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ENDEMIC GOITER IN COLORADO

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GENERAL CONSIDERATIONS

Colorado, although not generally regarded as being in the so-called goiter belt, has its endemic goiter problem. According to the information thus far available, goiter apparently prevails to a much greater extent in some portions of the State than others. This fact was apparently first determined by the itinerant clinic of the Colorado Health Conference in 1923.[1] According to the findings of Dr. R. P. Forbes, medical director of the clinic, a high incidence of goiter was observed in the San Juan Basin, which is located in the southwestern portion of Colorado. According to Doctor Forbes there were 51 cases, or 56 per cent, of goiter among the 91 children examined in this section. The Health Conference, working in other sections of the State, failed to find a similarly high incidence of goiter.

Realizing the necessity for obtaining additional information regarding goiter prevalence in the State, the secretary of the State board of health instructed Miss Matilda Harris, Red Cross nurse, to make thyroid surveys of eight representative communities in this southwestern portion. These surveys fully confirmed the previous findings of the Health Conference as to the unusual prevalence of endemic goiter in this section. At the same time a request was made of the Surgeon General of the Public Health Service for assistance in studying the goiter problem. In response to this request of the State board of health, the writer was instructed by the Surgeon General of the Public Health Service to visit Colorado and study the situation.

As preliminary thyroid surveys had been made in various parts of the State, a considerable amount of valuable information has been accumulated. Unfortunately, these surveys were made independently, different standards of classification were used, and the workers making the surveys were without the training that insures uniformity. The results of the surveys, therefore, must be somewhat

[1] An Endemic Goiter District in Colorado. An editorial in Colorado Medicine, vol. 20, No. 12, p. 328, December, 1923.

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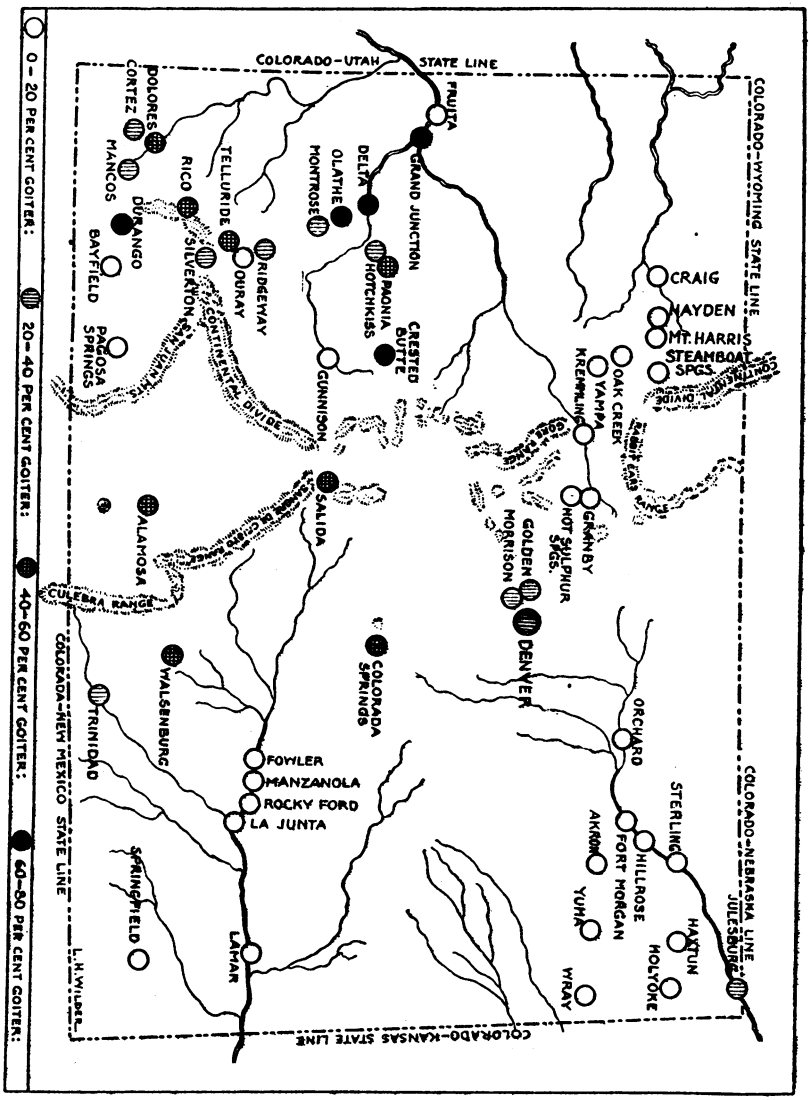
discounted. However, sufficient information has been obtained to make it plain that Colorado has its goiter problem and that additional information is required if intelligent action is to be taken.

The area of greatest prevalence.—Goiter surveys are known to have been made in approximately 57 localities in Colorado. Undoubtedly



Percentage prevalence of endemic goiter in certain Colorado cities and towns, as disclosed by surveys among children by different agencies

many additional studies unknown to the writer have been made and would prove valuable additions to the data at present available if they could be located. As the known surveys reached many sections of the State, the arrangement of results on the State map is both interesting and illuminating. An examination of the accompanying

map, upon which the results of the various surveys have been spotted according to the amount of thyroid enlargement discovered, discloses an area of considerable prevalence on the western slope and particularly in the southwestern portion of the State. In general it may be said that persons living on the western slope in Colorado, that is, west of the Continental Divide, obtain drinking water from the mountains. In the eastern portion of the State water is usually obtained from wells. There are, of course, exceptions to these general statements. Likewise, it is problematical whether the source of the drinking water has any considerable bearing upon the occurrence of endemic goiter in Colorado except in so far as the water may be deficient in iodine. So far there are no records of analyses available which will afford any considerable information as to the iodine content of Colorado drinking waters.

The figures upon which the data given on the map were based were obtained from various sources, namely, the Colorado Health Conference; the Red Cross; the Colorado State Board of Health; Dr. O. R. Gillett, who is the health officer of Colorado Springs; Dr. A. L. Beagler, director of health education in the Denver public schools; and lastly, from the surveys of the Public Health Service.

Letter of inquiry to physicians.—In order to obtain as accurate an expression of opinion as possible concerning goiter prevalence in various parts of the State, communication was established with 263 city and county health officers by means of the following circular letter:

DENVER, COLO., *August 27, 1924.*

DEAR DOCTOR: To what extent does endemic goiter prevail in your community? And what is being done to prevent the occurrence of this form of thyroid enlargement? These are questions that are now interesting the Colorado State Board of Health.

In order that information concerning the distribution of endemic goiter in Colorado may be secured and the best means of applying prophylaxis outlined, the board has asked the United States Public Health Service to study the problem.

To the end that the greatest amount of useful information may be obtained, each local health officer is being asked to tell what has been done in his jurisdiction toward preventing goiter and curing existing enlargements.

I will appreciate it very much if you will tell me as soon as may be convenient whether you have made a goiter survey in your community and what were the results. The more detailed report you can render, the more acceptable it will be.

I should also like to know something of the methods of prophylaxis and cure being utilized in your community. Any collateral information you may possess concerning the goiter problem will likewise be very useful in formulating statewide procedure for the elimination of this easily prevented affection.

If no steps have been taken in your locality toward dealing with the goiter problem, will you please advise me to that effect?

While the replies to this letter demonstrated a lively and intelligent interest in goiter, it was manifest that very few thyroid surveys had been made under the direction of local health authorities. It was

also evident that knowledge of local endemic goiter prevalence was based upon the few patients seen in private practice. Obviously the average practice is not a criterion by which goiter prevalence may be judged. Particularly encouraging, however, were numerous requests for information concerning the procedure to be followed in making thyroid surveys and instituting prophylaxis. It would appear desirable, in view of the interest manifested, to outline a plan whereby a wider knowledge of endemic goiter prevalence in Colorado may be gained and the necessary prophylactic procedure indicated.

In the following sections of the report, therefore, there will be considered (1) the results of the goiter surveys already made, with an interpretation of the findings; (2) the technique of making a thyroid survey; (3) the prophylaxis and treatment of endemic goiter; and (4) the possibility of determining the cause of goiter in Colorado by making a more thorough canvass of the State.

1. Consideration of Available Data

As previously indicated, independent surveys have been made by several health agencies, namely, the department of health education of the Denver public schools, the Colorado Health Conference, the Red Cross in cooperation with the Colorado State Board of Health, the health department of Colorado Springs, and the United States Public Health Service. It is known that several goiter surveys have been made in the smaller cities, but the data are not available for the present report.

Survey in the Denver city schools.—Probably the largest of the goiter surveys so far made in Colorado is that available from the public-school system in Denver. This survey, which included 9,656 girls between the ages of 8 and 22, was made by Dr. Virginia Van Meter, under the direction of Dr. A. L. Beagler, director of health education in the Denver schools. This survey disclosed the presence of 2,643 thyroid enlargements among 9,656 girls, a percentage of 27.3. By classifying the thyroid enlargements according to the arbitrary designations of slight, moderate, and large, it was found that there were 2,443 slight, 197 moderate, and only 3 large goiters. The findings are tabulated according to the ages of the girls examined and the degrees of enlargement in Table 1.

Again demonstrating the fact that there is no racial immunity to endemic goiter among the colored people are the percentages of 27.3 among the white girls and 26.3 among the colored girls in the Denver schools. A total of nine adenomata were recorded during the Denver survey, this number representing 0.093 per cent of the total number of examinations made and being very much smaller than the number of goiters of this type usually encountered.

TABLE 1.—*Numbers, degrees, and percentages of thyroid enlargements among 9,493 white and 163 colored girls in the Denver, Colo., public schools: Survey by the Department of Health Education, Denver public schools*

Age	White girls							Colored girls						
	Degree of enlargement[1]			With thyroid enlargement		Normal	Total	Degree of enlargement[1]			With thyroid enlargement		Normal	Total
	1	2	3	Number	Per cent			1	2	3	Number	Per cent		
8	0	0	0	0	0.	9	9	0	0	0	0	0.	0	0
9	8	0	0	8	5.2	144	152	1	0	0	1	50.0	1	2
10	70	1	0	71	9.2	701	772	3	0	0	3	33.3	6	9
11	174	9	1	184	14.0	1,127	1,311	6	0	0	6	24.0	19	25
12	289	17	0	306	6.8	1,133	1,439	6	0	0	6	18.1	27	33
13	377	25	0	402	27.0	1,082	1,484	6	0	0	6	20.0	24	30
14	385	43	2	430	32.0	910	1,340	6	1	0	7	31.8	15	22
15	406	34	0	440	38.1	714	1,154	3	1	0	4	25.0	12	16
16	310	26	0	336	39.4	516	852	5	0	0	5	31.2	11	16
17	250	30	0	280	45.0	341	621	2	0	0	2	40.0	3	5
18	112	8	0	120	41.5	169	289	2	0	0	2	50.0	2	4
19	16	2	0	18	31.5	39	57	1	0	0	1	100.0	0	1
20	5	0	0	5	45.4	6	11	0	0	0	0	0.	0	0
21	0	0	0	0	0.	1	1	0	0	0	0	0.	0	0
22	0	0	0	0	0.	1	1	0	0	0	0	0.	0	0
Total	2,402	195	3	2,600	27.3	6,893	9,493	41	2	0	43	26.3	120	163

[1] 1, Slight thyroid enlargement; 2, moderate thyroid enlargement; 3, marked thyroid enlargement.

Survey by the Red Cross in cooperation with State board of health.—This survey, which included eight cities located in the southwestern portion of the State, was made by Miss Matilda Harris, under the direction of the Colorado State Board of Health. In Table 2 it will be seen that 825 boys and 937 girls, a total of 1,762 children, between the ages of 9 and 20, were examined. Thyroid enlargements were found among 53.3 per cent of the boys and 73.4 per cent of the girls surveyed. The greatest amount of goiter among girls and boys was found in Delta, while the least among boys was found in Salida and the least among girls in Telluride.

In each of the eight cities surveyed the percentage of thyroid enlargements among boys was more than 39 per cent of the total number of children examined, while among the girls it was in excess of 62.5 per cent in each of the same places. To some extent these high prevalence rates were due to the inclusion in the examination of many older children near and at the age of adolescence, at which age the condition is most frequent.

In Table 3 the numbers and degrees of thyroid enlargements found in each of the eight cities surveyed are given. As may be expected, the prevalence of thyroid enlargement was greater among the girls than among the boys. Slight thyroid involvement was approximately the same among the boys and girls, although 238 more girls than boys were examined. Moderate enlargements were

four and one-half times more frequent among the girls, and marked enlargements ten times more frequent among the girls.

TABLE 2.—*Numbers, degrees, and percentages of thyroid enlargements among 825 boys and 937 girls surveyed in 8 localities in Colorado by the Red Cross and the Colorado State Board of Health*

Place	Boys							Girls						
	Degree of enlargement[1]			With thyroid enlargement		Normal	Total	Degree of enlargement[1]			With thyroid enlargement		Normal	Total
	1	2	3	Total	Per cent			1	2	3	Total	Per cent		
Alamosa	45	4	0	49	49.2	47	96	54	13	0	67	63.2	39	106
Crested Butte	52	4	1	57	57.5	42	99	65	15	0	80	80.0	20	100
Delta	81	6	0	87	71.8	34	87	50	65	0	115	88.5	15	130
Durango	52	12	0	64	67.9	32	96	59	22	1	82	73.2	30	112
Grand Junction	48	10	0	58	59.7	39	97	39	82	8	129	88.3	17	146
Salida	38	1	0	39	39.0	61	100	58	7	1	66	66.0	34	100
Telluride	47	1	0	48	47.0	54	102	53	9	0	62	59.6	42	104
Walsenburg	46	2	0	48	42.1	66	114	77	10	0	87	62.5	52	139
Total	409	40	1	450	53.3	375	825	455	223	10	688	73.4	249	937

[1] 1, Slight thyroid enlargement; 2, moderate thyroid enlargement; 3, marked thyroid enlargement.

TABLE 3.—*Ages of 450 boys and 688 girls with thyroid enlargements, and degrees of enlargement: Survey by Red Cross and Colorado State Department of Health in 8 Colorado cities. (Ages of normal children not available)*

Age	Boys				Girls			
	Degree of enlargement[1]			Total	Degree of enlargement[1]			Total
	1	2	3		1	2	3	
9	0	0	0	0	1	0	0	1
10	19	1	0	20	31	1	0	32
11	32	0	0	32	33	2	0	35
12	61	3	0	64	55	23	1	79
13	79	8	1	88	87	48	2	137
14	86	14	0	100	106	48	3	157
15	69	9	0	78	82	53	1	136
16	43	4	0	47	49	27	2	78
17	11	1	0	12	7	11	1	19
18	3	0	0	3	2	5	0	7
19	3	0	0	3	2	4	0	6
20	3	0	0	3	0	1	0	1
Total	409	40	1	450	455	223	10	688

[1] 1, Slight thyroid enlargement; 2, moderate thyroid enlargement; 3, marked thyroid enlargement.

Survey in Colorado Springs.—A survey of 853 boys and 846 girls attending school in Colorado Springs disclosed the presence of thyroid enlargement among 326 boys and 378 girls. This survey was made under the direction of Dr. O. R. Gillett, health officer. The water supply of Colorado Springs is obtained from the mountains. According to the results obtained during this survey, 38.2 per cent of the boys and 44.6 per cent of the girls in this city have some

degree of thyroid enlargement. The numbers and percentages of thyroid enlargements found during the survey in Colorado Springs are given in Table 4.

TABLE 4.—*Numbers and percentages of thyroid enlargements found among 853 boys and 846 girls in Colorado Springs, Colo.*

	Examined	Enlargements	
		Number	Per cent
Boys	853	326	38.2
Girls	846	378	44.6
Total	1,699	704	41.4

Survey by Colorado Health Conference.—The Colorado Health Conference is made up of representatives from the State board of health, State Tuberculosis Association, extension division of the State University, and Child Welfare Bureau. A feature of this conference is an itinerant clinic that visits various sections of the State, making physical examinations of children and advising what shall be done when deviations from the normal are detected. During 1923 and 1924 Dr. R. P. Forbes, the clinic physician, devoted particular attention to the detection of thyroid enlargement among the children examined in a routine manner.

A summary of the goiter findings of the health conference is given in Table 5. Upon examination it will be seen that the prevalence of goiter is much higher in some places than others. Thus, 61.5 per cent of the children examined in Olathe, Montrose County, had some degree of thyroid enlargement. Paonia, with 52.6 per cent; Rico, with 43.4 per cent; and Dolores, with 40.9 per cent, are other cities with high goiter prevalence. From these higher figures the percentages decline in other localities until the rates, at least among some of the limited numbers examined, are zero.

TABLE 5.—*Numbers and percentages of thyroid enlargements among 1,634 boys and 1,640 girls in 39 localities in 20 Colorado counties: Survey by Colorado Health Conference*

Place	Boys				Girls			
	Enlargements		Normal	Total	Enlargements		Normal	Total
	Number	Per cent			Number	Per cent		
Arapahoe County:								
Littleton	1	3.7	26	27	3	8.5	32	35
Englewood	1	2.2	44	45	3	7.1	39	42
County total	2	2.7	70	72	6	7.8	71	77
Archuleta County:								
Pagosa Springs	0	0	37	37	1	2.4	40	41
Baca County:								
Springfield	2	4.2	45	47	7	14.6	41	48
Delta County:								
Hotchkiss	15	26.3	42	57	15	35.7	27	42
Paonia	20	45.4	24	44	29	59.1	20	49
Delta	13	37.1	22	35	10	31.2	22	32
County total	48	35.2	88	136	54	43.9	69	123
Dolores County:								
Rico	11	42.3	15	26	12	44.4	15	27
Grand County:								
Kremmling	0	0	31	31	0	0	34	34
Hot Sulphur Springs	0	0	21	21	0	0	30	30
Granby	0	0	17	17	0	0	16	16
Tabernash	0	0	25	25	0	0	36	36
County total	0	0	94	94	0	0	116	116
Gunnison County:								
Gunnison	0	0	19	19	0	0	29	29
Crested Butte	0	0	12	12	0	0	14	14
County total	0	0	31	31	0	0	43	43
La Plata County:								
Bayfield	4	11.7	30	34	3	12.5	21	24
Durango	1	2.4	41	42	5	11.3	39	44
County total	5	6.5	71	76	8	11.8	60	68
Logan County:								
Sterling	0	0	21	21	0	0	25	25
Mesa County:								
Fruita	13	38.2	21	34	16	66.6	8	24
Montezuma County:								
Mancos	11	16.6	55	66	25	35.2	46	71
Dolores	9	20.4	35	44	36	54.5	30	66
Cortez	4	8.5	43	47	26	53.0	23	49
County total	24	15.2	133	157	87	46.7	99	186
Montrose County:								
Montrose	8	18.1	36	44	7	30.4	16	23
Olathe	27	51.9	25	52	34	72.3	13	47
County total	35	36.5	61	96	41	58.5	29	70
Morgan County:								
Orchard	1	1.9	51	52	0	0	56	56
Fort Morgan	0	0	64	64	0	0	62	62
Hillrose	0	0	41	41	1	2.7	36	37
County total	1	.6	156	157	1	.6	154	155

TABLE 5.—*Numbers and percentages of thyroid enlargements among 1,634 boys and 1,640 girls in 39 localities in 20 Colorado counties: Survey by Colorado Health Conference*—Continued

Place	Boys				Girls			
	Enlargements		Normal	Total	Enlargements		Normal	Total
	Number	Per cent			Number	Per cent		
Otero County:								
Fowler	3	4.9	58	61	13	24.0	41	54
Manzanola	1	2.1	46	47	1	2.7	35	36
Rocky Ford	4	8.5	43	47	5	16.6	25	30
La Junta	4	7.5	50	54	4	7.6	48	52
County total	12	5.7	197	209	23	13.3	149	172
Ouray County:								
Ridgway	6	11.1	48	54	17	29.3	41	58
Ouray	1	2.4	40	41	7	18.4	31	38
County total	7	7.3	88	95	24	25.0	72	96
Phillips County:								
Haxtun	0	0	50	50	0	0	68	68
Holyoke	0	0	47	47	0	0	51	51
County total	0	0	97	97	0	0	119	119
Prowers County:								
Lamar	0	0	41	41	8	17.7	37	45
San Juan County:								
Silverton	5	10.8	41	46	17	30.9	38	55
Washington County:								
Akron	0	0	41	41	2	7.1	26	28
Yuma County:								
Wray	0	0	66	66	1	1.3	72	73
Yuma	0	0	51	51	3	5.6	50	53
County total	0	0	117	117	4	3.1	122	126
Total	165	10.1	1,465	1,630	311	23.3	1,333	1,644

Places with high prevalence rates among boys were Olathe, 51.9 per cent; Paonia, 45.4 per cent; Fruita, 38.2 per cent; and Delta, with 37.1 per cent. The percentages of thyroid enlargement were highest among the girls examined in Olathe, 72.3 per cent; Paonia, 59.1 per cent; Fruita, 66.6 per cent; and Dolores, 54.5 per cent. Of the 1,630 boys, 10.1 per cent, and of the 1,644 girls examined, 23.3 per cent were found to have some degree of thyroid enlargement. In Table 6 are given the ages of 165 boys and 311 girls with thyroid enlargement. The marked preponderance of goiter among girls, especially after the age of 15, is clearly shown. Doctor Forbes, of the Colorado Health Conference, has also shown, through his diagnoses of goiter in preadolescent children, that there is need for iodine prophylaxis during pregnancy so that children may be born goiter free. That the term "adolescent" is a misnomer when applied to endemic goiter is plainly indicated by the frequent occurrence of goiter in preadolescent children, as shown in Table 6.

TABLE 6.—*Ages of 165 boys and 311 girls with thyroid enlargements in 39 localities in Colorado: Survey by the Colorado Health Conference*

Age	Boys	Girls	Total	Age	Boys	Girls	Total
2	7	10	17	12	11	24	35
3	6	11	17	13	7	26	33
4	13	10	33	14	4	14	18
5	15	25	40	15	2	10	12
6	21	22	43	16	2	10	12
7	16	36	52	17		10	10
8	17	20	37	18		3	3
9	19	13	32	19		2	2
10	10	19	29				
11	15	36	51	Total	165	311	476

Public Health Service survey.—The survey made by the United States Public Health Service included public schools in four localities, two State industrial schools, a home for dependent children, and an orphan's home. As the children in the industrial schools are drawn from all parts of the State and have been in the schools for varying periods of time, an opportunity for observing Statewide conditions is offered in these schools. Likewise, the children in the State home for dependent children are received from all parts of the State. The city of Denver is largely represented among the inmates.

The numbers, degrees, and percentages of thyroid enlargements among 1,495 boys and 1,214 girls surveyed by the Public Health Service are shown in Table 7. The thyroid enlargements noted were classified under five headings—very slight, slight, moderate, marked, and very marked. The ages of the children examined ranged between 1 and 21 years, affording an opportunity of learning the percentage of thyroid involvement at each age. It will be noted that very slight enlargements occurred approximately to the same extent in both sexes. Slight and moderate enlargements, however, were twice as prevalent among the girls, and marked enlargements were 8 times more prevalent among the girls, than among the boys. Only one very marked enlargement was noted, and that was in a girl of 15 years.

TABLE 7.—*Numbers and degrees of thyroid enlargements among 1,495 boys and 1,214 girls (by ages and sex) surveyed in 8 localities in Colorado by the United States Public Health Service*

Age	Boys								
	Degree of enlargement[1]					With enlarged thyroids		Normal	Total
	1	2	3	4	5	Total	Per cent		
2	0	0	0	0	0	0	0.0	9	9
3	1	0	0	0	0	1	12.5	7	8
4	0	0	0	0	0	0	0.0	6	6
5	2	0	0	0	0	2	18.1	9	11
6	0	0	0	0	0	0	0.0	10	10
7	2	2	0	0	0	4	21.0	15	19
8	9	0	0	0	0	9	15.5	49	58
9	19	2	1	0	0	22	21.7	79	101
10	35	4	1	0	0	40	24.6	122	162
11	43	10	2	1	0	56	25.6	162	218
12	77	18	5	0	0	100	39.2	155	255
13	39	15	3	0	0	57	27.8	147	204
14	23	11	1	0	0	35	24.3	109	144
15	18	10	2	0	0	30	23.4	98	128
16	12	5	2	1	0	20	25.9	57	77
17	6	3	2	0	0	11	25.0	33	44
18	5	1		0	0	6	24.0	19	25
19	2	1	1	0	0	4	36.3	7	11
20	0	0	0	0	0	0	0.0	4	4
21	0	0	0	0	0	0	0.0	1	1
Total	293	82	20	2	0	397	26.5	1,098	1,495

Age	Girls								
	Degree of enlargement[1]					With enlarged thyroids		Normal	Total
	1	2	3	4	5	Total	Per cent		
1								2	2
2	1	0	0	0	0	1	20.0	4	5
3	1	0	1	0	0	2	33.3	4	6
4	0	0	0	0	0	0	0.0	3	3
5	0	1	0	0	0	1	20.0	3	4
6	0	0	0	0	0	0	0.0	4	4
7	1	2	0	0	0	3	16.6	15	18
8	5	1	0	0	0	6	18.2	27	33
9	14	3	1	0	0	18	24.0	57	75
10	26	16	1	0	0	43	38.9	106	149
11	41	21	7	1	0	70	34.7	132	202
12	42	25	10	3	0	80	40.1	119	199
13	31	38	11	3	0	83	48.2	89	172
14	21	19	14	4	0	58	47.2	65	123
15	20	15	6	5	1	47	55.2	38	85
16	14	11	0	1	0	26	39.4	40	66
17	7	2	1	0	0	10	27.8	26	36
18	3	4	1	0	0	8	36.4	14	22
19	2	1	0	0	0	3	33.3	6	9
21	0	0	0	0	0	0	0.0	1	1
Total	229	159	53	17	1	459	37.9	755	1,214

[1] 1, very slight; 2, slight; 3, moderate; 4, marked; 5, very marked.

Thyroid enlargements of some degree were found in 397 boys, representing 26.5 per cent of the 1,495 boys examined. Among the 1,214 girls examined there were 459 enlargements, or 37.9 per cent of the entire number. Three girls with symptoms strongly sug-

gestive of exophthalmic goiter were encountered. Nodules in the thyroid substance, presumably adenomatous in type, were noted in 23 children, 14 girls and 9 boys. Among boys the age of greatest percentage involvement is at 12 years, while among the girls it is at 15 years, according to this survey. However, the numbers upon which the calculations are based are too small to permit the drawing of any but suggestive inferences.

In Table 8 the results of the thyroid examinations in each of the schools surveyed by the Public Health Service are set forth. In this table are shown the numbers, degrees, and percentages of thyroid involvement among 1,495 boys and 1,214 girls in eight localities. Among both boys and girls endemic goiter was most prevalent in Grand Junction, located in the western central portion of the State. Thyroid enlargement was least prevalent among the boys in the State Home for Dependent Children in Denver, probably because the ages of the children in this school are relatively less than those in the other places surveyed. More than 20 per cent of the boys and more than 30 per cent of the girls in the schools surveyed had some degree of thyroid involvement, the only exceptions being the two institutions surveyed in Denver, where the children are younger than those in the regular schools.

TABLE 8.—*Numbers, degrees, and percentages of thyroid enlargements among 1,495 boys and 1,214 girls surveyed in 8 localities in Colorado by the United States Public Health Service*

Locality and school or home	Boys								
	Degree of enlargement[1]					With thyroid enlargement		Normal	Total
	1	2	3	4	5	Total	Per cent		
Denver:									
Orphan's Home	10	0	0	0	0	10	16.9	49	59
Home for Dependents	13	0	0	0	0	13	14.3	80	93
Golden, Industrial School	52	17	8	1	0	78	24.1	245	323
Grand Junction schools	81	30	6	0	0	117	35.1	216	333
Julesburg schools	22	4	1	0	0	27	24.1	85	112
Salida schools	34	5	1	0	0	40	23.2	132	172
Trinidad schools	81	26	4	1	0	112	27.7	291	403
Total	293	82	20	2	0	397	26.5	1,098	1,495

[1] 1, very slight; 2, slight; 3, moderate; 4, marked; 5, very marked.

TABLE 8.—*Numbers, degrees, and percentages of thyroid enlargements among 1,495 boys and 1,214 girls surveyed in 8 localities in Colorado by the United States Public Health Service*—Continued

Locality and school or home	Girls								
	Degree of enlargement[1]					With thyroid enlargement		Normal	Total
	1	2	3	4	5	Total	Per cent		
Denver:									
Orphan's Home	5	1	3	0	0	9	25.7	26	35
Home for Dependents	9	9	1	0	0	19	27.9	49	68
Grand Junction schools	53	61	25	11	0	150	45.3	181	331
Julesburg schools	36	9	4	0	0	49	36.0	87	136
Morrison, Industrial School	24	16	4	3	1	48	34.5	91	139
Salida schools	39	10	3	0	0	52	34.4	99	151
Trinidad schools	63	53	13	3	0	132	37.2	222	354
Total	229	159	53	17	1	459	36.8	755	1,214

[1] 1, very slight; 2, slight; 3, moderate; 4, marked; 5, very marked.

TABLE 9.—*Numbers and percentages of thyroid enlargement among 3,950 boys and 13,451 girls examined by 4 agencies in 56 localities in Colorado*

Agency	Boys				Girls			
	Number examined	Found normal	With enlarged thyroids		Number examined	Found normal	With enlarged thyroids	
			Number	Per cent			Number	Per cent
Denver, department of health education, Denver public schools					9,656	7,013	2,643	27.3
Health conference	1,630	1,465	165	10.1	1,644	1,333	311	23.5
U. S. Public Health Service	1,495	1,098	397	26.5	1,214	755	457	36.8
Red Cross and State board of health	825	375	450	53.3	937	249	688	73.4
Total	3,950	2,938	1,012	25.6	13,451	9,350	4,099	30.4

Summary of thyroid findings.—The combined results of the thyroid examinations made by the four principal agencies have been brought together in Table 9. Of the 3,950 boys examined, 1,012, or 25.6 per cent, had some degree of thyroid enlargement; 4,099, or 30.4 per cent of the 13,451 girls examined, also had enlarged thyroids. Compared with surveys made in other sections of the country the Colorado results disclose a much smaller difference between the goiter prevalence rates of boys and girls than is commonly found; but it is possible that the inclusion of more than three times as many girls as boys has influenced the results.

2. Method of Making a Thyroid Survey

The need for additional surveys.—While the data set forth in the preceding section are interesting, they are insufficient in quantity to warrant the drawing of hard and fast conclusions. The making of

the several surveys independently tends to diminish uniformity and accuracy. Therefore it would appear necessary to obtain additional information by using similar standards of denoting thyroid enlargement. Such data are particularly needed from the rural sections of the State, the surveys already made having been almost entirely confined to some of the larger cities and towns. Judging from the expressions of interest from many physicians in the State, it would be practicable to make a general goiter survey if a suitable method were outlined and made available. Moreover, if such a survey were sufficiently extensive it is conceivable that much valuable material would become available for determining the fundamental or underlying reason for the prevalence of goiter.

In addition to having precise written information concerning the procedure to be followed in making a thyroid survey, it is a distinct advantage to have the examiners coached by a person who has had practical experience in making thyroid surveys. Such assistance, of course, is not always available, but it undoubtedly insures greater uniformity and accuracy of results. Numerous requests for an outline of the procedure to be followed in making a thyroid survey have been received from interested physicians in Colorado. Therefore it is deemed advisable to indicate the methods by which reliable results may be secured.

The anatomy and topography of the thyroid.—Prior to beginning a thyroid survey it is advantageous to review the anatomy of the thyroid gland, particularly with regard to the topography of the normal gland. Cunningham gives the average dimensions of the thyroid gland as follows: Height, 5 cm.; breadth, 6 cm.; thickness of lateral lobes, ½ cm.; and weight, 25 gm., but adds that these measurements are of little value because of the range of variation. Thus, the size varies according to age, sex, and general nutrition, being relatively large in youth, in females, and in well-nourished persons. In women it increases temporarily during menstruation and pregnancy.

Conventionally, the thyroid gland consists of two pyramidal lateral lobes united across the middle line of the neck by a narrow band of gland tissue known as the isthmus. However, this description is not generally applicable, for in some instances the gland is horseshoe shaped, while in others its general contour suggests a sphere. Quite often the gland is asymmetrical. Anatomists state that 40 per cent of thyroids have present the pyramidal lobe, or thyro-glossal duct, a process of gland tissue which extends upward from the upper border of the isthmus toward the hyoid bone in front of the cricoid and thyroid cartilages and usually on the left side. In the majority of instances the thyroid isthmus covers the second,

third, and fourth rings of the trachea, but it may cover the cricoid cartilage or the fourth, fifth, and sixth rings.

As pointed out in a previous report,[2] there is no hard and fast division between the normal and goitrous thyroid. Moreover, the application of the term goiter to all degrees of thyroid enlargement is productive of confusion. It is entirely probable that many of the very slight thyroid enlargements noted are physiological and transient in character. Therefore, it appears best to designate such deviations merely as thyroid enlargements rather than goiters, which term usually implies a considerable enlargement and is associated in many minds with the need of active medical treatment or surgical intervention.

Determining thyroid enlargement.—There are different methods of determining the extent of thyroid enlargement, the technique varying according to the examiner's experience and skill. Several of these methods were outlined in the report [2] referred to above. Ordinarily good results can be obtained by inspection and simple palpation, especially when the object of the survey is to determine the presence of thyroid enlargement among a considerable number of children. When treatment is contemplated it is obviously good practice to employ finer diagnostic procedure.

In examining a child for evidence of thyroid enlargement the side of the neck should be viewed in a good light. If the neck line is straight and the fullness peculiar to enlargement, particularly the slight isthmial thickening, is lacking, thyroid enlargement is presumably absent. However, before a final decision is made, the region of usual isthmial location, namely, across the second and third and occasionally the fourth tracheal rings, should be palpated with the palmar surface of the middle finger. By a gentle up and down movement the isthmus can usually be felt and a decision made as to whether the thickening is sufficiently great to be recorded. The isthmus may be brought into bold relief by having the child swallow while the finger is held against the neck in the approximate location of the isthmus. Then, too, the extent of isthmial and general thyroid thickening may be determined by simple observation during the act of deglutition. It is well to remember that the thyroid of a short, stout child is seldom palpable and not often enlarged.

Standards for recording degrees of thyroid enlargement.—For the purpose of comparing data gathered by different observers and from several localities it is essential that the material be comparable. Approximate uniformity can be assured by making use of like standards. While numerous methods have been devised and used and generally give satisfactory results, the following terms for recording

[2] Olesen, Robert: Thyroid Survey of 47,493 Elementary School Children in Cincinnati. Pub. Health Rep., vol. 39, No. 30, p. 1778, July 25, 1924. (Reprint No. 941.)

degrees of thyroid enlargement are recommended because they cover more adequately the very great variations in size and enable the comparison of size at subsequent occasions: "Very slight," "slight," "moderate," "marked," and "very marked." The least degree of enlargement is termed "very slight," while the greatest is called "very marked." Adenomata, of course, constitute a sixth group. The factors entering into the determination of each degree of thyroid enlargement are as follows:

(1) *Very slight enlargement.*—This type is marked by simple involvement of the isthmial band, manifested by widening or thickening upon palpation. In this type there is either no bulging of the skin over the isthmus or the bulging is relatively slight. Upon palpating, however, it is possible to detect the thickened isthmus as a distinct enlargement.

Normal necks and many with very slight involvement of the thyroid gland, when viewed from the side, present a straight skin line, unbroken by swellings over the isthmus or other portions of the gland. Consequently, unless palpation is employed, decided thickenings of the isthmus will be overlooked. The thickened isthmus frequently imparts to the examining finger the impression of a piece of rubber tubing lying across the trachea. Moreover, this thickening will vary in size from an almost imperceptible ribbon to a tubular mass that will approximate a man's thumb in size. Inasmuch as decided thickenings are not constantly found in so-called normal thyroid glands, it is very likely that such deviations may safely be designated as "very slight" enlargements, though they may be physiological and temporary in character in some instances. In the Cincinnati survey *demonstrability* was made a positive condition of inclusion under the designation "very slight." Border-line cases, or those in which doubt existed as to classification, were discarded in the interest of accuracy.

As a means of detecting the isthmus, when it can neither be seen nor readily felt, Marine and Kimball advise that the finger or thumb be held against the trachea just below the cricoid cartilage while the person swallows. The writer has found that the enlarged isthmus may be brought into prominence beneath the palmar surface of the middle finger laid parallel over the accustomed location of the isthmus while the person being examined swallows.

(2) *Slight enlargement.*—Included under this heading are cases with visible bulging of the skin over the thyroid isthmus, causing a globular-appearing enlargement. Beginning involvement of the thyroglossal stalk or pyramidal lobe, which usually arises from the left side of the isthmus, is also included under this classification. When present, the thyroglossal stalk is readily detected. Following the suggestion of Marine and Kimball, only those stalks extending to the base of the thyroid cartilage should be included.

Slight enlargements are brought into prominence when the person swallows. Simple observation is an aid in determining the approximate size of the thyroid.

(3) *Moderate enlargement.*—Under this heading are included moderate involvements of the thyroglossal stalk, with or without increase in the size of the isthmus. Thyroids causing moderate bulging of the neck laterally from the enlarged lobes and moderate bulging of the skin anteriorly from the enlarged isthmus are also included in this class.

In this type the V-shaped angle between the sterno-cleidomastoid muscles is well filled by the enlarged thyroid, the principal protrusion being manifested anteriorly.

(4) *Marked enlargement.*—In this group are included thyroids causing marked lateral and anterior bulging. In addition to the overfilling of the V-shaped

angle between the muscles, there is also marked bulging at the external borders and beyond the muscles in this grade.

(5) *Very marked enlargements.*—This includes the extremely large, pronounced, and disfiguring types, the outlines of the lobes being plainly visible throughout.

(6) *Adenomas.*—Under this heading are included the thyroids containing nodular or lumpy masses of varying sizes and numbers.

Record card.—For the purpose of recording the information obtained during a thyroid survey, a printed record card is desirable, but not absolutely essential. If a card is used it should be prepared in such a manner as to make recording a simple matter, particularly for the examiner. It is also advantageous to provide a form upon which certain preliminary information may be placed by the teacher, nurse, or clerk. By recording the findings in code a great deal of time is saved and those examined are not able to learn the results of the examination until definite plans have been made for meeting the requirements. A card that has proved useful is shown herewith.

RECORD CARD

THYROID SURVEY, CINCINNATI, OHIO

Number_____ Date_____

_____ _____ _____ _____ _____
Name. Age. Sex. Color. Weight.

_____ _____
School. Grade.

_____ _____
Birthplace (city and State). Residence during past year.

Physical development: Excellent, good, fair, poor.

Thyroid, 0 1 2 3 4 5 6.

Location: Diffuse isthmus right lobe left lobe.

The face of the card is divided into two parts by a double line, the upper portion containing such information as may be readily supplied by the pupil, teacher, nurse, or clerk prior to the arrival of the examiner, while the findings are recorded on the lower portion. Ruled lines should be provided on the back of the card in order that additional entries may be entered when reexaminations are made.

The preliminary information having been entered, each pupil presents his card to the examiner, who encircles the symbols or terms applicable to the findings. Zero (0) represents a normal thyroid gland, while the other numerals indicate successive degrees of enlargement. By examining boys and girls in separate groups rather than indiscriminately, the cards will be arranged according to sex at the end of the examination, a considerable aid when large numbers are

being examined. In indicating the location of the thyroid enlargement the terms "isthmus" and "diffuse" may be used. The principal enlargement among those classed as very slight are usually found confined to the isthmus. In the larger goiters the increase is usually diffuse and rather evenly distributed throughout the gland. The terms "right lobe" and "left lobe" are used for recording asymmetry, the term expressing the greater degree of enlargement being encircled.

When a printed card is not available, a system of record keeping may be improvised very easily. Slips of paper may be distributed among the children to be examined, with instructions as to the preliminary information desired. Thus the name, age, grade, date, weight, height, and other data may readily be obtained in a few moments by having each child supply it. Then the child may bring his slip to the examiner, who can uniformly record the necessary notations of the result of the examination. While not as easily handled as thick cards, these slips of paper serve very well for recording the results of an examination of a limited number of children.

It is exceedingly important to secure and record the ages and sex of all apparently normal children who are examined during the course of a thyroid survey. Unless these facts are obtained it will be impossible to determine the percentage of children having thyroid enlargement at each age period.

3. The Remedy

Preparations for the campaign of prophylaxis.—Prior to inaugurating a campaign for the prevention of endemic goiter it is highly important that the people of a given community become conversant with the need for the prophylaxis and the mode of its administration. It is equally desirable that the possibility of reducing existing thyroid enlargements through appropriate medication be known and appreciated, not only by the lay people but by the physicians as well. It was particularly noticeable in Colorado that the physicians generally were greatly interested in goiter prevention and cure, but many were not sufficiently conversant with diagnosis and treatment of the condition to institute appropriate action. Therefore, the best results may be expected to follow a goiter campaign accompanied by due publicity.

After a thyroid survey has been made and the results have been tabulated, it will be found that two important sets of figures have become available; first, those relating to thyroid-normal individuals, and second, those dealing with persons with definite thyroid enlargement. Obviously, both of these groups are in need of protection and treatment. For the thyroid-normal individuals, prophylaxis should be made available, preferably under the auspices of the local health

department and in conjunction with the board of education. All school children with thyroid enlargement should be treated, preferably by family physicians. However, when physicians are indifferent to the need for systematic treatment, the health department should take the necessary steps to furnish appropriate medication.

Prophylaxis.—The rôle of iodine in maintaining thyroid equilibrium, so that the gland will be prevented from enlarging, and, furthermore, so that existing enlargements will be reduced in size, is too well known to require reiteration at this time. Suffice it to say that the favorable influence of iodine is now generally acknowledged. However, numerous objections, many of which are theoretical and apparently not susceptible of support, have been raised against the use of iodine for either the prevention or treatment of goiter. A number of instances in which exophthalmic goiter has apparently been caused by the administration of large doses of iodine or by the use of patent remedies containing large quantities of iodine have been reported. Investigation of these cases plainly shows that iodine has been used in unwarranted quantities and with no realization of its toxicity. It is also a matter for conjecture as to why there is no history of iodine ingestion in the vast majority of cases of exophthalmic goiter. Furthermore, it is a question whether the iodine goiters might not have occurred without the administration of iodine. All of these surmises, and even the well-authenticated instances in which iodine has apparently done damage, fail to disturb the fundamental fact that iodine, when administered in small dosage and under supervision, will definitely prevent thyroid enlargement and will also in very many instances cause the reduction in size of existing enlargements.

Individual oral prophylaxis, as advocated by Kimball, offers the most effective method of insuring to the thyroid gland, whether normal or enlarged, the amount of iodine required to insure its equilibrium. Unfortunately, however, this method has a limited utility, because only a small portion of the population can be reached. It becomes necessary, therefore, to employ methods which will not only prevent the indiscriminate dispensing of iodine but will also insure its ingestion in proper amounts by those in need of the medication. Iodine may, of course, be administered in various forms and by different methods with equal prospect of accompanying favorable effects. However, from a practical standpoint it is important to combine the elements of palatability, ease of administration, low dosage, and regularity of ingestion if the most favorable results are to be secured.

Iodized table salt.—An iodine compound such as sodium iodide, when combined with the sodium chloride in the proportion of 1 part of the former to 5,000 of the latter, appears to offer distinct advan-

tages as a wholesale prophylactic for the thyroid-normal individuals and also furnishes a small portion of the iodine required by those with thyroid enlargement. In the latter instance, of course, the small amount of iodine furnished in the salt must be supplemented by skilled medical supervision. It is difficult to believe that iodized salt, while providing sufficient iodine to keep the normal thyroid in equilibrium, will cause any untoward effects among persons with adenomatous goiters or among those with a tendency toward or actually present toxicity.

Treatment.—To determine the prevalence of thyroid enlargement in order, where the extent of the condition justifies, to secure prophylaxis and treatment, is manifestly an important function of a health department. In schools and universities it is possible to make surveys which will disclose such enlargements and cause the patients to be referred to suitable medical advisers. Unfortunately it is difficult to conduct surveys among adults which will bring to light all of those in need of treatment. Possibly, as annual physical examinations become more popular, it will be practicable to devote attention to an increasingly large number of adults with goiters. As previously indicated, the amount of iodine contained in iodized table salt, while sufficient to maintain the equilibrium of a normal thyroid, is not sufficient to alter a gland already enlarged. Therefore it becomes necessary to supplement this minute quantity of iodine in salt in a skillful and intelligent manner. When adenomatous thyroid tissue is present or there is either susceptibility or actual indication of toxicity, iodine should be withheld unless the patient is being treated in accordance with the principles laid down by Plummer, of Rochester.

In the treatment of endemic goiter low dosage of iodine should be adhered to because of the possibility of exciting a quiescent thyroid to hyperactivity. Marine recommends the use of 2 to 4 grams of desiccated thyroid in 0.2 gram daily doses as the most promising method of inaugurating curative treatment. After an interval of two weeks following this preliminary course of treatment he saturates the gland with iodine by giving 30 cubic centimeters of sirup of hydriodic acid or its equivalent in 1 or 2 cubic centimeter doses daily. He further recommends that this treatment be repeated every third or sixth month, explaining that the maximum reduction may be expected to occur between 6 and 12 months after the medication has begun.

For the treatment of thyroid enlargement in children the use of the iodine and chocolate tablet, containing small quantities of organic iodide, has been recommended, two or three tablets being given weekly or one tablet being prescribed daily for 30 days during alternate months. The same tablet, to the extent of one tablet a

week, may be used among school children for prophylactic purposes. Other preparations of iodine will likewise give good results, but low dosage must be adhered to lest, in some cases, untoward results be produced. Palatability is a most important consideration when the medication is to be continued over a long period. By acquiring a wholesome respect for the toxicity of iodine, as suggested by Kimball, and prescribing the remedy in milligrams instead of grams, the results will usually be satisfactory though not invariably successful.

In Colorado it is advisable that iodized table salt be used generally. This prophylactic will probably take care of the individuals with normally functioning thyroid glands. By means of surveys the children with thyroid enlargement should be sought out and placed under competent medical supervision. Special efforts should be made to prevent the occurrence of goiter in the new born by administering iodine (except in the presence of adenomatous or exophthalmic goiter) to prospective mothers during the first half of pregnancy. Desiccated thyroid, according to Marine, is dangerous during this period, but sirup of hydriodic acid, to the extent of 30 cubic centimeters in 1 and 2 cubic centimeter doses, will in many instances prevent so-called fetal adenomata. Should the interest of physicians be insufficient to insure the treatment of children with enlarged thyroids, such treatment should be provided by the local health department in cooperation with the board of education.

4. Possibility of Reducing Goiter Prevalence

Now that the ability of iodine to prevent endemic goiter has been definitely proved, it would appear that the information should be universally applied. That it has not been used more generally is due in part to the fact that the possibilities and methods are not thoroughly understood. As a preliminary to instituting prophylaxis, a thyroid survey is an admirable method of obtaining information and arousing interest in the subject both among lay and professional people. The information so far obtained regarding the prevalence of goiter in Colorado apparently indicates a focus of endemic goiter in the southwestern portion of the State. Whether or not this is an actual condition can be shown only by more intensive surveys made in a uniform manner. With additional data it would be possible to prepare a map of the State and indicate the varying degrees of prevalence in different portions. With this information it is conceivable that conditions apparently conducive to goiter prevalence, such as the use of certain water, the lack of fresh green vegetables, the proximity to mountains, or other interesting facts, might be brought to light. It is further conceivable that reliable knowledge concerning the quantity of iodine lacking or required in certain sections of the State might be gained in this manner.

In connection with goiter surveys it is possible, without diverting the attention too much from the main issue, to obtain collateral information of considerable value. Little is known at the present time of the exact effects of endemic goiters. Therefore, any authoritative information which may be secured during the course of the survey would constitute a much needed contribution to the subject.

Conclusions

A study of the data thus far secured in Colorado discloses the presence of considerable endemic goiter in the State, particularly in the southwestern portion of the western slope.

The information available at present, while insufficient for comprehensive epidemiological study, is sufficiently accurate to warrant the application of appropriate measures for prophylaxis and treatment.

Recommendations

It is recommended to the Colorado State Board of Health that the following action be taken:

1. That thyroid surveys be made in a uniform manner in rural as well as urban districts throughout the State.
2. That general prophylaxis by means of iodized table salt be practiced.
3. That existing thyroid enlargements be treated by family physicians.
4. That goiter in the new born be prevented by the administration of iodine to prospective mothers during the first half of pregnancy.
5. That the results of all thyroid surveys be tabulated with a view to discovering the variations in endemic goiter prevalence in various parts of the State.
6. That the results of the State-wide thyroid surveys be studied with a view to discovering the underlying causes for the deficiency in iodine.

MORTALITY FROM CANCER IN THE UNITED STATES, 1923

The Department of Commerce announces that 86,754 deaths were due to cancer in 1923 in the death registration area, which comprised 87.6 per cent of the total population of the United States and that, if the rest of the United States had as many deaths from this cause in proportion to the population, the total number of deaths from cancer in the entire United States would have been 99,000 for 1923, against a corresponding estimate of 95,000 for 1922. The death rate from cancer in the registration area in 1923 was 89.4 per 100,000 population as against 86.8 in 1922.

In comparing the death rate from cancer in one State with that in another, "adjusted" rates are used in order to make allowance for differences in the age and sex distribution of the population, because, generally speaking, only persons in middle life and old age have cancer, so that a State with many old persons may be expected to have more deaths from cancer than a State with comparatively few old persons.

Adjusted rates for 1923 and 1922 are shown for 34 States, 23 of which had higher rates in 1923. The highest adjusted cancer rate for 1923 was 102.6 per 100,000 population for New York and the lowest was 52.2 for South Carolina.

For a few States adjusted rates have been calculated separately for the white and colored populations. In this group of States the highest adjusted rate for the white population was 100.2 for Maryland and the highest for the colored population was 91.8, also for Maryland. The lowest adjusted rate for white populaton was 53.7 for Tennessee and for colored population was 43.1 for South Carolina.

Deaths and death rates from cancer and other malignant tumors in the registration area (exclusive of Hawaii) and in the registration States: 1922 and 1923

Area	Number of deaths		Death rate per 100,000 population			
			Adjusted [1]		Crude [2]	
	1923	1922	1923	1922	1923	1922
Registration area (exclusive of Hawaii)	86,754	80,938	(3)	(3)	89.4	86.8
Registration States (including District of Columbia)	85,575	79,877	(3)	(3)	89.5	86.9
California	4,693	4,477	96.8	95.1	123.3	121.1
Colorado	851	720	83.1	71.4	85.9	73.8
Connecticut	1,466	1,521	90.7	95.9	99.3	105.0
Delaware	185	211	67.9	78.1	80.3	92.4
Florida (total)	650	556	67.0	58.6	62.1	54.3
White	514	452	70.2	63.5	72.6	65.7
Colored	136	104	53.0	40.8	40.2	31.0
Georgia (total)	1,337	1,182	(3)	(3)	44.6	39.8
White	923	791	(3)	(3)	51.8	45.1
Colored	414	391	(3)	(3)	34.0	32.2
Idaho	226	243	(3)	(3)	38.1	52.9
Illinois	6,636	6,440	92.4	90.9	97.7	96.1
Indiana	2,990	2,855	79.9	76.9	99.2	95.5
Iowa	2,391	(4)	(3)	(4)	96.9	(4)
Kansas	1,482	1,425	72.1	69.6	82.4	79.6
Kentucky (total)	1,457	1,337	60.6	55.9	59.2	54.6
White	1,304	1,198	60.1	55.6	58.3	54.0
Colored	153	139	63.8	57.3	67.5	60.6
Louisiana (total)	1,126	1,109	76.8	76.2	60.9	60.4
White	746	742	79.9	80.7	64.7	65.3
Colored	380	367	71.3	68.7	54.5	52.5
Maine	995	964	88.8	86.3	128.0	124.4
Maryland (total)	1,630	1,482	99.3	91.2	108.3	99.5
White	1,420	1,296	100.2	92.5	113.1	104.4
Colored	210	186	91.8	81.7	84.2	75.0

[1] The adjusted rate makes allowance for the differences in the age and sex composition of the populations in the different States, and shows what the death rate would be if all States had the same proportion of males and females and the same proportion of the total population in each age group.
[2] The crude rate is based on total population and all deaths occurring within the given area.
[3] Rate not computed.
[4] Not added to the registration area until a later date.

Deaths and death rates from cancer and other malignant tumors in the registration area (exclusive of Hawaii) and in the registration States: 1922 and 1923—Cont'd.

Area	Number of deaths		Death rate per 100,000 population			
			Adjusted		Crude	
	1923	1922	1923	1922	1923	1922
Massachusetts	4,760	4,637	99.8	98.4	118.2	116.6
Michigan	3,516	3,411	81.7	81.1	88.4	87.7
Minnesota	2,506	2,317	96.1	90.0	100.3	93.9
Mississippi (total)	836	800	58.5	56.0	46.7	44.7
White	446	429	60.9	58.6	52.2	50.2
Colored	390	371	55.7	53.0	41.6	39.6
Missouri	3,176	2,947	80.5	75.0	92.2	85.9
Montana	333	343	65.6	69.6	54.5	57.8
Nebraska	1,072	1,091	77.5	79.5	80.4	82.5
New Hampshire	549	611	82.3	91.8	122.7	136.9
New Jersey	3,162	3,021	93.0	90.5	93.6	91.1
New York	12,247	11,697	102.6	99.2	112.9	109.2
North Carolina (total)	1,220	1,228	56.8	58.0	45.4	46.3
White	902	899	56.7	57.4	47.8	48.4
Colored	318	329	55.0	57.5	39.7	41.5
Ohio	5,784	5,549	81.9	79.9	94.6	92.3
Oregon	840	820	86.3	85.5	102.0	101.0
Pennsylvania	8,253	7,782	89.3	85.2	90.7	86.5
Rhode Island	717	751	100.9	106.9	114.4	121.1
South Carolina (total)	657	670	52.2	53.7	37.7	38.8
White	408	405	59.1	59.6	47.0	47.4
Colored	249	265	43.1	46.1	28.4	30.4
Tennessee (total)	1,192	1,146	54.9	53.1	49.8	48.2
White	960	936	53.7	52.8	49.3	48.5
Colored	232	210	58.8	53.0	52.2	47.0
Utah	316	316	80.7	82.1	66.3	67.4
Vermont	439	456	84.7	88.0	124.6	129.4
Virginia (total)	1,442	1,366	66.1	63.3	60.1	57.6
White	1,079	1,061	66.8	66.5	63.5	63.3
Colored	363	305	62.4	52.6	52.0	43.8
Washington	1,303	1,281	84.3	84.1	90.9	90.7
Wisconsin	2,533	2,514	81.4	81.7	92.5	92.8
Wyoming	116	97	[1]	[1]	54.8	46.9

[1] Rate not computed.

MORTALITY FROM DIABETES MELLITUS IN THE UNITED STATES, 1923

The Department of Commerce announces that there were 17,357 deaths from diabetes mellitus in 1923 in the death registration area, which comprised about 88 per cent of the total population of the United States. The death rate in 1923 was 17.9 per 100,000 population, as compared with 18.4 in 1922.

Of the 34 States which show adjusted rates for 1923 and 1922, 10 show higher rates in 1923. New York had the highest adjusted rate (24 per 100,000 population) in 1923 and Mississippi had the lowest (7.2).

Of the 9 States showing adjusted rates by color, Maryland had the highest rate (19.4) for the white population in 1923 and Virginia had the highest (13.5) for the colored, while Tennessee had the lowest rate (7.2) for the white population and Mississippi the lowest (4.6) for the colored.

Deaths and death rates from diabetes mellitus in the registration area (exclusive of Hawaii) and in the registration States

Area	Number of deaths		Death rate per 100,000 population			
			Adjusted [1]		Crude [2]	
	1923	1922	1923	1922	1923	1922
Registration area (exclusive of Hawaii)	17,357	17,182	(3)	(3)	17.9	18.4
Registration States (including District of Columbia)	17,153	16,989	(3)	(3)	17.9	18.5
California	794	824	17.2	18.3	20.9	22.3
Colorado	130	142	12.9	14.4	13.1	14.6
Connecticut	336	327	21.5	21.3	22.8	22.6
Delaware	31	37	12.1	14.5	13.5	16.2
Florida (total)	111	105	11.0	10.6	10.6	10.3
White	85	89	11.5	12.3	12.0	12.9
Colored	26	16	10.9	6.8	7.7	4.8
Georgia (total)	270	266	(3)	(3)	9.0	9.0
White	196	194	(3)	(3)	11.0	11.1
Colored	74	72	(3)	(3)	6.1	5.9
Idaho	50	67	(3)	(3)	10.6	14.6
Illinois	1,380	1,400	19.6	20.2	20.3	20.9
Indiana	607	580	16.7	16.1	20.1	19.4
Iowa	460	(4)	(3)	(4)	18.6	(4)
Kansas	318	356	15.8	17.7	17.7	19.9
Kentucky (total)	267	198	10.8	8.1	10.8	8.1
White	250	172	11.0	7.6	11.2	7.7
Colored	17	26	6.8	10.3	7.5	11.3
Louisiana (total)	178	168	12.1	11.6	9.6	9.2
White	127	132	13.4	14.1	11.0	11.6
Colored	51	36	9.3	6.6	7.3	5.2
Maine	175	196	16.5	18.6	22.5	25.3
Maryland (total)	296	302	18.2	18.8	19.7	20.3
White	271	265	19.4	19.1	21.6	21.3
Colored	25	37	10.7	15.9	10.0	14.9
Massachusetts	861	954	18.8	21.0	21.4	24.0
Michigan	714	696	17.0	17.0	17.9	17.9
Minnesota	439	527	17.5	21.3	17.6	21.4
Mississippi (total)	109	130	7.2	8.6	6.1	7.3
White	73	85	9.4	11.1	8.5	10.0
Colored	36	45	4.6	5.9	3.8	4.8
Missouri	593	625	15.5	16.4	17.2	18.2
Montana	58	71	11.4	14.4	9.5	12.0
Nebraska	293	303	21.6	22.5	22.0	22.9
New Hampshire	124	139	20.4	22.9	27.7	31.1
New Jersey	676	711	20.2	21.6	20.0	21.4
New York	2,786	2,882	24.0	25.1	25.7	26.9
North Carolina (total)	232	231	9.6	9.7	8.6	8.7
White	173	184	9.8	10.6	9.2	9.9
Colored	59	47	9.2	7.3	7.4	5.9
Ohio	1,193	1,096	17.4	16.3	19.5	18.2
Oregon	143	191	16.4	22.2	17.4	23.5
Pennsylvania	1,712	1,614	18.7	17.8	18.8	17.9
Rhode Island	149	144	21.7	21.2	23.8	23.2
South Carolina (total)	150	131	11.2	9.9	8.6	7.6
White	94	89	12.7	12.2	10.8	10.4
Colored	56	42	8.9	6.7	6.4	4.8
Tennessee (total)	168	184	7.3	8.1	7.0	7.7
White	139	153	7.2	8.0	7.1	7.9
Colored	29	31	7.3	7.8	6.5	6.9
Utah	77	75	18.9	18.7	16.1	16.0
Vermont	78	95	16.8	20.5	22.1	27.0
Virginia (total)	283	282	12.6	12.7	11.8	11.9
White	205	216	12.4	13.3	12.1	12.9
Colored	78	66	13.5	11.5	11.2	9.5
Washington	249	289	17.4	20.5	17.4	20.5
Wisconsin	546	542	18.6	18.7	19.9	20.0
Wyoming	21	23	(3)	(3)	9.9	11.1

[1] The adjusted rate makes allowance for the differences in the age and sex composition of the populations in the different States, and shows what the death rate would be if all States had the same proportion of males and females and the same proportion of the total population in each age group.

[2] The crude rate is based on total population and all deaths occurring within the given area.

[3] Rate not computed.

[4] Not added to registration area until a later date.

MORTALITY FROM TUBERCULOSIS IN THE UNITED STATES, 1923

The Department of Commerce announces that 90,732 deaths in 1923 were due to tuberculosis in the registration area of the United States, with a death rate of 93.6 per 100,000 population. This is a drop of 3.4 since 1922, in which year the rate was 97 per 100,000 population.

To permit better interstate comparisons for 1923 and 1922, adjusted rates, based on the standard million population, have been calculated. Of the 34 States which show adjusted rates for these two years, only nine show increases in the rates for 1923, clearly indicating that the general trend is still downward.

For nine States adjusted rates have been calculated separately for white and colored populations. In this group of States, Tennessee had the highest adjusted rate in 1923 for white population (129.3 per 100,000), Maryland the highest rate for colored population (290.7 per 100,000), and Mississippi had the lowest adjusted rates from tuberculosis for both white and colored (respectively, 51 and 159.7 per 100,000 population).

For the 25 States which show adjusted rates but not by color, Colorado had the highest rate (158.6 per 100,000 population) and Nebraska the lowest (34.2).

Deaths and death rates from tuberculosis (all forms) in the registration area (exclusive of Hawaii) and in the registration States: 1922 and 1923

Area	Number of deaths		Death rate per 100,000 population			
			Adjusted [1]		Crude [2]	
	1923	1922	1923	1922	1923	1922
Registration area (exclusive of Hawaii)	90,732	90,452	[3]	[3]	93.6	97.0
Registration States (including District of Columbia)	88,788	88,385	[3]	[3]	92.9	96.1
California	5,802	5,881	138.5	144.5	152.5	159.1
Colorado	1,669	1,789	158.6	172.6	168.5	183.3
Connecticut	1,329	1,358	87.0	90.6	90.0	93.7
Delaware	263	273	110.6	115.9	114.1	119.6
Florida (total)	1,082	1,032	104.0	101.4	103.4	100.8
White	494	446	69.2	64.3	69.7	64.8
Colored	588	586	171.0	171.5	174.0	174.5
Georgia (total)	2,737	2,613	[3]	[3]	91.3	88.0
White	1,013	963	[3]	[3]	56.9	54.9
Colored	1,724	1,650	[3]	[3]	141.6	135.9
Idaho	172	202	[3]	[3]	36.6	44.0
Illinois	5,572	5,620	78.5	80.1	82.1	83.8
Indiana	2,827	2,619	90.6	84.6	93.8	87.6
Iowa	1,101	[4]	[4]	[4]	44.6	[4]
Kansas	783	786	42.6	42.9	43.6	43.9

[1] The adjusted rate makes allowance for the differences in the age and sex composition of the populations in the different States, and shows what the death rate would be if all States had the same proportion of males and females and the same proportion of the total population in each age group.
[2] The crude rate is based on total population and all deaths occurring within the given area.
[3] Rate not computed.
[4] Not added to the registration area until a later date.

Deaths and death rates from tuberculosis (all forms) in the registration area (exclusive of Hawaii) and in the registration States: 1922 and 1923—Continued

Area	Number of deaths		Death rate per 100,000 population			
			Adjusted		Crude	
	1923	1922	1923	1922	1923	1922
Kentucky (total)	3,286	3,253	139.0	138.3	133.5	132.8
White	2,656	2,567	125.0	121.6	118.8	115.6
Colored	630	686	272.1	292.7	277.9	299.0
Louisiana (total)	2,111	2,193	119.7	125.7	114.1	119.8
White	769	789	70.9	73.7	66.7	69.4
Colored	1,342	1,409	198.5	208.0	192.5	201.7
Maine	627	654	77.7	81.2	80.7	84.4
Maryland (total)	1,882	1,939	122.1	127.2	125.0	130.2
White	1,152	1,255	87.9	96.9	91.7	101.1
Colored	730	684	290.7	273.7	292.8	275.7
Massachusetts	3,565	3,732	84.9	90.0	88.5	93.8
Michigan	2,848	2,644	70.0	66.5	71.6	68.0
Minnesota	1,840	1,714	72.0	68.0	73.6	69.5
Mississippi (total)	1,794	1,924	108.6	116.4	100.2	107.4
White	387	413	51.0	54.5	45.3	48.4
Colored	1,407	1,511	159.7	171.5	150.2	161.3
Missouri	3,186	3,258	88.4	90.7	92.5	94.9
Montana	395	383	59.1	59.0	64.6	64.5
Nebraska	461	483	34.2	36.1	34.6	36.5
New Hampshire	363	398	78.9	86.8	81.1	89.2
New Jersey	3,631	3,148	86.1	91.2	89.7	95.0
New York	10,611	10,695	92.0	93.8	97.9	99.8
North Carolina (total)	2,667	2,716	111.5	115.1	99.3	102.5
White	1,357	1,318	80.8	79.7	72.0	71.0
Colored	1,310	1,398	184.4	198.5	163.7	176.2
Ohio	5,251	5,159	81.8	81.8	85.8	85.8
Oregon	646	581	75.3	68.6	78.5	71.6
Pennsylvania	7,817	8,018	84.4	87.7	85.9	89.2
Rhode Island	628	588	96.7	91.5	100.2	94.8
South Carolina (total)	1,834	1,891	118.1	123.0	105.1	109.5
White	458	425	58.4	55.1	52.7	49.7
Colored	1,376	1,466	179.6	192.1	157.1	168.0
Tennessee (total)	3,624	3,520	160.6	157.1	151.4	148.1
White	2,352	2,195	129.3	121.8	120.7	113.7
Colored	1,272	1,325	289.2	299.8	286.4	296.8
Utah	178	194	38.6	42.9	37.3	41.4
Vermont	291	326	78.4	87.8	82.6	92.5
Virginia (total)	2,901	3,092	127.6	137.5	121.0	130.3
White	1,381	1,457	85.5	91.4	81.2	86.9
Colored	1,520	1,635	223.6	246.6	217.7	234.8
Washington	1,113	1,104	74.5	75.0	77.6	78.2
Wisconsin	1,836	1,928	65.9	70.0	67.0	71.2
Wyoming	77	86	[3]	[3]	36.3	41.6

[3] Rate not computed.

MORTALITY FROM TYPHOID FEVER IN THE UNITED STATES, 1923

The Department of Commerce announces that there were 6,635 deaths from typhoid fever in 1923 in the death-registration area, which comprised about 88 per cent of the total population of the United States. The death rate in 1923 from this disease was 6.8 per 100,000 population, by far the lowest ever shown for the registration area.

Of the 9 States showing adjusted rates by color, Maryland had the lowest rate (5.2) for the white population in 1923, and also the lowest (13.7) for the colored, while Kentucky had the highest rate for the white population (18.9) and Tennessee the highest rate for the colored (38.7).

Of the 25 States which show adjusted rates, but not by color, Colorado had the highest rate in 1923 (10.7 per 100,000 population) and Rhode Island the lowest (1 per 100,000 population).

Deaths and death rates from typhoid and paratyphoid fever in the registration area (exclusive of Hawaii) and in the registration States: 1922 and 1923

Area	Number of deaths		Death rate per 100,000 population			
			Adjusted [1]		Crude [2]	
	1923	1922	1923	1922	1923	1922
Registration area (exclusive of Hawaii)	6,635	6,981	[3]	[3]	6.8	7.5
Registration States (including District of Columbia)	6,490	6,861	[3]	[3]	6.8	7.5
California	154	172	4.0	4.7	4.0	4.7
Colorado	104	111	10.7	11.6	10.5	11.4
Connecticut	38	45	2.5	3.0	2.6	3.1
Delaware	19	25	8.5	11.3	8.2	10.9
Florida (total)	175	163	16.8	16.0	16.7	15.9
White	94	83	13.6	12.4	13.3	12.1
Colored	81	80	24.1	23.9	24.0	23.8
Georgia (total)	615	697	[3]	[3]	20.5	23.5
White	249	316	[3]	[3]	14.0	18.0
Colored	366	381	[3]	[3]	30.1	31.4
Idaho	28	41	[3]	[3]	6.0	8.9
Illinois	317	282	4.7	4.2	4.7	4.2
Indiana	214	235	7.3	8.1	7.1	7.9
Iowa	76	[4]	[3]	[4]	3.1	[4]
Kansas	111	110	6.3	6.2	6.2	6.1
Kentucky (total)	475	466	19.6	19.3	19.3	19.0
White	416	401	18.9	18.4	18.6	18.1
Colored	59	65	26.1	28.4	26.0	28.3
Louisiana (total)	268	329	14.6	18.0	14.5	17.9
White	147	160	13.1	14.5	12.8	14.1
Colored	121	169	17.2	24.0	17.4	24.2
Maine	52	49	6.6	6.2	6.7	6.3
Maryland (total)	100	106	6.6	7.1	6.6	7.1
White	65	73	5.2	5.9	5.2	5.9
Colored	35	33	13.7	13.0	14.0	13.3
Massachusetts	70	88	1.6	2.1	1.7	2.2
Michigan	203	192	5.2	5.0	5.1	4.9
Minnesota	60	54	2.3	2.1	2.4	2.2
Mississippi (total)	247	340	13.8	19.0	13.8	19.0
White	78	115	9.6	14.2	9.1	13.5
Colored	169	225	17.6	23.4	18.0	24.0
Missouri	300	335	8.9	10.0	8.7	9.8
Montana	16	21	2.5	3.4	2.6	3.5
Nebraska	41	50	3.1	3.8	3.1	3.8
New Hampshire	15	23	3.5	5.4	3.4	5.2
New Jersey	111	128	3.3	3.9	3.3	3.9
New York	318	323	2.9	3.0	2.9	3.0
North Carolina (total)	260	298	9.7	11.2	9.7	11.2
White	131	154	7.0	8.5	6.9	8.3
Colored	129	144	15.7	17.7	16.1	18.2
Ohio	311	333	5.0	5.4	5.1	5.5
Oregon	39	34	4.4	3.9	4.7	4.2
Pennsylvania	447	424	4.9	4.7	4.9	4.7
Rhode Island	7	8	1.0	1.2	1.1	1.3
South Carolina (total)	313	391	18.2	23.0	17.9	22.6
White	106	124	12.6	15.0	12.2	14.5
Colored	207	267	23.8	30.8	23.6	30.6
Tennessee (total)	502	483	20.9	20.2	21.0	20.3
White	327	345	16.9	18.0	16.8	17.9
Colored	175	138	38.7	30.3	39.4	30.9
Utah	41	22	8.5	4.6	8.6	4.7
Vermont	11	16	3.2	4.7	3.1	4.5
Virginia (total)	253	270	10.6	11.5	10.5	11.4
White	125	140	7.6	8.5	7.4	8.3
Colored	128	130	18.1	18.4	18.3	18.7
Washington	75	68	5.1	4.7	5.2	4.8
Wisconsin	61	80	2.1	2.9	2.2	3.0
Wyoming	15	27	[3]	[3]	7.1	13.1

[1] The adjusted rate makes allowance for the differences in the age and sex composition of the population in the different States, and shows what the death rate would be if all States had the same proportion of males and females and the same proportion of the total population in each age group.
[2] The crude rate is based on total population and all deaths occurring within the given area.
[3] Rate not computed.
[4] Not added to registration area until a later date.

DEATH RATES IN THE UNITED STATES, 1923

The Department of Commerce announces that the mortality rate in 1923 for the registration area was 12.3 per 1,000 population, against 11.8 in 1922. Seven States, Colorado, Idaho, Montana, Oregon, South Carolina, Utah, and Washington, show lower mortality rates for 1923 than for 1922.

But crude mortality rates are less reliable indexes than are rates refined for differences in the age and sex distribution of the population and for deaths of nonresidents.

Of the 6 States which show, by color, such refined rates for 1923, Maryland has the highest rate (12.6 per 1,000 population) for the white and also for the colored (22.8), and Mississippi the lowest (9.7 for the white and 15 for the colored).

Of the 24 other States which show refined rates, but not by color, the highest rate (13.3) appears for Delaware, and the lowest (8.7) for Montana.

Of the 11 cities of 100,000 population or more in 1920, which show, by color, refined rates for 1923, New Orleans has the highest rate (14.5 per 1,000 population) for the white and Atlanta for the colored (31.6), while Norfolk has the lowest rates for both the white and colored (8.3 and 18.7, respectively).

Of the 44 other cities of 100,000 population or more in 1920, which show refined rates, but not by color, the highest rate (15.7 per 1,000 population) appears for San Antonio, and the lowest (9.5) for Portland, Oreg.

Even these refined rates do not measure with certainty differences in the healthfulness of different localities, for such factors as race stock and occupations must not be overlooked.

Death rates from all causes (exclusive of stillbirths) per 1,000 population

Area	Refined rate*		Adjusted rate [1]		Crude rate [2]	
	1923	1922	1923	1922	1923	1922
Registration area	[3]	[3]	[3]	[3]	12.3	11.8
Registration States (including District of Columbia) (1920)	[4]	[4]	12.1	11.6	12.4	11.8
California	[4]	[4]	13.1	12.8	14.3	14.1
Colorado	12.3	13.3	12.4	13.5	12.4	13.5
Connecticut	11.4	11.4	11.4	11.4	12.0	12.0
Delaware	13.3	12.6	13.2	12.4	14.0	13.2
Florida (total)	13.3	12.4	13.9	12.6	13.5	12.2
White	10.7	10.3	11.5	10.6	11.8	10.9
Colored	19.0	16.8	19.3	17.0	17.0	15.0

* The refined rates have been found by first allocating deaths to areas of residence and computing rates, and then by applying to these rates the corrective factors necessary to change the crude rates to the adjusted rates, based on the standard million population of England and Wales, 1901.

[1] The adjusted rate makes allowance for the differences in the age and sex composition of the populations in different States, and shows what the death rate would be if all States had the same proportion of males and females and the same proportion of the total population in each age group.

[2] The crude rate is based on total population and all deaths occurring within the given area.

[3] Rate not computed.

[4] Data for nonresidents not available.

Death rates from all causes (exclusive of stillbirths) per 1,000 population—Contd.

Area	Refined rate		Adjusted rate		Crude rate	
	1923	1922	1923	1922	1923	1922
Georgia (total)	[3]	[3]	[3]	[3]	11.3	10.4
White	[3]	[3]	[3]	[3]	9.9	9.2
Colored	[3]	[3]	[3]	[3]	13.3	12.2
Idaho	[3]	[3]	[3]	[3]	7.1	8.1
Illinois	11.9	11.1	11.9	11.2	12.0	11.3
Indiana	11.7	10.8	11.6	10.8	12.9	11.9
Iowa	[3]	[4]	[3]	[4]	10.3	[4]
Kansas	10.0	9.6	10.1	9.7	11.0	10.6
Kentucky (total)	[6]	[6]	11.8	10.7	11.9	10.8
White	[6]	[6]	11.1	9.9	11.1	10.0
Colored	[6]	[6]	19.5	18.4	19.5	18.4
Louisiana (total)	13.5	12.6	13.5	12.6	12.1	11.3
White	11.1	10.5	11.2	10.5	10.0	9.4
Colored	17.3	16.0	17.3	16.0	15.5	14.4
Maine	12.1	11.9	12.1	11.9	15.0	14.7
Maryland (total)	14.2	13.1	14.4	13.4	14.7	13.6
White	12.6	11.7	12.8	11.9	13.3	12.4
Colored	22.8	20.8	22.9	20.7	21.4	19.4
Massachusetts	12.1	11.9	12.1	12.0	13.0	12.8
Michigan	11.8	10.8	11.8	10.7	12.4	11.3
Minnesota	9.6	9.0	9.9	9.3	10.1	9.5
Mississippi (total)	12.5	11.8	12.4	11.8	11.4	10.8
White	9.7	9.2	9.6	9.1	9.1	8.7
Colored	15.0	14.2	15.0	14.2	13.5	12.8
Missouri	11.6	10.7	11.6	10.7	12.2	11.2
Montana	8.7	9.3	8.6	9.2	8.0	8.6
Nebraska	9.3	9.1	9.2	9.1	9.5	9.4
New Hampshire	11.9	11.6	12.0	11.7	15.1	14.6
New Jersey	12.3	12.2	12.4	12.3	12.3	12.2
New York	12.7	12.7	12.8	12.7	13.0	13.0
North Carolina (total)	12.7	12.3	12.7	12.3	12.0	11.6
White	10.9	10.7	10.8	10.6	10.5	10.3
Colored	17.2	16.4	17.1	16.4	15.5	14.8
Ohio	11.4	10.5	11.4	10.5	12.3	11.3
Oregon	9.8	10.4	10.2	10.7	10.9	11.5
Pennsylvania	13.1	12.2	13.1	12.1	13.3	12.3
Rhode Island	13.2	12.6	13.2	12.6	13.8	13.1
South Carolina (total)	[6]	[6]	13.2	13.3	11.8	12.0
White	[6]	[6]	10.3	10.5	9.5	9.7
Colored	[6]	[6]	16.2	16.3	14.1	14.2
Tennessee (total)	[6]	[6]	12.3	11.2	11.9	10.8
White	[6]	[6]	10.6	9.7	10.4	9.5
Colored	[6]	[6]	19.8	17.4	18.7	16.4
Utah	9.6	10.6	9.9	10.9	9.5	10.4
Vermont	12.1	11.7	11.9	11.5	15.2	14.7
Virginia (total)	13.3	12.5	13.3	12.5	12.8	12.1
White	11.2	10.4	11.1	10.4	11.0	10.3
Colored	18.6	17.7	18.5	17.7	17.2	16.4
Washington	9.5	9.9	9.6	10.0	9.7	10.1
Wisconsin	10.1	9.5	10.0	9.5	10.7	10.1
Wyoming	[3]	[3]	[3]	[3]	10.3	9.3
Registration cities of 100,000 population or more in 1920:						
Akron	[5]	9.0	[5]	9.2	[5]	7.5
Albany	13.4	13.2	14.8	14.3	16.2	15.7
Atlanta (total)	19.2	16.3	20.3	17.7	18.1	15.7
White	13.8	11.8	15.2	13.6	13.4	12.0
Colored	31.6	26.5	32.1	27.1	28.7	24.2
Baltimore (total)	14.2	13.5	15.2	14.4	15.0	14.2
White	12.5	11.9	13.4	12.9	13.5	13.0
Colored	25.0	23.1	23.5	24.1	23.5	21.3
Birmingham (total)	13.6	13.4	18.2	16.0	15.6	13.7
White	11.6	9.5	14.3	12.4	12.0	10.4
Colored	22.1	19.5	24.5	21.8	21.1	18.8
Boston	13.5	13.3	15.0	15.0	14.9	14.9
Bridgeport	[5]	11.4	[5]	11.9	[5]	11.1
Buffalo	13.5	13.5	14.1	14.0	13.5	13.4
Cambridge	13.8	13.6	13.3	12.9	13.7	13.2
Camden	13.9	12.9	15.2	14.4	14.5	13.7
Chicago	12.6	12.0	12.7	12.2	11.7	11.2
Cincinnati	14.7	13.7	15.3	14.2	16.1	14.9
Cleveland	12.0	11.3	12.1	11.5	10.8	10.3
Columbus	13.8	11.7	15.1	13.0	15.3	13.2
Dallas (total)	11.8	12.6	13.7	14.5	11.9	12.6
White	10.4	10.9	12.2	12.7	10.6	11.0
Colored	20.4	23.2	22.8	25.3	20.0	22.2

[3] Rate not computed.
[4] Not added to registration area until a later date.
[5] Population not estimated.
[6] Data for nonresidents not available.

Death rates from all causes (exclusive of stillbirths) per 1,000 population—Contd.

Area	Refined rate		Adjusted rate		Crude rate	
	1923	1922	1923	1922	1923	1922
Dayton	11.3	10.9	11.8	11.1	11.8	11.0
Denver	[5]	14.9	[5]	15.7	[5]	16.0
Des Moines	[4]	[4]	[4]	[4]	11.4	[4]
Detroit	[5]	12.4	[5]	12.5	[5]	11.1
Fall River	13.9	16.2	14.1	16.5	13.7	16.0
Fort Worth (total)	[3]	[3]	[3]	[3]	8.3	9.9
White	[3]	[3]	[3]	[3]	7.9	9.3
Colored	[4]	[3]	[3]	[3]	11.0	13.6
Grand Rapids	11.0	10.5	11.2	10.5	11.7	11.0
Hartford	11.0	11.7	13.5	14.5	13.1	14.0
Houston (total)	[5]	14.9	[5]	15.4	[5]	13.6
White	[5]	12.6	[5]	13.2	[5]	11.7
Colored	[5]	22.3	[5]	22.8	[5]	19.7
Indianapolis (total)	14.1	12.8	14.6	13.4	14.4	13.2
White	13.1	11.8	13.6	12.5	13.7	12.5
Colored	22.7	20.5	22.5	20.6	19.7	18.1
Jersey City	13.3	13.4	13.1	13.0	12.0	11.9
Kansas City, Kans. (total)	14.3	12.7	15.6	13.7	14.9	13.1
White	[5]	[5]	[5]	[5]	13.6	11.9
Colored	[5]	[5]	[5]	[5]	22.6	20.5
Kansas City, Mo	14.2	14.6	15.1	15.2	14.4	14.6
Los Angeles	[6]	[6]	[5]	14.2	[5]	15.2
Louisville (total)	[6]	[6]	16.2	14.0	16.2	14.1
White	[6]	[6]	14.6	12.0	14.9	12.3
Colored	[6]	[6]	25.2	25.0	23.7	23.5
Lowell	14.8	13.6	14.7	13.5	14.6	13.4
Memphis (total)	18.3	16.4	21.6	19.3	19.9	17.8
White	12.9	11.8	16.6	15.1	15.6	14.1
Colored	28.5	24.9	31.1	27.1	27.5	24.0
Milwaukee	11.2	10.1	11.4	10.4	10.8	9.9
Minneapolis	10.0	9.8	11.3	10.9	11.1	10.8
Nashville (total)	17.7	16.1	19.3	17.2	18.6	16.6
White	14.4	14.1	16.2	15.3	15.5	14.7
Colored	25.7	20.8	26.8	21.8	26.0	21.2
New Bedford	12.9	12.8	12.7	12.8	12.2	12.3
New Haven	11.3	12.3	12.6	13.4	12.6	13.3
New Orleans (total)	18.2	17.2	18.8	17.8	17.7	16.7
White	14.5	14.0	15.1	14.6	14.5	14.0
Colored	29.4	26.8	29.8	27.3	26.7	24.5
New York	12.9	13.2	13.0	13.3	11.7	12.0
Newark	12.3	12.8	12.7	12.8	11.6	11.7
Norfolk (total)	12.1	12.9	13.1	13.8	11.5	12.1
White	8.3	9.2	9.4	10.2	8.3	9.0
Colored	18.7	18.9	19.5	19.8	17.1	17.3
Oakland	[6]	[6]	10.6	11.0	10.8	11.3
Omaha	13.9	12.9	14.0	14.0	13.2	13.1
Paterson	12.5	12.5	13.8	13.4	13.1	12.7
Philadelphia	14.1	13.3	14.1	13.5	13.8	13.2
Pittsburgh	15.4	14.2	16.9	15.3	15.8	14.3
Portland, Oreg.	9.5	10.3	10.9	11.5	11.2	11.8
Providence	13.1	12.5	14.5	13.6	14.8	13.8
Reading	12.5	12.4	13.1	13.1	13.6	13.5
Richmond (total)	15.6	14.1	16.8	15.9	15.6	14.8
White	11.7	10.8	13.0	12.7	12.6	12.2
Colored	24.7	22.0	25.7	23.2	22.8	20.6
Rochester	10.9	11.2	11.5	11.7	11.6	11.8
St. Louis	13.6	12.5	14.1	13.0	13.6	12.5
St. Paul	11.5	10.5	13.1	11.9	12.9	11.7
Salt Lake City	10.2	10.2	12.7	12.7	12.4	12.4
San Antonio	15.7	16.1	16.3	17.0	14.8	15.4
San Francisco	[6]	[6]	13.5	14.0	13.6	14.1
Scranton	14.1	14.0	14.8	14.8	13.6	13.6
Seattle	[5]	9.4	[5]	10.1	[5]	9.6
Spokane	[5]	11.1	[5]	13.5	[5]	13.5
Springfield, Mass	10.8	10.4	12.0	11.5	11.9	11.4
Syracuse	11.9	11.9	12.7	12.4	13.0	12.7
Toledo	12.3	11.5	12.9	12.0	12.6	11.7
Trenton	13.5	15.4	14.6	16.3	14.0	15.6
Washington, D. C. (total)	14.6	14.4	15.4	14.8	14.9	14.4
White	11.5	11.8	12.1	12.2	12.3	12.4
Colored	24.7	22.0	25.7	22.9	22.9	20.5
Wilmington, Del	13.4	12.5	13.4	12.3	13.2	12.1
Worcester	11.9	11.5	12.9	12.7	13.1	13.0
Yonkers	11.7	12.6	11.2	11.7	10.1	10.7
Youngstown	12.1	12.0	12.6	12.6	11.3	11.3

[3] Rate not computed.
[4] Not added to registration area until a later date.
[5] Population not estimated.
[6] Data for nonresidents not available.

DIGEST OF CURRENT PUBLIC HEALTH COURT DECISIONS

Branding of butter substitutes.—(Court of Appeals of Maryland.) Section 136 of article 27 of the code of public general laws, volume 3, which requires the branding, when sold, of packages containing butter substitutes with the true name of the substitute, is not confined in its application to wholesale packages. (Hicken *v.* State, 126 Atl. 123.)

Compensation for occupational disease under workmen's compensation act.—(Supreme Court of Appeals of Virginia.) An occupational disease, which does not result naturally and unavoidably from an accident, is not compensable under the Virginia Workmen's Compensation act.

An employee, who was made ill by gas to which he was exposed while at work, suffered nose bleed, complained of a severe cold, and later was found to be afflicted with tuberculosis, did not suffer an accident within the meaning of the workmen's compensation act. (Clinchfield Carbocoal Corporation et al. *v.* Kiser, 124 S. E. 271.)

DEATHS DURING WEEK ENDED DECEMBER 20, 1924

Summary of information received by telegraph from industrial insurance companies for week ended December 20, 1924, and corresponding week of 1923. (From the Weekly Health Index, December 23, 1924, issued by the Bureau of the Census, Department of Commerce)

	Week ended Dec. 20, 1924	Corresponding week, 1923
Policies in force	57, 951, 439	54, 340, 364
Number of death claims	11, 548	10, 090
Death claims per 1,000 policies in force, annual rate	10. 4	9. 7

Deaths from all causes in certain large cities of the United States during the week ended December 20, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, December 23, 1924, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Dec. 20, 1924		Annual death rate per 1,000 corresponding week, 1923	Deaths under 1 year		Infant mortality rate, week ended Dec. 20, 1924 [2]
	Total deaths	Death rate [1]		Week ended Dec. 20, 1924	Corresponding week, 1923	
Total (64 cities)	6, 919	13. 4	12. 5	826	[3] 761	
Akron	22			6	6	64
Albany [4]	32	14. 1	12. 9	3	3	68
Atlanta	70	16. 0	20. 1	12	8	
Baltimore [4]	247	16. 4	14. 3	31	28	92
Birmingham	87	22. 6	14. 9	12	3	
Boston	215	14. 4	15. 4	31	34	86
Bridgeport	33			6	4	96
Buffalo	149	14. 2	13. 8	17	18	72
Cambridge	29	13. 5	14. 5	1	4	17
Camden	27	11. 1	11. 3	5	6	82
Chicago [4]	723	12. 8	12. 2	100	75	93
Cincinnati	122	15. 6	16. 0	13	14	81
Cleveland	222	12. 7	10. 2	34	23	86
Columbus	76	14. 9	11. 0	7	4	66
Dallas	53	14. 7	11. 4	7	6	
Denver	73			10	9	
Des Moines	26	9. 3	7. 4	3	2	
Detroit	217			45	46	84
Duluth	16	7. 7	9. 3	5	3	109
Erie	26			2	4	41
Fall River [4]	31	13. 4	12. 5	6	7	84
Flint	11			4	3	69
Fort Worth	22	7. 7	9. 8	1	3	
Grand Rapids	41	14. 4	10. 7	2	1	31
Houston	52			12	4	
Indianapolis	94	14. 0	9. 7	5	10	37
Jacksonville, Fla	42	21. 4	19. 8	7	6	
Jersey City	86	14. 4	11. 8	15	17	107
Kansas City, Kans	34	15. 1	10. 8	1	2	19
Kansas City, Mo	93	13. 5	13. 3	13	13	
Los Angeles	211			18	14	56
Louisville	61	12. 3	16. 0	4	6	37
Lowell	29	13. 1	8. 2	4	6	71
Lynn	24	12. 1	13. 2	1	4	25
Memphis	93	28. 1	19. 9	7	3	
Milwaukee	96	10. 2	9. 3	20	15	95
Minneapolis	99	12. 4	11. 2	10	5	54

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1923. Cities left blank are not in the registration area for births.
[3] Data for 62 cities.
[4] Deaths for week ended Friday, December 19, 1924.

23309°—25†——3

Deaths from all causes in certain large cities of the United States during the week ended December 20, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, December 28, 1924, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Dec. 20, 1924		Annual death rate per 1,000 corresponding week, 1923	Deaths under 1 year		Infant mortality rate, week ended Dec. 20, 1924
	Total deaths	Death rate		Week ended Dec. 20, 1924	Corresponding week, 1923	
Nashville [1]	44	18.6	19.1	3	4	
New Bedford	24	9.4	13.6	5	8	78
New Haven	43	12.7	10.9	4	5	53
New Orleans	141	18.0	17.4	13	10	
New York	1,481	12.8	10.9	163	151	66
Bronx Borough	164	9.8	10.0	17	15	60
Brooklyn Borough	516	12.3	9.9	64	55	68
Manhattan Borough	630	14.5	13.1	68	73	69
Queens Borough	136	12.8	7.8	11	7	55
Richmond Borough	35	14.0	10.2	3	1	55
Newark, N. J	99	11.6	9.9	16	11	75
Norfolk	31	9.8	10.5	5	4	89
Oakland	63	13.3	11.7	10	8	126
Oklahoma City	26	13.0		3		
Omaha	40	10.0	14.0	3	10	32
Paterson	45	16.7	8.2	3	3	51
Philadelphia	533	14.2	12.9	71	62	91
Pittsburgh	149	12.4	12.0	14	16	47
Portland, Oreg	58	10.9	12.6	2	3	21
Providence	78	16.7	12.3	8	6	65
Richmond	57	16.2	16.4	8	8	97
Rochester	74	11.9		11		87
St. Louis	195	12.5	13.8	12	21	
St. Paul	53	11.3	14.2	8	6	68
Salt Lake City [1]	29	11.8	16.1	4	5	80
San Antonio	64	17.4	16.1	16	5	
San Francisco	155	14.7	15.5	8	9	48
Schenectady	16	8.3	15.8	2	6	59
Seattle	69			4	3	39
Somerville	14	7.3	14.2	2	5	54
Spokane	25			3	3	66
Springfield, Mass	29	10.2	10.8	5	5	84
Syracuse	38	10.5	16.1	2	8	25
Tacoma	23	11.6	8.7	3	1	72
Toledo	55	10.4	13.4	7	4	66
Trenton	47	18.9	12.3	10	6	166
Utica	23	11.4	10.1	3	2	65
Washington, D. C	138	14.8	13.8	14	19	81
Waterbury	21			4	5	93
Wilmington, Del	20	8.7	14.2	2	9	45
Worcester	36	9.6	13.3		5	
Yonkers	18	8.6	12.1	4	2	87
Youngstown	41	13.8	12.1	5	5	69

[1] Deaths for week ended Friday, December 19, 1924.

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 December 27, 1924

ALABAMA

	Cases
Chicken pox	32
Diphtheria	23
Influenza	41
Malaria	22
Measles	33
Mumps	24
Pellagra	4
Pneumonia	87
Scarlet fever	23
Smallpox	78
Tuberculosis	20
Typhoid fever	8
Whooping cough	37

ARIZONA

Chicken pox	1
Diphtheria	6
Measles	51
Mumps	9
Scarlet fever	13
Smallpox	18
Trachoma	1
Tuberculosis	2
Whooping cough	2

ARKANSAS

Cerebrospinal meningitis	1
Chicken pox	54
Diphtheria	5
Influenza	81
Malaria	34
Measles	3
Mumps	3
Paratyphoid fever	1
Pellagra	4
Scarlet fever	20
Smallpox	10
Tuberculosis	10

ARKANSAS—continued

	Cases
Typhoid fever	13
Whooping cough	28

CALIFORNIA

Cerebrospinal meningitis:	
Los Angeles	1
San Francisco	1
Diphtheria	155
Influenza	12
Lethargic encephalitis:	
Los Angeles County	1
Measles	20
Poliomyelitis:	
Kern County	1
Los Angeles County	1
Los Angeles	1
Oakland	1
Porterville	1
San Francisco	1
Scarlet fever	127
Smallpox:	
Los Angeles	23
Los Angeles County	10
Oakland	9
Scattering	26
Typhoid fever	8

COLORADO

(Exclusive of Denver)

Chicken pox	49
Diphtheria	12
Measles	1
Mumps	19
Pneumonia	3
Poliomyelitis	1
Scarlet fever	27
Tuberculosis	25
Typhoid fever	1

CONNECTICUT

	Cases
Chicken pox	56
Diphtheria	50
German measles	14
Influenza	4
Lethargic encephalitis	1
Measles	27
Mumps	15
Ophthalmia neonatorum	1
Pneumonia (lobar)	26
Scarlet fever	210
Septic sore throat	1
Tetanus	1
Tuberculosis (pulmonary)	20
Typhoid fever	13
Whooping cough	23

FLORIDA

Diphtheria	28
Influenza	12
Malaria	36
Pneumonia	49
Scarlet fever	1
Typhoid fever	18

GEORGIA

Chicken pox	33
Diphtheria	11
Dysentery (bacillary)	2
German measles	26
Hookworm disease	17
Influenza	18
Mumps	19
Pneumonia	19
Scarlet fever	5
Tuberculosis	11
Typhoid fever	3
Whooping cough	1

ILLINOIS

Diphtheria:	
Cook County	69
Scattering	32
Influenza	10
Lethargic encephalitis:	
Cook County	3
Measles	132
Pneumonia	266
Poliomyelitis:	
Cook County	1
Scarlet fever:	
Cook County	157
Kane County	12
Will County	9
Scattering	92
Smallpox:	
Carroll County	[1] 48
Scattering	21
Tuberculosis	162
Typhoid fever:	
Cook County	26
Scattering	13
Whooping cough	151

INDIANA

Cerebrospinal meningitis:	
Howard County	1
Chicken pox	189

INDIANA—continued

	Cases
Diphtheria	32
Influenza	69
Measles	62
Mumps	7
Pneumonia	11
Poliomyelitis:	
Clay County	1
Scarlet fever	127
Smallpox:	
Marion County	21
Scattering	33
Tuberculosis	15
Typhoid fever	3
Whooping cough	11

IOWA

Diphtheria	19
Poliomyelitis	1
Scarlet fever	41
Smallpox	39
Typhoid fever	1

KANSAS

Chicken pox	157
Diphtheria	24
German measles	1
Measles	4
Mumps	149
Pneumonia	25
Scarlet fever	53
Smallpox	3
Tuberculosis	16
Typhoid fever	3
Whooping cough	10

LOUISIANA

Cerebrospinal meningitis	2
Diphtheria	12
Influenza	33
Pneumonia	37
Poliomyelitis	1
Rabies	1
Scarlet fever	7
Smallpox	7
Tuberculosis	17
Typhoid fever	21

MAINE

Chicken pox	29
Diphtheria	12
Influenza	12
Measles	1
Mumps	48
Pneumonia	8
Scarlet fever	25
Tuberculosis	3
Typhoid fever	4
Whooping cough	2

MARYLAND [2]

Chicken pox	65
Diphtheria	40
German measles	2
Influenza	62
Lethargic encephalitis	1
Measles	18

[1] Cases occurred in October.

[2] Week ended Friday.

MARYLAND—continued

	Cases
Mumps	8
Ophthalmia neonatorum	1
Paratyphoid fever	1
Pneumonia (all forms)	48
Poliomyelitis	1
Scarlet fever	48
Septic sore throat	3
Tuberculosis	97
Typhoid fever	9
Whooping cough	31

MASSACHUSETTS

Cerebrospinal meningitis	1
Chicken pox	155
Conjunctivitis (suppurative)	18
Diphtheria	111
German measles	47
Influenza	17
Lethargic encephalitis	7
Measles	112
Mumps	48
Ophthalmia neonatorum	37
Pneumonia (lobar)	66
Scarlet fever	282
Septic sore throat	3
Tetanus	1
Tuberculosis (all forms)	66
Typhoid fever	12
Whooping cough	32

MICHIGAN

Diphtheria	58
Measles	129
Pneumonia	61
Scarlet fever	203
Smallpox	18
Tuberculosis	21
Typhoid fever	10
Whooping cough	35

MINNESOTA

Chicken pox	131
Diphtheria	37
Influenza	7
Lethargic encephalitis	1
Measles	11
Pneumonia	3
Poliomyelitis	1
Scarlet fever	182
Smallpox	111
Trachoma	5
Tuberculosis	59
Typhoid fever	5
Whooping cough	14

MISSISSIPPI

Diphtheria	15
Scarlet fever	1
Smallpox	23
Typhoid fever	2

MISSOURI

(Exclusive of Cape Girardeau and Independence)

Chicken pox	44
Diphtheria	73
Influenza	16

MISSOURI—continued

	Cases
Mumps	10
Penumonia	19
Scarlet fever	206
Smallpox	14
Tetanus	1
Tuberculosis	18
Typhoid fever	6
Whooping cough	7

MONTANA

Diphtheria	23
Scarlet fever	15
Smallpox	18
Typhoid fever	1

NEW JERSEY

Anthrax	1
Cerebrospinal meningitis	3
Chicken pox	124
Diphtheria	86
Influenza	18
Measles	76
Paratyphoid fever	2
Pneumonia	125
Scarlet fever	146
Smallpox	2
Typhoid fever	20
Whooping cough	175

NEW MEXICO

Chicken pox	21
Diphtheria	5
Influenza	1
Measles	16
Mumps	2
Pneumonia	15
Scarlet fever	10
Trachoma	1
Tuberculosis	6
Typhoid fever	4

NEW YORK

(Exclusive of New York City)

Diphtheria	80
Influenza	10
Lethargic encephalitis	4
Measles	120
Pneumonia	142
Poliomyelitis	4
Scarlet fever	168
Smallpox	7
Typhoid fever	28
Whooping cough	145

NORTH CAROLINA

Chicken pox	52
Diphtheria	12
Measles	3
Poliomyelitis	1
Scarlet fever	15
Smallpox	12
Typhoid fever	1
Whooping cough	36

OKLAHOMA

Diphtheria	12
Smallpox	3
Typhoid fever	22

OREGON

	Cases
Chicken pox	19
Diphtheria:	
Portland	18
Scattering	7
Mumps	6
Pneumonia	[1] 13
Poliomyelitis	3
Scarlet fever:	
Hood River County	9
Scattering	7
Smallpox:	
Portland	12
Columbia County	10
Scattering	2
Tuberculosis	11
Typhoid fever	2

SOUTH DAKOTA

Chicken pox	12
Diphtheria	9
Pneumonia	4
Scarlet fever	24
Smallpox	10

TEXAS

Cerebrospinal meningitis	1
Chicken pox	103
Dengue	16
Diphtheria	27
Dysentery	15
Influenza	239
Measles	96
Mumps	98
Ophthalmia neonatorum	2
Paratyphoid fever	5
Pellagra	5
Pneumonia	22
Scarlet fever	23
Smallpox	11
Tetanus	1
Tuberculosis	11
Typhoid fever	15
Whooping cough	19

VERMONT

Chicken pox	53
Measles	12
Mumps	16
Pneumonia	2
Scarlet fever	12
Whooping cough	26

WASHINGTON

	Cases
Chicken pox	88
Diphtheria	39
Measles	18
Mumps	36
Poliomyelitis:	
King County	1
Scarlet fever	29
Smallpox	15
Tuberculosis	28
Typhoid fever	3
Whooping cough	1

WEST VIRGINIA

Diphtheria	10
Scarlet fever	10
Smallpox	11
Typhoid fever	4

WISCONSIN

Milwaukee:	
Chicken pox	24
Diphtheria	7
German measles	46
Influenza	2
Lethargic encephalitis	2
Measles	68
Mumps	19
Pneumonia	8
Scarlet fever	12
Smallpox	1
Typhoid fever	2
Whooping cough	4
Scattering:	
Chicken pox	214
Diphtheria	42
German measles	2
Influenza	27
Measles	33
Mumps	42
Pneumonia	16
Poliomyelitis	3
Scarlet fever	128
Smallpox	33
Tuberculosis	28
Typhoid fever	2
Whooping cough	44

WYOMING

Chicken pox	22
Measles	1
Pneumonia	2
Scarlet fever	5
Smallpox	10

Reports for Week Ended December 20, 1924

DISTRICT OF COLUMBIA

	Cases
Chicken pox	39
Diphtheria	11
Influenza	1
Measles	3
Pneumonia	20
Scarlet fever	50
Tuberculosis	21
Typhoid fever	6
Whooping cough	17

NORTH DAKOTA

	Cases
Chicken pox	16
Diphtheria	6
Measles	20
Mumps	1
Pneumonia	7
Scarlet fever	39
Smallpox	7
Tuberculosis	2
Whooping cough	1

[1] Deaths.

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
November, 1924										
Arizona	1	16	0	0	0	0	1	39	31	10
Delaware	0	25	0	0	1	0	0	14	0	2
Florida	0	95	75	71	2	11	0	15	1	50
Iowa	1	82	0	0	4	0	6	160	105	2
Maryland	1	248	141	3	82	0	7	199	0	61
Michigan	0	565	4	0	403	0	94	1,018	91	92
Minnesota	0	491	2	0	59	0	24	836	448	12
Mississippi	2	173	2,803	4,630	64	255	0	79	92	220
Oklahoma	0	94	15	15	2	3	1	88	13	126
Oregon	0	173	4	0	24	0	15	134	39	12
Pennsylvania	5	1,295	0	0	1,147	0	0	1,948	17	150
Rhode Island	0	57	4	0	0	0	2	97	3	10
West Virginia	2	236	101	0	70	0	0	325	35	76
Wisconsin	6	242	31	0	257	0	19	452	68	10

DYSENTERY ON STEAMSHIP

The Norwegian steamship *Maimanger*, from Tampico, Mexico, was reported at Quarantine, La., December 17, 1924, with 10 cases of dysentery on board. One case of dysentery was reported on the steamship *L. J. Drake*, which arrived at Quarantine, La., December 21, from Tampico.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

Diphtheria.—For the week ended December 13, 1924, 35 States reported 2,055 cases of diphtheria. For the week ended December 15, 1923, the same States reported 3,056 cases of this disease. One hundred and three cities, situated in all parts of the country and having an aggregate population of more than 28,800,000, reported 1,058 cases of diphtheria for the week ended December 13, 1924. Last year, for the corresponding week, they reported 1,451 cases. The estimated expectancy for these cities was 1,462 cases of diphtheria. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Measles.—Thirty States reported 1,416 cases of measles for the week ended December 13, 1924, and 9,496 cases of this disease for the week ended December 15, 1923. One hundred and three cities reported 706 cases for the week this year, and 2,513 cases last year.

Scarlet fever.—Scarlet fever was reported for the week as follows: Thirty-five States—this year, 3,490; last year, 3,464 cases. One hundred and three cities—this year, 1,728 cases; last year, 1,467 cases; estimated expectancy, 983 cases.

Smallpox.—For the week ended December 13, 1924, 35 States reported 789 cases of smallpox. Last year, for the corresponding

week, they reported 739 cases of smallpox. One hundred and three cities reported smallpox for the week as follows: 1924, 236 cases; 1923, 188 cases; estimated expectancy, 84 cases. These cities reported 46 deaths from smallpox for the week this year, 40 of which occurred at Minneapolis.

Typhoid fever.—Six hundred and four cases of typhoid fever were reported for the week ended December 13, 1924, by 34 States. For the corresponding week of 1923 the same States reported 299 cases. One hundred and three cities reported 237 cases of typhoid fever for the week this year, and 126 cases for the week last year. The estimated expectancy for these cities was 72 cases.

Influenza and pneumonia.—Deaths from influenza and pneumonia (combined) were reported for the week by 103 cities as follows: 1924, 954 deaths; 1923, 786 deaths.

City reports for week ended December 13, 1924

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 1915 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	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported	Scarlet fever	
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported				Cases, estimated expectancy	Cases reported
NEW ENGLAND										
Maine:										
Lewiston	3	1	0	0	0	1	2	4	4	2
Portland	22	2	2	0	0	1	22	1	3	0
New Hampshire:										
Concord	0	1	0	0	0	0	0	2	1	0
Vermont:										
Barre	0	0	0	0	0	0	6	1	2	4
Burlington	6	1	0	0	0	0	0	0	1	0
Massachusetts:										
Boston	45	66	49	5	1	59	6	22	38	87
Fall River	2	5	3	1	1	1	1	2	2	4
Springfield	1	4	3	0	0	29	15	1	8	54
Worcester		5							11	
Rhode Island:										
Pawtucket	4	3	4	0	0	3	0	0	1	8
Providence	0	16	5	0	0	1	0	8	9	6
Connecticut:										
Bridgeport	3	10	4	0	0	0	1	0	6	11
Hartford	2	9	4	0	0	1	0	1	6	8
New Haven	21	8	2	0	0	8	0	2	6	38
MIDDLE ATLANTIC										
New York:										
Buffalo	38	36	12	3	4	33	10	22	23	21
New York	200	217	207	47	25	53	25	230	146	200
Rochester	8	15	0	0	1	11	49	2	11	30
Syracuse	8	13	3	0	0	1	3	5	14	9

City reports for week ended December 13, 1924—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported	Scarlet fever	
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported				Cases, estimated expectancy	Cases reported
MIDDLE ATLANTIC—continued										
New Jersey:										
Camden	6	6	6	0	0	5	0	5	3	3
Newark	44	22	16	5	1	28	4	15	16	47
Trenton	6	9	5	1	0	1	0	3	2	11
Pennsylvania:										
Philadelphia	147	82	75	----	7	45	34	76	55	118
Pittsburgh	115	33	20	----	5	61	41	39	25	71
Reading	4	5	1	0	0	0	13	0	1	3
Scranton	5	6	5	0	1	1	0	4	3	1
EAST NORTH CENTRAL										
Ohio:										
Cincinnati	25	20	12	1	7	3	0	10	13	11
Cleveland	107	47	30	4	4	3	11	23	33	27
Columbus	10	11	4	0	1	2	2	6	10	12
Toledo	32	18	14	0	0	2	0	6	15	16
Indiana:										
Fort Wayne	5	6	6	0	0	0	0	0	2	2
Indianapolis	95	22	7	0	1	1	9	10	10	13
South Bend	10	2	3	0	0	0	0	1	2	8
Terre Haute	13	4	0	0	0	0	----	1	2	8
Illinois:										
Chicago	183	176	87	11	3	119	20	71	111	188
Cicero	17	4	4	0	0	11	0	0	1	6
Springfield	3	2	4	0	0	0	10	1	2	2
Michigan:										
Detroit	127	87	41	3	2	5	11	30	72	91
Flint	19	14	0	0	0	2	0	3	8	7
Grand Rapids	5	7	6	0	0	2	1	5	7	14
Wisconsin:										
Madison	7	2	1	0	----	0	143	----	2	3
Milwaukee	103	28	18	0	0	130	61	0	32	20
Racine	5	2	2	0	0	1	6	5	5	3
Superior	0	2	0	0	0	0	0	2	2	0
WEST NORTH CENTRAL										
Minnesota:										
Duluth	22	3	0	0	0	0	0	4	4	14
Minneapolis	92	23	33	0	1	6	5	4	28	62
St. Paul	38	20	13	0	0	2	22	6	16	22
Iowa:										
Davenport	4	2	1	0	----	0	0	----	1	0
Des Moines	0	6	9	0	----	0	0	----	9	4
Sioux City	11	3	2	0	----	0	0	----	3	0
Waterloo	7	2	0	0	----	3	0	----	4	1
Missouri:										
Kansas City	18	15	7	5	0	1	2	13	10	53
St. Joseph	2	5	2	0	1	1	0	1	3	1
St. Louis	37	86	54	0	0	4	4	----	31	142
North Dakota:										
Fargo	15	1	1	0	0	0	3	0	1	4
Grand Forks	0	1	1	0	----	0	0	----	1	0
South Dakota:										
Aberdeen	11	----	0	0	----	0	0	----	----	2
Sioux Falls	0	1	2	0	0	0	0	0	2	0
Nebraska:										
Lincoln	11	2	0	0	0	0	0	0	2	1
Omaha	10	6	5	0	0	0	0	7	6	1
Kansas:										
Topeka	23	3	1	0	0	0	49	1	1	2
Wichita	17	10	7	0	0	0	0	4	4	0
SOUTH ATLANTIC										
Delaware:										
Wilmington	2	3	4	0	0	0	1	0	3	3
Maryland:										
Baltimore	64	35	43	48	1	3	4	30	23	50
Cumberland	----	2	1	0	0	1	----	1	1	0
Frederick	0	1	0	0	0	0	0	1	1	2
District of Columbia:										
Washington	38	19	21	3	2	4	0	18	18	41

City reports for week ended December 13, 1924—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported	Scarlet fever	
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported				Cases, estimated expectancy	Cases reported
SOUTH ATLANTIC—continued										
Virginia:										
Lynchburg	6	1	5	0	0	0	12	0	0	2
Norfolk	32	4	0	0	0	0	90	3	2	3
Richmond	9	10	10	0	1	5	0	5	6	5
Roanoke	2	4	1	1	2	1	0	0	1	1
West Virginia:										
Charleston	38	4	0	0	0	3	4	0	2	2
Huntington	0	2	0	0		0	0		2	4
Wheeling	17	2	1	0	0	1	1	0	1	3
North Carolina:										
Raleigh	10	2	0	0	1	0	0	1	1	2
Wilmington	2	1	0	0	0	0	10	2	1	2
Winston-Salem	8	2	3	0	0	0	0	0	1	2
South Carolina:										
Charleston	0	2	0	0	1	0	0	1	1	1
Columbia	0	1	1	0	0	0	16	4	0	0
Greenville	1	1	0	0	0	0	0	1	0	1
Georgia:										
Atlanta	2	5	8	3	1	0	0	16	5	4
Brunswick		0							0	
Savannah	0	2	0	6	0	0	1	3	2	0
Florida:										
St. Petersburg	0		1	0	0	0	0	0	0	0
Tampa	0	2	0	1	2	1	0	0	0	0
EAST SOUTH CENTRAL										
Kentucky:										
Covington	3	2	3	0	0	0	0	1	1	2
Lexington	2	1	1	0	0	0	0	2	1	2
Louisville	9	13	2	0	0	0	0	8	5	4
Tennessee:										
Memphis	8	10	3	0	1	0	4	9	4	10
Nashville	2	5	0	0	3	1	0	6	3	0
Alabama:										
Birmingham	11	5	9	1	0	0	0	13	4	3
Mobile	0	1	0	0	0	0	0	1	1	0
Montgomery	1	1	0	0	0	0	3	0	1	0
WEST SOUTH CENTRAL										
Arkansas:										
Fort Smith	3	2	0	0		0	0		1	0
Little Rock	1	2	0	0	0	0	0	3	2	3
Louisiana:										
New Orleans	4	12	17	7	4	0	0	11	5	11
Shreveport	2		0	0	1	0	0	1		0
Oklahoma:										
Oklahoma	1	3	2	0	0	0	0	4	3	2
Tulsa	4	5	2	0		2	0		2	1
Texas:										
Dallas	8	13	18	0	2	0	0	2	3	10
Galveston	0	2	0	0	0	0	0	1	0	0
Houston	2	4	4	0	0	0	0	8	2	7
San Antonio		3	4	0	0	0		5	1	2
MOUNTAIN										
Montana:										
Billings	7	1	0	0	1	0	0	0	1	0
Great Falls	1	1	3	0	0	3	0	0	1	4
Helena	0	0	0	0	0	0	0	1	1	0
Missoula		0	3	0	0	0		1	1	0
Idaho:										
Boise	7	1	0	0	0	0	0	0	1	1
Colorado:										
Denver	26	13	25	0	2	1	42	14	10	3
Pueblo	7	6	1	0	0	1	1	1	3	4
New Mexico:										
Albuquerque	7	1	0	0	0	0	0	1	1	1
Arizona:										
Phoenix	0		1	0	0	0	0	2		3
Utah:										
Salt Lake City	75	2	1	0	0	0	11	4	4	4
Nevada:										
Reno	0	0	0	0	0	0	0	0	0	1

City reports for week ended December 13, 1924—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria: Cases, estimated expectancy	Diphtheria: Cases reported	Influenza: Cases reported	Influenza: Deaths reported	Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported	Scarlet fever: Cases, estimated expectancy	Scarlet fever: Cases reported
PACIFIC										
Washington:										
Seattle	0	7	13	0	.....	6	35	.....	6	11
Spokane	13	5	12	0	.....	26	0	.....	6	3
Tacoma	3	3	2	0	.....	1	0	.....	3	2
Oregon:										
Portland	34	6	23	0	0	1	1	9	7	4
California:										
Los Angeles	53	34	41	0	1	5	15	20	16	27
Sacramento	.....	2	4	1	0	1	0	3	2	4
San Francisco	32	28	22	4	0	4	19	10	10	28

Division, State, and city	Population July 1, 1923, estimated	Smallpox: Cases, estimated expectancy	Smallpox: Cases reported	Smallpox: Deaths reported	Tuberculosis, deaths reported	Typhoid fever: Cases, estimated expectancy	Typhoid fever: Cases reported	Typhoid fever: Deaths reported	Whooping cough, cases reported	Deaths, all causes
NEW ENGLAND										
Maine:										
Lewiston	33,790	0	0	0	0	0	0	0	0	12
Portland	73,129	0	0	0	0	1	2	0	0	16
New Hampshire:										
Concord	22,408	0	0	0	0	0	0	0	0	8
Vermont:										
Barre	[1] 10,008	0	0	0	0	0	0	0	0	1
Burlington	23,613	0	0	0	0	0	0	0	0	4
Massachusetts:										
Boston	770,400	0	0	0	16	2	2	0	22	240
Fall River	120,912	0	0	0	3	0	0	0	5	26
Springfield	144,227	0	0	0	4	0	0	0	8	30
Worcester	191,927	0	.....	.....	.....	0	.....	.....	.....	.....
Rhode Island:										
Pawtucket	68,799	0	0	0	0	0	0	0	0	.....
Providence	242,378	0	0	0	8	1	1	1	0	75
Connecticut:										
Bridgeport	[1] 143,555	0	0	0	3	0	0	0	0	21
Hartford	[1] 138,036	0	0	0	0	0	0	0	1	27
New Haven	172,967	0	0	0	1	1	1	0	13	43
MIDDLE ATLANTIC										
New York:										
Buffalo	536,718	0	1	0	6	1	6	0	44	168
New York	5,927,625	0	0	0	[2] 88	13	109	16	103	1,485
Rochester	317,867	0	0	0	4	1	6	0	0	51
Syracuse	184,511	0	0	0	1	1	0	0	0	45
New Jersey:										
Camden	124,157	0	0	2	5	1	0	0	0	46
Newark	438,699	0	0	0	3	1	1	1	64	101
Trenton	127,390	0	0	0	5	0	0	0	10	41
Pennsylvania:										
Philadelphia	1,922,788	1	0	0	26	4	9	0	75	522
Pittsburgh	613,442	0	0	0	14	1	3	0	7	165
Reading	110,917	0	0	0	3	1	0	0	7	25
Scranton	140,636	0	0	0	4	0	0	0	4	.....
EAST NORTH CENTRAL										
Ohio:										
Cincinnati	406,312	1	0	0	9	0	6	0	5	116
Cleveland	888,519	2	0	0	17	1	2	0	17	191
Columbus	261,082	0	3	0	5	1	1	0	0	75
Toledo	268,338	0	1	0	1	1	4	1	13	60
Indiana:										
Fort Wayne	93,573	1	1	0	0	0	2	0	1	21
Indianapolis	342,718	3	4	0	1	0	0	0	5	98
South Bend	76,709	0	0	0	2	0	0	0	0	10
Terre Haute	68,939	0	6	0	1	0	0	0	.....	17

[1] Population Jan. 1, 1920.

[2] Pulmonary only.

City reports for week ended December 13, 1924—Continued

Division, State, and city	Population July 1, 1923, estimated	Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
		Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
EAST NORTH CENTRAL—continued										
Illinois:										
Chicago	2,886,121	2	1	0	36	5	21	5	174	667
Cicero	55,968	0	0	0	0	1	0	0	8	3
Springfield	61,833	0	0	0	1	0	0	0	0	15
Michigan:										
Detroit	995,668	3	0	0	12	2	6	0	9	246
Flint	117,968	1	1	0	2	0	0	0	2	18
Grand Rapids	145,947	0	0	0	1	1	5	0	5	26
Wisconsin:										
Madison	42,519	0	0	----	----	0	0	----	18	4
Milwaukee	484,595	2	0	0	5	0	0	0	15	85
Racine	64,393	1	2	0	0	0	0	0	1	14
Superior	[1] 39,671	1	0	0	1	0	0	0	0	13
WEST NORTH CENTRAL										
Minnesota:										
Duluth	106,289	1	0	0	2	0	0	0	1	18
Minneapolis	409,125	6	87	40	0	1	3	2	1	125
St. Paul	241,891	13	7	2	2	1	0	0	13	50
Iowa:										
Davenport	61,262	0	2	----	----	0	0	----	2	----
Des Moines	140,923	0	0	----	----	0	0	----	0	----
Sioux City	79,662	1	1	----	----	0	0	----	0	----
Waterloo	39,667	0	8	1	----	0	2	----	1	----
Missouri:										
Kansas City	351,819	2	0	0	3	1	1	0	0	95
St. Joseph	78,232	1	0	0	0	0	0	0	0	----
St. Louis	803,853	1	7	0	10	2	1	0	3	257
North Dakota:										
Fargo	24,841	1	0	0	0	0	0	0	0	6
Grand Forks	14,547	0	0	0	0	0	0	0	0	1
South Dakota:										
Aberdeen	15,829	----	0	----	----	0	0	----	0	----
Sioux Falls	29,206	1	0	0	0	0	0	0	0	6
Nebraska:										
Lincoln	58,761	1	0	0	0	0	0	0	0	13
Omaha	204,382	2	13	0	2	1	1	1	0	56
Kansas:										
Topeka	52,555	1	0	0	1	0	0	0	4	25
Wichita	79,261	1	0	0	1	0	0	0	3	29
SOUTH ATLANTIC										
Delaware:										
Wilmington	117,728	0	0	0	1	1	0	0	0	38
Maryland:										
Baltimore	773,580	1	0	0	12	3	2	0	70	235
Cumberland	32,361	1	0	0	0	0	0	0	----	6
Frederick	11,301	0	0	0	0	1	0	0	0	3
District of Columbia:										
Washington	[1] 437,571	1	0	0	5	2	12	0	9	119
Virginia:										
Lynchburg	30,277	0	0	0	0	0	0	0	0	5
Norfolk	159,089	0	0	0	2	0	0	0	1	----
Richmond	181,044	0	0	0	5	1	0	0	0	55
Roanoke	55,502	0	0	0	0	0	0	0	0	11
West Virginia:										
Charleston	45,597	0	9	0	0	0	0	0	0	14
Huntington	57,918	0	1	----	----	1	0	----	0	----
Wheeling	[1] 56,208	0	0	0	2	1	1	0	1	15
North Carolina:										
Raleigh	29,171	0	1	0	0	0	0	0	7	6
Wilmington	35,719	0	4	0	0	1	0	0	8	7
Winston-Salem	56,230	1	3	0	3	0	0	0	0	18
South Carolina:										
Charleston	71,245	1	0	0	2	1	0	0	0	14
Columbia	39,688	0	0	0	1	0	0	0	2	23
Greenville	25,789	0	2	0	0	0	0	0	0	5
Georgia:										
Atlanta	222,963	2	0	0	4	0	0	0	0	80
Brunswick	15,937	0	----	----	----	0	----	----	----	----
Savannah	89,448	0	0	0	6	1	1	0	1	35

[1] Population Jan. 1, 1920.

City reports for week ended December 13, 1924—Continued

Division, State, and city	Population July 1, 1923, estimated	Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
		Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
SOUTH ATLANTIC—continued										
Florida:										
St. Petersburg	24,403	1	0	0	1	0	0	0	0	7
Tampa	56,050	0	0	0	1	1	1	0	0	14
EAST SOUTH CENTRAL										
Kentucky:										
Covington	57,877	0	0	0	1	0	0	0	0	13
Lexington	43,673	0	1	0	1	0	0	0	0	13
Louisville	257,671	0	2	0	3	1	2	0	2	81
Tennessee:										
Memphis	170,067	0	0	0	4	0	8	2	0	79
Nashville	121,128	1	4	0	6	0	0	0	3	62
Alabama:										
Birmingham	195,901	0	25	0	4	1	0	0	0	68
Mobile	63,858	1	0	0	0	0	0	0	0	13
Montgomery	45,383	1	0	0	0	0	0	0	0	10
WEST SOUTH CENTRAL										
Arkansas:										
Fort Smith	30,635	0	0	----	----	0	0	----	0	----
Little Rock	70,916	0	0	0	3	1	1	0	0	----
Louisiana:										
New Orleans	404,575	1	0	0	12	1	9	0	0	148
Shreveport	54,590	----	0	0	1	----	1	0	0	19
Oklahoma:										
Oklahoma	101,150	1	0	0	1	0	0	0	0	23
Tulsa	102,018	1	0	----	----	0	0	----	----	----
Texas:										
Dallas	177,274	0	0	0	3	1	0	0	3	41
Galveston	46,877	0	0	0	0	1	0	0	0	9
Houston	154,970	0	3	0	2	0	0	0	1	55
San Antonio	184,727	0	0	0	12	----	0	0	----	58
MOUNTAIN										
Montana:										
Billings	16,927	1	0	0	0	0	0	0	1	10
Great Falls	27,787	1	0	0	0	0	0	0	0	5
Helena	[1] 12,037	0	0	0	0	0	0	0	0	9
Missoula	[1] 12,668	0	1	0	0	0	0	0	----	5
Idaho:										
Boise	22,806	0	0	0	0	0	0	0	0	7
Colorado:										
Denver	272,031	5	0	0	14	1	1	0	4	80
Pueblo	43,519	1	0	0	1	0	0	0	0	6
New Mexico:										
Albuquerque	16,648	0	0	0	1	0	0	0	0	5
Arizona:										
Phoenix	33,899	0	0	0	8	----	0	0	0	17
Utah:										
Salt Lake City	126,241	3	1	0	4	1	1	0	5	26
Nevada:										
Reno	12,429	0	0	0	0	0	0	0	0	2
PACIFIC										
Washington:										
Seattle	[1] 315,685	1	10	----	----	1	0	----	4	----
Spokane	104,573	9	2	----	----	1	0	----	1	----
Tacoma	101,731	1	1	----	----	0	0	----	0	----
Oregon:										
Portland	273,621	6	9	0	4	1	1	0	0	----
California:										
Los Angeles	666,853	1	22	1	27	3	5	0	14	242
Sacramento	69,950	1	4	0	2	0	0	1	0	30
San Francisco	539,038	0	0	0	11	1	1	2	17	149

[1] Population Jan. 1, 1920.

City reports for week ended December 13, 1924—Continued

Division, State, and city	Cerebro-spinal meningitis		Lethargic encepha-litis		Pellagra		Poliomyelitis (infantile paralysis)			Typhus fever	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, est. expectancy	Cases	Deaths	Cases	Deaths
NEW ENGLAND											
Massachusetts:											
Boston	1	0	3	1	0	0	0	3	1	0	0
Fall River	0	0	0	0	0	0	0	1	0	0	0
Connecticut:											
Hartford	1	0	0	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC											
New York:											
Buffalo	0	0	1	1	0	0	0	0	0	0	0
New York	4	3	14	11	0	0	2	8	3	0	0
New Jersey:											
Newark	2	0	4	1	0	0	0	0	0	0	0
Pennsylvania:											
Philadelphia	0	0	3	1	0	0	0	0	0	0	0
EAST NORTH CENTRAL											
Ohio:											
Cleveland	2	1	0	0	0	0	0	0	0	0	0
Illinois:											
Chicago	0	0	2	1	0	0	0	0	0	0	0
Michigan:											
Detroit	1	0	1	0	0	0	0	2	0	0	0
Wisconsin:											
Milwaukee	0	0	2	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL											
Minnesota:											
Minneapolis	0	0	0	0	0	0	0	1	0	0	0
Missouri:											
St. Louis	1	1	0	0	0	0	0	0	0	0	0
North Dakota:											
Grand Forks	0	0	0	0	0	0	0	1	1	0	0
Kansas:											
Wichita	1	1	0	0	0	0	0	0	0	0	0
SOUTH ATLANTIC											
Maryland:											
Baltimore	0	0	1	0	0	0	0	0	0	0	0
Virginia:											
Richmond	0	1	0	0	0	0	0	0	0	0	0
South Carolina:											
Charleston	0	1	0	0	0	1	0	0	0	0	0
Columbia	0	0	0	0	0	2	0	0	0	0	0
EAST SOUTH CENTRAL											
Tennessee:											
Nashville	0	0	0	0	0	0	0	0	0	0	1
WEST SOUTH CENTRAL											
Texas:											
Houston	0	0	0	0	0	1	0	0	0	0	0
PACIFIC											
Washington:											
Seattle	0	-----	0	-----	0	-----	0	3	-----	0	-----
Tacoma	0	-----	0	-----	0	-----	0	1	-----	0	-----
Oregon:											
Portland	0	0	0	0	0	0	0	3	0	0	0
California:											
Los Angeles	0	0	0	0	0	0	0	0	0	1	0

The following table gives a summary of the reports from 105 cities for the 10-week period ended December 13, 1924. The cities included

in this table are those whose reports have been published for all 10 weeks in the Public Health Reports. Eight of these cities did not report deaths. The aggregate population of the cities reporting cases was estimated at nearly 29,000,000 on July 1, 1923, which is the latest date for which estimates are available. The cities reporting deaths had more than 28,000,000 population on that date. The number of cities included in each group and the aggregate population are shown in a separate table below.

Summary of weekly reports from cities, October 5 to December 13, 1924

DIPHTHERIA CASES

	1924, week ended—									
	Oct. 11	Oct. 18	Oct. 25	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	Dec. 6	Dec. 13
Total	883	936	988	965	1,128	1,112	1,115	970	1,058	1,063
New England	77	82	89	88	78	82	84	67	104	[1] 77
Middle Atlantic	209	259	228	235	304	312	314	284	336	345
East North Central	174	176	176	211	279	247	227	234	223	225
West North Central	126	136	149	127	128	147	160	148	149	128
South Atlantic	142	121	172	131	148	109	129	128	[2] 89	[3] 99
East South Central	28	42	41	27	35	26	32	21	[4] 21	17
West South Central	26	28	36	40	46	59	45	27	31	45
Mountain	14	18	23	28	38	36	27	17	[5] 18	33
Pacific	87	74	74	78	72	94	97	44	87	94

MEASLES CASES

Total	130	193	197	241	310	322	400	364	613	706
New England	21	25	28	32	36	41	49	59	66	[1] 104
Middle Atlantic	56	97	92	112	144	135	154	156	207	238
East North Central	22	42	55	70	91	102	131	114	269	279
West North Central	5	7	3	7	7	10	14	5	12	17
South Atlantic	10	4	2	6	13	4	11	7	[2] 10	[3] 19
East South Central	2	1	0	0	2	2	2	0	[4] 0	1
West South Central	2	2	1	0	1	1	1	2	0	0
Mountain	0	5	2	3	2	4	4	3	[5] 2	5
Pacific	12	10	14	11	14	23	34	18	47	43

SCARLET FEVER CASES

Total	774	795	938	1,021	1,153	1,097	1,238	1,283	1,488	1,735
New England	89	99	121	96	114	135	155	176	219	[1] 235
Middle Atlantic	154	168	213	298	354	330	365	389	389	513
East North Central	178	176	214	256	270	262	303	307	346	415
West North Central	218	227	253	216	225	220	228	245	297	302
South Atlantic	46	48	57	57	67	58	72	63	[2] 83	[3] 124
East South Central	21	11	14	24	29	14	17	10	[4] 28	19
West South Central	17	16	17	15	25	18	14	20	27	35
Mountain	15	19	13	19	19	20	24	15	[5] 31	17
Pacific	36	31	36	40	50	40	60	58	68	75

SMALLPOX CASES

Total	72	99	134	134	138	192	188	213	319	236
New England	0	0	0	0	0	0	0	0	0	[1] 0
Middle Atlantic	3	0	5	2	4	0	5	9	9	1
East North Central	21	30	19	16	6	11	14	19	13	18
West North Central	21	27	64	70	82	100	85	114	201	123
South Atlantic	2	0	3	1	3	7	6	3	[2] 22	[3] 19
East South Central	2	15	11	9	8	12	21	13	[4] 29	31
West South Central	0	3	2	2	2	8	6	7	4	3
Mountain	0	2	3	0	1	7	2	1	[5] 2	2
Pacific	23	22	27	34	32	47	49	47	39	39

[1] Figures for Worcester, Mass., estimated. Reports not received at time of going to press.
[2] Figures for Norfolk, Va., and Brunswick, Ga., estimated.
[3] Figures for Brunswick, Ga., estimated.
[4] Figures for Memphis, Tenn., estimated.
[5] Figures for Reno, Nev., estimated.

Summary of weekly reports from cities, October 5 to December 13, 1924—Continued

TYPHOID FEVER CASES

	1924, week ended—									
	Oct. 11	Oct. 18	Oct. 25	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	Dec. 6	Dec. 13
Total	214	159	136	106	124	107	133	161	255	237
New England	16	8	6	5	7	5	5	9	12	[1] 6
Middle Atlantic	45	47	40	35	23	33	46	90	140	134
East North Central	15	17	14	11	14	11	15	10	30	43
West North Central	16	11	5	9	9	3	8	2	4	8
South Atlantic	23	20	22	13	21	10	14	15	[2] 27	[3] 17
East South Central	17	12	21	12	14	20	14	19	[4] 18	10
West South Central	15	12	12	6	18	11	13	8	13	11
Mountain	58	23	10	5	9	8	2	2	[5] 1	2
Pacific	9	9	6	10	9	6	16	6	10	6

INFLUENZA DEATHS

Total	21	20	18	35	38	43	41	56	63	91
New England	1	1	1	1	5	0	2	2	7	[1] 2
Middle Atlantic	13	11	9	21	23	17	17	15	21	43
East North Central	4	3	5	5	5	5	7	15	13	18
West North Central	0	2	0	0	0	0	0	3	2	2
South Atlantic	1	1	2	3	3	4	6	7	[2] 5	[3] 11
East South Central	0	1	0	1	1	4	2	5	[4] 4	4
West South Central	1	1	0	3	1	7	3	5	6	7
Mountain	1	0	0	0	0	1	4	2	[5] 3	3
Pacific	0	0	1	1	0	5	0	2	2	1

PNEUMONIA DEATHS

Total	494	497	479	593	636	676	646	701	832	863
New England	39	28	27	42	33	35	38	58	51	[1] 45
Middle Atlantic	217	221	227	270	305	294	301	300	371	397
East North Central	84	90	77	95	109	116	122	126	155	168
West North Central	25	23	20	28	29	32	36	34	29	40
South Atlantic	50	50	65	87	75	83	57	83	[2] 91	[3] 86
East South Central	15	19	13	21	24	46	36	43	[4] 39	38
West South Central	31	16	17	21	22	34	20	21	32	35
Mountain	15	22	16	6	8	10	15	13	[5] 23	21
Pacific	18	28	17	23	31	26	21	23	41	33

Number of cities included in summary of weekly reports and aggregate population of cities in each group, estimated as of July 1, 1923

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
Total	105	97	28, 898, 350	28, 140, 934
New England	12	12	2, 098, 746	2, 098, 746
Middle Atlantic	10	10	10, 304, 114	10, 304, 114
East North Central	17	17	7, 032, 535	7, 032, 535
West North Central	14	11	2, 515, 330	2, 381, 454
South Atlantic	22	22	2, 566, 901	2, 566, 901
East South Central	7	7	911, 885	911, 885
West South Central	8	6	1, 124, 564	1, 023, 013
Mountain	9	9	546, 445	546, 445
Pacific	6	3	1, 797, 830	1, 275, 841

[1] Figures for Worcester, Mass., estimated. Reports not received at time of going to press.
[2] Figures for Norfolk, Va., and Brunswick, Ga., estimated.
[3] Figures for Brunswick, Ga., estimated.
[4] Figures for Memphis, Tenn., estimated.
[5] Figures for Reno, Nev., estimated.

FOREIGN AND INSULAR

CHOLERA, PLAGUE, SMALLPOX, AND TYPHUS FEVER

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

Reports Received During Week Ended January 2, 1925 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
India				October 19–25, 1924: Cases, 2,647; deaths, 1,596.
Calcutta	Oct. 26–Nov. 15	27	21	
Madras	Nov. 16–22	14	11	

PLAGUE

Azores:				
Ponta Delgada	Dec. 6–12	9	5	
Ceylon:				
Colombo	Nov. 9–15	2	2	
India				October 19–25, 1924: Cases, 2,593; deaths, 1,952.
Rangoon	Nov. 2–8	1	1	

SMALLPOX

British South Africa:				
Northern Rhodesia	Oct. 28–Nov. 3	24	2	In natives.
Canada:				
Manitoba—				
Winnipeg	Dec. 7–13	4		
China:				
Amoy	Nov. 9–15			Present.
Foochow	Nov. 2–8			Do.
Great Britain:				
England and Wales	Nov. 23–Dec. 6	184		
India				October 19–25, 1924: Cases, 838; deaths, 153.
Bombay	Nov. 2–8	4	3	
Calcutta	Oct. 26–Nov. 15	53	34	
Karachi	Nov. 16–22	2	1	
Madras	do	10	4	
Rangoon	Nov. 2–8	5	2	
Iraq:				
Bagdad	Nov. 9–15	1	1	
Java:				
East Java—				
Soerabaya	Oct. 19–25	119	32	
West Java				October 26–November 7, 1924: Cases, 2.
Mexico:				
Vera Cruz	Dec. 1–14		6	
Spain:				
Valencia	Nov. 30–Dec. 6	2		
Syria:				
Aleppo	Nov. 23–29	1		
Tunis:				
Tunis	Nov. 25–Dec. 1	14	8	
Union of South Africa:				
Orange Free State	Nov. 2–8			Outbreaks.

TYPHUS FEVER

Egypt:				
Cairo	Oct. 1–14	3	2	
Palestine	Nov. 12–24	3		

[1] From medical officers of the Public Health Service, American consuls, and other sources. For reports received from June 28 to Dec. 26, 1924, see Public Health Reports for Dec. 26, 1924. The tables of epidemic diseases are terminated semiannually and new tables begun.