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## THYROID SURVEY OF 47,493 ELEMENTARY-SCHOOL CHILDREN IN CINCINNATI.

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### General Considerations.

A thyroid survey obviously has for its purpose the determination of the extent of thyroid involvement among the residents of a given community, usually as a preliminary to the institution of prophylactic and remedial measures. Not only was the primary object of the survey realized in Cincinnati but valuable material for future research into the fundamental causes and possible ill effects of endemic goiter was located. While a considerable prevalence of thyroid enlargement may be suspected, it is not until a systematic canvass has been undertaken that the true state of affairs is revealed. In many places a casual survey of the young women on the streets will enable the trained observer to make a fairly accurate estimate of the degree to which the general population is affected by endemic goiter. More careful examinations, however, are usually desirable.

Another important reason for making a thyroid survey, especially among school children, is to determine the character of the thyroid enlargements, i. e., whether they are of the so-called simple or colloid type that may be benefited by the use of iodine, or whether, on the other hand, they are of the adenomatous or even the toxic types which may be aggravated by iodine medication. If such a differentiation were attempted more frequently it would undoubtedly meet the objections of those who claim that benign thyroid enlargements are frequently converted into toxic goiters by the administration of iodine.

It can not be denied, however, that a thyroid survey is time consuming and that ordinarily the time so spent might be used to better advantage in applying the prophylactic measures, particularly in a community in which it is evident that endemic goiter prevails to a considerable extent. It is rather doubtful, as has been alleged by some, whether harm results from the administration of iodine in appropriate minimal doses even in the case of goiters that may be excited to hyperfunction by unjustifiably large doses of the remedy.

Therefore, the institution of iodine prophylaxis without the formality of a preliminary survey appears warranted, especially when the work is done under competent supervision.

#### Method of Conducting the Thyroid Survey.

*Personnel.*—In making a thyroid survey it is desirable that local physicians participate in the work as freely as possible. When such a survey is conducted entirely by outside workers, the training and experience which should accrue to the community are lost. And, too, there is a definite legacy to the local officials who engage actively in the work of examining.

The thyroid survey in Cincinnati was undertaken in cooperation with the board of health, through the sympathetic and active assistance of the commissioner of health, Dr. William H. Peters. The chief medical inspector of the department, Dr. L. W. Heizer, and the supervisor of nurses, Mrs. Louise Tooker, maintained a constant interest in the work and were instrumental in facilitating the progress of the work.<sup>1</sup>

The Cincinnati survey, as already intimated, was made on a cooperative basis, the representative of the Public Health Service working with the district physicians attached to the city health department. In order that uniformly even practice might be insured, several schools were surveyed jointly in this manner. As soon as standard practice had been established, the work was carried on alone by each district physician in his own territory. In addition to creating an interest in goiter prevention and stimulating an interest in diagnostic procedure, this method also had the advantage of enabling the survey to be completed within a comparatively short period.

Before entering into a discussion of the methods employed in conducting the survey, it seems advisable to review a few of the theoretical and practical aspects of the subject. Thus, there exists in many minds confusion as to (a) the definition of the word goiter itself, (b) the proper methods of making examinations of thyroids, and (c) as to the standards used in expressing degrees of enlargement. A brief consideration, therefore, of these points will serve to indicate the premises upon which the Cincinnati survey was based.

#### WHAT IS A GOITER?

A great deal of confusion has resulted from the application of the word "goiter" to all degrees of thyroid enlargement, particularly the

<sup>1</sup> The following district physicians, attached to the Cincinnati Health Department, assisted in making the thyroid examinations and are entitled to a full share of the credit for the successful outcome of the survey: Drs. S. L. Betagole, Henrietta Blackford, J. J. Conzett, Benjamin Goldberg, A. M. Freund, F. E. Kugler, E. R. McGrath, W. J. Ledwin, J. S. Mills, M. S. Muskat, Mary E. Tracy, F. L. Salisbury, and E. W. Schlemmer. The nurses of the department of health also assisted in the thyroid examinations and evinced a steady and helpful interest in the work.

very slight enlargements. In the minds of most lay and many professional people a goiter is a very marked, plainly visible, and readily palpable thyroid enlargement. When, as occasionally and inadvertently happens, a child with a considerably thickened thyroid isthmus, or a slightly but diffusely enlarged gland, is informed that he has a goiter, complications ensue, particularly when the information is transmitted to the parents. A visit to the family physician usually results in a cursory examination and the pronouncement that there is no goiter. Moreover, the physician often expresses his opinion of "meddling public health officials" in vehement terms. Admittedly the use of the term "goiter" in such a connection is unfortunate, for there appears to be no hard-and-fast division between the normal and goitrous thyroid.

According to Dorland (1), goiter is "an enlargement of the thyroid body, causing a swelling in the front part of the neck." Stedman (2) further amplifies this definition by stating that goiter is "a chronic enlargement of the thyroid gland, not due to a neoplasm, occurring endemically in certain localities, especially mountainous regions, and sporadically elsewhere."

Hunziker (3) has pointed out that the size of the normal thyroid gland is not known, and for that reason no one can state where the normal thyroid gland stops and goiter begins. Even when the normal adult size is theoretically established, the normal adult sizes at different ages in various parts of the world are not known.

According to Plummer (4), "no definite boundary line between the normal and excessive storage of colloid can be pointed out. Storage to the degree of making the human thyroid easily palpable is generally accepted as abnormal." On the other hand, Boothby (5), points out that "slight, temporary enlargement of the thyroid gland occasionally occurs in young people of both sexes in regions where goiters are endemic. The enlargement is symmetrical and soft and appears to accompany periods of stress. It is not infrequently of periodic character, being prone to occur at the beginning of menstruation and during pregnancy. The changes in size here referred to are slight and not, as a rule, beyond the limits of possible physiologic variation."

In the light of these conflicting opinions as to the methods of determining thyroid enlargement, as to what constitutes enlargement, and as to the standards for expressing degrees of involvement, due precautions were taken during the Cincinnati survey. The use of the word "goiter" was almost entirely discarded because of the erroneous impressions aroused in the children, their parents, and the physicians. To many persons goiter summons up a picture of disfigurement, prolonged suffering, or mutilating operation. It was found that the use of the term "thyroid enlargement" tended to allay any feeling

of uneasiness on the part of those who were designated as falling within this category.

#### METHODS OF DETERMINING EXTENT OF THYROID ENLARGEMENT.

The determination of the extent of thyroid enlargement is a matter requiring considerable practice as well as judgment. When the involvement is pronounced, there is little difficulty in classifying the relative degree of increase in accordance with prearranged arbitrary standards. When the degree of involvement is relatively slight, however, it is sometimes difficult to judge the matter accurately. Many methods of procedure have been advised by workers who are familiar with the subject, and some of these are well worth recounting briefly.

Hertzler (6) says that "ordinarily in average necks the normal thyroid gland is just palpable to experienced hands. If easily palpable, it is probably slightly enlarged. If palpable in a plump patient, it may be regarded as being enlarged. Often an increase in consistency is as valuable as evidence as increase in volume. Increase of sensitiveness, likewise, may be evidence of increased activity. During pregnancy these statements must be modified, for during this state not infrequently the thyroid gland is easily palpable in the normal state."

Cabot (7) maintains that the normal thyroid can rarely be felt.

The following procedure is recommended by Boothby (5): "To palpate the thyroid, grasp the right lobe with the left hand, thumb in front and fingers sinking in behind the posterior surface by approaching from behind the posterior border of the sterno-cleidomastoid muscle. By this method the anterior-posterior diameter can be quite accurately estimated and, by moving the hand up and down, the length of the gland can be determined. If an adenoma is present, it may frequently be sufficiently elevated out of the thoracic strait by instructing the patient to swallow so that the thumb and fingers can be slipped in beneath the tumor. The examination is facilitated by pressure of the other hand on the opposite side, pushing the gland and trachea towards the side being palpated."

When the presence of thyroid enlargement has been determined, it is necessary to use some means of comparative record. Mensuration is employed by many authorities, but is unsatisfactory because of the varying shapes of necks and the difficulty of placing the tape in the same position each time a measurement is taken. Hertzler believes that one does as well to employ more general terms, such as "palpable," to indicate the normal, "easily palpable," to indicate suspected enlargement, and "small," "medium," or "large" to indicate appreciable size.

Should mensuration be deemed desirable, the scheme devised by McCarrison (8) offers a simple and efficient method. McCarrison advises that "in estimating the increase in size of the thyroid by measurement of the circumference of the neck, it is well to be aware of the fact that, in the absence of other factors, an increase of three-fourths to 1 inch will represent a doubling of its volume, a further increase of three-fourths to 1 inch a trebling, and a still further increase of one-half to three-fourths inch a quadrupling of the gland's volume. These figures are approximately correct for necks whose normal circumference is 13 to 16 inches."

In the Cincinnati survey it was the practice to view the side of the neck of each child in a good light. If the neck line was straight and the fullness peculiar to slight isthmal thickening was lacking, thyroid enlargement was presumably judged to be absent. However, before a final decision was made, the region of the usual isthmal location, namely, across the second and third, and, occasionally, the fourth ring of the trachea, was palpated by approximating 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. With the finger still in position the child is asked to swallow, thereby causing the isthmus to be brought into bold relief beneath the finger. In very many instances the extent of isthmal enlargement may be determined by simple observation of the neck while the child swallows.

The thyroid of a short, stout child is seldom palpable and not often enlarged. It is probable that some of the children of this type are suffering from hypothyroidism.

#### STANDARDS FOR RECORDING THYROID ENLARGEMENT.

In order that the results of observations made by a number of examiners may be comparable, it is necessary, of course, that definite standards be adopted. Heretofore the standards used during thyroid surveys have usually been those suggested by Marine and Kimball (9), as a result of their investigations in Akron, Ohio. These authorities divided the thyroid enlargements observed by them into three arbitrary groups, viz, 1, slight; 2, moderate; and 3, marked. Practically all subsequent surveys made by Marine and Kimball, as well as those made by independent workers, have utilized this classification.

The examination of a considerable number of enlarged thyroids impresses one with the desirability of recognizing even finer grades than those suggested by Marine and Kimball. Dr. Taliferro Clark, of the United States Public Health Service (10), who has had an extensive experience in making thyroid surveys, suggested to the

writer the feasibility of a broader classification. According to Doctor Clark, the Marine-Kimball classification is inadequate because of the very great variations in the sizes of the goiters encountered and its nonadaptability for purposes of comparing the size of the goiter at the time of one survey with the size observed at a subsequent one. Doctor Clark suggested that a broader classification, possibly including five grades of thyroid involvement, would meet these objections. This suggestion was adopted and put into practical operation during the Cincinnati survey. Apparently the finer classification is both rational and helpful. The terms used were "very slight," "slight," "moderate," "marked," and "very marked." The least form of enlargement was termed "very slight," while the greatest was called "very marked." Adenomata, of course, constituted a sixth group.

The symbols used to indicate each degree of thyroid enlargement noted during the Cincinnati survey and the factors entering into the determination of each were 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 (11) 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 (12), only those stalks extending to the base of the thyroid cartilage were 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-cleido-mastoid 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 the thyroid examinations, a record card of simple type is required. In the Cincinnati survey the following form was utilized:

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.							

Ruled lines on the back of the card provide space upon which additional entries may be entered when reexaminations are made. The face side of the card is divided into two parts by a double line, the upper portion being for general information which can be supplied by the pupil and teacher prior to the arrival of the examiner, while the lower portion serves for recording the findings of the examination.

The preliminary information having been placed upon the cards, each pupil presented his card to the examining physician, who encircled the symbols or terms applicable to the findings. Zero (0) represents a normal thyroid gland, while the other numerals indicate successive degrees of enlargement. It was found helpful to examine girls and boys in groups rather than indiscriminately, this method serving in the mechanical sorting of the cards—a considerable aid when a large number of examinations are being made.

Before the survey was begun it was decided to include an estimate of physical development of the children examined, in the hope that the examination might disclose a difference of development between normal children and those with thyroid enlargement. It soon became evident, however, that neither mental nor physical development entered into the question to such an extent that the matter could be determined by observation. In other words, general and specific examinations made with precision are probably required in ascertaining this information.

In indicating the location of the thyroid enlargement the terms "isthmus" and "diffuse" were used. In general, and subject to occasional variation, the principal enlargements among the very slight goiters were found in the isthmus. In the larger goiters



the increase was usually diffuse or rather evenly distributed throughout the gland.

The terms "right lobe" and "left lobe" were provided primarily for recording asymmetry, the lobe showing the greater degree of enlargement being encircled on the card by the examiner.

### Results of the Thyroid Survey in Cincinnati.

#### GENERAL SCOPE OF THE SURVEY.

Thyroid examinations were made in 61 elementary public and 43 elementary parochial schools, the grades running between the first and eighth, the kindergarten being excluded. While the kindergarten children were not examined, it is known that a certain amount of definite thyroid enlargement exists among these younger school children. Consequently, the inclusion of kindergartens in a thyroid survey would undoubtedly yield interesting information.

The number and percentage of thyroid enlargements among 47,493 children examined in the public and parochial schools of Cincinnati, by age, color, and sex, are given in Table 1. Of this total, 23,710 were boys and 23,783 were girls. The presence of 2,396 colored boys and 2,765 colored girls among this number afforded an opportunity of learning whether or not there is, as has been alleged by some, a racial immunity to endemic goiter.

Of the total number of children examined, 14,205 white boys and 2,304 colored boys and 13,971 white girls and 2,671 colored girls attended the public schools. In the parochial schools 7,109 white and 92 colored boys and 7,047 white and 94 colored girls were examined.

TABLE 1.—Number and percentage of thyroid enlargements among 47,493 elementary school children of Cincinnati, Ohio, by age, color, and sex.

#### BOYS.

Age.	White.			Colored.			Totals.		
	A	B	C	A	B	C	A	B	C
6.....	1,999	334	16.7	247	54	21.9	2,246	388	17.6
7.....	2,014	371	18.5	236	67	28.4	2,250	438	19.5
8.....	2,244	485	21.6	292	74	25.4	2,536	559	22.0
9.....	2,417	601	24.9	255	52	20.4	2,672	653	24.5
10.....	2,431	663	27.3	272	72	26.5	2,708	735	27.2
11.....	2,468	717	29.0	251	83	33.1	2,719	800	29.5
12.....	2,376	785	33.1	246	90	36.6	2,622	875	33.4
13.....	2,267	782	34.5	204	86	42.2	2,471	868	35.1
14.....	1,717	536	31.2	196	59	30.1	1,913	595	31.1
15.....	1,108	302	27.2	135	32	23.7	1,243	334	26.9
16.....	258	63	24.4	61	6	9.9	319	69	21.6
17.....	15	.....	.....	1	.....	.....	16	.....	.....
Total.....	21,314	5,639	26.4	2,396	675	28.2	23,710	6,314	26.6

TABLE 1.—Number and percentage of thyroid enlargements among 47,493 elementary school children of Cincinnati, Ohio, by age, color, and sex—Continued.

## GIRLS.

Age.	White.			Colored.			Totals.		
	A	B	C	A	B	C	A	B	C
6.....	1,957	395	20.2	237	80	33.8	2,194	475	21.7
7.....	2,046	504	24.6	258	78	30.2	2,304	582	25.2
8.....	2,164	638	29.4	307	81	26.4	2,471	719	29.1
9.....	2,402	801	33.4	290	122	42.1	2,692	923	34.3
10.....	2,503	950	37.9	294	130	44.3	2,797	1,023	36.8
11.....	2,540	1,056	41.5	282	131	46.5	2,822	1,187	42.0
12.....	2,349	1,168	49.6	291	141	48.5	2,640	1,309	49.5
13.....	2,185	1,164	53.3	293	169	57.7	2,478	1,333	54.0
14.....	1,650	885	53.7	240	131	54.5	1,890	1,016	53.5
15.....	1,020	521	51.0	163	112	62.8	1,183	633	53.5
16.....	193	106	55.0	104	70	67.3	297	176	59.5
17.....	9	.....	.....	6	4	66.6	15	4	26.6
Total.....	21,018	8,188	39.0	2,765	1,245	45.1	23,783	9,437	39.8

## Explanation:

- A. Number of children.  
 B. Number of thyroids enlarged.  
 C. Percentage of thyroid enlargements.

## NUMBERS OF THYROID ENLARGEMENTS.

In Table 1 the numbers and percentages of thyroid enlargements of all grades are set forth by age, color, and sex. In all, 15,751 thyroid enlargements were noted, representing 33.2 per cent of the entire number of children examined. Among the 23,710 boys examined, 6,314, or 26.6 per cent, were found to have some degree of enlargement. There were 9,437 enlargements among the girls, representing 39.8 per cent of the 23,783 girls surveyed.

Of the white boys examined, 5,639 or 26.4 per cent, were found to have some grade of thyroid enlargement. Among the colored boys, 675, or 28.2 per cent, were found to have the condition. The preponderance of thyroid enlargement among the girls, both white and colored, is also well shown in this table. Among the white girls there were 8,188 enlargements, representing 39.0 per cent of the total number of white girls examined. The number among the colored girls, 1,245 or 45.1 per cent, represents a considerably higher incidence than that among the white girls. A further examination of Table 1 shows that the greatest prevalence, in so far as numbers are concerned, is between 11 and 13 years in both sexes.

In Chart 1 the numbers of boys and girls examined are represented graphically by age. It will be particularly noted that the numbers of each sex correspond very closely, both by ages and totals, making the findings as to thyroid enlargement readily comparable. The preponderance of thyroid enlargement in either sex under these favorable conditions plainly indicates a sexual susceptibility. It will be seen that the greatest number of children

attending the elementary schools range between the ages of 6 and 13, the maximum being between 10 and 11 years.

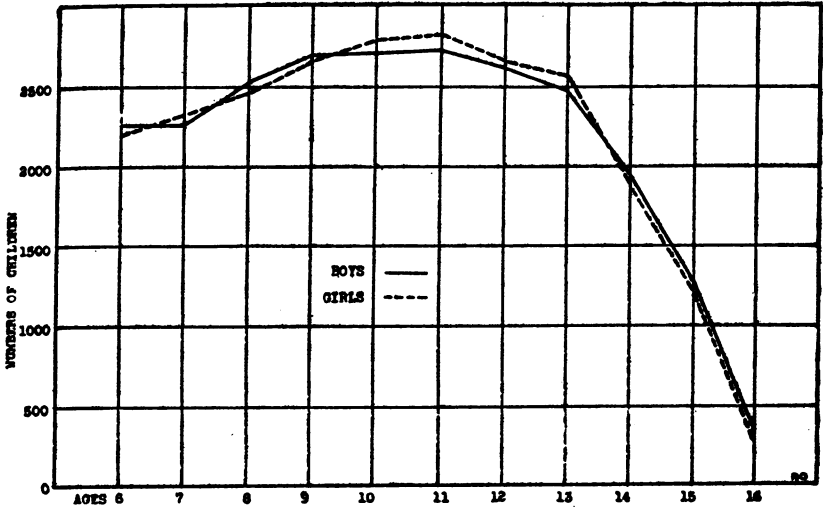


CHART 1.—Numbers of boys and girls (by ages) examined for thyroid enlargement in the elementary schools of Cincinnati, Ohio.

The numbers of thyroid enlargements occurring among boys and girls at the various ages are shown in Chart 2. The wide dis-

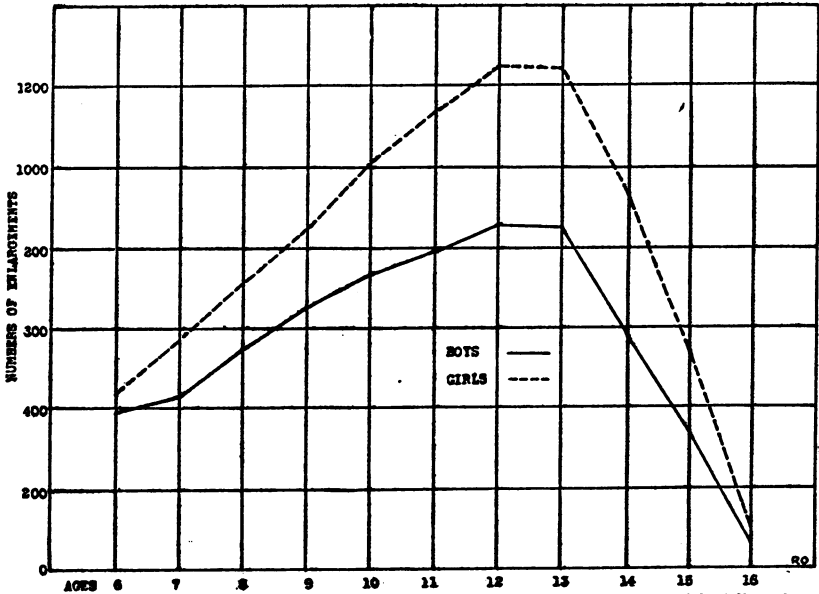


CHART 2.—Numbers of thyroid enlargements found among 23,710 boys and 23,783 girls (all grades, all ages) in the elementary schools of Cincinnati, Ohio.

parity in numbers, especially between the ages of 10 and 13, is particularly noticeable. Both curves follow relatively the same general course, there being a plateau or period of similar maximum

prevalence at the ages of 11 and 12 in both sexes. After the age of 13 the curve declines rapidly, due in part to the smaller numbers of children in the more advanced age groups.

*Degrees of enlargement.*—The number and percentage of each degree of thyroid enlargement among boys and girls are given in detail in Table 2. It is at once apparent that endemic goiter occurs more frequently among girls. It is evident, however, that *very slight* enlargements prevail to approximately the same extent in both sexes. When the more marked degrees of involvement are considered, the preponderance in incidence is among the girls. These facts are clearly shown in Table 3, in which the totals of each degree of thyroid enlargement are set forth for boys and girls.

*Percentage involvements.*—The percentage of thyroid involvement among boys and girls at each age is a matter of considerable interest. This information has also been recorded in Table 2. The wide disparity between the sexes is again well illustrated. It may be pointed out that the percentage involvement among girls shows a steady increase from the age of 6, the only interruption occurring at the ages of 13, 14, and 15, when the extent of occurrence remains approximately the same. The percentage of abnormality among boys, however, presents an entirely different aspect. Following a gradual increase to the age of 13, there is a steady decline, a condition differing radically from that found among females. These facts are presented graphically in Chart 3. The peculiarities of each degree of enlargement are set forth in separate charts.

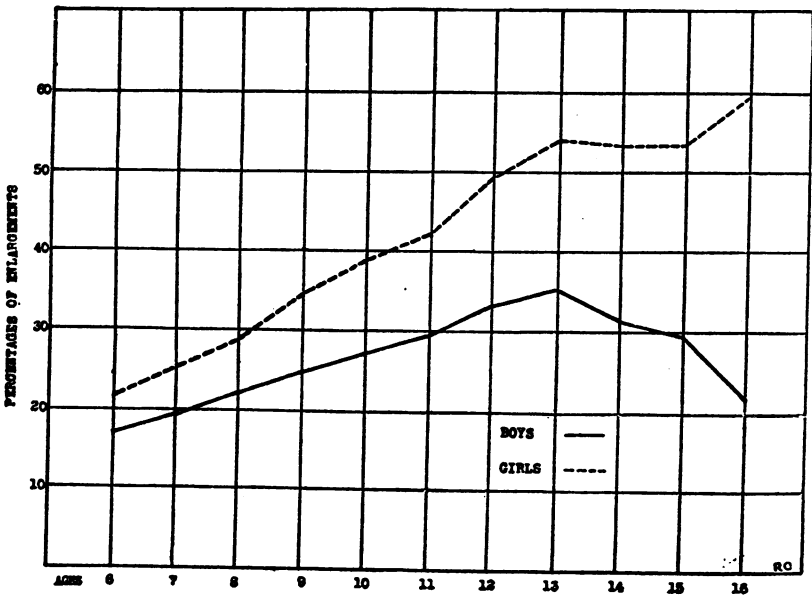


CHART 3.—Percentages of all grades of thyroid enlargements found among 23,710 boys and 23,783 girls (by ages) in the elementary schools of Cincinnati, Ohio.

TABLE 2.—Number and percentage of each grade of thyroid enlargement (by age, sex, and color) of 47,498 elementary-school children in Cincinnati, Ohio.

## BOYS.

Age.	White.										Colored.														
	1		2		3		4		5		4 and 5		1		2		3		4		5		4 and 5		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
6	296	12.6	75	3.7	2	0.10	1	0.05	38	15.4	16	6.5													
7	286	14.4	79	3.9	3	0.15	3	.15	38	16.1	29	12.2													
8	323	14.4	140	6.3	12	.53	10	.45	47	16.1	27	9.3													
9	420	17.4	160	6.6	18	.75	3	.12	30	11.8	19	7.5	3	1.2											
10	437	18.0	193	8.0	27	1.1	3	.25	39	14.3	30	11.0	3	1.2											
11	469	19.0	213	8.1	26	1.0	9	.36	62	24.7	31	8.4													
12	508	21.4	228	9.5	33	1.6	10	.55	62	25.9	28	9.3	6	2.4											
13	494	21.8	216	9.6	58	2.5	14	.62	51	25.0	19	6.2	11	4.4											
14	308	18.0	143	8.4	68	4.0	18	1.0	36	18.4	18	6.2	14	5.5											
15	172	13.0	91	7.7	38	2.8	3	.51	15	11.1	11	8.2	2	1.5											
16	26	11.2	20	7.8	0	2.3	8	.31	3	6.9			3	4.9											
Total	3,700	17.4	1,556	7.4	292	1.5	89	0.43	420	17.4	218	9.0	30	1.2											
Per cent.							0.36	0.063																	0.57

Explanation:  
A. Number of enlarged thyroids.  
B. Per cent of enlarged thyroids.

## Grades:

1. Very slight enlargement.
2. Slight enlargement.
3. Moderate enlargement.
4. Marked enlargement.
5. Very marked enlargement.

TABLE 2.—Number and percentage of each grade of thyroid enlargement (by age, sex, and color) of 47,493 elementary-school children in Cincinnati, Ohio—Continued.

GIRLS.

Age.	White.										Colored.															
	1		2		3		4		5		4 and 5		1		2		3		4		5		4 and 5			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
6	260	13.3	114	5.8	18	0.92	3																			
7	313	15.3	160	7.8	28	1.4	3																			
8	381	17.6	203	9.2	51	2.3	6																			
9	425	17.7	213	12.2	75	3.1	8																			
10	478	19.1	243	16.7	41	1.6	13																			
11	460	18.2	409	16.1	136	5.4	45																			
12	477	20.2	440	18.7	161	6.8	85																			
13	428	19.6	424	19.4	202	9.3	92																			
14	277	16.8	269	18.1	178	10.8	105																			
15	142	13.9	173	16.9	126	12.4	75																			
16	44	22.8	22	11.4	24	12.5	14																			
17																										
Total	3,085	17.4	2,951	14.2	1,040	5.7	449																			
Per cent.																										
			2,951	14.2	1,040	5.7	449	0.36	63	2.4	494	18.2	495	18.4	179	7.2	71	2.6	10						2.9	

Explanation:  
 A. Number of enlarged thyroids.  
 B. Per cent of enlarged thyroids.  
 Grades:  
 1. Very slight enlargement.  
 2. Slight enlargement.  
 3. Moderate enlargement.  
 4. Marked enlargement.  
 5. Very marked enlargement.

TABLE 3.—Number of each degree of thyroid enlargement among 23,710 boys and 23,783 girls (by ages) in the elementary schools of Cincinnati, Ohio.

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

Age.	Boys.					Girls.				
	Degree of enlargement.					Degree of enlargement.				
	1	2	3	4	5	1	2	3	4	5
6	294	91	2	1		294	150	28	3	
7	324	108	3	3		350	197	32	3	
8	370	167	12	10		420	242	51	6	
9	450	179	21	3		491	337	81	14	
10	476	223	27	6	3	533	476	51	18	2
11	531	234	26	9		507	478	148	48	6
12	569	249	44	10	3	534	483	195	92	5
13	545	235	69	19		495	475	237	105	21
14	342	161	74	16	2	318	337	208	125	28
15	187	102	35	7	3	173	219	151	82	8
16	32	20	9	8		64	49	36	24	3
17							3	1		
Total	4,120	1,769	322	92	11	4,179	3,446	1,219	520	73
Per cent	26.2	11.2	2.0	0.58	0.07	26.5	21.9	7.7	3.3	0.46

*Very slight enlargements.*—The numbers of very slight thyroid enlargements are displayed in graphic form in Chart 4. It will be

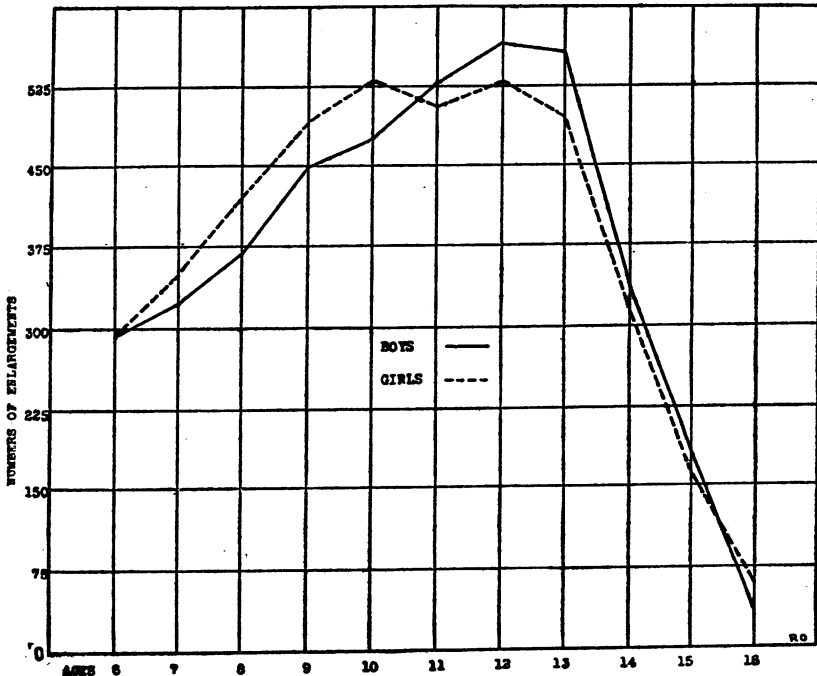


CHART 4.—Numbers of very slight thyroid enlargements found among 47,493 elementary-school children (all ages, both sexes) in Cincinnati, Ohio.

noted that the numbers are approximately the same for both sexes at the different ages. Among boys the greatest number of very

slight enlargements occurs at the ages of 12 and 13, whereas among girls the maximum prevalence is between 10 and 13 years of age. After the age of 13 the numbers decline rapidly in both sexes.

*Slight enlargements.*—In Chart 5 the numbers of slight thyroid abnormalities are shown. It will be seen that there are approxi-

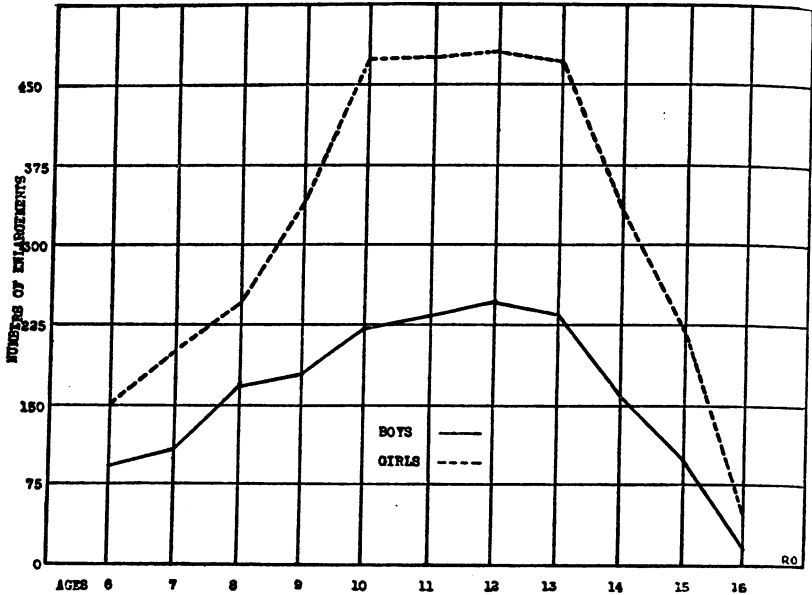


CHART 5.—Numbers of slight thyroid enlargements found among 23,710 boys and 23,783 girls (by ages) in the elementary schools of Cincinnati, Ohio.

mately twice as many slight enlargements among girls as among boys. The ages of maximum incidence for this type are between 10 and 13 years among boys, corresponding quite accurately to the periods of greatest prevalence among girls. It is also evident that the prevalence of slight enlargements in the earlier age groups is far less than that of very slight enlargement, as shown in Chart 3.

*Moderate enlargements.*—Moderate thyroid enlargement, according to Chart 6, is relatively infrequent prior to the age of 10 in either sex. After this age, however, there is a marked increase among girls until the age of 13 is reached. Thereafter there is a rapid decline which, however, does not reach the low level assumed by the curve representing incidence among boys. The marked disparity between the sexes is again accentuated in this chart. At no time does the prevalence of moderate enlargements assume great proportions among boys, though it does not reach its greatest incidence in this sex until the age of 14.

*Marked enlargements.*—Among girls, marked thyroid enlargements are approximately six times as frequent as among boys. This fact is represented graphically in Chart 7. This chart also indicates that marked enlargement is relatively infrequent prior to the age of



10, very much more frequent among girls than boys after this age, and comparatively uniform in prevalence among boys except at the ages of 13 and 14, when the enlargements of this grade are more frequent.

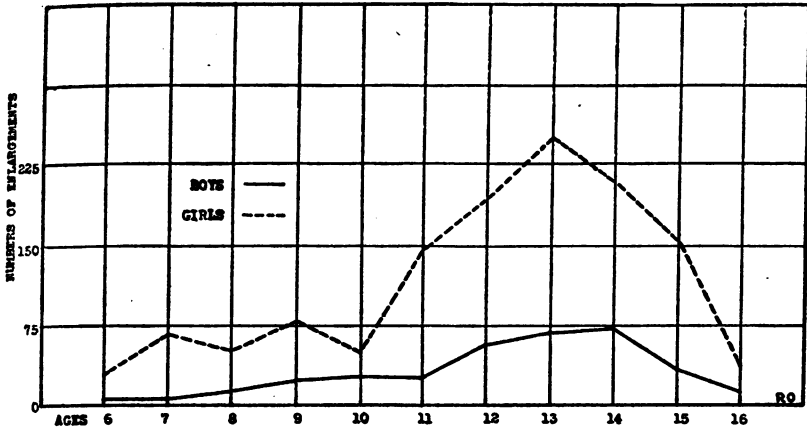


CHART 6.—Numbers of moderate thyroid enlargements found among 23,710 boys and 23,783 girls (by ages) in the elementary schools of Cincinnati, Ohio.

*Very marked enlargements.*—The extremely large goiters designated as very marked have been represented in a different manner from that in which the preceding abnormalities have been represented, because

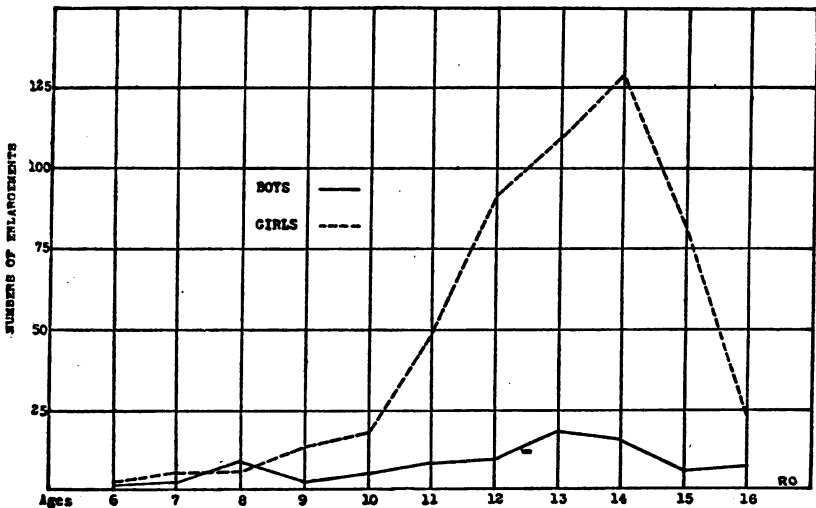


CHART 7.—Numbers of marked thyroid enlargements found among 23,710 boys and 23,783 girls (by ages) in the elementary schools of Cincinnati, Ohio.

of the comparatively small number of instances recorded. The principal features of this graphic representation, Chart 8, are the marked excess of this grade among girls and the fact that this type is

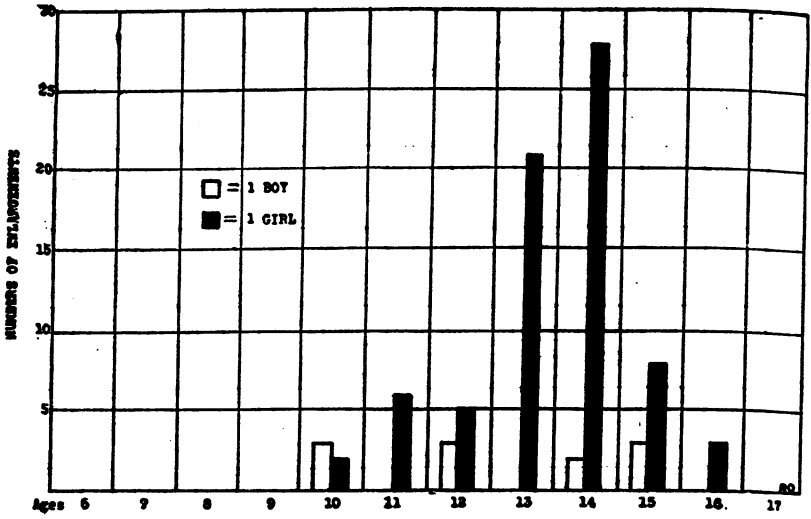


CHART 8.—Numbers of very marked thyroid enlargements found among 23,710 boys and 23,783 girls (by ages) in the elementary schools of Cincinnati, Ohio.

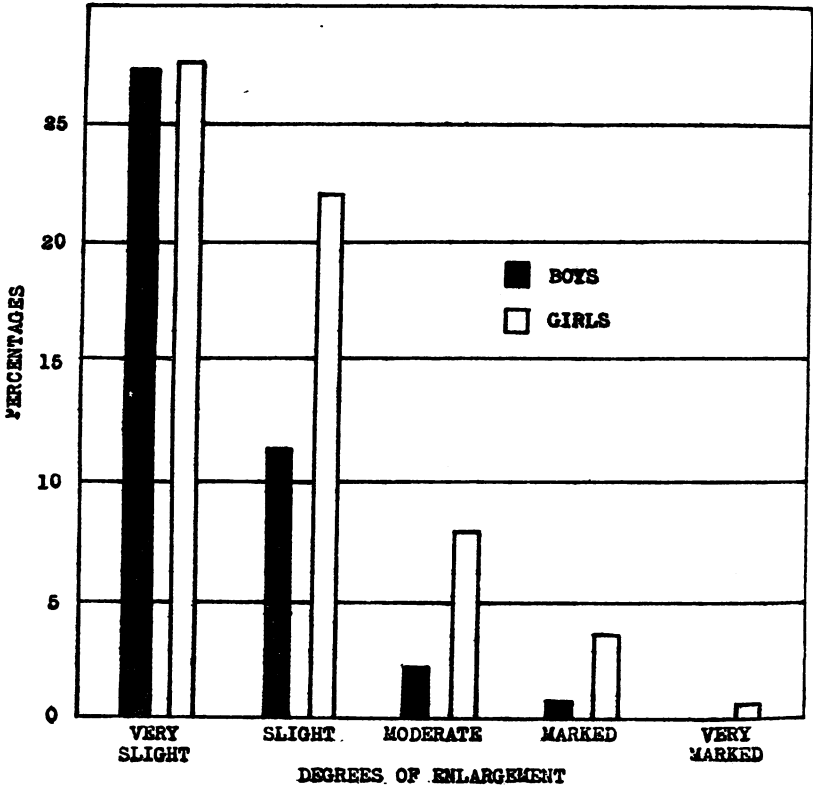


CHART 9.—Percentages of each grade of thyroid enlargement found among 23,710 boys and 23,783 girls in the elementary schools of Cincinnati, Ohio.

encountered most frequently among girls at the ages of 15 and 16 years.

*Comparative degrees of involvement by sex and grade.*—Based upon the percentages of thyroid enlargements shown in Table 3, Chart 9 has been prepared to show the comparative degrees of involvement in each sex. As previously indicated, the very slight deviations from normal are approximately the same in both sexes, the slight enlargements twice as frequent among girls, moderate enlargements four times more frequent among girls, marked enlargements six times more frequent among girls, and very marked enlargements seven times more frequent among girls.

*Involvement by sex and race.*—A comparison of the percentage of thyroid enlargement among boys, both white and colored, is presented in graphic form in Chart 10, the information being tabulated

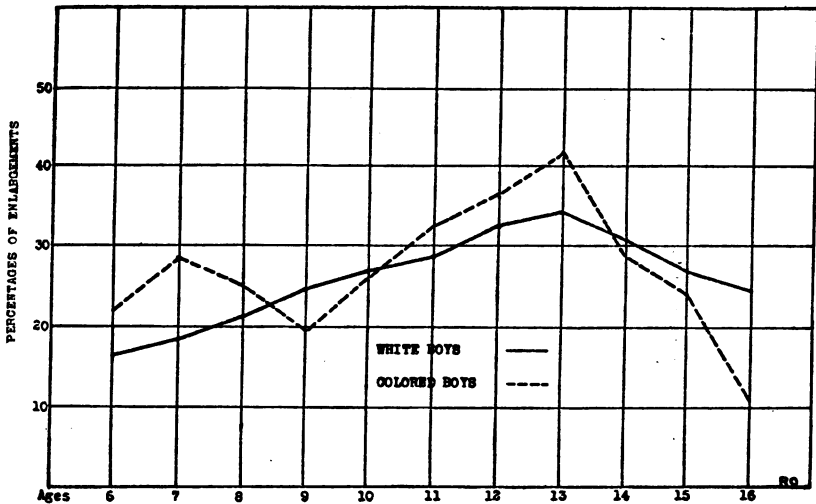


CHART 10.—Percentages of all grades of thyroid enlargements found among 21,710 white and 2,396 colored boys (by ages) in the elementary schools of Cincinnati, Ohio.

in Table 1. The curves in this chart observe the same trend, the greatest numbers of abnormalities occurring at the age of 13, after which there is a rapid decline in the percentages, thereby differing radically from the findings in the females.

In Chart 11 the comparisons of the percentages of thyroid involvement among white and colored girls are shown. The slightly greater prevalence among colored girls, the steady increase in the number of children affected to the age of 16, and the greater amount of enlargement among females are clearly illustrated in this chart. It is manifest that there is no racial immunity to endemic goiter among colored children.

*Relative frequency of goiter among boys and girls.*—As a result of his work among the children in the higher grades of the Akron, Ohio,

schools, Kimball (13) concluded that endemic goiter was at least six times more frequent in girls than in boys. Later, however, when surveys included children in the lower grades, Kimball (14) found that the condition was only two or three times more frequent in girls than in boys.

As additional surveys have been made it has become apparent that the ratio of thyroid involvement among boys and girls is subject to considerable variation, though the differences are seldom very marked. In the Cincinnati survey the ratio of goiter prevalence among girls and boys was as 6 to 4. This statement, however, requires qualification lest an erroneous impression be conveyed. It will be recalled that approximately 50 per cent of all enlargements

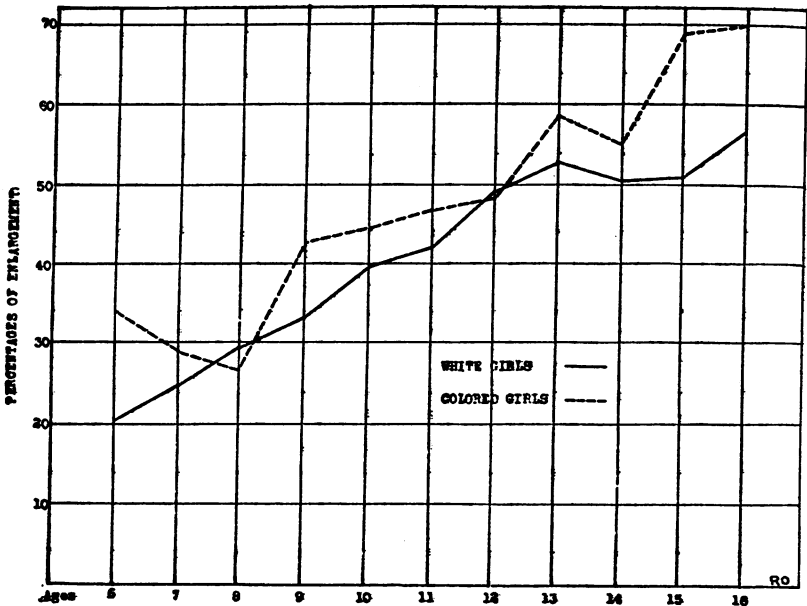


CHART 11.—Percentages of all grades of thyroid enlargements found among 21,018 white and 2,765 colored girls (by ages) in the elementary schools of Cincinnati, Ohio.

were included in the category, "very slight." If these relatively insignificant enlargements are excluded from the calculations, the remaining goiters are more prominent among the girls in the proportion of 7 to 3, or approximately two and one-half times as frequent among girls as boys.

*Asymmetry of thyroids.*—Thyroid enlargements are frequently asymmetrical. During the course of the Cincinnati survey, 1,244 asymmetrical thyroids, representing 7.9 per cent of the total number classed as enlargements, were recorded. Of peculiar interest in this connection is the greater prevalence of right-sided enlargements, being nine times more frequent than left-lobed asymmetries. Of the

asymmetrical thyroids, 975, or 78.4 per cent, occurred among girls, while 269, or 21.6 per cent, were found among boys, an approximate proportion of 4 to 1.

*Adenomata.*—In 142 instances, representing 0.9 per cent of all the thyroid enlargements noted, the presumptive diagnosis of adenoma was recorded. These nodular enlargements were distributed to the extent of 45.4 per cent among the boys and 55.6 per cent among the girls. According to the degree of abnormality, these adenomata were distributed as follows: Very slight enlargement, 20, or 13.6 per cent; slight, 52, or 36.4 per cent; moderate, 31, or 22.7 per cent; marked, 26, or 18.2 per cent; and very marked, 13, or 9.1 per cent.

The number of adenomata discovered during the Cincinnati survey is less than the numbers reported by other authorities in other sections of the country. Thus, Marine and Kimball (15), in a survey of 3,872 girls in Akron, Ohio, in the grades between the fifth and twelfth, inclusive, recorded 1.01 per cent of adenomatous growths. Sears (16), reporting from rural sections of Utah, notes between 3 and 4.3 per cent of adenomata in a series of 2,615 examinations.

*Exophthalmic goiter.*—One frank case of exophthalmic goiter was noted in a 13-year-old school girl in Cincinnati. This patient was under medical supervision. Tentative diagnoses of exophthalmic goiter were made in three additional instances, the subjects being girls.

#### BIRTHPLACES OF CHILDREN HAVING ENDEMIC GOITER.

Very little light was shed upon the occurrence of thyroid enlargement by the birthplaces and places of residence during the past year of the children examined. Practically all of the children had resided in Cincinnati during the previous year, sufficient time having elapsed since the arrival of new residents to expose them to conditions which might possibly contribute to thyroid involvement. The slightly greater prevalence of such enlargement among colored children may possibly be explained, at least in part, by the fact that very many of them have quite recently come from the Southern States, in which endemic goiter is relatively infrequent. Having been placed under conditions conducive to thyroid enlargement, whatever they may be, the thyroids readily responded to the new stimuli to even a greater extent than those of the somewhat inured white children.

#### GOITER AND MENTALITY

Several observers, notably Olin (17), have reported a definite relation between endemic goiter and backwardness in school. Others attribute mental subnormality and actual deficiency to this condition. No precise studies were made of the mentality of goitrous individuals during the Cincinnati survey. A definite impression

was gained, however, that there was no marked difference between goitrous and nongoitrous subjects. In many instances those with marked thyroid enlargement were found to be among the brightest children in the schools. In order to secure definite information on this point it is planned to conduct psychological tests on a number of children with marked thyroid involvement and on an equal number of apparently normal children with approximately the same social status and general environment.

#### BASAL METABOLISM AND THYROID ENLARGEMENT

As basal metabolism is the criterion of thyroid activity, it is of collateral interest to speculate as to the relation of the data gathered during the Cincinnati survey to known facts regarding the metabolic process. It will be recalled that basal metabolism is the measure of the heat production when the body is at rest and a sufficient time has elapsed to escape the stimulating effect of food. In other words, it is the minimal rate of energy transformation in the body or, figuratively, the oxidation that still goes on when the "fires of the body are 'banked'" (18).

Basal metabolism is probably most frequently and best expressed in terms of calories per hour per square meter of body surface. According to Du Bois (19), metabolism is low at birth, increases rapidly during the first year of life, reaches its maximum in the almost unexplored period between 1 and 6, falls quite rapidly until the age of 20, then very slowly. During infancy there is no apparent difference between the sexes, but after the age of 6 girls and women have a distinctly lower metabolism than boys and men, averaging 6.2 per cent lower. This difference may be accounted for in part by differences in average weight and size.

The chief functions of the thyroid are to utilize the iodine-containing hormone for the maintenance of flexibility of metabolism and also to meet the wide variations necessitated by seasons, prolonged use of certain diets, and certain conditions, such as puberty, pregnancy, lactation, and menopause. According to Marine (20), "simple goiter is compensatory or work hyperplasia of the thyroid gland developing during the course of certain metabolic disturbances of unknown character, but immediately depending on a relative or absolute deficiency of iodine."

The thyroid study in Cincinnati showed (Chart 8) that thyroid incidence progressively increases among girls between the ages of 6 and 16 (remaining practically the same, however, at age 13, 14, and 15). With boys the increase is steady, though constantly less than among girls, until the age of 13 is reached, after which age there is a gradual decrease in prevalence. The greater incidence of thyroid

enlargement among girls is also evident in the chart and should be considered in connection with the basal metabolic rates, which are lower in girls than in boys. While the basal metabolic rates are not materially disturbed in the presence of endemic goiter, the normal variation being within  $\pm 10$  per cent, it is evident that basal metabolism bears a rather definite and constant relation to the condition. Although thyroid activity is normally low in children, as shown by Du Bois, the stimulus of bodily development, puberty, and regular environmental stress creates a demand for the iodine-containing hormone known as thyroxin. In an effort to elaborate this material in the required quantities, the thyroid gland enlarges. In girls, the necessity for increased thyroid activity appears to be relatively greater, owing to the initially lower metabolic rates and perhaps the greater needs.

These conditions may indicate a relation between the physiologic needs for iodine and the basal metabolic rates at different ages. Furthermore, it may be of considerable practical importance in indicating the portions of the general population in particular need of supplemental quantities of iodine.

#### Discussion.

*Prevention versus cure.*—Because of the demonstrable ability of iodine to cause many endemic goiters to disappear or become reduced in size, attention has become focused primarily upon the curative properties of this element. While public health officials should be interested in the cure of goiter, their really fundamental concern should be with the prevention of endemic thyroid enlargement. The Cincinnati Board of Health has wisely established a sharp line of cleavage between the functions of cure and prevention, maintaining that the former is within the province of the physician while the latter is a duty of the health department. The board intends, therefore, to refer the children known to have thyroid enlargement to their family physicians for appropriate treatment. The efforts of the health department, on the other hand, will be directed principally to the prevention of thyroid enlargement among the presumably goiter-free individuals in the community who, nevertheless, are prospective candidates for the condition.

In many quarters the need for iodine prophylaxis for thyroid-normal children is being entirely overlooked. Adjustment of viewpoint on the part of public health workers is, therefore, much to be desired, lest obvious precautions be neglected.

*Iodized table salt.*—The use of iodized table salt, as pointed out in a previous communication (21) is practiced extensively and satisfactorily in Austria and Switzerland, but has met with numerous theoretical objections in the United States. Principal among these

objections are, first, possible harm to persons with hyperfunctioning thyroid glands; second, excitation of a simple thyroid enlargement into a toxic or hyperfunctioning type; and, third, increased cost of table salt, an economic factor.

To the first two of these objections it may be said that in the infinitesimal doses conveyed in iodized table salt it is very doubtful whether a deleterious influence can be exerted. It may also be recalled that iodine, when administered judiciously in small doses, favorably influences toxic goiters at times.

According to salt manufacturers, the cost of iodizing table salt ranges between \$1 and \$1.60 a ton. This cost will in all probability not be borne by the consumer, but absorbed in economies effected in production. In any event, the cost to the consumer will be trifling. Iodized table salt should not be regarded as a "cure-all." It will probably not cure a simple goiter, especially one of appreciable size. The primary purpose of the preparation is to aid in providing the iodine essential to the proper functioning of the thyroid gland in thyroid-normal individuals, who compose the majority of the population. The exceedingly small quantity of iodine made available in this way must be skillfully supplemented by physicians when definite thyroid enlargement exists.

#### Conclusions.

That endemic goiter exists to a considerable extent in Cincinnati is evidenced by the results obtained during the systematic examination of the children in the elementary schools. While the exact effects of endemic goiter are not well known, it is reasonable to presume that the condition, in a large majority of instances, at least, is an abnormal one and should be prevented or cured by the application of appropriate measures.

#### Recommendations.

Since it has been definitely proved that endemic goiter may be prevented and existing enlargements caused to diminish in size or disappear when proper quantities of iodine are ingested, it has been recommended to the Board of Health of Cincinnati that the necessary prophylactic and curative measures be employed.

Inasmuch as human beings require a definite and constant supply of iodine in order to function normally, this quantity being estimated as a minimum of 300 milligrams annually,<sup>2</sup> the Board of Health of

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<sup>2</sup> EDITORIAL NOTE.—The amount of iodine recommended by the author can not yet be accepted as a definite and proper one for meeting normal human requirements. It may serve, however, as a point of departure for further observation and study, as a result of which more definite information may be obtained and a possible standard fixed. While the Public Health Service regards the use of iodized table salt for goiter prophylaxis as very promising, it feels that the establishment of a nation-wide standard will depend largely upon the practical demonstration of the harmlessness of the procedure and its demonstrated efficiency in preventing endemic goiter.



Cincinnati has been advised to insure the ingestion of this amount by each person.

As the amount of iodine necessary to the maintenance of normal thyroid equilibrium may be transferred through the medium of table salt, which, next to water, is the most common article of food, it has been recommended to the Cincinnati Board of Health that all table salt used in the community be prepared in this manner.

It has also been recommended that the board of health favor the enactment of a Federal statute requiring the iodization of all table salt sold in the United States, thereby insuring uniformity of the product and restoring to common salt one of the important ingredients which, when naturally present, is invariably removed in the process of refining. A proportion of 1 part of an iodine compound such as sodium iodide to 5,000 parts of salt apparently satisfies the requirements.

Realizing that the people of Cincinnati will more willingly accept iodine prophylaxis in the manner proposed when the procedure has been indorsed by the medical profession, the proposition has been presented to the Cincinnati Academy of Medicine with the request that, after assuring itself of the merits of iodized table salt, the organization indorse and recommend the use of this product.

#### References.

- (1) W. A. N. Dorland: *Medical Dictionary*, 12th edition, 1923.
- (2) T. L. Stedman: *Medical Dictionary*, 4th edition, 1916.
- (3) Heinrich Hunziker: *Die Prophylaxe der Grossen Schilddrüse Gleichzeitig Ein Stück Vergleichende Klimatologie der Schweiz und Ein Leitfaden für Systematische Naturwissen-schaftliche Forschungen.* Leipsic, 1924.
- (4) H. S. Plummer: *Oxford Medicine*, p. 851.
- (5) W. M. Boothby: *Oxford Medicine*, p. 891.
- (6) Arthur E. Hertzler: *Diseases of the thyroid gland.* 1922.
- (7) R. C. Cabot: *Physical diagnosis*, 1923. P. 34.
- (8) R. McCarrison: *The thyroid gland in health and disease.* 1917. P. 4.
- (9) Marine and Kimball: *The prevention of simple goiter in man.* *Jour. of Lab. and Clin. Med.*, iii, 40-48. 1917.
- (10) T. Clark (United States Public Health Service, Washington, D. C.): *Personal communication*, October 24, 1923.
- (11) Marine and Kimball: *The prevention of simple goiter in man.* *Western Reserve University Bull.*, XXVI, No. 7, p. 66. 1923.
- (12) Marine and Kimball: *Idem.*
- (13) O. P. Kimball: *The prevention of simple goiter.* *Am. Jour. Pub. Health*, Vol. XIII, No. 2, p. 123, February, 1923; *Pub. Health Rep.*, vol. 38, No. 17, p. 877, April, 1923. (Reprint No. 832.)
- (14) O. P. Kimball: *Progress of the work to date on the prevention of simple goiter.* *Western Reserve University Bull.*, XXVI, No. 7, p. 123, July, 1923.
- (15) Marine and Kimball: *The prevention of simple goiter in man.* (Second paper, *Arch. of Int. Med.*, xxii, 41-44. 1918.
- (16) H. J. Sears (University of Utah): *Personal communication*, April 4, 1924

- (17) R. M. Olin: Iodine deficiency and prevalence of simple goiter in Michigan. Jour. A. M. A., vol. 82, No. 17, p. 1328, April 26, 1924.
- (18) P. H. Mitchell: Textbook of general physiology. 1923.
- (19) E. F. Du Bois: Am. Jour. of the Med. Sciences, XVII, 887-901, June, 1916.
- (20) David Marine: The importance of our knowledge of thyroid physiology in the control of thyroid diseases. Arch. of Int. Med., vol. 32, No. 6, p. 811, December, 1923.
- (21) Robert Olesen: Methods of administering iodine for the prophylaxis of endemic goiter. Pub. Health Rep., vol. 39, No. 2, p. 45, January 11, 1924. (Reprint No. 893.)

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## NOTE ON THE LONGEVITY OF CLONORCHIS SINENSIS.

By DUNLOP MOORE, Surgeon, United States Public Health Service.

The question of the longevity of the helminths of man is not devoid of a certain theoretical interest, and, to the sanitarian, a practical importance. "The Animal Parasites of Man," by Fantham, Stephens, and Theobald, states: "As regards the age attained by endoparasitic trematodes there are but few reliable records, and these differ considerably; the overwhelming majority of species certainly live about a year, or perhaps a little longer; but there are some whose term of life extends to several or many years." The results of animal experimentation, while suggestive and of collateral interest, do not conclusively determine the length of the life cycle of the parasite in the human host.

The records of the United States Public Health Service relating to the medical examination of immigrants at San Francisco, Calif., contain some data of interest in this connection.

Some years ago, in the course of his official duties, the writer examined a Chinese in transit from Costa Rica to his native land and found him to be afflicted with clonorchiasis, typical ova of the parasite in considerable numbers being present in the excreta. The Chinaman was carefully questioned, through an interpreter, and he stated that he had resided in Costa Rica uninterruptedly for a period of 25 years, and that in all this time he had never visited China or any part of Asia. It was difficult to believe that the life of an individual trematode could extend over a period of a quarter of a century, as the facts in this case would seem to indicate, it being generally accepted that the adult parasite can not reproduce itself within the human body but requires passage through two intermediate hosts, a snail and a fish, to complete its cycle of development. Since this rather surprising observation, additional data relating to the age of this trematode have been gathered.

An extraordinarily heavy infestation with *Clonorchis* was found in a New Zealand Chinese who had not visited Asia for 5 years. A heavy *Clonorchis* infestation was found in a Habana Chinaman,

who claimed 3 years' absence from Asia. A Chinese transit from Panama, absent from Asia for 8 years, showed *Clonorchis ova* in feces. Similar findings were noted in four other Chinese who gave a definite history of continuous residence in Panama of 6, 7, 8, and 13 years, respectively.

Very recently three Chinese in transit to their native land from Central America were examined and numerous ova of *Clonorchis* found in the feces in each case. One of these passengers claimed continuous residence of 5 years' duration in the Republic of Salvador; another gave a history of 20 years of uninterrupted residence in the same country; the third stated that he had lived 11 years in Nicaragua. All of the above histories were carefully verified and are believed to be worthy of full credence.

In corroboration of the accuracy of these observations, particular attention is invited to the following point: The physicians on duty at this station have long observed that the *Clonorchis sinensis* attains a greater age within the human body, is more rebellious to therapy, and is less likely to disappear spontaneously than any of the more common helminths the sexually mature forms of which inhabit the digestive tract of man. More than 90 per cent of the Chinese immigrants examined at San Francisco immediately on arrival from China and found to be afflicted with clonorchiasis, harbor, in addition, other parasites, either roundworm, whipworm or hookworm, or more rarely other helminths. Polyparasitism is the rule among immigrants newly arrived from China and exhibiting ova of *Clonorchis* in their feces. Instances of infestation with four different species of intestinal parasites are quite common, and quintuple infestations not excessively rare.

When, on the other hand, we examine Chinese who have been absent from their home country for a period of several years, ova of *Clonorchis*, when found, almost invariably exist alone, other parasites being usually absent. In the case of the Chinese, whose histories have been narrated above, careful search was made in the centrifugized feces for eggs of other helminths, but in no instance were ova other than those of *Clonorchis sinensis* found.

This absence of other ova indicates to our satisfaction that the Chinese in question (all natives of Kwangtung Province) had been absent from their native characteristic environment for a period sufficiently long to bring about the elimination of all helminths the ova of which appear in the feces, save the relatively long-lived *Clonorchis sinensis*.

The possibility of acquiring this parasite outside of the recognized endemic foci of the disease in eastern Asia has not been very seriously considered by us, but can not, we must admit, be disregarded entirely.

**NUMBER OF CRIMINALS, DEFECTIVES, DELINQUENTS, AND DEPENDENTS IN INSTITUTIONS IN THE UNITED STATES, JANUARY 1, 1923.**

The Department of Commerce announces that on or about January 1, 1923, there were 893,679 persons confined in Federal, State, city, county, and private institutions for defectives, dependents, criminals, and juvenile delinquents, hospitals for mentally diseased, institutions for feeble-minded and epileptics, homes for adults and dependent or neglected children, institutions for juvenile delinquents, penal institutions, and almshouses. In addition the report shows that 4,973,032 patients were treated in hospitals during the year 1922, and that there were 21,621,761 visits of patients for treatment in general and special dispensaries. Statistics for the number of persons confined, admitted, and treated in the various institutions are given in the following tables:

*Mentally diseased, feeble-minded, and epileptics in institutions.*

Class of institution.	Institutions.		Patients on books Jan. 1, 1922.	Admitted.	Discharged, transferred, or died.	Patients on books Jan. 1, 1923.
	Total number.	Number reporting.				
Total.....	1 783	778	334, 142	137, 623	123, 591	348, 174
Hospitals for mental disease.....	531	526	279, 559	94, 114	83, 216	280, 457
Psychopathic wards of general hospitals.....	84	84	2, 135	33, 432	33, 725	1, 842
Institutions for feeble-minded.....	1 136	136	43, 625	8, 372	5, 275	46, 722
Institutions for epileptics.....	1 32	32	8, 823	1, 705	1, 375	9, 153

<sup>1</sup> 14 hospitals for mental disease are included in the number of institutions for feeble-minded and for epileptics also, as they care for all three classes of mental disorders.

*Hospitals and sanatoriums.*

	Institutions.		Total beds.	Total patients treated during 1922.	Total days' treatment during 1922.
	Total number.	Number reporting.			
Total.....	4, 978	4, 672	366, 491	4, 973, 032	81, 431, 954
General hospitals.....	3, 483	3, 279	243, 817	4, 163, 021	53, 394, 479
Special hospitals.....	1, 206	1, 113	75, 637	559, 177	18, 565, 023
Federal hospitals.....	289	280	47, 037	250, 834	9, 472, 452

*Dispensaries.*

	Institutions.		Number of visits during 1922.
	Total number.	Number reporting.	
Total.....	2, 519	2, 352	21, 621, 761
General dispensaries.....	842	813	12, 529, 002
Special dispensaries.....	1, 031	988	5, 013, 137
Federal dispensaries.....	423	388	3, 839, 469
Red Cross dispensaries.....	136	124	72, 673
Industrial dispensaries.....	87	39	176, 480

*Penal institutions.*

	Institutions.		Sentenced prisoners. <sup>1</sup>	
	Total number.	Number reporting.	Present Jan. 1, 1923.	Committed Jan. 1 to June 30, 1923.
Total.....	3,845	2,609	108,939	169,017
Federal penitentiaries.....	3	3	4,670	2,016
State prisons, reformatories, etc.....	149	149	77,340	19,518
County and city jails, workhouses, etc.....	3,693	2,457	26,929	147,489

<sup>1</sup> Including only such prisoners for whom schedules have been received. Military prisoners have been excluded.

<sup>2</sup> The number of State penal institutions includes 14 State prison farms as well as the State prison in Texas; also 37 State chain gangs and other detached branches in addition to the State prison in Virginia.

*Inmates of almshouses.*

Total number of institutions.....	2,353
Institutions reporting.....	2,222
Admitted during 1922.....	63,807
Discharged or transferred during 1922.....	44,066
Died during 1922.....	15,772
Present Jan. 1, 1923.....	78,090

*Institutions for adults and children.*

Class of institution.	Institutions.		Adults or children reported as under care Feb. 1, 1923.			
	Total number.	Number reporting.	Total.	Male.	Female.	Sex not reported.
Homes for adults.....	1,382	1,316	79,030	47,245	30,869	916
Homes for children.....	1,346	1,339				
Inmates—						
In the institution.....			122,724	65,167	55,951	1,603
In free family homes.....			14,481	7,482	6,999	
In boarding homes.....			1,823	1,005	818	
Homes for adults and children.....	214	207				
Adults as inmates.....			6,766	2,706	4,020	40
Children as inmates—						
In the institution.....			10,001	5,145	4,769	87
In free family homes.....			211	95	116	
In boarding homes.....			8	8		
Child-placing agencies.....	338	311				
Children placed—						
In receiving or temporary homes.....			5,048	2,784	2,233	31
In free family homes.....			29,272	14,196	13,010	2,076
In boarding homes.....			15,445	8,518	6,969	18
Elsewhere.....			2,659	1,386	1,424	49
Not reported.....			190	109	81	
Day nurseries.....	613	599	22,822	11,192	11,396	234
Homes for wayward women or girls and unmarried or destitute mothers with their children.....	197	187				
Adults as inmates.....			3,329		3,329	
Children as inmates.....			2,389	1,085	1,123	177
Private homes for delinquent women and girls.....	69	68				
Adults as inmates.....			6,226		6,226	
Children as inmates.....			2,223	2	2,221	
Homes for convalescents and incurables.....	125	106				
Adults as inmates.....			3,980	1,173	2,361	426
Children as inmates.....			284	100	131	53

*Inmates in institutions for juvenile delinquents.*

Total number of institutions.....	150
Institutions reporting.....	145
Present Jan. 1, 1923.....	29,385
Admitted Jan. 1 to June 30, 1923.....	10,523
Discharged, transferred, or died.....	10,570
Present June 30, 1923.....	29,343

## DEATH RATES IN A GROUP OF INSURED PERSONS.

### COMPARISON OF PRINCIPAL CAUSES OF DEATH, APRIL AND MAY, 1924, AND MAY AND YEAR, 1923.

The accompanying table is taken from the Statistical Bulletin for June, 1924, published by the Metropolitan Life Insurance Co., and presents the mortality experience of the industrial insurance department of the company for May, 1924, as compared with that for March, 1924, and April and year, 1923. The rates are based on a strength of approximately 15,000,000 insured persons.

The gross death rate in this group of persons for May, 1924, was next to the lowest rate for this month in the records of the company, the rate being 9.3 per 1,000 as compared with 10.5 for April, 10.2 for March, and 9.9 for May, 1923. All but one of the principal diseases, namely, cerebral hemorrhage, showed declines in the death rate as compared with April.

As compared with May of last year, all of the principal diseases showed lower rates this year excepting scarlet fever, cerebral hemorrhage, pneumonia and other respiratory diseases, and diarrheal complaints. The increase in the rate for this latter condition is explained, however, by the fact that more infants were insured in 1924 than in 1923.

*Death rates (annual basis) for principal causes per 1,000 lives exposed, April and May, 1924, and May and year, 1923.*

Cause of death.	Death rate per 100,000 lives exposed. <sup>1</sup>			
	May, 1924.	April, 1924.	May, 1923.	Year, 1923. <sup>2</sup>
Total, all causes.....	931.2	1,047.2	986.5	923.9
Typhoid fever.....	2.4	2.7	3.0	5.1
Measles.....	9.9	14.4	19.0	9.4
Scarlet fever.....	6.2	6.5	5.5	4.4
Whooping cough.....	7.7	11.3	8.7	7.4
Diphtheria.....	9.5	12.3	10.4	15.5
Influenza.....	18.3	28.3	26.1	30.2
Tuberculosis (all forms).....	108.5	117.2	124.3	109.6
Tuberculosis of respiratory system.....	98.9	103.3	113.6	99.2
Cancer.....	64.8	71.1	70.9	71.5
Diabetes mellitus.....	15.9	16.4	19.2	15.9
Cerebral hemorrhage.....	64.4	58.8	62.5	61.0
Organic diseases of heart.....	126.4	143.5	136.2	126.7
Pneumonia (all forms).....	101.0	144.4	94.6	83.5
Other respiratory diseases.....	16.6	18.6	16.2	13.9
Diarrhea and enteritis.....	20.2	20.3	14.6	28.1
Bright's disease (chronic nephritis).....	66.6	73.7	73.6	68.5
Puerperal state.....	17.1	19.3	19.6	17.6
Suicides.....	8.0	7.9	9.2	7.3
Homicides.....	5.2	7.3	5.4	7.2
Other external causes (excluding suicides and homicides).....	52.8	51.3	59.4	62.7
Traumatism by automobile.....	11.2	12.6	13.4	15.2
All other causes.....	209.8	221.7	208.0	178.6

<sup>1</sup> All figures include infants insured under one year of age.

<sup>2</sup> Based on provisional estimate of lives exposed to risk in 1923.

## DEATHS DURING WEEK ENDED JULY 12, 1924.

Summary of information received by telegraph from industrial insurance companies for week ended July 12, 1924, and corresponding week of 1923. (From the Weekly Health Index, July 16, 1924, issued by the Bureau of the Census, Department of Commerce.)

	Week ended July 12, 1924.	Corresponding week, 1923.
Policies in force.....	56, 537, 305	52, 839, 361
Number of death claims.....	9, 565	9, 148
Death claims per 1,000 policies in force, annual rate....	8. 8	9. 0

Deaths from all causes in certain large cities of the United States during the week ended July 12, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, July 16, 1924, issued by the Bureau of the Census, Department of Commerce.)

City.	Week ended July 12, 1924.		Annual death rate per 1,000 corresponding week, 1923.	Deaths under 1 year.		Infant mortality rate, week ended July 12, 1924. <sup>2</sup>
	Total deaths.	Death rate. <sup>1</sup>		Week ended July 12, 1924.	Corresponding week, 1923.	
Total (64 cities).....	5, 869	11. 3	10. 8	680	646	-----
Akron.....	36	-----	-----	6	4	64
Albany <sup>4</sup> .....	25	11. 0	14. 2	1	4	23
Atlanta.....	83	19. 0	22. 5	14	21	-----
Baltimore <sup>4</sup> .....	189	12. 6	11. 9	21	17	63
Birmingham.....	51	13. 2	16. 8	7	4	-----
Boston.....	203	13. 6	11. 1	25	23	69
Bridgeport.....	27	-----	-----	1	2	16
Buffalo.....	106	10. 1	10. 7	12	17	51
Cambridge.....	28	13. 0	10. 8	3	1	52
Camden.....	32	13. 2	15. 5	4	5	66
Chicago <sup>4</sup> .....	561	10. 0	9. 2	77	52	72
Cincinnati.....	96	12. 3	14. 2	10	9	62
Cleveland.....	172	9. 8	9. 7	26	23	66
Columbus.....	71	13. 9	14. 0	5	3	47
Dallas.....	32	8. 9	11. 2	2	6	-----
Dayton.....	37	11. 4	9. 8	6	4	100
Denver.....	62	-----	-----	14	8	-----
Des Moines.....	17	6. 1	7. 0	0	4	-----
Detroit.....	210	-----	-----	42	31	78
Duluth.....	28	13. 5	6. 4	3	0	65
Erie.....	17	-----	-----	2	2	41
Fall River <sup>4</sup> .....	21	9. 0	10. 8	6	4	84
Flint.....	24	-----	-----	3	2	52
Fort Worth.....	26	9. 2	8. 7	8	1	-----
Grand Rapids.....	34	12. 0	8. 9	3	1	47
Houston.....	38	-----	-----	8	4	-----
Indianapolis.....	79	11. 8	10. 2	5	7	37
Jacksonville, Fla.....	29	14. 8	12. 0	2	5	-----
Jersey City.....	63	10. 5	10. 3	5	15	36
Kansas City, Kans.....	26	11. 5	9. 5	4	0	77
Kansas City, Mo.....	92	13. 3	13. 8	7	17	-----
Los Angeles.....	166	-----	-----	23	25	72
Louisville.....	67	13. 5	15. 4	4	23	37
Lowell.....	30	13. 5	7. 7	7	2	125
Lynn.....	20	10. 1	7. 1	1	2	25
Memphis.....	79	23. 9	18. 7	11	10	-----
Milwaukee.....	105	11. 1	7. 2	14	14	66
Minneapolis.....	79	9. 9	12. 5	10	11	54
Nashville <sup>4</sup> .....	46	19. 4	18. 3	10	8	-----
New Bedford.....	23	9. 0	8. 4	2	3	31
New Haven.....	39	11. 6	8. 7	7	4	92
New Orleans.....	148	18. 8	17. 3	17	14	-----
New York.....	1, 145	9. 9	9. 5	133	114	54
Bronx Borough.....	133	8. 0	7. 6	13	6	46
Brooklyn Borough.....	392	9. 3	8. 4	50	39	53

<sup>1</sup> Annual rate per 1,000 population.

<sup>2</sup> 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.

<sup>3</sup> Data for 62 cities.

<sup>4</sup> Deaths for week ended Friday, July 11, 1924.

Deaths from all causes in certain large cities of the United States during the week ended July 12, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, July 16, 1924, issued by the Bureau of the Census, Department of Commerce)—Continued.

City.	Week ended July 12, 1924.		Annual death rate per 1,000 corresponding week, 1923.	Deaths under 1 year.		Infant mortality rate, week ended July 12, 1924.
	Total deaths.	Death rate.		Week ended July 12, 1924.	Corresponding week, 1923.	
New York—Continued						
Manhattan Borough.....	488	11.2	11.2	54	60	55
Queens Borough.....	98	9.2	9.4	13	7	65
Richmond Borough.....	34	13.6	11.4	3	2	55
Newark, N. J.....	65	7.6	7.8	10	11	47
Norfolk.....	35	11.1	8.8	9	10	161
Oakland.....	45	9.5	9.1	6	3	75
Oklahoma City.....	22	11.0	.....	6	.....	.....
Omaha.....	43	10.8	9.9	5	1	54
Paterson.....	36	13.3	12.3	4	2	68
Philadelphia.....	397	10.6	10.5	47	40	60
Pittsburgh.....	149	12.4	10.8	14	20	47
Portland, Oreg.....	72	13.5	9.9	6	4	62
Providence.....	49	10.5	13.1	4	13	33
Richmond.....	40	11.4	16.4	4	15	49
Rochester.....	59	9.5	.....	6	.....	47
St. Louis.....	206	13.2	12.8	11	15	.....
St. Paul.....	67	14.3	11.6	5	3	43
Salt Lake City *.....	39	15.8	14.9	6	7	120
San Antonio.....	53	14.4	16.9	11	12	.....
San Francisco.....	151	14.4	11.9	7	5	42
Schenectady.....	12	6.2	9.5	2	4	59
Seattle.....	61	.....	.....	1	4	10
Somerville.....	19	9.9	6.9	1	2	27
Spokane.....	20	.....	.....	1	4	22
Springfield, Mass.....	30	10.5	8.0	3	2	51
Syracuse.....	48	13.3	13.3	6	5	75
Tacoma.....	20	10.1	9.7	1	0	24
Toledo.....	70	13.2	11.4	7	7	66
Trenton.....	43	17.3	12.7	2	4	33
Utica.....	21	10.4	8.1	5	0	109
Washington, D. C.....	108	11.6	12.3	12	6	70
Waterbury.....	19	.....	.....	2	1	46
Wilmington, Del.....	18	7.8	8.0	1	0	22
Worcester.....	55	14.7	9.8	4	7	48
Yonkers.....	15	7.1	8.2	3	0	65

\*Deaths for week ended Friday, July 11, 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 July 19, 1924.

ALABAMA.		CALIFORNIA.	
	Cases		Cases.
Chicken pox.....	6	Cerebrospinal meningitis—San Joaquin County.....	1
Dengue.....	1	Diphtheria.....	114
Diphtheria.....	6	Influenza.....	3
Dysentery.....	79	Leprosy—Stockton.....	1
Influenza.....	5	Lethargic encephalitis—San Joaquin County.....	1
Influenza reported as "devil's grip".....	4	Measles.....	29
Malaria.....	150	Poliomyelitis:	
Measles.....	22	Long Beach.....	1
Mumps.....	23	Riverside County.....	1
Pellagra.....	18	Scarlet fever.....	44
Pneumonia.....	15	Smallpox:	
Poliomyelitis.....	4	Long Beach.....	8
Scarlet fever.....	6	Los Angeles County.....	16
Smallpox.....	15	Scattering.....	17
Tuberculosis.....	32	Typhoid fever.....	24
Typhoid fever.....	88		
Whooping cough.....	64		
ARIZONA.		COLORADO.	
		(Exclusive of Denver.)	
Leprosy.....	1	Chicken pox.....	7
Measles.....	4	Diphtheria.....	6
Mumps.....	1	Measles.....	9
Scarlet fever.....	1	Mumps.....	2
Tuberculosis.....	62	Pneumonia.....	1
Typhoid fever.....	1	Scarlet fever.....	1
		Septic sore throat.....	1
		Tuberculosis.....	46
		Whooping cough.....	15
ARKANSAS.		CONNECTICUT.	
Chicken pox.....	3	Cerebrospinal meningitis.....	2
Diphtheria.....	1	Chicken pox.....	17
Hookworm disease.....	1	Diphtheria.....	33
Influenza.....	5	German measles.....	4
Malaria.....	161	Influenza.....	1
Measles.....	19	Lethargic encephalitis.....	2
Mumps.....	8	Measles.....	43
Pellagra.....	13	Mumps.....	9
Scarlet fever.....	8		
Tuberculosis.....	19		
Typhoid fever.....	42		
Whooping cough.....	23		

CONNECTICUT—continued.

	Cases.
Pneumonia (lobar).....	5
Poliomyelitis.....	3
Scarlet fever.....	21
Smallpox.....	3
Tuberculosis (all forms).....	35
Typhoid fever.....	3
Whooping cough.....	61

DELAWARE.

Cerebrospinal meningitis.....	1
Tuberculosis.....	3
Typhoid fever.....	1

FLORIDA.

Diphtheria.....	7
Influenza.....	10
Lethargic encephalitis.....	1
Malaria.....	29
Ophthalmia neonatorum.....	1
Pneumonia.....	61
Typhoid fever.....	26

GEORGIA.

Anthrax.....	1
Dengue.....	2
Diphtheria.....	2
Dysentery (bacillary).....	3
German measles.....	1
Hookworm disease.....	16
Influenza.....	1
Malaria.....	17
Measles.....	1
Mumps.....	2
Paratyphoid fever.....	1
Pneumonia.....	9
Poliomyelitis.....	2
Scarlet fever.....	9
Smallpox.....	8
Tuberculosis (pulmonary).....	25
Typhoid fever.....	37
Whooping cough.....	8

ILLINOIS.

Cerebrospinal meningitis:	
Henry County.....	1
Kane County.....	1
Diphtheria:	
Cook County.....	67
Scattering.....	36
Influenza.....	87
Lethargic encephalitis:	
Cass County.....	1
Cook County.....	2
Edgar County.....	1
Kane County.....	1
Milan County.....	1
Peoria County.....	2
Saline County.....	1
Williamson County.....	1
Measles.....	183
Pneumonia.....	399
Poliomyelitis:	
Cook County.....	1
Macoupin County.....	1
Pulaski County.....	1

ILLINOIS—continued.

	Cases.
Scarlet fever:	
Cook County.....	19
Will County.....	9
Scattering.....	24
Smallpox:	
Cook County.....	12
Jackson County.....	9
Lake County.....	12
Scattering.....	7
Tuberculosis.....	520
Typhoid fever.....	24
Whooping cough.....	242

INDIANA.

Chicken pox.....	13
Diphtheria.....	35
Influenza.....	9
Measles.....	50
Mumps.....	1
Pneumonia.....	2
Poliomyelitis—Miami County.....	1
Scarlet fever.....	29
Smallpox.....	76
Tuberculosis.....	14
Typhoid fever.....	17
Whooping cough.....	33

IOWA.

Diphtheria.....	18
Scarlet fever.....	13
Smallpox.....	5
Typhoid fever.....	40

KANSAS.

Anthrax.....	2
Cerebrospinal meningitis.....	1
Chicken pox.....	4
Diphtheria.....	12
German measles.....	2
Influenza.....	1
Malaria.....	4
Measles.....	27
Mumps.....	49
Pneumonia.....	7
Scarlet fever.....	13
Smallpox.....	10
Tuberculosis.....	33
Typhoid fever.....	6
Whooping cough.....	83

LOUISIANA.

Anthrax.....	5
Diphtheria.....	8
Hookworm disease.....	6
Leprosy.....	2
Malaria.....	27
Measles.....	4
Pneumonia.....	20
Scarlet fever.....	1
Smallpox.....	1
Tuberculosis.....	24
Typhoid fever.....	30
Whooping cough.....	4

MAINE.		MINNESOTA—continued.	
	Cases.		Cases.
Chicken pox.....	5	Measles.....	18
Diphtheria.....	7	Poliomyelitis.....	1
German measles.....	3	Scarlet fever.....	74
Measles.....	26	Smallpox.....	35
Mumps.....	11	Tetanus.....	1
Pneumonia.....	5	Tuberculosis.....	65
Scarlet fever.....	12	Typhoid fever.....	6
Smallpox.....	1	Whooping cough.....	7
Tetanus.....	4		
Tuberculosis.....	4	MISSISSIPPI.	
Typhoid fever.....	16	Diphtheria.....	10
Whooping cough.....	11	Scarlet fever.....	4
		Smallpox.....	5
		Typhoid fever.....	64
MARYLAND. <sup>1</sup>		MISSOURI.	
Chicken pox.....	14	Chicken pox.....	12
Diphtheria.....	19	Diphtheria.....	22
Dysentery.....	2	Malaria.....	1
German measles.....	1	Measles.....	29
Influenza.....	6	Mumps.....	19
Measles.....	47	Pneumonia.....	3
Mumps.....	13	Scarlet fever.....	60
Paratyphoid fever.....	1	Tetanus.....	1
Pneumonia (all forms).....	13	Trachoma.....	45
Scarlet fever.....	21	Tuberculosis.....	46
Septic sore throat.....	2	Typhoid fever.....	9
Tuberculosis.....	53	Whooping cough.....	27
Typhoid fever.....	36		
Whooping cough.....	51	MONTANA.	
		Diphtheria.....	5
MASSACHUSETTS.		Rocky Mountain spotted fever—Jordan.....	1
Cerebrospinal meningitis.....	4	Scarlet fever.....	3
Chicken pox.....	47	Smallpox.....	13
Conjunctivitis (suppurative).....	21	Typhoid fever.....	3
Diphtheria.....	102		
German measles.....	18	NEW JERSEY.	
Hookworm disease.....	1	Cerebrospinal meningitis.....	5
Influenza.....	1	Chicken pox.....	61
Lethargic encephalitis.....	1	Diphtheria.....	62
Measles.....	229	Influenza.....	2
Mumps.....	76	Malaria.....	2
Ophthalmia neonatorum.....	22	Measles.....	162
Pellagra.....	2	Pneumonia.....	36
Pneumonia (lobar).....	33	Scarlet fever.....	34
Poliomyelitis.....	3	Smallpox.....	12
Scarlet fever.....	82	Typhoid fever.....	17
Septic sore throat.....	3	Whooping cough.....	241
Tetanus.....	1		
Trachoma.....	2	NEW MEXICO.	
Tuberculosis (all forms).....	152	Chicken pox.....	1
Typhoid fever.....	9	Diphtheria.....	6
Whooping cough.....	60	Lethargic encephalitis.....	1
		Measles.....	12
MICHIGAN.		Pneumonia.....	1
Diphtheria.....	64	Tuberculosis.....	87
Measles.....	86	Typhoid fever.....	5
Pneumonia.....	30	Whooping cough.....	5
Scarlet fever.....	111		
Smallpox.....	43	NEW YORK.	
Tuberculosis.....	51	(Exclusive of New York City.)	
Typhoid fever.....	11	Cerebrospinal meningitis.....	2
Whooping cough.....	106	Diphtheria.....	74
		Influenza.....	2
MINNESOTA.		Lethargic encephalitis.....	1
Cerebrospinal meningitis.....	1	Measles.....	420
Chicken pox.....	35		
Diphtheria.....	32		
Influenza.....	1		

<sup>1</sup> Week ended Friday.

NEW YORK—continued.

	Cases.
Pneumonia.....	63
Polioimyelitis.....	9
Scarlet fever.....	99
Smallpox.....	6
Typhoid fever.....	25
Whooping cough.....	312

NORTH CAROLINA.

Cerebrospinal meningitis.....	1
Chicken pox.....	23
Diphtheria.....	15
German measles.....	1
Measles.....	47
Ophthalmia neonatorum.....	1
Polioimyelitis.....	1
Scarlet fever.....	7
Septic sore throat.....	1
Smallpox.....	7
Typhoid fever.....	74
Whooping cough.....	195

OREGON.

Chicken pox.....	6
Diphtheria:	
Portland.....	11
Scattering.....	11
Measles.....	2
Mumps.....	5
Pneumonia.....	13
Scarlet fever.....	10
Smallpox:	
Portland.....	20
Scattering.....	5
Tuberculosis.....	14
Typhoid fever.....	3
Whooping cough.....	4

SOUTH DAKOTA.

Diphtheria.....	1
Measles.....	12
Pneumonia.....	2
Scarlet fever.....	9
Tuberculosis.....	1
Typhoid fever.....	2
Whooping cough.....	9

TEXAS.

Cerebrospinal meningitis.....	1
Chicken pox.....	10
Diphtheria.....	11
Influenza.....	16
Leprosy.....	1
Lethargic encephalitis.....	1
Measles.....	60
Mumps.....	7
Pneumonia.....	4
Scarlet fever.....	12
Smallpox.....	4
Tuberculosis.....	25
Typhoid fever.....	17
Typhus fever.....	19
Whooping cough.....	42

<sup>1</sup> Deaths.

VERMONT.

	Cases.
Chicken pox.....	7
Diphtheria.....	1
Measles.....	21
Mumps.....	1
Scarlet fever.....	8
Whooping cough.....	11

WASHINGTON.

Chicken pox.....	32
Diphtheria.....	16
Measles.....	7
Mumps.....	14
Polioimyelitis—Chelan County.....	1
Scarlet fever.....	15
Smallpox.....	21
Tuberculosis.....	32
Typhoid fever.....	13
Whooping cough.....	14

WEST VIRGINIA.

Diphtheria.....	2
Scarlet fever.....	6
Typhoid fever.....	5

WISCONSIN.

Milwaukee:	
Chicken pox.....	47
Diphtheria.....	6
German measles.....	1
Measles.....	18
Mumps.....	5
Pneumonia.....	2
Scarlet fever.....	2
Smallpox.....	1
Tuberculosis.....	12
Typhoid fever.....	2
Whooping cough.....	33

Scattering:

Chicken pox.....	63
Diphtheria.....	18
German measles.....	3
Influenza.....	9
Lethargic encephalitis.....	2
Measles.....	81
Mumps.....	4
Pneumonia.....	3
Scarlet fever.....	59
Smallpox.....	18
Tuberculosis.....	25
Typhoid fever.....	5
Whooping cough.....	129

WYOMING.

Chicken pox.....	5
Diphtheria.....	2
Measles.....	10
Mumps.....	11
Pneumonia.....	1
Rocky Mountain spotted fever.....	2
Scarlet fever.....	1
Smallpox.....	3
Typhoid fever.....	1
Whooping cough.....	4

## 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.	Cerebro-spinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Polio-myelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
<i>May, 1924.</i>										
Colorado.....		144	12		1,243		1	140	11	2
<i>June, 1924.</i>										
Arizona.....		7			76			24	50	11
Connecticut.....	2	111	4				2	341	10	13
Delaware.....		5		3	46		1	21		5
Florida.....	2	22	14	95	71	11	1	7	2	55
Georgia.....		22	3	79	27	3	2	31	106	31
Louisiana.....	2	48	17	141	49	23	2	18	18	80
Massachusetts.....	20	532	13	4	2,392		5	911	2	36
Michigan.....	13	369	6		2,420		2	917	699	44
Montana.....	1	41			26			37	52	13
North Carolina.....	5	65			1,023			114	260	108

## GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES.

*Diphtheria.*—For the week ended July 5, 1924, 33 States reported 1,065 cases of diphtheria. For the week ended July 7, 1923, the same States reported 1,127 cases. One hundred and two cities situated in all parts of the country and having an aggregate population of more than 28,600,000 reported 663 cases of diphtheria for the week ended July 5, 1924. Last year for the corresponding week they reported 621 cases. The estimated expectancy for these cities was 730 cases. The estimated expectancy was based on the experience of the last nine years, excluding epidemics.

*Measles.*—Twenty-eight States reported 3,399 cases of measles for the week this year and 7,454 cases for the week last year. One hundred and two cities reported 1,187 cases of measles for the week this year and 1,808 cases last year.

*Scarlet fever.*—Scarlet fever was reported for the week as follows: Thirty-three States—this year, 1,232 cases; last year, 1,034 cases. One hundred and two cities—this year, 562 cases; last year, 460 cases; estimated expectancy, 376 cases.

*Smallpox.*—For some time the number of cases of smallpox has been decreasing, but the disease is still more prevalent in many communities than is usual at this time of year. Reports from the States for the 14 weeks ended July 5, 1924, total 16,006 cases of smallpox. For the corresponding period of last year these States reported 6,469 cases.

For the week ended July 5, 1924, 33 States reported 566 cases. Last year for the corresponding week they reported 317 cases. One hundred and two cities reported smallpox for the week as follows: 1924, 159 cases; 1923, 59 cases; estimated expectancy, 70 cases.

*Typhoid fever.*—Three hundred and ninety-one cases of typhoid fever were reported for the week ended July 5, 1924, by 32 States. For the corresponding week of 1923 the number was 438 cases. One hundred and two cities reported 128 cases for the week this year and 87 cases for the week last year. The estimated expectancy for these cities was 131 cases.

*Influenza and pneumonia.*—Deaths from influenza and pneumonia (combined) were reported for the week by 102 cities as follows: 1924, 362 deaths; 1923, 361 deaths.

*City reports for week ended July 5, 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.
<b>NEW ENGLAND.</b>										
<b>Maine:</b>										
Lewiston.....	7	0	1	0	0	13	0	0	1	0
Portland.....	3	1	2	0	0	0	5	1	1	0
<b>New Hampshire:</b>										
Concord.....	0	0	0	0	0	3	0	1	0	1
Nashua.....	0	0	0	0	0	0	0	1	0	0
<b>Vermont:</b>										
Barre.....	0	1	0	0	0	0	0	0	0	0
Burlington.....	4	0	0	0	0	4	0	0	1	0
<b>Massachusetts:</b>										
Boston.....	16	46	33	3	1	45	4	9	21	25
Fall River.....	3	2	5	0	0	2	1	0	1	2
Springfield.....	2	2	6	0	0	3	5	0	1	10
Worcester.....	-----	2	3	0	0	4	-----	1	2	3
<b>Rhode Island:</b>										
Pawtucket.....	0	1	2	0	0	0	0	2	1	2
Providence.....	0	7	4	0	0	5	0	2	3	7
<b>Connecticut:</b>										
Bridgeport.....	0	4	4	0	0	1	1	1	2	3
Hartford.....	2	5	5	0	0	17	4	0	2	5
New Haven.....	9	2	0	0	0	10	1	2	1	1
<b>MIDDLE ATLANTIC.</b>										
<b>New York:</b>										
Buffalo.....	0	11	3	0	0	5	0	5	12	8
New York.....	95	208	201	1	1	281	67	94	68	100
Rochester.....	1	6	0	0	0	14	11	3	3	17
Syracuse.....	8	5	6	0	0	18	9	3	4	1
<b>New Jersey:</b>										
Camden.....	1	2	3	0	0	1	1	1	1	0
Newark.....	18	13	9	0	0	55	16	12	8	8
Trenton.....	2	3	0	0	0	1	0	1	1	2
<b>Pennsylvania:</b>										
Philadelphia.....	45	44	59	-----	1	123	40	21	28	36
Pittsburgh.....	34	15	12	0	0	36	39	27	10	14
Reading.....	6	2	3	0	0	1	16	0	1	0
Scranton.....	0	2	2	0	0	3	1	1	1	0



City reports for week ended July 5, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Mea- sles, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.	
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.
<b>SOUTH ATLANTIC— continued.</b>										
<b>Georgia:</b>										
Atlanta .....	0	1	1	1	0	0	0	5	2	3
Brunswick .....	0	0	0	0	0	0	2	0	0	0
Savannah .....	1	1	0	0	0	0	0	0	1	0
<b>Florida:</b>										
St. Petersburg .....	0	0	0	0	0	0	0	0	0	0
Tampa .....	0	1	0	0	0	0	0	0	0	0
<b>EAST SOUTH CENTRAL.</b>										
<b>Kentucky:</b>										
Covington .....	0	0	0	0	0	3	0	2	1	0
Lexington .....	0	0	0	0	0	1	0	2	0	0
Louisville .....	0	3	0	1	0	6	1	0	2	0
<b>Tennessee:</b>										
Memphis .....	0	1	0	0	0	0	0	6	1	0
Nashville .....	1	1	0	0	1	1	1	1	1	0
<b>Alabama:</b>										
Birmingham .....	5	1	0	0	0	1	8	3	1	0
Mobile .....	0	1	0	0	0	4	0	2	0	0
Montgomery .....	0	1	1	0	0	0	2	0	0	1
<b>WEST SOUTH CENTRAL.</b>										
<b>Arkansas:</b>										
Fort Smith .....	0	0	0	0	0	0	2	0	1	2
Little Rock .....	0	0	0	1	0	0	0	3	0	0
<b>Louisiana:</b>										
New Orleans .....	0	5	4	0	0	0	0	2	1	4
Shreveport .....	0	0	0	0	0	0	0	2	0	0
<b>Oklahoma:</b>										
Oklahoma .....	0	1	0	0	0	0	0	1	0	0
Tulsa .....	0	1	0	0	0	0	0	0	0	1
<b>Texas:</b>										
Dallas .....	1	2	4	0	0	1	0	2	1	2
Galveston .....	0	1	4	0	0	0	0	1	0	0
Houston .....	0	1	7	0	0	0	0	2	0	2
San Antonio .....	0	1	0	0	0	0	0	4	0	1
<b>MOUNTAIN.</b>										
<b>Montana:</b>										
Billings .....	3	0	0	0	0	0	0	0	0	1
Great Falls .....	1	1	9	0	0	0	0	1	1	0
Helena .....	0	0	0	0	0	0	0	0	0	1
Missoula .....	0	0	0	0	0	0	0	1	0	0
<b>Idaho:</b>										
Boise .....	0	0	0	0	0	4	0	0	0	0
<b>Colorado:</b>										
Denver .....	12	7	6	0	0	10	2	4	5	7
Pueblo .....	0	1	1	0	0	1	0	2	1	1
<b>New Mexico:</b>										
Albuquerque .....	0	1	0	0	0	0	0	0	0	0
<b>Utah:</b>										
Salt Lake City .....	6	3	3	0	0	6	4	0	2	6
<b>Nevada:</b>										
Reno .....	0	0	0	0	0	1	0	0	0	0
<b>PACIFIC.</b>										
<b>Washington:</b>										
Seattle .....	21	3	7	0	0	3	3	0	4	6
Spokane .....	16	1	12	0	0	7	0	0	2	4
Tacoma .....	2	1	2	0	0	0	1	0	1	9
<b>Oregon:</b>										
Portland .....	9	4	8	0	0	3	3	4	3	0
<b>California:</b>										
Los Angeles .....	36	28	49	0	0	31	5	13	8	24
Sacramento .....	6	1	11	0	0	6	0	0	1	2
San Francisco .....	4	13	18	3	0	1	2	5	7	15



City reports for week ended July 5, 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.		
<b>NEW ENGLAND.</b>										
Maine:										
Lewiston.....	33,780	0	0	0	0	0	0	0	0	11
Portland.....	73,129	0	0	0	1	0	1	0	0	23
New Hampshire:										
Concord.....	22,408	0	0	0	0	0	0	0	0	4
Nashua.....	29,234	0	0	0	1	0	0	0	0	7
Vermont:										
Barre.....	10,008	0	0	0	0	0	0	0	0	1
Burlington.....	23,613	0	0	0	0	1	0	0	0	9
Massachusetts:										
Boston.....	770,400	0	0	0	17	2	0	0	11	176
Fall River.....	120,912	0	0	0	2	1	0	0	3	25
Springfield.....	144,227	0	0	0	4	0	0	0	3	26
Worcester.....	191,927	0	0	0	4	1	0	0	0	43
Rhode Island:										
Pawtucket.....	68,799	0	0	0	1	0	0	0	0	14
Providence.....	242,378	0	0	0	5	0	1	0	1	60
Connecticut:										
Bridgeport.....	143,556	0	0	0	4	0	0	0	2	21
Hartford.....	138,036	0	0	0	0	0	0	0	0	14
New Haven.....	172,967	0	0	0	2	1	0	0	5	39
<b>MIDDLE ATLANTIC.</b>										
New York:										
Buffalo.....	536,718	0	0	0	18	1	0	0	32	104
New York.....	5,927,625	0	0	0	79	17	40	7	179	1,101
Rochester.....	317,867	0	0	0	3	1	0	0	2	61
Syracuse.....	184,511	0	0	0	1	0	0	0	2	37
New Jersey:										
Camden.....	124,157	0	0	0	0	1	2	0	4	26
Newark.....	438,699	0	0	0	6	1	0	0	35	85
Trenton.....	127,390	0	2	0	1	1	0	0	2	29
Pennsylvania:										
Philadelphia.....	1,922,788	0	0	0	24	8	2	0	80	359
Pittsburgh.....	613,442	1	17	3	7	2	2	1	26	162
Reading.....	110,917	0	0	0	0	0	0	0	8	32
Scranton.....	140,636	0	0	0	1	0	0	0	3	0
<b>EAST NORTH CENTRAL</b>										
Ohio:										
Cincinnati.....	406,312	1	12	0	3	1	1	0	6	98
Cleveland.....	888,519	1	1	1	14	2	1	0	43	129
Columbus.....	261,082	1	0	0	3	1	0	0	2	59
Toledo.....	268,338	1	10	4	8	0	0	1	16	67
Indiana:										
Fort Wayne.....	93,573	0	1	0	2	1	0	0	0	28
Indianapolis.....	342,718	1	5	0	5	1	2	0	0	77
South Bend.....	76,709	0	0	0	2	0	0	0	0	14
Terre Haute.....	68,939	0	0	0	0	0	0	1	0	16
Illinois:										
Chicago.....	2,886,121	1	10	0	44	3	1	0	71	490
Cicero.....	55,968	0	0	0	1	0	0	0	0	7
Springfield.....	61,833	1	0	0	2	1	0	0	0	14
Michigan:										
Detroit.....	995,668	5	10	3	13	6	5	1	39	190
Flint.....	117,906	1	0	0	0	0	0	0	0	21
Grand Rapids.....	145,947	0	0	0	3	0	0	1	5	25
Saginaw.....	69,754	0	0	0	0	1	0	1	5	8
Wisconsin:										
Madison.....	42,519	0	0	0	1	0	0	0	9	7
Milwaukee.....	484,595	2	2	0	7	1	0	0	17	72
Racine.....	64,393	1	0	0	0	0	0	0	0	0
Superior.....	139,671	1	1	0	1	0	0	0	0	10

<sup>1</sup> Population Jan. 1, 1920.

<sup>2</sup> Pulmonary only.

City reports for week ended July 5, 1924—Continued.

Division, State, and city.	Popula- tion, July 1, 1923, estimated.	Smallpox.				Tubercu- losis, deaths reported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.	deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
<b>WEST NORTH CENTRAL</b>											
Minnesota:											
Duluth.....	106,289	1	2	0	1	0	0	0		3	20
Minneapolis.....	409,125	5	4	1	9	1	0	0		4	72
St. Paul.....	241,891	2	9	0	2	1	3	0		4	47
Iowa:											
Des Moines.....	140,923	2	1			0	0			0	
Sioux City.....	79,662	1	0			0	0			0	
Waterloo.....	39,667	0	0			0	0			2	
Missouri:											
Kansas City.....	351,819	1	0	0	6	1	1	1	8	8	78
St. Joseph.....	78,232	1	0	0	0	0	0	0	1	1	23
St. Louis.....	803,853	1	0	0	7	6	8	1	8	8	187
North Dakota:											
Fargo.....	24,841	0	3	0	0	0	0	0	0	0	2
Grand Forks.....	14,547	1	1	0	0	0	0	0	0	0	
South Dakota:											
Sioux Falls.....	29,206	1	0	0	1	0	0	0	0	0	6
Nebraska:											
Lincoln.....	58,761	1	0	0	0	0	1	0		9	
Omaha.....	204,382	3	1	0	2	1	0	0		0	33
Kansas:											
Topeka.....	52,555	1	0	0	0	1	2	0	8	9	
Wichita.....	79,261	1	3	0	0	1	1	0	1	30	
<b>SOUTH ATLANTIC</b>											
Delaware:											
Wilmington.....	117,728	0	0	0	0	0	0	0	1	16	
Maryland:											
Baltimore.....	773,580	0	0	0	9	6	0	0	33	159	
Cumberland.....	32,361	0	0	0	0	1	0	0		15	
Frederick.....	11,301	0				0					
District of Columbia:											
Washington.....	1,437,571	0	2	0	0	4	1	0	4	122	
Virginia:											
Lynchburg.....	30,277	0	0	0	1	1	0	0	0	8	
Norfolk.....	159,089	1	0	0	2	3	1	0	1		
Richmond.....	181,044	0	0	0	2	1	0	0	2	38	
Roanoke.....	55,502	0	0	0	2	1	1	0	1	11	
West Virginia:											
Charleston.....	45,597	0	0	0	1	2	0	0	4	18	
Huntington.....	57,918	0	0	0	0	1	0	0	0	14	
Wheeling.....	156,208	1	0	0	1	1	1	0	3	11	
North Carolina:											
Raleigh.....	29,171	0	0	0	1	0	1	0	1	10	
Wilmington.....	35,719	0	0	0	2	1	0	0	0	7	
Winston-Salem.....	56,230	1	1	0	2	2	6	1	21	21	
South Carolina:											
Charleston.....	71,245	1	0	0	1	2	0	0	3	26	
Columbia.....	39,688	0	0	0	3	2	2	0	0	27	
Greenville.....	25,789	0	0	0	0	1	0	0	0	5	
Georgia:											
Atlanta.....	222,963	4	6	0	3	2	8	1	0	63	
Brunswick.....	15,937	0	0	0	0	1	0	1	0	2	
Savannah.....	89,448	0	0	0	8	2	2	0	0	28	
Florida:											
St. Petersburg.....	24,403	0	0	0	0	0	0	0	0	3	
Tampa.....	56,050	0	0	0	1	0	0	1	0	17	
<b>EAST SOUTH CENTRAL</b>											
Kentucky:											
Covington.....	57,877	0	0	0	1	1	0	0	0	12	
Lexington.....	43,673	0	0	0	2	1	0	0	0	16	
Louisville.....	257,671	0	5	0	5	4	1	0	5	65	
Tennessee:											
Memphis.....	170,067	1	0	0	3	4	4	0	0	64	
Nashville.....	121,128	0	2	0	5	4	2	0	0	35	
Alabama:											
Birmingham.....	195,901	1	13	0	0	3	0	0	11	40	
Mobile.....	63,858	1	0	0	0	0	1	0	0		
Montgomery.....	45,383	0	3	0	0	0	0	0	0	9	

<sup>1</sup> Population Jan. 1, 1920.

## City reports for week ended July 5, 1924—Continued.

Division, State, and city.	Population, July 1, 1923, estimated.	Smallpox.				Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.	Tuberculosis, deaths reported.	Cases, estimated expectancy.	Cases reported.	Deaths reported.		
<b>WEST SOUTH CENTRAL.</b>										
Arkansas:										
Fort Smith.....	30, 635	1	0			0	0		1	
Little Rock.....	70, 916	1	0	0	0	2	1	0	0	
Louisiana:										
New Orleans.....	404, 575	1	0	0	10	2	3	0	1	94
Shreveport.....	54, 590		1	0	5		1	0	0	40
Oklahoma:										
Oklahoma.....	101, 150	2	0	0	2	2	0	0	0	29
Tulsa.....	102, 018	1	0			5	0		0	
Texas:										
Dallas.....	177, 274	1	0	0	2	3	3	0	15	45
Galveston.....	46, 877	0	0	0	1	0	0	0	0	12
Houston.....	154, 970	1	0	0	6	1	0	1		46
San Antonio.....	184, 727	0	0	0	7	0	0	0	0	66
<b>MOUNTAIN.</b>										
Montana:										
Billings.....	16, 927	0	0	0	0	0	0	0	0	5
Great Falls.....	27, 787	1	1	0	1	0	1	0	0	12
Helena.....	112, 037	0	0	0	0	0	0	0	0	7
Missoula.....	112, 668	1	1	0	1	0	1	0	0	9
Idaho:										
Boise.....	22, 806	1	3	0	0	0	0	0	0	2
Colorado:										
Denver.....	272, 031	4	0	0	14	1	3	0	26	69
Pueblo.....	43, 519	0	0	0	0	1	0	0	0	8
New Mexico:										
Albuquerque.....	16, 648	0	0	0	4	0	0	0	0	7
Utah:										
Salt Lake City.....	126, 241	3	0	0	1	1	1	0	1	27
Nevada:										
Reno.....	12, 429	0	0	0	0	0	0	0	0	1
<b>PACIFIC.</b>										
Washington:										
Seattle.....	1 315, 685	2	0			0	1		3	
Spokane.....	104, 573	3	2			0	0		0	
Tacoma.....	101, 731	1	0			0	2		0	
Oregon:										
Portland.....	273, 621	3	6	0	1	0	2	0	0	47
California:										
Los Angeles.....	666, 853	1	32	0	20	4	7	1	14	198
Sacramento.....	69, 950	0	1	0	0	1	0	0	0	15
San Francisco.....	539, 038	1	0	0	11	1	1	0	0	126

<sup>1</sup> Population Jan. 1, 1920.

Division, State, and city.	Cerebrospinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Deaths.
<b>NEW ENGLAND.</b>								
Massachusetts:								
Boston.....	0	1	0	1	0	0	0	0
Rhode Island:								
Providence.....	1	0	0	0	0	0	0	1
Connecticut:								
Hartford.....	0	2	0	0	0	0	0	0

## City reports for week ended July 5, 1924—Continued.

Division, State, and city.	Cerebrospinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Cases.	Deaths.
<b>MIDDLE ATLANTIC.</b>									
New York:									
New York.....	1	2	3	3	0	0	3	2	0
Syracuse.....	0	0	0	0	0	0	0	3	0
Pennsylvania:									
Philadelphia.....	1	1	2	1	0	0	0	0	0
<b>EAST NORTH CENTRAL.</b>									
Ohio:									
Columbus.....	1	1	0	0	0	0	0	0	0
Illinois:									
Chicago.....	0	0	2	1	0	0	1	0	0
<b>WEST NORTH CENTRAL.</b>									
Minnesota:									
Duluth.....	1	0	0	0	0	0	0	0	0
St. Paul.....	0	1	0	0	0	0	0	0	0
Missouri:									
St. Joseph.....	0	0	0	1	0	0	0	0	0
<b>SOUTH ATLANTIC.</b>									
Maryland:									
Baltimore.....	1	2	4	1	0	0	0	1	0
District of Columbia:									
Washington.....	0	0	0	0	0	0	0	0	1
West Virginia:									
Charleston.....	0	1	0	0	0	0	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	0	2	0	0	0
Columbia.....	0	0	0	0	0	2	0	0	0
Georgia:									
Atlanta.....	0	0	0	0	0	1	0	0	0
Florida:									
Tampa.....	0	1	0	0	0	0	0	0	0
<b>EAST SOUTH CENTRAL.</b>									
Kentucky:									
Louisville.....	0	0	0	0	0	0	0	1	0
Tennessee:									
Nashville.....	0	0	0	0	0	2	0	0	0
Alabama:									
Birmingham.....	1	0	0	0	1	0	0	1	0
<b>WEST SOUTH CENTRAL.</b>									
Arkansas:									
Little Rock.....	0	0	0	0	0	1	0	0	0
Louisiana:									
Shreveport.....	0	0	0	0	0	2	0	0	0
Texas:									
San Antonio.....	0	0	0	0	0	1	0	0	0
<b>MOUNTAIN.</b>									
Colorado:									
Denver.....	0	1	0	0	0	0	0	0	0
<b>PACIFIC.</b>									
California:									
San Francisco.....	1	1	3	1	0	0	0	0	0

The following table gives a summary of the reports from 105 cities for the 10-week period ended July 5, 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, April 27 to July 5, 1924.*

DIPHTHERIA CASES.

	1924, week ended—									
	May 3.	May 10.	May 17.	May 24.	May 31.	June 7.	June 14.	June 21.	June 28.	July 5.
Total.....	910	892	930	927	868	919	909	871	878	666
New England.....	97	83	78	94	85	90	73	97	78	64
Middle Atlantic.....	344	395	357	340	371	387	405	361	387	296
East North Central.....	173	157	168	175	129	150	155	131	136	101
West North Central.....	68	64	110	106	80	76	55	65	36	50
South Atlantic.....	38	31	42	32	33	41	35	29	20	17
East South Central.....	6	8	3	8	4	8	6	4	8	1
West South Central.....	18	26	16	18	18	18	17	15	15	19
Mountain.....	35	29	18	30	14	37	15	30	30	19
Pacific.....	131	99	138	124	134	112	148	139	168	99

MEASLES CASES.

Total.....	4,730	4,422	4,019	3,716	2,942	3,240	2,846	2,309	1,857	1,188
New England.....	379	339	271	310	227	247	175	168	120	90
Middle Atlantic.....	2,310	1,889	1,868	1,571	1,231	1,483	1,287	1,050	774	535
East North Central.....	703	862	781	873	732	747	755	578	565	288
West North Central.....	257	274	197	128	124	130	97	87	63	46
South Atlantic.....	485	457	465	468	344	317	317	218	187	143
East South Central.....	98	73	56	56	47	36	32	26	19	15
West South Central.....	104	71	51	33	28	19	11	2	5	1
Mountain.....	113	97	100	79	70	50	20	33	35	22
Pacific.....	281	360	230	193	139	211	152	147	89	48

SCARLET FEVER CASES.

Total.....	1,605	1,549	1,503	1,311	1,208	1,243	1,064	969	717	563
New England.....	242	210	213	165	168	181	143	111	92	59
Middle Atlantic.....	473	470	452	406	380	401	335	322	226	185
East North Central.....	325	318	335	279	254	243	249	250	161	132
West North Central.....	197	219	223	182	167	182	160	128	102	68
South Atlantic.....	171	159	118	134	112	120	91	56	43	30
East South Central.....	16	19	9	9	8	11	6	6	1	1
West South Central.....	23	15	14	14	11	11	12	9	7	11
Mountain.....	27	37	25	30	17	17	3	13	12	16
Pacific.....	131	102	113	92	91	77	65	74	73	60

SMALLPOX CASES.

Total.....	543	460	529	408	327	472	335	345	238	159
New England.....	0	0	0	0	0	0	0	0	0	0
Middle Atlantic.....	0	0	5	1	1	8	7	9	16	19
East North Central.....	186	165	213	181	145	174	158	121	61	34
West North Central.....	53	33	39	26	19	40	33	34	41	23
South Atlantic.....	70	95	51	54	29	39	44	35	12	9
East South Central.....	49	20	54	33	36	107	22	65	26	23
West South Central.....	4	1	7	6	7	5	7	8	7	1
Mountain.....	5	6	6	3	7	2	6	10	9	5
Pacific.....	176	140	154	104	83	97	58	63	56	35

<sup>1</sup> Figures for Flint, Mich., estimated. Report not received at time of going to press.

<sup>2</sup> Figures for South Bend, Ind., estimated.

<sup>3</sup> Figures for Racine, Wis., estimated.

<sup>4</sup> Figures for Frederick, Md., estimated.

<sup>5</sup> Figures for San Francisco, Calif., estimated.

Summary of weekly reports from cities, April 27 to July 5, 1924—Continued.

TYPHOID FEVER CASES.

	1924, week ended—									
	May 3.	May 10.	May 17.	May 24.	May 31.	June 7.	June 14.	June 21.	June 28.	July 5.
Total.....	49	68	73	78	78	92	107	133	89	123
New England.....	4	9	2	6	9	3	7	8	4	2
Middle Atlantic.....	10	25	32	24	18	30	46	58	41	46
East North Central.....	11	9	12	7	6	11	19	12	11	39
West North Central.....	3	2	3	8	5	8	5	4	5	15
South Atlantic.....	11	11	8	18	13	12	10	16	10	423
East South Central.....	3	3	7	6	11	7	8	13	3	8
West South Central.....	3	3	3	5	10	13	13	8	4	8
Mountain.....	1	3	0	2	1	0	0	4	3	6
Pacific.....	3	3	6	2	5	8	9	10	8	11

INFLUENZA DEATHS.

Total.....	51	60	49	40	30	21	15	22	13	9
New England.....	2	2	1	2	1	1	1	0	1	1
Middle Atlantic.....	21	32	25	10	10	5	6	8	3	2
East North Central.....	7	10	5	11	10	3	12	2	3	12
West North Central.....	3	3	4	3	1	2	2	1	0	0
South Atlantic.....	5	7	5	6	5	3	1	5	4	13
East South Central.....	3	4	4	3	1	2	3	3	2	1
West South Central.....	4	0	3	1	1	2	0	3	0	0
Mountain.....	0	1	1	1	0	0	0	0	0	0
Pacific.....	6	1	1	3	1	3	0	0	0	0

PNEUMONIA DEATHS.

Total.....	935	782	743	644	630	590	574	508	434	358
New England.....	69	55	52	36	34	37	46	28	22	19
Middle Atlantic.....	392	332	343	285	267	276	250	208	200	167
East North Central.....	199	150	139	136	131	118	109	124	91	62
West North Central.....	53	42	41	38	40	22	40	34	11	15
South Atlantic.....	97	93	86	64	60	66	51	50	50	39
East South Central.....	44	29	22	32	40	18	20	12	15	14
West South Central.....	24	25	27	27	14	18	27	23	12	16
Mountain.....	27	24	13	11	18	14	15	9	12	8
Pacific.....	30	32	20	15	26	21	16	20	21	18

<sup>1</sup> Figures for Flint, Mich., estimated. Report not received at time of going to press.

<sup>2</sup> Figures for South Bend, Ind., estimated.

<sup>3</sup> Figures for Racine, Wis., estimated.

<sup>4</sup> Figures for Frederick, Md., estimated.

<sup>5</sup> Figures for San Francisco, Calif., estimated.

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	2,581,454
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

## FOREIGN AND INSULAR.

### SMALLPOX ON VESSEL.

#### Steamship "Mount Evans"—At Key West—From Manchester.

On July 8, 1924, the steamship *Mount Evans* arrived at Key West, Fla., from Manchester, England, with a case convalescent from mild smallpox on board. The patient was removed, the personnel were vaccinated, and the vessel was remanded to Galveston (Tex.) quarantine. The *Mount Evans* left Manchester June 20, 1924.

### BRAZIL.

#### Commission on Sanitation—Natal.

According to information dated May 21, 1924, a commission on sanitation was created at Natal, capital of the State of Rio Grande do Norte, Brazil, by decree dated April 26, 1924. This commission, which will function directly under the supervision of the governor of the State, has for its objects the survey and plans for public works, including installation and organization of water supply and household and storm water sewer services in the city of Natal and such other centers as may care to take advantage of the facilities offered; survey and projection of municipal extensions, particularly the alignment of new streets, and any other public undertaking which may be contemplated by the State or municipal administration; and the supply of all technical data involved in the sale or lease of public lands for the use of the several State and municipal authorities.

### CANADA.

#### Communicable Diseases—Ontario—June, 1924 (Comparative).

During the month of June, 1924, communicable diseases were reported in the Province of Ontario, Canada, as follows:

Disease.	1924		1923	
	Cases.	Deaths.	Cases.	Deaths.
Cerebrospinal meningitis.....	9	5	3	3
Chancroid.....	3		1	
Chicken pox.....	265		(1)	
Diphtheria.....	227	12	205	22
German measles.....	150		(1)	
Goiter.....	1	1	(1)	
Gonorrhoea.....	132		174	
Influenza.....	9	6		15
Lethargic encephalitis.....	1	1	(1)	
Measles.....	4,321	12	2,149	14
Mumps.....	729		(1)	
Pneumonia.....		149		150
Scarlet fever.....	510	14	280	20
Smallpox.....	24		13	
Syphilis.....	96		166	
Tuberculosis.....	162	89	188	147
Typhoid fever.....	47	1	40	11
Whooping cough.....	104	3	199	19

<sup>1</sup> Not reported in 1923.

**Smallpox—Distribution of Cases.**

During the period under report, smallpox occurrence in the Province was distributed as follows: Chatham, 9 cases; Essex Border, 2 cases; North Bay, 3 cases; Pembroke, 8 cases; Dilk Township, 2 cases.

**CANARY ISLANDS.****Plague—La Laguna—Teneriffe.**

A case of plague was reported June 20, 1924, at La Laguna, Teneriffe, Canary Islands.

**CHILE.****Plague—Smallpox—Typhus—Antofagasta.**

On June 16, 1924, 4 cases of plague, 2 of smallpox, and 1 case of typhus fever were reported present at the lazaretto, Antofagasta, Chile.

**ECUADOR.****Plague—Guayaquil—June 1–15, 1924.**

During the period June 1 to 15, 1924, one case of plague was reported at Guayaquil, Ecuador.

**Plague-Infected Rats.**

During the same period, out of 7,128 rats taken at Guayaquil, 32 rats were found plague infected.

**EGYPT.****Status of Plague.**

During the period January 1 to June 10, 1924, 284 cases of plague were reported in Egypt against 977 cases reported during the corresponding period of the preceding year. Weekly reports of the occurrence of cases were received as follows: May 27, 1924, 13 cases, occurring in four districts; week ended June 3, 1924, 12 cases, 1 case in Port Said and 11 cases distributed in four districts; week ended June 10, 1924, 21 cases, occurring in five districts.

**ITALY.****Malaria—Statistical Statement, Years 1921–22—Sicily.**

Information received under date of June 23, 1924, in regard to malarial prevalence in Sicily, shows the infection to be generally diffused throughout half the Island, about 40,000 cases with an estimated number of 1,500 deaths being reported annually. The geographical area of prevalence includes the coastal regions, with large population, and the agricultural and mining areas. The



following statement of reported cases according to locality was given for the years 1921 and 1922:

**MALARIA DURING 1921.**

Province.	Popula- tion according to census June 10, 1911.	All forms of malaria.
Caltanissetta.....	342, 557	2, 756
Catania.....	789, 147	5, 445
Girgenti.....	393, 804	6, 097
Messina.....	517, 248	4, 237
Palermo.....	795, 631	8, 096
Syracuse.....	476, 765	5, 974
Trapani.....	357, 106	7, 896
	3, 672, 258	40, 503

**MALARIA DURING 1922.**

Province.	Popula- tion according to census Dec. 1, 1921.	All forms of malaria.
Caltanissetta.....	391, 482	2, 584
Catania.....	892, 032	5, 896
Girgenti.....	427, 646	3, 502
Messina.....	589, 755	4, 113
Palermo.....	868, 937	6, 719
Syracuse.....	553, 701	5, 732
Trapani.....	406, 603	8, 191
	4, 132, 156	36, 737

Antimalarial measures include daily or periodical quinization. The laws of November 2, 1901, provide for the gratuitous distribution of quinine in the form of State tabloids among the workmen of the infected regions. Mechanical prophylaxis includes the use of wire netting to protect the openings of public buildings and a bonus has been provided for any landowner or industrialist who similarly protects the dwellings of his workmen. The most effective measures were stated to have been agricultural and mine drainage.

**JAMAICA.**

**Smallpox (Reported as Alastrim).**

During the week ended June 28, 1924, 17 new cases of smallpox (reported as alastrim) were reported in the island of Jamaica. Of these, 3 cases were reported for the parish of Kingston.

**Chicken Pox.**

During the same period, 6 new cases of chicken pox were reported in the island, of which one case was reported in the parish of Kingston.

**MADAGASCAR.**

**Plague—April 16-30, 1924.**

During the period April 16 to 30, 1924, there were reported in the island of Madagascar 51 cases of plague with 49 deaths, occurring in the Province of Tananarive. The occurrence was distributed according to type as follows: Bubonic, 22 cases with 20 deaths; pneumonic, 8 cases with 8 deaths; septicemic, 21 cases with 21 deaths. For distribution according to locality, see page 1828.

**PARAGUAY.**

**Hookworm Campaign—April, 1924—Asuncion.**

Activities of the campaign against hookworm reported begun at Asuncion, Paraguay, March 17, 1924,<sup>1</sup> have been reported as follows for the month of April, 1924:

Persons examined.....	4, 301
Persons treated.....	2, 062
Persons cured.....	946
Number of analyses made.....	2, 066
Number of houses visited.....	586
Number of conferences.....	

**Rat Killing—Asuncion.**

Information dated May 30, 1924, shows that the national department of hygiene and the municipality of Asuncion have inaugurated a campaign of rat killing in view of the existence of plague in Asuncion at localities not far from the frontier of Paraguay.

**POLAND.**

**Communicable Diseases—April 13-26, 1924.**

During the period April 13 to 26, 1924, communicable diseases were reported in Poland as follows:

**APRIL 13-19, 1924.**

Disease.	Cases.	Deaths.	Districts showing greatest number of deaths.
Cerebrospinal meningitis.....	8	8	Lodz.
Diphtheria.....	72	11	Former Russian Poland.
Measles.....	63	1	Lwow.
Scarlet fever.....	124	7	Do.
Smallpox.....	24		Do.
Typhoid fever.....	126	9	Do.
Typhus fever.....	288	13	Tarnopol.
Typhus fever, recurrent.....	7	1	Lwow.
Whooping cough.....	41	10	Warsaw and Krakow.

**APRIL 20-26, 1924.**

Cerebrospinal meningitis.....	9	6	Warsaw.
Diphtheria.....	61	4	Silesia.
Measles.....	53	6	Lwow.
Scarlet fever.....	168	17	Warsaw.
Smallpox.....	34	1	Lwow.
Typhoid fever.....	125	12	Kielce.
Typhus fever.....	291	21	Tarnopol.
Typhus fever, recurrent.....	10	1	Posen.
Whooping cough.....	21	6	Lodz.

<sup>1</sup> Public Health Reports, Apr. 18, 1924, p. 846, and May 9, 1924, p. 1099.

**Anthrax—Dysentery—Malaria.**

During the period under report, two cases of anthrax with one death, 16 cases of dysentery with two deaths, and 85 cases of malaria were reported in Poland.

**UNION OF SOUTH AFRICA.****Plague—Orange Free State.**

Plague has been reported in the Orange Free State, Union of South Africa, as follows:

Week ended May 24, 1924: Cases, 10; deaths, 3; occurring among natives. Week ended May 31, 1924: Cases, 2, in natives. Total from December 16, 1923, to May 31, 1924: Cases, 347 (white, 51; colored or native, 296); deaths, 208 (white, 26; colored or native, 182).

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

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

**Reports Received During Week Ended July 25, 1924.<sup>1</sup>****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				May 4-17, 1924: Cases, 17,344; deaths, 12,810.
Calcutta.....	May 25-June 7.....	66	56	
Madras.....	June 1-14.....	6	5	
Rangoon.....	May 25-31.....	35	27	
Siam:				
Bangkok.....	May 18-31.....	4	5	

**PLAGUE.**

British East Africa:				
Kenya—				
Tanganyika Territory.....	Feb. 24-Mar. 1.....		1	
Canary Islands:				
Teneriffe—				
La Laguna.....	June 20.....	1		
Chile:				
Antofagasta.....	June 16.....	4		
Ecuador:				
Guayaquil.....	June 1-15.....	1		Rats taken, 7,128; found infected, 32.
Egypt.....				Jan. 1-June 10, 1924: Cases, 284.
Port Said.....	May 28-June 3.....	1		(Corresponding period, 1923, cases, 977).
India.....				May 4-17, 1924: Cases, 25,746; deaths, 20,523.
Bombay.....	May 18-June 7.....	17	15	
Calcutta.....	May 25-June 14.....	4	4	
Karachi.....	June 1-14.....	4	5	
Rangoon.....	May 25-June 7.....	12	11	
Iraq:				
Bagdad.....	May 11-24.....	37	20	
Japan:				
Shizuoka Prefecture—				
Hagashi.....				To June 20, 1924: Cases, 2; deaths, 1. Previously reported present.

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.

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

### Reports Received During Week Ended July 25, 1924—Continued.

#### PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Madagascar:				
Tananarive Province.....	-----	-----	-----	Apr. 16-30, 1924: Cases, 51; deaths, 49.
Tananarive Town.....	Apr. 16-30.....	1	1	
Union of South Africa.....	-----	-----	-----	Dec. 16, 1923, to May 31, 1924: Cases, 347 (white, 51; colored or native, 296); deaths, 208 (white, 26; colored or native, 182).
Orange Free State.....	-----	-----	-----	May 18-31, 1924: Cases, 12; deaths, 2 (natives).

#### SMALLPOX.

Brazil:				
Bahia.....	May 18-24.....	1		
British East Africa:				
Kenya—				
Mombasa.....	May 4-31.....	3		
British South Africa:				
Northern Rhodesia.....	May 20-26.....	26		Natives.
Canada:				
British Columbia—				
Vancouver.....	June 22-28.....	4		
Do.....	June 29-July 5.....	9		Not including suburbs.
Ontario.....	-----	-----	-----	June 1-30, 1924: Cases, 24.
Chile:				
Antofagasta.....	June 16.....			In lazaretto, 2 cases.
China:				
Amoy.....	June 1-7.....		1	
Chungking.....	do.....			Present.
Hongkong.....	May 11-24.....	14	13	
Manchuria—				
Dairen.....	May 26-June 1.....	5		
Nanking.....	June 1-14.....			Do.
Tientsin.....	May 25-31.....	1	1	
Egypt:				
Cairo.....	Mar. 19-Apr. 1.....	13	3	
Greece:				
Saloniki.....	Apr. 21-May 4.....	7	2	
India:				
Bombay.....	May 18-June 7.....	127	107	
Calcutta.....	May 25-June 14.....	12	12	May 4-17, 1924: Cases, 6,738; deaths, 1,612.
Karachi.....	June 1-14.....	11	6	
Madras.....	do.....	15	5	
Rangoon.....	May 25-June 7.....	13	6	
Iraq:				
Bagdad.....	May 11-24.....	2		
Jamaica:				
Kingston.....	June 22-28.....	3		June 22-28, 1924: Cases, 17 (reported as alastrim).
Japan:				
Kobe.....	June 14-20.....	1		
Java:				
East Java—				
Soerabaya.....	May 4-17.....	92	28	
Mexico:				
Guadalajara.....	-----	-----	-----	June 1-30, 1924: Cases, 4; deaths, 3.
Mexico City.....	June 1-14.....	20		Including municipalities in Federal district.
Palestine.....	-----	-----	-----	June 17-23, 1924: 20 cases in northern district.
Poland.....	-----	-----	-----	Apr. 13-26, 1924: Cases, 58.
Portugal:				
Lisbon.....	June 15-21.....	1		
Oporto.....	do.....	4	2	
Straits Settlements:				
Singapore.....	May 18-24.....	1	1	
Switzerland:				
Berne.....	June 15-21.....	7		
Tunis:				
Tunis.....	June 10-30.....	10	4	
Turkey:				
Constantinople.....	June 1-7.....	1		

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

## Reports Received During Week Ended July 25, 1924—Continued.

### SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa: Cape Province	May 18-31			Outbreaks.
On vessel: S. S. Mount Evans	July 8	1		At Key West, Fla., from Manchester, England.

### TYPHUS FEVER.

Brazil: Porto Alegre	June 1-7		1	
Chile: Antofagasta				June 16, 1924: Two cases in Lazaretto.
Egypt: Cairo	Mar. 19-31	9	5	
Greece: Saloniki	Apr. 20-May 4	6		
Mexico: Guadalajara				June 1-30, 1924: Cases, 2; deaths, 1. Including municipalities in Federal district.
Mexico City	June 1-7	6		
Palestine: Jaffa	June 17-23	1		
Portugal: Oporto	June 15-21		1	
Turkey: Constantinople	June 1-7	2		
Union of South Africa: Cape Province	May 18-31			Outbreaks.
Orange Free State	do.			Do.

## Reports Received from June 28 to July 18, 1924.<sup>1</sup>

### CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				Apr. 20-May 3, 1924: Cases, 21, 517; deaths, 16, 219.
Bombay	May 4-10	1		
Calcutta	May 11-24	71	60	
Rangoon	do.	24	17	
Indo-China: Saigon	Apr. 27-May 3	1	1	
Philippine Islands: Province—				
Cagayan	Mar. 30-Apr. 5	1	1	
Laguna	May 18-24	1	1	
Siam: Bangkok	May 4-17	4	3	

### PLAGUE.

Argentina: Chaco Territory				Apr. 1, 1924: Cases reported.
Ceylon: Colombo	May 11-31	5	2	
Chile: Antofagasta	June 1-7	1		
China: Foochow	May 4-31		13	
Ecuador: Eloy Alfaro	May 16-31	1		
Guayaquil	do.	1		Rats taken, 7,859; found infected, 56.

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources. For reports received from Dec. 29, 1923 to June 27, 1924, see Public Health Reports for June 27, 1924. The tables of epidemic diseases are terminated semiannually and new tables begun.

**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.****Reports Received from June 23 to July 18, 1924—Continued.****PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt				Jan. 1-May 29, 1924: Cases, 252; deaths 126.
City—				
Alexandria	Apr. 2	1	1	
Port Said	Apr. 24-May 3	1	1	
Suez	May 14-20	1		
Province—				
Assiout	Apr. 1-May 25	37	28	
Charkieh	Jan. 31	1	1	
Fayoum	Feb. 18-May 29	76	21	
Gharbieh	Apr. 21	1	1	
Ghirgeh	Jan. 17-May 13	10	3	
Kalloubieh	Jan. 6-May 22	10	1	
Kena	Apr. 9-May 17	44	26	
Menoufieh	Jan. 2-May 16	43	28	
Minia	Feb. 5-May 27	18	11	
Greece:				
Patras	July 7	36		
India				Apr. 20-May 3, 1924: Cases, 34,494; deaths, 28,648.
Bombay	May 4-17	27	24	
Calcutta	May 11-24	6	6	
Karachi	May 18-31	11	7	
Madras Presidency	do.	7	2	
Rangoon	May 11-24	20	22	
Indo-China:				
Saigon	May 4-10	1	1	Including 100 square kilometers of surrounding country.
Iraq:				
Bagdad	Apr. 20-May 10	51	35	
Japan:				
Shizuoka Prefecture— Higashi	June 24			Present.
Madagascar:				
Tananarive Province				Apr. 1-15, 1924: Cases, 54; deaths, 50.
Tananarive Town	Apr. 1-15	8	8	
Other localities	do.	46	42	
Persia:				
Bushire	Apr. 1-30	1	1	
Peru				May 1-31, 1924: Cases, 5; deaths, 5.
Lima (city)	May 1-31	3	4	
Lima (country)	do.	1		
Molendo	do.	1	1	
Siam:				
Bangkok	May 4-10	2	2	
Union of South Africa				Apr. 27-May 17, 1924: Cases, 15; deaths, 10. Dec. 16, 1923, to May 17, 1924: Cases, 335; deaths, 204 (white, 51 cases, 25 deaths; native, 284 cases, 179 deaths).

**SMALLPOX.**

Bolivia:				
La Paz	May 1-31	2	4	
Brazil:				
Porto Alegre	May 18-24	1		
Rio de Janeiro	do.	2		
British South Africa:				
Northern Rhodesia	May 6-12	13	1	
Canada:				
British Columbia— Vancouver	June 15-21	7		
New Brunswick— Restigouche County	June 1-30	7		
Ontario— Windsor	June 22-23	1		
Quebec— Montreal	June 8-14	1		
Chile:				
Antofagasta	June 11	2		
Valparaiso	June 1-7		1	Under treatment at Lazaretto. This report covers the two principal districts of Valparaiso.

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

Reports Received from June 28 to July 18, 1924—Continued.

## SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy.....	May 11-31.....			Present.
Chungking.....	do.....			Widespread.
Foochow.....	May 18-31.....			Present.
Hongkong.....	May 4-10.....	11	6	
Manchuria—				
Dairen.....	May 12-25.....	15	7	
Harbin.....	May 13-19.....	1		
Nanking.....	May 18-24.....			Do.
Shanghai.....	May 25-31.....		1	
Tientsin.....	May 4-24.....	8		
Denmark:				
Copenhagen.....	May 18-31.....	3	1	
Egypt:				
City—				
Alexandria.....	June 4-10.....	1		
Cairo.....	Feb. 19-Mar. 11.....	9		
France:				
Paris.....	May 21-31.....	2		
Great Britain:				
England and Wales				May 25-June 21, 1924: Cases, 277.
Counties—				
Derby.....	May 25-June 21.....	135		
Northumberland.....	do.....	50		
Nottingham.....	May 25-June 21.....	27		
Yorks (North Riding). ..	do.....	41		
India:				
Bombay.....	May 4-17.....	172	99	Apr. 20-May 3, 1924: Cases, 7,121; deaths, 1,536.
Calcutta.....	May 11-24.....	3	3	
Karachi.....	May 18-31.....	27	11	
Madras.....	do.....	6	1	
Rangoon.....	May 11-24.....	16	8	
Indo-China:				
Saigon.....	Apr. 27-May 17.....	81	45	
Iraq:				
Bagdad.....	Apr. 20-May 10.....	6	1	
Italy:				
Messina.....	May 26-June 1.....	1		
Jamaica:				
Kingston.....	June 1-14.....	3		June 1-21, 1924: Cases, 124. Reported as alastrim.
Japan:				
Kobe.....	May 26-June 8.....	2		
Nagoya.....	June 8-14.....	2		
Java:				
East Java—				
Soerabaya.....	Apr. 13-May 3.....	78	31	
Latvia:				
Riga.....	Apr. 1-30.....	1		
Mexico:				
Guadalajara.....	May 1-31.....	5	1	
Mexico City.....	May 4-31.....	61		Including municipalities in Federal district.
Salina Cruz.....	May 25-31.....	1	1	
Tampico.....	June 14-20.....	2		
Palestine:				
Samaria Province—				
Samak.....	May 27-June 2.....	1		
Poland:				
Warsaw.....				Mar. 30-Apr. 12, 1924: Cases, 60; deaths, 6. Recurrent typhus: Cases, 3; 1 death.
Portugal:				
Lisbon.....	May 25-June 14.....	6	1	
Oporto.....	May 11-June 7.....	14	8	
Siam:				
Bangkok.....	Apr. 27-May 17.....	3	4	
Spain:				
Barcelona.....	Year 1923.....	160		
Valencia.....	June 8-21.....	3		
Straits Settlements:				
Singapore.....	May 4-10.....	1		
Sumatra:				
Medan.....	Jan. 1-31.....	5		
Switzerland:				
Berne.....	May 25-June 7.....	10		
Syria:				
Damascus.....	May 28-June 3.....	7		
Tunis:				
Tunis.....	May 27-June 9.....	7		

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

**Reports Received from June 28 to July 18, 1924—Continued.**

**SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa.....				Mar. 1-Apr. 30, 1924: Cases, 80 (white, 5; native, 75). Outbreaks.
Cape Province.....	May 4-10.....			Do.
Orange Free State.....	do.....			Do.
Transvaal.....	do.....			Do.
On vessel:				
S. S. Karoa.....	May 7.....	1		At Durban, South Africa, from Bombay, India. Vessel left Bombay Apr. 16, 1924. Patient, European

**TYPHUS FEVER.**

Algeria:				
Algiers.....	May 1-31.....	19	8	
Chile:				
Concepcion.....	May 20-26.....		3	
Talcahuano.....	May 25-31.....	2		
Valparaiso.....	May 25-June 14.....		9	
China:				
Chungking.....	May 11-17.....			Widespread.
Egypt:				
Cairo.....	Feb. 19-Mar. 11.....	5	2	
Great Britain:				
Ireland:				
Dublin.....	June 8-14.....	1		
Iraq:				
Bagdad.....	Apr. 27-May 10.....	2		
Latvia.....	Apr. 1-30.....	39		
Mexico:				
Guadalajara.....	May 1-31.....		1	
Mexico City.....	May 4-31.....	38		Including municipalities in Federal district.
Poland.....				Mar. 30-Apr. 13, 1924: Cases, 674; deaths, 77. Recurrent typhus: Cases, 3; deaths, 1.
Syria:				
Aleppo.....	June 8-14.....	1		
Tunis:				
Tunis.....	May 27-June 9.....	4		
Turkey:				
Constantinople.....	May 18-31.....	5	1	
Union of South Africa:				
Cape Province.....	Mar. 1-Apr. 30.....	144	11	Mar. 1-Apr. 30, 1924: Cases, 257; deaths, 23 (white, cases, 18; deaths, 1; native, cases, 239; deaths, 25).
Natal.....	do.....	9	2	
Durban.....	Apr. 20-26.....	1		
Orange Free State.....	Mar. 1-Apr. 30.....	55	8	
Transvaal.....	do.....	31	4	
Johannesburg.....	May 11-24.....	2		

**YELLOW FEVER.**

Brazil:				
Pernambuco.....	May 11-17.....	2	1	