2	
Ceylon:				
Colombo	Jan. 23-Feb. 5	2	2	2 plague rodents.
India:				
Madras Presidency	Jan. 16-22	119	85	
Rangoon	Jan. 23-29	6	5	
Iraq:				
Baghdad	Jan. 30-Feb. 5	1		
Java:				
Batavia	Jan. 23-29	35	35	Province.
East Java and Madura	Jan. 9-15	1	1	
Siam				Jan. 23-29, 1927: One case. Apr. 1, 1926-Jan. 29, 1927: Cases, 32; deaths, 23.
Tunisia:				
Acheche District	Feb. 11-14	14	14	Pneumonic.

[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 March 25, 1927—Continued

SMALLPOX

Place	Date	Cases	Deaths	Remarks
Algeria:				
Algiers	Feb. 1-10	2		
Canada	Feb. 27-Mar. 5			Cases, 17.
Alberta	do	14		
British Columbia—				
Vancouver	Feb. 28-Mar. 6	1		
Manitoba	Feb. 27-Mar. 5	1		
Ontario—				
Toronto	do	1		
Saskatchewan	do	2		
China:				
Hongkong	Jan. 23-Feb. 5	6	3	Mar. 8, 1927: Cases, 16; deaths, 12; Hindu, 3. Imported—Cases, 5.
Manchuria—				
Harbin	Jan. 29-Feb. 4	3		
Shanghai	Jan. 30-Feb. 5		1	International settlement.
France:				
Paris	Feb. 1-10	3	1	
Great Britain:				
England and Wales	Feb. 6-19	825		
Guatemala:				
Guatemala	Jan. 1-31		23	
India:				
Calcutta	Jan. 23-29	135	98	
Karachi	Feb. 6-12		1	
Madras	do	33		
Rangoon	Jan. 23-29	4	1	
Mexico:				
Nuevo Leon State—				
Cerralvo	Mar. 11			Epidemic.
San Luis Potosi	Feb. 27-Mar. 5		2	
Peru:				
Arequipa	Jan. 1-31		1	
Portugal:				
Lisbon	Feb. 13-19	9		
Siam				Apr. 1, 1926-Jan. 29, 1927: Cases, 724; deaths, 277.
Bangkok	Jan. 23-29	5	2	
Spain:				
Valencia	Feb. 15-21	1		
Straits Settlements:				
Singapore	Jan. 2-15	3	3	
Tunisia:				
Tunis	Jan. 1-10	1		
Turkey:				
Constantinople	Feb. 1-7		1	
Union of South Africa:				
Cape Province—				
Albany District	Jan. 23-29			Outbreak. Municipal location.
Transvaal—				
Bethal District	do			Outbreak. On farm.
West Africa:				
French Guinea—				
Kissidougou	Feb. 19			Present.
French Sudan—				
Kayes	do			Do.

TYPHUS FEVER

Algeria:				
Algiers	Feb. 1-10	7		
Chile:				
Valparaiso	Feb. 13-19	1		
Estonia				December, 1926: 1 case.
Palestine:				
Jaffa	Feb. 15-21	1		

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

Reports Received from January 1 to March 18, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Canton	Nov. 1-30	10	3	
Chungking	Nov. 14-20			Present.
Do	Jan. 2-8			Do.
Tsingtao	Nov. 14-Dec. 11			Do.
Chosen	Sept. 1-Oct. 31	252	159	
French Settlements in India	Aug. 29-Dec. 4	130	96	
India	Oct. 10-Jan. 1			Cases, 20,298; deaths, 3,507.
Do	Jan. 2-8			Cases, 3,080; deaths, 1,757.
Bombay	Jan. 9-29	2	1	
Calcutta	Oct. 31-Jan. 1	385	313	
Do	Jan. 2-22	236	177	
Madras	Dec. 26-Jan. 1	2	2	
Do	Jan. 2-8	8	6	
Rangoon	Nov. 21-Jan. 1	11	7	
Do	Jan. 2-22	2	2	
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	1 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: Case, 1.
Tonkin	do	784	482	July, 1925: Cases, 3; death, 1.
Japan:				
Hiogo	Nov. 14-20	3		
Philippine Islands:				
Manila	Oct. 31-Nov. 6	1		
Russia	Aug. 1-Sept. 30	8		
Siam	Apr. 1-Jan. 1			Cases, 7,847; deaths, 5,164.
Do	Jan. 2-22	64	47	
Bangkok	Oct. 31-Jan. 1	16	5	
Do	Jan. 9-22	5	1	
Straits Settlements	July 25-Oct. 16		60	
Singapore	Nov. 21-Jan. 1	14	8	

PLAGUE

Algeria:				
Algiers	Reported Nov. 16.	1		
Bona	Jan. 11-19	3	2	
Oran	Nov. 21-Dec. 10	32	22	
Tarafaraoui	Nov. 1-Dec. 9	10	9	Near Oran.
Angola:				
Benguela district	Oct. 1-Dec. 31	17	10	
Cuanza Norte district	Dec. 1-31	18	10	
Mossamedes district	Dec. 16-31	10		
Azores:				
St. Michael's Island—				
Furnas	Nov. 3-17	4	1	27 miles distant from port.
Brazil:				
Rio de Janeiro	Nov. 28-Dec. 4	2	2	
Do	Dec. 26-Jan. 1	1	1	On vessel in harbor.
Do	Jan. 2-8	1		
Sao Paulo	Nov. 1-14	1	1	
British East Africa:				
Kenya—				
Kisumu	Jan. 16-22	1	1	
Tanganyika Territory	Nov. 21-Dec. 18		12	
Uganda	Sept. 1-Oct. 31	162	152	
Canary Islands:				
Atarfe	Dec. 20	1	1	Vicinity of Las Palmas.
Las Palmas	Jan. 8	1		
San Miguel	do	1		Vicinity of Santa Cruz de Tenerife.
Celebes:				
Makassar	Dec. 22			Outbreak.
Ceylon:				
Colombo	Nov. 14-Dec. 11	3	1	2 plague rodents.
Do	Jan. 2-22	18	7	5 plague rodents.

[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 from January 1 to March 18, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
China:				
Mongolia	Reported Dec. 21	500		
Nanking	Oct. 31–Dec. 18			Prevalent.
Ecuador:				
Guayaquil	Nov. 1–Dec. 31	26	8	Rats taken, 50,615; found infected, 184.
Do	Jan. 1–15	5	3	Rats taken, 10,261; found infected, 53.
Egypt	Jan. 1–Dec. 9			Cases, 149.
Do	Jan. 1–28			Cases, 13.
Alexandria	Nov. 19–Dec. 2	2		
Charkia Province	Jan. 5	1	1	At Zagazig (Tel el Kebir).
Gharbia Province	Jan. 4	1	1	
Kafr el Sheikh	Dec. 3–9	2		
Marsa Matrah	Dec. 23–29	10		
Do	Jan. 27	1		
Tanta district	Nov. 19–Dec. 20	3		
Greece	Nov. 1–30	10	1	Athens and Piræus.
Athens	Nov. 1–Dec. 31	9	4	
Patras	Nov. 28–Dec. 4		1	
Pravi	Nov. 27	1	1	Province of Drama-Kavalla.
India	Oct. 10–Jan. 1			Cases, 16,162; deaths, 9,905.
Do	Jan. 2–8			Cases, 1,766; deaths, 1,200.
Bombay	Nov. 21–27	1	1	
Do	Jan. 16–22	2	2	
Madras	Oct. 31–Jan. 1	581	324	
Do	Jan. 2–15	214	125	
Rangoon	Nov. 14–Dec. 25	11	9	
Do	Jan. 2–22	10	10	
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 cases.
Kwang-Chow-Wan	do	10		July, 1925: Cases, 22; deaths, 15.
Java:				
Batavia	Nov. 7–Jan. 1	91	90	Province.
Do	Jan. 2–22	66	62	
East Java and Madura	Dec. 19–Jan. 1	3	3	
Do	Jan. 2–8	2	2	
Surabaya	Oct. 24–Dec. 18	14	14	
Madagascar:				
Province—				
Analalava	Oct. 16–31	1	1	Bubonic.
Itasy	Oct. 16–Dec. 15	25	25	
Maevatanana	Oct. 16–31	10	10	
Moramanga	Oct. 16–Dec. 15	74	53	
Tamatave	Oct. 16–Nov. 30	14	1	
Tananarive	Oct. 16–Dec. 15			Cases, 429; deaths, 398.
Town—				
Tamatave	Nov. 16–30	2		
Tananarive	Oct. 16–Dec. 15	44	30	
Mauritius:				
Plaines Wilhems	Oct. 1–Nov. 30	3	3	
Port Louis	do	20	18	
Nigeria	Aug. 1–Oct. 31	865	775	
Peru	Nov. 1–Dec. 31			Cases, 90; deaths, 26.
Do	Jan. 1–31	47	10	
Departments—				
Ancash	Dec. 1–31	6	6	
Do	Jan. 1–31			Present.
Cajamarca	do	36	6	
Ica—				
Chincha	Nov. 1–30	1		
Lambayeque	do			Present in Province.
Chiclayo	do	3		
Do	Jan 1–31	2		
Libertad	Dec. 1–31	2		
Do	Jan. 1–31	1		
Lima	Nov. 1–Dec. 31	42	14	
Do	Jan. 1–31	46	10	
Portugal:				
Lisbon	Nov. 23–26	3	2	In suburb of Balem.
Russia	May 1–June 30	44		
Do	July 1–Sept. 30	64		
Senegal	July 1–31	178	162	
Dioubel	Nov 29–30	12	1	
Tivaouane	Dec. 19–25	6	2	In interior.

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

Reports Received from January 1 to March 18, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
Siam	Apr. 1-Dec. 18			Cases, 26; deaths, 21.
Do	Jan. 2-8			Cases, 30; deaths, 22.
Syria:				
Beirut	Nov. 11-Dec. 20	4		
Tunisia	Dec. 1-31			Cases, 43.
Do	Jan. 12-26			Cases, 34.
Bousse	do	8		
Djeneniana	do	8		
Kairouan	do	3		
Mahares	do	15		
Sfax	Oct. 1-Dec. 31	304	128	
Turkey:				
Constantinople	Dec. 15-25	1		
Union of South Africa:				
Cape Province—				
De Aar district	Nov. 21-27	1		Native.
Craddock district	Jan. 2-8	2	1	
Hanover district	Nov. 14-Jan. 1	3	2	
Do	Jan. 2-8	1	1	
Middleburg district	Dec. 5-11	1	1	Do.
Orange Free State	do			Cases, 12; deaths, 2.
Bothaville district	Dec. 5-18	2	1	Native.
Hoopstad district	Nov. 7-13	1	1	Native.
Do	Dec. 5-25	2	1	Do.
Do	Jan. 2-22	3		
Vredefort district	Dec. 19-25	10	5	First case occurred Dec. 1, 1926. Reported Dec. 17.

SMALLPOX

Algeria	Sept. 21-Dec. 20			Cases, 698.
Algiers	Dec. 11-31	4		
Do	Jan. 1-10	1		
Angola	Oct. 1-15			Present in Congo district.
Cuanza Norte	Nov. 1-15			Present.
Arabia:				
Aden	Dec. 12-18	1		Imported.
Belgium	Oct. 1-10	1		
Brazil:				
Bahia	Oct. 30-Dec. 18	12	8	
Para	Oct. 31-Nov. 6		1	
Do	Feb. 5-12		1	
Pernambuco	Oct. 17-Dec. 25	58	4	
Rio de Janeiro	Year 1926			Cases, 4,083; deaths, 2,180.
Do	Jan. 2-Feb. 5	48	22	
Sao Paulo	Aug. 23-Dec. 5	34	18	
British East Africa:				
Tanganyika Territory	Oct. 31-Nov. 20	2		
Do	Jan. 2-15	34	7	
Zanzibar	Oct. 1-31	23	12	
British South Africa:				
Northern Rhodesia	Nov. 27-Dec. 3			Cases, 200. In natives.
Bulgaria	Nov. 1-30	1		
Canada	Dec. 5-Jan. 1			Cases, 155.
Do	Jan. 2-Feb. 26			Cases, 361.
Alberta	Dec. 5-Jan. 1	132		
Do	Jan. 2-Feb. 26	84		
Calgary	Nov. 28-Dec. 25	12		
Do	Jan. 2-29	12		
Edmonton	Dec. 1-31	4		
Do	Jan. 1-31	5		
British Columbia—				
Vancouver	Jan. 31-Feb. 27	5		
Manitoba	Dec. 5-Jan. 1	9		
Do	Jan. 2-Feb. 19	18		
Winnipeg	Dec. 19-25	1		
Do	Jan. 2-Mar. 5	7		
New Brunswick	Feb. 13-26	2		
Ontario	Dec. 5-Jan. 1	96		
Do	Jan. 2-Feb. 26	217		
Kingston	Jan. 1-Feb. 19	3		
Ottawa	Dec. 12-31	5		
Do	Jan. 9-29	4		
Toronto	Dec. 14-25	14		
Do	Jan. 1-Feb. 26	57	1	

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

Reports Received from January 1 to March 18, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Canada—Continued.				
Saskatchewan	Dec. 5-Jan. 1	18		
Do	Jan. 2-Feb. 26	40		
Regina	Jan. 16-22	1		
Chile:				
Concepcion	Dec. 26-Jan. 1		5	
China:				
Amoy	Jan. 1-15	1		
Canton	Nov. 1-30	1		
Chungking	Nov. 7-Dec. 25			Present.
Do	Jan. 2-31			Do.
Foochow	Nov. 7-Dec. 25			Do.
Hankow	Nov. 6-30			Do.
Hongkong	Feb. 19-25	11	7	
Manchuria—				
Harbin	Dec. 16-31	3		
Mukden	Dec. 5-11	1		
Nanking	Dec. 12-25			Do.
Do	Jan. 2-15			Do.
Shanghai	Dec. 12-18		1	
Swatow	Nov. 21-27			Do.
Tientsin	Jan. 16-22	2		
Chosen	Aug. 1-Oct. 31	47	16	
Seoul	Nov. 1-30	2		
Egypt:				
Alexandria	Jan. 8-14	1		
Cairo	June 11-Aug. 26	27	4	
Estonia	Oct. 1-30	2		
France	Sept. 1-Nov. 30	214		
Paris	Dec. 1-31	10	3	
Do	Jan. 1-31	10	2	
French Settlements in India	Aug. 29-Dec. 4	108	108	
Germany:				
Stuttgart	Nov. 28-Dec. 4	7		
Gold Coast	Aug. 1-Oct. 31	57	14	
Great Britain:				
England and Wales	Nov. 14-Jan. 4			Cases, 2,262.
Do	Jan. 2-Feb. 5			Cases, 2,724.
Bradford	Jan. 9-22	2		
Cardiff	Feb. 13-19	1		
Monmouthshire	Feb. 25	22		
Newcastle-on-Tyne	Dec. 5-13	2		
Do	Jan. 2-Feb. 19	15		
Normanton	Dec. 30	1		9 miles from Leeds.
Sheffield	Nov. 28-Jan. 1	60		
Do	Jan. 2-Feb. 19	421		
Wakefield	Jan. 30-Feb. 2	2		
Greece	Nov. 1-Dec. 31	25		
Athens	Dec. 1-31	14	2	
Guatemala:				
Guatemala City	Nov. 1-Dec. 31		15	
India	Oct. 10-Jan. 1			Cases, 22,946; deaths, 6,009.
Do	Jan. 2-8			Cases, 4,270; deaths, 1,028.
Bombay	Nov. 7-Jan. 1	37	26	
Do	Jan. 2-29	61	45	
Calcutta	Oct. 31-Jan. 1	449	311	
Do	Jan. 2-22	349	258	
Karachi	Dec. 19-25	1	1	
Do	Jan. 2-Feb. 5	26	23	
Madras	Nov. 21-Jan. 1	32	2	
Do	Jan. 2-Feb. 5	62	6	
Rangoon	Nov. 28-Jan. 1	2	2	
Do	Jan. 2-22	5	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.
Saigon	Dec. 26-Jan. 1	3		
Iraq:				
Baghdad	Oct. 31-Dec. 4	7	4	
Basra	Nov. 7-13	1	1	

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

Reports Received from January 1 to March 18, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Italy	Aug. 29-Nov. 13	16		
Genoa	Dec. 20-31	1		
Do	Jan. 1-10	2		
Jamaica	Nov. 26-Jan. 1	37		Reported as alastrim.
Do	Jan. 2-Feb. 5	45		
Japan	Oct. 24-Dec. 4	6		
Kobe	Nov. 14-20	1		
Do	Jan. 23-Feb. 5	2		
Yokohama	Nov. 27-Dec. 3	2		
Java:				
Batavia	do	2		Province.
East Java and Madura	Oct. 24-Dec. 25	11	1	
Do	Jan. 2-8	1	2	
Lithuania	Nov. 1-30	2		
Luxemburg	Nov. 1-Dec. 31	2		
Mexico	July 1-Sept. 30		413	
Chihuahua	Dec. 31			Several cases; mild.
Do	Jan. 31-Feb. 6			Present.
Ciudad Juarez	Dec. 14-27		2	
Manzanillo	Mar. 5	6		
Mazatlan	Feb. 14-20		2	
Mexico City	Nov. 23-Dec. 25	6		Including municipalities in Federal district.
Do	Dec. 26-Feb. 19	4		Do.
Nuevo Leon State:				
Montemorelos	Feb. 24			Reported present.
Monterey	do			About 60 cases reported in one hospital; other cases stated to exist.
Parral	Jan. 31-Feb. 6			Cases, 25. Unofficially reported.
Piedras Negras district	Feb. 25	68		At Nueva Rosita.
Saltillo	Feb. 6-12		1	
San Luis Potosi	Nov. 12-Dec. 18		3	
Do	Jan. 9-Feb. 26		15	
Tampico	Jan. 21-31	1		
Torreon	Nov. 28-Jan. 1		12	
Do	Jan. 2-Feb. 26		9	
Victoria	Feb. 24			Present.
Netherlands East Indies	Dec. 14			Island of Borneo; epidemic in two villages.
Nigeria	Aug. 1-Oct. 31	73	4	
Peru:				
Arequipa	Dec. 1-31		1	
Laredo	Dec. 1			Severe outbreak; vicinity of Trujillo.
Poland	Oct. 11-Dec. 25			Cases, 58; deaths, 1.
Portugal:				
Lisbon	Nov. 22-Jan. 1	43	4	
Do	Jan. 2-Feb. 5	10		
Rumania	Jan. 1-Sept. 30	7	1	
Russia	May 1-June 30	705		
Do	July 1-Sept. 30	884		
Senegal:				
Dakar	Jan. 9-15	1		
Siam	Apr.-Jan. 1			Cases, 711; deaths, 268.
Do	Jan. 2-22			Cases, 8; deaths, 7.
Bangkok	Oct. 31-Jan. 1	28	10	
Do	Jan. 2-22	8	7	
Sierra Leone:				
Nanowa	Dec. 1-15	1		Pendembu district.
Spain	July 1-Sept. 30		9	
Valencia	Feb. 8-14	1		
Straits Settlements:				
Singapore	Oct. 31-Jan. 1	12	2	
Tunisia	Oct. 1-Dec. 31	9		
Union of South Africa:				
Cape Province—				
Caledon district	Dec. 5-11			Outbreaks.
Steynsburg district	do			Do.
Stutterheim district	Nov. 21-27			Do.
Natal—				
Durban district	Nov. 7-27	9		Including Durban municipality. Total from date of outbreak; cases, 62; deaths, 16

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

Reports Received from January 1 to March 18, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Union of South Africe—Con.				
Orange Free State	Nov. 14-27			Outbreaks.
Bothaville district	Nov. 21-27			Do.
Transvaal	Nov. 7-20	2		Europeans.
Johannesburg	Nov. 14-20	1		
Yugoslavia	Nov. 1-Dec. 31	4	1	
Do	Jan. 1-31	3		

TYPHUS FEVER

Algeria	Sept. 21-Dec. 20	59	2	
Argentina:				
Rosario	Dec. 1-31		1	
Bulgaria	July 1-Nov. 30	33	5	
Chile:				
Concepcion	Jan. 23-29		1	
Valparaiso	Nov. 21-Dec. 25	6		
Do	Jan. 2-22	3	1	
China:				
Antung	Nov. 22-Dec. 5	4		
Chefoo	Oct. 24-Nov. 6			Present.
Chungking	Dec. 25-31			Do.
Chosen	Aug. 1-Oct. 30	17	2	
Seoul	Nov. 1-30	1		
Czechoslovakia	Oct. 1-Dec. 31	10		
Egypt:				
Alexandria	Dec. 3-9		1	
Cairo	Oct. 29-Nov. 4	1	1	
France	Nov. 1-30	1		
Gold Coast	Sept. 1-30	1	1	
Greece	Nov. 1-30			Cases, 12.
Athens	Nov. 1-Dec. 31	19	2	
Drama	Dec. 1-31	2		
Kavalla	do	2		
Patras	Jan. 23-29		1	
Ravokan	do	1		
Saloniki	Jan. 25-31	1		
Ireland:				
Clare County—				
Tulla district	Jan. 9-15	1		Suspect.
Italy	Aug. 29-Sept. 23	3		
Japan:				
Tokyo Prefecture	Dec. 5-25	9		
Tokyo city	do	5	1	
Lithuania	Sept. 1-Nov. 30	24	3	
Mexico	July 1-Aug. 31			Deaths, 46.
Aguascalientes	Jan. 9-Feb. 5	2		
Durango	Jan. 1-31		1	
Guadalajara	Jan. 25-31		1	
Mexico City	Dec. 5-11	3		Including municipalities in Federal distrıct.
Do	Jan. 2-Feb. 19	53		Do.
Parral	Jan. 30-Feb. 5	1		
Nigeria	Sept. 1-30	1		
Palestine:				
Acre	Dec. 29-Jan. 3	1		
Beisan	Dec. 21-27	1		
Haifa	Nov. 23-Dec. 13	5		
Do	Dec. 28-Feb. 7	7		
Jaffa	Nov. 23-Dec. 20	6		
Do	Jan. 11-31	2		
Majdal	Dec. 28-Jan. 3	1		
Nazareth	Nov. 16-Jan. 3	10		
Ramleh	Jan. 31-Feb. 7	1		
Safad	Dec. 28-Jan. 3	1		
Peru:				
Arequipa	Dec. 1-31		2	
Poland	Oct. 11-Dec. 25			Cases, 341; deaths, 30.
District—				
Bialystok	Oct. 31-Nov. 27	16	1	
Kielce	Nov. 28-Dec. 4	30	3	
Stanislawow	Oct. 31-Nov. 27	52	4	
Warsaw	do	45	5	
Rumania	Aug. 1-Nov. 30	255	11	

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

Reports Received from January 1 to March 18, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
Russia	May 1–June 30	6,043		
Do	July 1–Aug. 31	3,060		
Spain	July 1–Sept. 30		4	
Tunisia	Oct. 1–Dec. 27	30		
Tunis	Jan. 21–31	1		
Turkey:				
Constantinople	Dec. 12–25	3		
Do	Jan. 16–22			1 death reported by press.
Union of South Africa	Oct. 1–Dec. 31			Cases, 233; deaths, 30.
Cape Province	Oct. 1–31	47	7	
Do	Jan. 16–22			Outbreaks.
East London	Nov. 21–27	1		Native. Imported.
Port St. Johns district	Dec. 5–11			Outbreaks. On farm.
Natal	Oct. 1–31	1		
Orange Free State	Oct. 1–Dec. 31	31	2	
Do	Jan. 16–22			Outbreaks.
Transvaal	Oct. 1–31	1		
Yugoslavia	Nov. 1–Dec. 31	30	2	
Do	Jan. 1–31	43	3	

YELLOW FEVER

French Sudan	Dec. 19–25	1	1	
Gold Coast	Aug. 1–Sept. 30	8	3	
Nigeria	Sept. 1–30	1		
Senegal	Dec. 19–25	3	3	
Diourbel	Dec. 6	1	1	
Do	Jan. 1–20	1	1	At N'Bake.
Guinguineo	Dec. 7	1	1	
Rufisque	Nov. 27–Dec. 29	2	1	In European.
Do	Jan. 2–8	3	3	
Upper Volta:				
Gaoua district	Oct. 25	2		