PUBLIC HEALTH REPORTS

VOL. 47 SEPTEMBER 23, 1932 No. 39

DO CHILDREN WHO DRINK RAW MILK THRIVE BETTER THAN CHILDREN WHO DRINK HEATED MILK? [1]

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INTRODUCTION

There is no more vexing question confronting American parents and American health authorities than the following: Shall milk be heated before it is consumed? Most health authorities believe and teach that any milk supply, regardless of how carefully it has been produced, would be made still safer by heating it hot enough and long enough to devitalize any pathogens which might have accidentally found their way into it despite the care taken in producing it.

Partly as a result of this teaching there has been a rapid increase in the percentage of milk pasteurized in the United States during the past 30 years. From the beginning of the twentieth century to the present time the percentage of milk pasteurized in American cities of 10,000 population and over has increased from a negligible figure to the impressive one of 87.5 per cent.[2]

During the past several years, however, raw milk advocates have vigorously contended that heating milk adversely affects its healthfulness and growth-promoting capacity. In support of this claim repeated reference has been made to experiments conducted at Ohio State University [3] and at the British National Institute for Research in Dairying,[4] from which the conclusion is drawn that white rats which are fed upon heated milk will not grow as well as white rats fed upon raw milk. Raw milk advocates have used this material in publicity campaigns in many parts of the United States. They have insisted that these experiments upon white rats justify the conclusion that children will not thrive as well upon heated as upon raw milk.

Now it will immediately be apparent that, even if it were true that white rats do not grow as well upon heated milk as upon raw

[1] Presented at the Conference of State and Territorial Health Officers, Washington, D. C., June 6, 1932.

[2] The extent of pasteurization and tuberculin testing in American cities of 10,000 population and over. By Leslie C. Frank and Frederic J. Moss. (Mimeographed publication issued by U. S. Public Health Service, 1932.)

[3] Ohio tests prove natural milk is best. By Ernest Scott, M. D., and Lowell A. Erf. (Jersey Bulletin and Dairy World, Feb. 11, 1931.)

[4] Relative value of raw and heated milk in nutrition. By Mattick and Golding. Lancet, Mar. 21, 1931.

milk—and even if it necessarily followed (which it does not) that children who were fed nothing but heated milk would not grow as well as children who were fed nothing but raw milk—the fact would still remain that except for a period of a few weeks American children do not live exclusively upon milk. They are given a supplementary diet very soon after weaning, and the effect of heating the milk used in the diet, if such effect exists, might be so small as to disappear in the combined effect of the complete child diet. If this can be demonstrated it is not conceivable that any physician or parent would still consider the very real milk-borne disease menace of raw milk to be offset by any significant dietary disadvantage of heated milk.

Nevertheless, intensive campaigns have been conducted by raw milk advocates in the form of leaflet distribution, newspaper advertisements, and radio programs. There seems indeed to be real danger that milk consumers in the United States may be more impressed by the arguments of raw milk advocates that heated milk is not as wholesome as raw milk, than by the advice of health authorities that raw milk is not as safe as heated milk.

If this is true it becomes imperative for health officers to be able to answer the question, "Do children who drink raw milk actually thrive better than children who drink heated milk?", not by theoretical reasoning only, but on the basis of field observation.

It was therefore decided to make an extensive field study on the basis of the accompanying survey form in the hope that from such data it would be possible to prepare age-weight and age-height curves for each of two large groups of children, one of which had consumed raw milk and the other heated milk, and thus determine from actual past experience whether heating milk really has a sufficiently adverse effect to reduce significantly the growth-promoting capacity of the average American child diet.

Accordingly, arrangements were made with the State health departments of Alabama, Mississippi, Florida, Georgia, North Carolina, Kentucky, Texas, Missouri, Oregon, and Washington to make surveys in the following-named cities:

Montgomery, Ala.	Graham, Mo.	Eugene, Oreg.
Mobile, Ala.	Platte City, Mo.	Central Point, Oreg.
Jacksonville, Fla.	Plattsburg, Mo.	Gold Hill, Oreg.
Atlanta, Ga.	De Kalb, Mo.	Jacksonville, Oreg.
Jackson, Miss.	Durham, N. C.	Talent, Oreg.
Louisville, Ky.	Winston-Salem, N. C.	Phoenix, Oreg.
Lexington, Ky.	Greensboro, N. C.	Ashland, Oreg.
St. Matthews, Ky.	Chapel Hill, N. C.	Eagle Point, Oreg.
Jefferson City, Mo.	Morrisville, N. C.	Houston, Tex.
St. Joseph, Mo.	Rougemont, N. C.	Austin, Tex.
Webster Groves, Mo.	Bahama, N. C.	Dallas, Tex.
Cosby, Mo.	Creedmoor, N. C.	Seattle, Wash.
Dearborn, Mo.	Medford, Oreg.	Walla Walla, Wash.

UNITED STATES PUBLIC HEALTH SERVICE

OFFICE OF MILK INVESTIGATIONS — CHILD HEALTH SURVEY (UNDER 6)

Name of child_____ Parent or guardian_____

Address: No_____ Street_____ City_____ State_____

Age: ____ Yrs. ____ Mo_____. Weight: ____ lbs. ____ oz. Height: _____ in.

Date of birth_____ No. in family_____ No. rooms_____

Nationality of ancestors_____

DIET

Baby was fed—

(Breast milk from_____ (Age) to_____ (Age)); (cooked milk from_____ (Age) to_____ (Age));

(raw milk not cooked at home from_____ (Age) to_____ (Age));

(pasteurized milk not cooked at home from_____ (Age) to_____ (Age));

(milk powder from_____ (Age) to_____ (Age)); (evaporated unsweetened from_____ (Age) to_____ (Age));

(condensed sweetened from_____ (Age) to_____ (Age)); (cereals from_____ (Age) to_____ (Age));

(fruits or fruit juices from_____ (Age) to_____ (Age)); (vegetable or juices from_____ (Age) to_____ (Age));

(fresh meats from_____ (Age) to_____ (Age)); (eggs from_____ (Age) to_____ (Age));

(potatoes from_____ (Age) to_____ (Age)); (candies or sirups from _____ (Age) to _____ (Age));

(cod-liver oil from_____ (Age) to_____ (Age)).

Does child like milk?_____ Give grade of milk_____

HEALTH HISTORY

Is child well at present?_____ If not, state nature of ailment_____

_____ Has child had following illnesses: Diphtheria_____ Scarlet fever_____ Diarrhea_____ Dysentery_____

Flux_____ Colitis_____ Summer complaint_____

Typhoid fever_____ Scurvey_____ Rickets_____

Date_____

_____
(Name of investigator)

_____
(Title)

It was obviously desirable to standardize the method of securing the information, and, accordingly, the senior author standardized the survey methods of the junior authors and these in turn visited the various cities and standardized the survey methods of the city personnel.

The children were weighed with outer garments removed, but with few exceptions the undergarments were kept on, since most of the survey work was done during cold weather and considerable difficulty would have been encountered in securing complete undressing. Account of this fact should be taken in comparing the curves with age-weight curves for completely undressed children.

When the questionnaires were tabulated it was found that there were a few instances in which the weight but not the height was

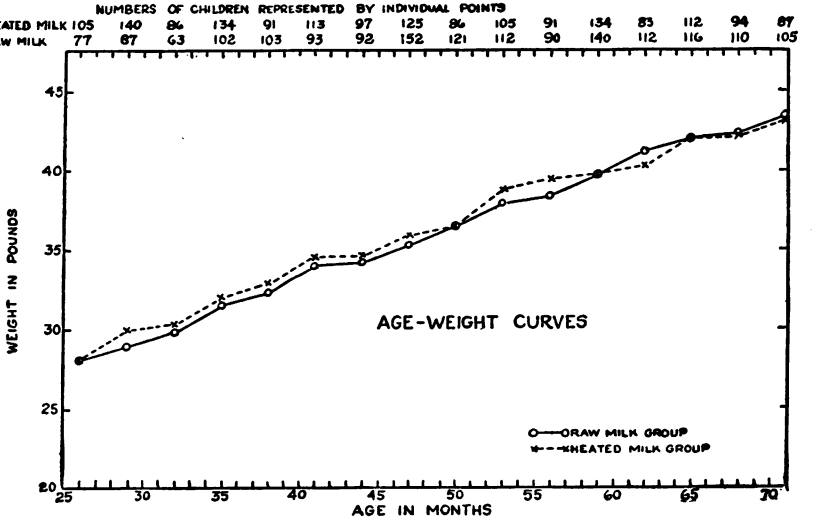

FIGURE 1.—Effect of heated and raw milks upon child growth

given, and a few other instances in which the height but not the weight was given. Altogether it was possible to plot age-weight curves for 3,358 children, and age-height curves for 3,319 children of 2 to 6 years of age. An insufficient number of returns were available at this time for children under 2.

A study of the returns soon indicated that the number of children who had received no heated milk whatever was practically negligible. Therefore it was decided to place in the raw-milk group those children who had received raw milk for more than half of their lives, including the latter half, and to place in the heated-milk group those children who had received heated milk for more than half of their lives, including the latter half.

Figures 1 and 2 give the age-weight and age-height curves for the two groups. It is evident that what little difference there is, is in favor of the heated-milk group. The average weight of the children receiving raw milk is 36.0 pounds, as compared with 36.3 pounds for the heated-milk group. There is practically no difference in the average heights.

The difference in weight, even though small, was rather puzzling, since there seemed to be no sound reason why children who drink heated milk should actually weigh even slightly more than children who drink raw milk. It should be noted here that the average weight and average height figures were determined by obtaining the individual averages for each of the 3-months age groups, and then averaging these averages. This avoided any error which might otherwise have

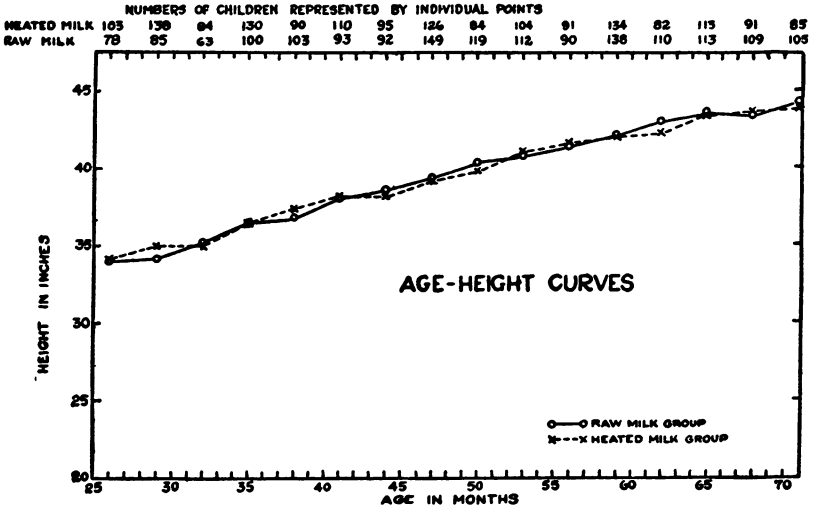

FIGURE 2.—Effect of heated and raw milks upon child growth

resulted from the somewhat unequal age distribution in the two groups.

It might be objected that the children in the heated-milk group had received some raw milk in the first half of their lives, and that this might have affected their growth. Hence, it was believed that it might be helpful to group the children somewhat differently, namely, to place in the raw-milk group those children who had received raw milk for more than half of their lives, including at least the latter half, and to place in the heated-milk group those children who had received no milk whatever other than heated milk. Under heated milk was included pasteurized milk, boiled milk, evaporated milk, and milk powder. Children receiving any sweetened condensed milk were excluded from the heated-milk group, as it has been held that such children tend to be abnormally heavy.

Figure 3 gives the age-weight curves and Figure 4 gives the age-height curves for these two groups of children, which had by this time been augmented by additional returns for children under 2. It

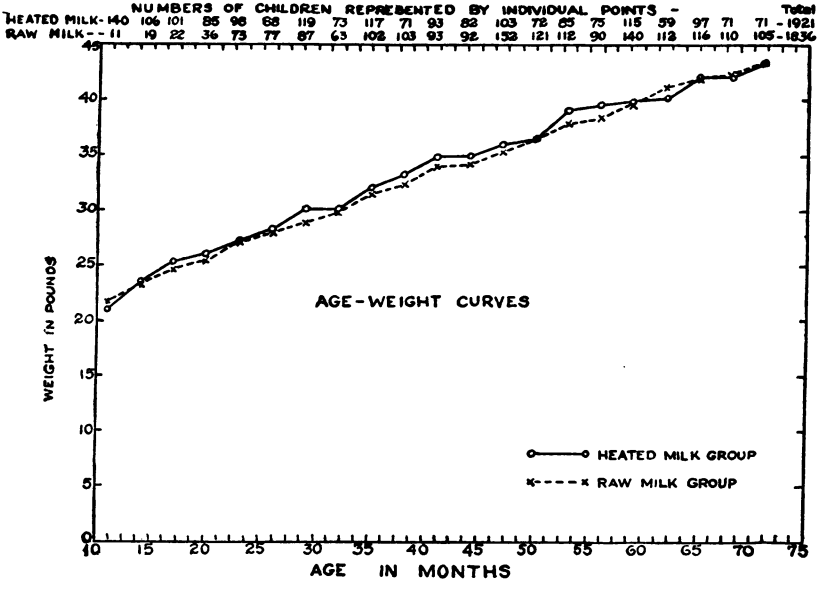

FIGURE 3.—Effect of heated and raw milks upon child growth

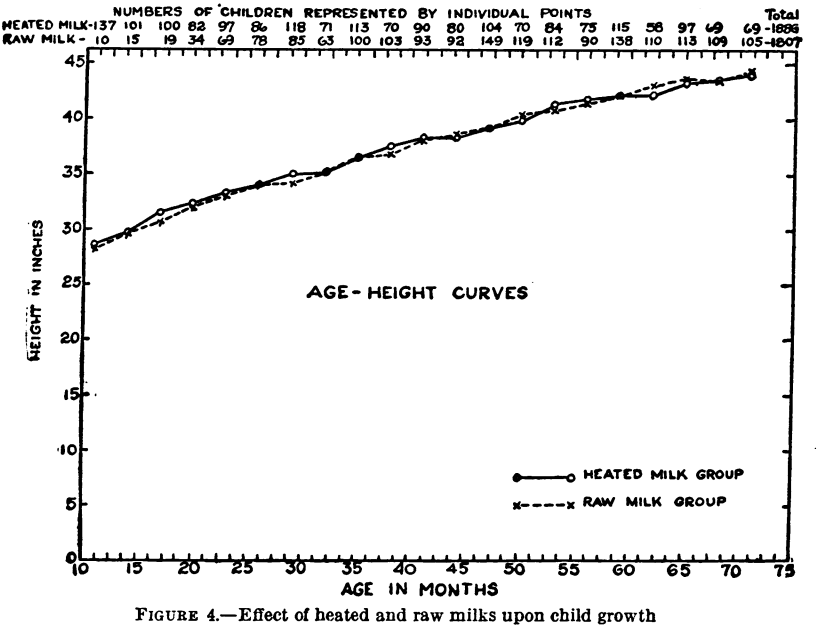

FIGURE 4.—Effect of heated and raw milks upon child growth

is evident that over a considerable part of the age-weight curve the 1,921 children representing the heated-milk group still show a slightly greater average weight than the 1,836 children representing the raw-

milk group. The average weight of the children receiving raw milk is 33.2 pounds, whereas the average weight of the children receiving heated milk is 33.6 pounds, a difference of 1.2 per cent.

The average height of the 1,807 children receiving raw milk is 37.4 inches, whereas the average height of the 1,886 children receiving heated milk is 37.5 inches, a difference of less than three-tenths of 1 per cent.

An attempt was made to study the various factors other than kind of milk fed which might have influenced the weight or height, in order to make sure that there was not some essential weight and height affecting difference, other than milk, between the two groups of children, and in order to find some explanation, if possible, of the slight but persistent excess in weight in favor of the heated-milk group. The factors studied were race, financial status, and supplementary foods in the diet.

RACE

The two groups of children were divided into three major race groups, namely, Anglo-Saxon, Latin, and miscellaneous. Table 1 gives the distribution found:

TABLE 1.—*Race distribution of children*

Race	Children receiving predominantly raw milk	Children receiving heated milk only
	Per cent	*Per cent*
Anglo-Saxon	96	91
Latin	2	5
Miscellaneous	2	4

From these figures it seems proper to conclude that the age-weight and age-height curves were not significantly affected by the race distribution in the two groups of children.

FINANCIAL STATUS

The attempt to represent financial status was limited to the determination of the average number of persons per room in the households of each group. The results of this study showed that in the homes of the children receiving heated milk there were on the average 1.01 persons per room, and that in the homes of the children receiving predominantly raw milk there were on the average 1.08 persons per room. This slight difference is not believed to be significant.

SUPPLEMENTARY FOODS

Figure 5 shows the average percentage of the lives of the children in each group during which various supplementary foods were included in the diet. It will be observed that the differences are negligible except in the case of cod-liver oil. The children receiving heated milk only received cod-liver oil during an average of 41.6 per cent of their lives, whereas the children receiving predominantly raw milk received cod-liver oil during an average of 27.6 per cent of their lives. This was a very interesting finding and it was considered possible that the extra amount of cod-liver oil given the heated-milk group might have resulted in neutralizing any ill effect from heating

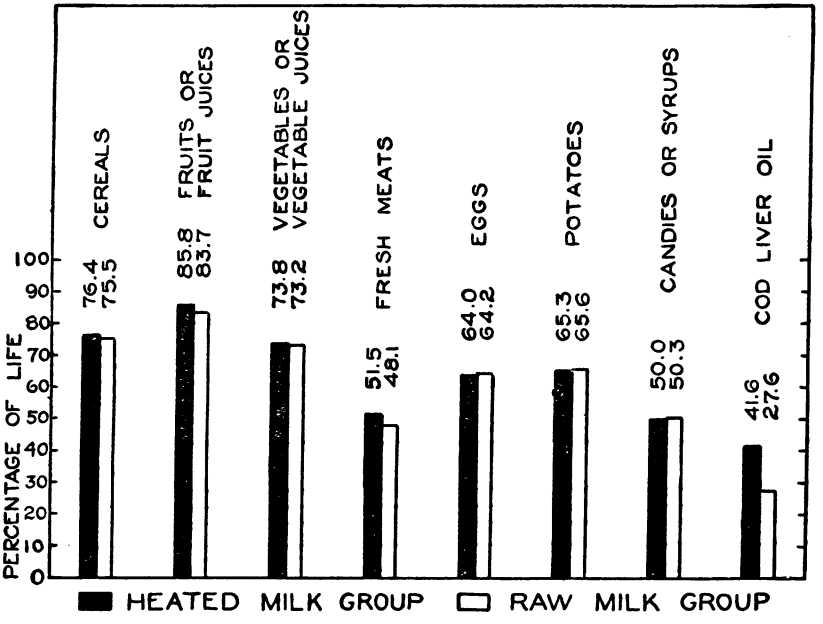

FIGURE 5.—Supplementary foods

the milk, or might at least explain the slightly greater weight of the heated-milk group. In order to investigate these possibilities it was decided to regroup the children receiving heated milk on the basis of cod-liver oil intake. This part of the study was limited to those children who had received cod-liver oil for more than half their lives, as one group, and to those who had received no cod-liver oil at all, as another. The results of the study showed that the average weight of the 794 children who received cod-liver oil during more than half of their lives was 33.8 pounds, whereas the average weight of the 636 children who received no cod-liver oil was 33.5 pounds. This indicates that even if the heated-milk group of children had received no

cod-liver oil whatever its age-weight curve would at most have been only one-tenth pound below its former position, i. e., still very slightly above the raw-milk curve.

INCIDENCE OF MILK-BORNE KINDS OF DISEASE

For this part of the study survey sheets were available for 3,637 children.

There were 32 cases of diphtheria reported by the parents among the 1,875 children who received heated milk only, as compared with 40 cases of diphtheria among the 1,762 children receiving predominantly raw milk, or case rates of 17.1 and 22.7 per thousand, respectively.

The number of scarlet fever cases reported by the heated-milk group was 43 as compared with 73 for the raw-milk group, or case rates of 23.0 and 41.4 per thousand, respectively.

The number of cases of intestinal disturbances (reported under various names such as diarrhea, dysentery, flux, colitis, and summer complaint) was 426 for the heated-milk group and 491 for the raw-milk group, or case rates of 227.0 and 278.0 per thousand, respectively. If we exclude diarrhea, which probably includes many very mild cases not referable to milk, the number of cases was 208 for the heated-milk group and 345 for the raw-milk group, or case rates of 111.0 and 196.0 per thousand, respectively.

Three cases of typhoid fever were reported for each group.

Only three cases of scurvy were reported, two for the heated-milk group and one for the raw-milk group.

Fifty-nine cases of rickets were reported for the heated-milk group and 90 cases for the raw-milk group, or case rates of 31.5 and 51.1 per thousand, respectively. Here again was an unexpected finding; this is probably related to the increased cod-liver oil intake of the heated-milk group.

SUMMARY

The foregoing studies of over 3,700 children are summarized as follows for children of 10 months to 6 years of age:

(1) There is no significant difference between the average weight of children who have received no milk except heated milk, and the average weight of children who have received raw milk for more than the latter half of their lives, the respective weights being 33.6 and 33.2 pounds, the insignificant difference being in favor of the children receiving heated milk.

(2) There is no significant difference between the average height of children who have received no milk except heated milk, and the average height of children who have received raw milk for more than the latter half of their lives, the respective heights being 37.5 and 37.4 inches, the insignificant difference being in favor of the children receiving heated milk.

(3) There was no significant difference between the two groups of children from the standpoint of the relative percentage of life during which various supplementary foods were included in the diet, except in the case of cod-liver oil, which was included during an average of 41.6 per cent of the lives of the children receiving heated milk, and an average of only 27.6 per cent of the lives of the children receiving raw milk.

(4) This difference in the percentage of life during which cod-liver oil was fed did not, however, affect the relative positions of the two age-weight curves significantly, since the average weight of the 636 children in the heated-milk group who received no cod-liver oil at all was 33.5 pounds, as compared with 33.8 pounds for the 794 children in the heated-milk group who received cod-liver oil during more than half of their lives.

(5) The parents of the children receiving predominantly raw milk reported a higher incidence of diphtheria, scarlet fever, intestinal disturbances, and rickets than did the parents of the children receiving heated milk only.

CONCLUSION

The growth-promoting capacity of heated milk plus the supplementary diet received by the average American child of 10 months to 6 years is not measurably less than the growth-promoting capacity of raw milk plus the supplementary diet received by the average American child of 10 months to 6 years.

ACKNOWLEDGMENTS

It is desired to acknowledge with appreciation the considerable effort so generously contributed by the various State and city health officers, by the nurses and other survey personnel, and by Mrs. Ruth Reinsmith, Miss Irene Shuman, Mrs. Rose Cohen, and Mrs. Evelyn Thompson in connection with the arduous task of tabulating and computing the statistical material.

DEATHS DURING WEEK ENDED SEPTEMBER 3, 1932

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Sept. 3, 1932	Corresponding week, 1931
Data from industrial-insurance companies:		
Policies in force	70,963,568	74,961,597
Number of death claims	11,026	11,715
Death claims per 1,000 policies in force, annual rate	8.1	8.1
Death claims per 1,000 policies, first 35 weeks of year, annual rate	9.8	10.0
Data from 85 large cities of the United States:		
Total deaths	6,924	6,741
Deaths per 1,000 population, annual basis	9.9	9.8
Deaths under 1 year of age	584	598
Deaths under 1 year of age per 1,000 estimated live births [1]	48	46
Deaths per 1,000 population, annual basis, first 35 weeks of year	11.4	12.2

[1] 1932, 81 cities; 1931, 77 cities.

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 Weeks Ended September 10, 1932, and September 12, 1931

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 10, 1932, and September 12, 1931

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931
New England States:								
Maine	---	3	---	---	7	9	0	0
New Hampshire	---	---	---	---	---	---	0	0
Vermont	---	1	---	---	---	4	0	0
Massachusetts	12	33	1	12	22	18	0	1
Rhode Island	2	---	---	1	2	6	0	0
Connecticut	1	8	---	3	3	2	1	0
Middle Atlantic States:								
New York	39	56	[1] 4	[1] 4	78	48	3	10
New Jersey	13	12	4	1	24	7	1	1
Pennsylvania	39	68	---	---	33	64	5	1
East North Central States:								
Ohio	24	73	4	15	28	12	2	1
Indiana	38	15	13	13	4	6	2	1
Illinois	41	45	5	51	17	25	3	4
Michigan	6	15	---	---	16	7	1	2
Wisconsin	9	12	20	4	10	27	3	0
West North Central States:								
Minnesota	4	8	---	---	4	7	1	1
Iowa	3	5	---	---	1	2	0	1
Missouri	25	25	---	3	1	3	5	5
North Dakota	---	1	---	---	5	5	0	0
South Dakota	1	1	---	---	---	2	0	1
Nebraska	13	9	---	2	2	---	0	0
Kansas	14	11	1	2	5	5	1	0
South Atlantic States:								
Delaware	2	---	---	---	---	---	0	0
Maryland [2]	13	15	5	3	3	9	0	1
District of Columbia	1	7	---	---	1	1	0	2
Virginia [3]	30	---	---	---	7	---	3	---
West Virginia	27	13	3	9	10	6	0	1
North Carolina [3]	58	79	9	2	12	6	2	1
South Carolina	12	16	161	121	6	7	0	0
Georgia [3]	36	55	15	28	2	7	1	1
Florida [3]	9	5	---	1	1	2	0	0

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 10, 1932, and September 12, 1931—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931
East South Central States:								
Kentucky	62	39				11	1	1
Tennessee	56	74	19	23	1	1	0	2
Alabama [3]	68	72	3	3	1	20	0	1
Mississippi	30	99					0	1
West South Central States:								
Arkansas	23	20			1	2	0	2
Louisiana	22	31	7	8	1	1	0	1
Oklahoma [4]	47	45	13	3	1	4	1	0
Texas [3]	71	21	41	1	2		0	0
Mountain States:								
Montana	1	8	2		29	6	0	0
Idaho		1					1	0
Wyoming					2	2	1	0
Colorado	3	5					0	0
New Mexico	7	2	3		1	1	1	1
Arizona		3	1	3	1	2	0	0
Utah [3]	1			2	1	1	0	0
Pacific States:								
Washington	3	3			5	2	1	2
Oregon [5]	2	1	3	7	4	5	0	0
California	26	29	81	15	25	39	1	3
Total	894	1,044	418	340	379	394	41	49

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931
New England States:								
Maine	1	2	2	4	0	0	5	3
New Hampshire	0	6	4	2	0	0	0	1
Vermont	0	12	4	1	0	1	0	0
Massachusetts	4	127	49	73	0	0	7	3
Rhode Island	2	21	6	12	0	0	0	2
Connecticut	2	92	11	3	0	0	2	7
Middle Atlantic States:								
New York	20	430	63	95	2	0	48	42
New Jersey	39	94	22	18	0	0	9	21
Pennsylvania	136	14	91	71	0	0	75	37
East North Central States:								
Ohio	2	23	145	172	9	4	85	67
Indiana	1	4	33	44	0	20	34	22
Illinois	8	39	57	94	0	7	44	23
Michigan	9	114	43	61	1	6	44	36
Wisconsin	1	83	17	19	0	1	10	4
West North Central States:								
Minnesota	9	48	17	24	0	1	1	7
Iowa	7	5	9	11	1	8	4	2
Missouri	1	2	22	6	0	3	35	29
North Dakota	2	5	4	0	0	1	6	
South Dakota	1	1	0	3	0	2	1	1
Nebraska	2	1	11	6	0	3	2	2
Kansas	0	1	35	16	0	0	14	8
South Atlantic States:								
Delaware	2	0	1	3	0	0	1	3
Maryland [2]	2	1	10	17	0	0	32	35
District of Columbia	3	0	5	5	0	0	2	5
Virginia [3]	5	2	44		0		52	
West Virginia	8	5	32	11	4	0	79	47

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 10, 1932, and September 12, 1931—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931	Week ended Sept. 10, 1932	Week ended Sept. 12, 1931
South Atlantic States—Continued.								
North Carolina [3]	3	3	31	58	0	0	20	32
South Carolina	1	0	2	8	0	0	43	67
Georgia [3]	0	1	9	25	0	0	54	78
Florida [3]	0	0	3	0	0	0	5	0
East South Central States:								
Kentucky	2	1	62	35	1	0	65	56
Tennessee	1	5	31	25	1	1	48	87
Alabama [3]	0	4	45	45	0	0	24	39
Mississippi	0	1	9	25	0	3	22	37
West South Central States:								
Arkansas	0	0	13	17	0	1	47	37
Louisiana	0	0	4	10	0	3	21	61
Oklahoma [4]	0	0	16	17	0	5	56	51
Texas [3]	4	1	26	22	2	6	50	35
Mountain States:								
Montana	0	3	6	3	0	0	6	8
Idaho	0	0	2	2	0	1	0	1
Wyoming	0	0	7	1	0	1	0	5
Colorado	0	0	8	10	0	0	8	4
New Mexico	1	1	5	1	0	0	3	3
Arizona	0	0	4	3	0	0	1	3
Utah [2]	0	0	2	3	0	0	0	1
Pacific States:								
Washington	1	1	5	12	0	2	5	11
Oregon [5]	0	0	8	4	3	4	5	11
California	4	7	46	32	3	1	15	16
	284	1,160	1,081	1,129	27	85	1,090	1,050

[1] New York City only.
[2] Week ended Friday.
[3] Typhus fever, week ended Sept. 10, 1932, 37 cases: 2 cases in Virginia, 1 case in North Carolina, 10 cases in Georgia, 1 case in Florida, 20 cases in Alabama, and 3 cases in Texas.
[4] Figures for 1932 are exclusive of Oklahoma City and Tulsa.
[5] Rocky Mountain spotted fever, week ended Sept. 10, 1932, 1 case in Oregon.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
July, 1932										
Mississippi	2	49	345	4,894	20	743	2	18	5	248
August, 1932										
Arizona		8	4		9		2	7	0	19
Connecticut	3	18	2		76		4	52	0	10
District of Columbia		11	2		3		13	19	0	12
Florida		71	9	46	11	6	0	11	1	27
Iowa	1	28			4		8	35	16	35
Maine	1	5	1		18	1	6	30	0	19
North Dakota	3	8			21		7	12	10	15
Oregon		9	33	9	65		3	24	12	9
Pennsylvania	23	128		1	373		296	383	0	265
Tennessee	5	62	47	239	9	41	8	76	2	418
Vermont		4			38		1	25	0	0
Wyoming		3	1		22		2	14	2	1

July, 1932

Mississippi:	Cases
Chicken pox	238
Dengue	12
Dysentery (amebic)	43
Mumps	65
Ophthalmia neonatorum	8
Puerperal septicemia	19
Rabies in animals	2
Trachoma	3
Undulant fever	1
Whooping cough	521

August, 1932

Actinomycosis:	
Connecticut	2
Chicken pox:	
Arizona	1
Connecticut	39
District of Columbia	10
Florida	2
Iowa	7
Maine	23
North Dakota	11
Oregon	49
Pennsylvania	191
Tennessee	5
Vermont	25
Wyoming	4
Conjunctivitis, infectious:	
Connecticut	7
Dengue:	
Florida	1
Dysentery:	
Florida	2
Oregon	3
Pennsylvania	2
Tennessee	25
German measles:	
Connecticut	4
Maine	11
Pennsylvania	8
Tennessee	1
Impetigo contagiosa:	
North Dakota	1
Oregon	26
Tennessee	17
Lethargic encephalitis:	
Connecticut	1
District of Columbia	1
North Dakota	4
Pennsylvania	2
Mumps:	
Connecticut	32
Florida	6
Iowa	14
Maine	9
North Dakota	2
Oregon	12
Pennsylvania	258
Tennessee	9
Vermont	100
Wyoming	3
Ophthalmia neonatorum:	
Connecticut	1
Pennsylvania	3
Tennessee	2
Paratyphoid fever:	
Connecticut	1
Oregon	3
Tennessee	5
Puerperal (septicemia):	
Pennsylvania	35
Rabies in animals:	
Connecticut	2
Rocky Mountain spotted or tick fever:	
District of Columbia	4
Wyoming	4
Scabies:	
Oregon	2
Tennessee	1
Septic sore throat:	
Connecticut	3
Iowa	1
Maine	1
Oregon	2
Wyoming	2
Tetanus:	
North Dakota	2
Pennsylvania	2
Tennessee	2
Trachoma:	
Arizona	12
Pennsylvania	2
Tennessee	13
Tularæmia: [1]	
Arizona	3
Florida	10
Oregon	3
Wyoming	13
Typhus fever:	
Maine	1
Undulant fever:	
Arizona	1
Connecticut	3
Iowa	15
Maine	1
Vincent's angina:	
Iowa	3
Maine	3
Oregon	3
Tennessee	7
Vincent's infection:	
North Dakota	9
Whooping cough:	
Arizona	25
Connecticut	286
District of Columbia	18
Florida	37
Iowa	53
Maine	42
North Dakota	47
Oregon	65
Pennsylvania	1,561
Tennessee	103
Vermont	30
Wyoming	15

[1] Later information from Wisconsin reports 1 case of tularæmia during the month of July, instead of 154 cases, as published in the Public Health Reports of Sept. 2, 1932, p. 1846.

WEEKLY REPORTS FROM CITIES

City reports for week ended September 3, 1932

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that 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 weeks 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 non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1923 is included. In obtaining the estimated expectancy the figures are smoothed when necessary to avoid abrupt deviation 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
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND								
Maine:								
Portland	1	0	0	----	1	0	1	1
New Hampshire:								
Concord	0	0	0	----	0	0	0	0
Manchester	0	0	0	----	0	0	0	0
Nashua	0	0	0	----	0	0	0	0
Vermont:								
Barre	1	0	0	----	0	0	0	0
Burlington	0	0	0	----	0	0	2	0
Massachusetts:								
Boston	3	12	6	----	0	4	5	18
Fall River	1	1	0	----	0	0	0	1
Springfield	0	0	0	----	0	1	1	0
Worcester	1	2	1	----	0	6	1	2
Rhode Island:								
Pawtucket	0	0	0	----	0	0	0	0
Providence	2	2	0	----	0	3	0	3
Connecticut:								
Bridgeport	0	2	1	----	0	1	1	0
Hartford	0	1	0	----	0	3	1	0
New Haven	1	0	0	----	0	0	0	0
MIDDLE ATLANTIC								
New York:								
Buffalo	1	5	0	----	0	1	0	11
New York	9	64	27	4	0	43	44	72
Rochester	1	2	0	----	0	2	2	1
Syracuse	0	0	0	----	0	0	0	1
New Jersey:								
Camden	0	1	4	----	0	0	0	2
Newark	0	5	0	----	0	5	6	0
Trenton	0	1	0	----	0	1	0	0
Pennsylvania:								
Philadelphia	2	19	3	1	0	2	6	15
Pittsburgh	3	7	1	1	2	5	0	13
Reading	0	1	0	----	0	0	0	1
Scranton	2	----	2	----	----	0	0	----
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	0	3	2	----	0	0	1	3
Cleveland	10	12	1	----	0	4	2	8
Columbus	0	2	1	----	0	5	0	1
Toledo	0	2	0	1	1	2	2	2
Indiana:								
Fort Wayne	0	1	4	----	0	0	0	1
Indianapolis	2	1	0	----	0	1	1	5
South Bend	0	1	0	----	0	0	0	0
Terre Haute	0	0	2	----	0	4	0	0
Illinois:								
Chicago	10	44	12	1	0	7	5	23
Springfield	0	0	0	1	0	0	0	2

City reports for week ended September 3, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued								
Michigan:								
Detroit	7	22	4	1	0	10	4	7
Flint	0	1	0		0	2	0	0
Grand Rapids	1	0	0		0	0	2	0
Wisconsin:								
Kenosha	2	0	0		0	0	0	0
Madison	3	1	2			0	0	
Milwaukee	2	5	0		0	2	3	5
Racine	0	0	0		0	0	0	0
Superior	1	0	0		0	1	0	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth	0	0	0		0	0	0	1
Minneapolis	1	8	2		0	1	1	3
St. Paul	1	3	0	1	1	0	0	3
Iowa:								
Des Moines	1	0	1			0	0	
Sioux City	0	0	0			0	1	
Waterloo		0						
Missouri:								
Kansas City	0	1	1		0	1	0	1
St. Joseph	0	0	5		0	0	0	3
St. Louis	0	14	9			1	4	1
North Dakota:								
Fargo	0	0	0		0	0	0	0
Grand Forks	0	0	0			1	0	
South Dakota:								
Aberdeen	0	0	0			0	0	
Nebraska:								
Omaha	2	3	1		0	0	1	1
Kansas:								
Topeka	0	0	0		1	6	2	0
Wichita	0	0	0		0	0	0	1
SOUTH ATLANTIC								
Delaware:								
Wilmington	0	0	0		0	0	0	2
Maryland:								
Baltimore	1	10	1	1	1	2	6	7
Cumberland	0	0	0		0	0	0	0
Frederick	0	0	0		0	0	0	0
District of Columbia:								
Washington	2	7	2		0	0	0	4
Virginia:								
Lynchburg	0	0	0		0	1	0	0
Norfolk	0	0	0		0	0	0	3
Richmond	0	6	0		0	0	0	2
Roanoke	0	2	2		0	0	0	0
West Virginia:								
Charleston	0	1	0	1	0	0	0	0
Huntington	0		1		0	0	0	
Wheeling	2	0	0		0	1	0	0
North Carolina:								
Raleigh	0	1	0		0	1	0	2
Wilmington	1	1	0		0	0	0	0
Winston-Salem	0	2	1	1	0	6	0	0
South Carolina:								
Charleston	0	0	1	2	0	0	0	1
Columbia	0	0	0		0	0	0	1
Greenville	0	0	0		0	0	0	0
Georgia:								
Atlanta	0	4	2	1	0	0	0	6
Brunswick	0	0	0		0	0	0	0
Savannah	0	0	3		0	0	0	4
Florida:								
Miami	0	1	2		0	0	0	0
Tampa	0	0	9		0	0	0	0

City reports for week ended September 3, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL								
Kentucky:								
Covington	0	0	0	----	0	0	0	0
Lexington	0	----	0	----	0	0	0	0
Louisville	0	----	7	2	0	1	1	4
Tennessee:								
Memphis	0	1	2	----	0	0	0	2
Nashville	0	1	3	----	0	1	1	0
Alabama:								
Birmingham	0	3	1	1	0	0	1	5
Mobile	0	0	2	----	0	0	0	3
Montgomery	0	1	0	----	----	0	0	----
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	0	0	0	----	----	0	0	----
Little Rock	----	0	----	----	----	----	----	----
Louisiana:								
New Orleans	0	6	0	2	4	0	0	3
Shreveport	0	0	0	----	0	0	0	1
Oklahoma:								
Muskogee	0	----	0	----	0	0	0	0
Texas:								
Dallas	0	4	17	----	0	1	0	0
Fort Worth	0	2	2	----	0	0	0	1
Galveston	0	0	0	----	0	0	0	0
Houston	0	3	1	----	0	0	0	5
San Antonio	0	2	2	----	0	0	0	4
MOUNTAIN								
Montana:								
Billings	0	0	0	----	0	0	0	0
Great Falls	1	0	0	----	0	0	0	0
Helena	0	0	0	----	0	0	0	0
Missoula	0	0	0	----	0	0	0	1
Idaho:								
Boise	0	0	0	----	0	0	0	0
Colorado:								
Denver	0	6	1	----	0	2	3	1
Pueblo	1	0	0	----	0	0	0	0
New Mexico:								
Albuquerque	0	1	0	----	0	0	0	0
Utah:								
Salt Lake City	----	1	----	----	----	----	----	----
Nevada:								
Reno	0	0	0	----	0	0	0	0
PACIFIC								
Washington:								
Seattle	4	2	0	----	----	0	3	----
Spokane	2	0	1	----	----	3	0	----
Tacoma	1	1	0	----	0	0	0	0
Oregon:								
Portland	2	3	2	4	0	1	1	2
Salem	0	0	0	----	0	0	0	1
California:								
Los Angeles	2	16	15	58	0	4	6	11
Sacramento	1	2	0	----	0	0	0	0
San Francisco	6	4	1	2	1	2	4	2

City reports for week ended September 3, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	0	0	0	0	0	1	1	0	0	2	31
New Hampshire:											
Concord	0	1	0	0	0	0	0	0	0	0	4
Manchester	0	0	0	0	0	0	0	0	0	0	23
Nashua	0	0	0	0	0	0	0	0	0	0	----
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	----
Burlington	0	0	0	0	0	0	0	0	0	2	8
Massachusetts:											
Boston	14	18	0	0	0	9	2	3	0	33	175
Fall River	1	3	0	0	0	1	0	0	0	1	19
Springfield	1	1	0	0	0	1	0	0	0	2	28
Worcester	3	2	0	0	0	2	0	1	0	5	36
Rhode Island:											
Pawtucket	0	0	0	0	0	0	0	0	0	0	----
Providence	2	2	0	0	0	5	2	0	0	12	71
Connecticut:											
Bridgeport	1	2	0	0	0	1	0	0	0	6	20
Hartford	1	0	0	0	0	1	0	0	0	0	43
New Haven	1	0	0	0	0	0	1	0	0	5	29
MIDDLE ATLANTIC											
New York:											
Buffalo	5	7	0	0	0	1	0	0	0	32	128
New York	19	32	0	0	0	83	37	32	4	113	1,207
Rochester	2	7	0	0	0	0	1	0	0	1	66
Syracuse	1	0	0	0	0	0	1	0	0	34	40
New Jersey:											
Camden	0	2	0	0	0	0	0	2	0	0	29
Newark	3	1	0	0	0	10	1	1	0	14	82
Trenton	2	0	0	0	0	2	0	1	0	6	31
Pennsylvania:											
Philadelphia	15	20	0	0	0	19	8	7	0	15	388
Pittsburgh	6	10	0	0	0	5	2	1	0	37	39
Reading	0	2	0	0	0	0	0	0	0	4	26
Scranton	----	1	----	0	0	0	----	0	0	3	----
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	4	5	0	0	0	6	3	2	1	0	115
Cleveland	9	20	0	0	0	15	3	1	0	38	155
Columbus	2	6	0	0	0	2	0	0	0	2	78
Toledo	3	5	0	0	0	5	2	2	0	11	53
Indiana:											
Fort Wayne	1	0	0	0	0	0	1	0	0	0	21
Indianapolis	2	5	0	0	0	0	1	3	1	5	----
South Bend	1	2	0	0	0	0	0	0	0	1	12
Terre Haute	0	0	0	0	0	0	0	1	0	0	12
Illinois:											
Chicago	25	37	0	0	0	26	6	4	0	71	572
Springfield	0	0	0	0	0	0	0	1	0	0	20
Michigan:											
Detroit	19	7	0	0	0	12	4	0	0	72	215
Flint	4	1	0	0	0	1	0	1	0	3	14
Grand Rapids	3	0	0	0	0	0	0	1	0	8	31
Wisconsin:											
Kenosha	0	0	0	0	0	0	0	0	0	11	5
Madison	0	1	1	0	----	----	----	1	----	7	----
Milwaukee	6	3	0	0	0	5	1	0	0	42	87
Racine	1	0	0	0	0	1	0	0	0	6	14
Superior	0	0	0	0	0	0	0	0	0	0	5
WEST NORTH CENTRAL											
Minnesota:											
Duluth	4	0	0	0	0	0	0	0	0	0	20
Minneapolis	9	3	0	0	0	3	1	0	0	2	88
St. Paul	5	3	0	0	0	3	1	1	0	15	46

City reports for week ended September 3, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—contd.											
Iowa:											
Des Moines	2	4	0	0			0	0		0	26
Sioux City	0	1	0	0			0	0		0	
Waterloo	0		0				0				
Missouri:											
Kansas City	3	2	0	0	0	6	1	2	1	1	8
St. Joseph	0	2	0	0	0	1	0	2	0	2	27
St. Louis	10	8	0	0	0	6	7	6	2	1	177
North Dakota:											
Fargo	1	0	0	0	0	0	0	0	0	1	3
Grand Forks	1	0	0	0			0	0		0	
South Dakota:											
Aberdeen	1	0	0	0			0	1		3	
Nebraska:											
Omaha	1	2	0	0	0	2	0	1	0	1	50
Kansas:											
Topeka	1	6	0	0	0	0	0	1	0	0	16
Wichita	0	0	0	0	0	1	2	1	0	2	27
SOUTH ATLANTIC											
Delaware:											
Wilmington	0	0	0	0	0	0	1	0	0	0	21
Maryland:											
Baltimore	4	14	0	0	0	12	8	1	0	28	204
Cumberland	0	1	0	0	0	0	1	0	0	1	12
Frederick	0	0	0	0	0	0	1	0	0	0	1
District of Col.:											
Washington	5	6	0	0	0	15	4	6	1	2	182
Virginia:											
Lynchburg	0	2	0	0	0	1	1	1	1	8	12
Norfolk	0	1	0	0	0	1	2	0	0	1	33
Richmond	3	9	0	0	0	5	3	2	0	0	52
Roanoke	1	0	0	0	0	0	0	1	0	1	16
West Virginia:											
Charleston	1	1	0	0	0	2	1	3	[1] 2	0	14
Huntington		1		0				0		0	
Wheeling	1	0	0	0	0	0	1	0	0	1	13
North Carolina:											
Raleigh	0	0	0	0	0	0	0	0	0	1	14
Wilmington	0	0	0	0	0	0	0	0	0	2	11
Winston-Salem	1	1	0	0	0	0	1	0	0	5	14
South Carolina:											
Charleston	0	2	0	0	0	2	2	3	0	0	20
Columbia	0	0	0	0	0	0	1	0	0	0	1
Greenville		0		0	0	0		0	0	1	
Georgia:											
Atlanta	3	1	0	0	0	2	4	8	1	3	67
Brunswick	0	0	0	0	0	0	0	0	0	0	2
Savannah	0	0	0	0	0	0	1	4	0	1	28
Florida:											
Miami	0	0	0	0	0	5	1	0	0	0	20
Tampa	1	1	0	0	0	0	1	0	0	0	11
EAST SOUTH CENTRAL											
Kentucky:											
Covington	1	2	0	0	0	0	0	0	0	0	15
Lexington		4		0	0	0		5	0	0	15
Louisville		3		0	0	1		0	1	8	67
Tennessee:											
Memphis	2	1	0	0	0	5	8	1	2	0	82
Nashville	1	0	0	0	0	7	6	1	1	1	47
Alabama:											
Birmingham	3	5	0	0	0	5	4	4	0	1	60
Mobile	0	3	0	0	0	0	1	0	0	0	24
Montgomery	0	1	0	0			0	2		0	

[1] Nonresidents.

City reports for week ended September 3, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	0	1	0	0	----	----	0	0	----	0	----
Little Rock	0	----	0	----	----	----	1	----	----	----	----
Louisiana:											
New Orleans	2	2	0	0	0	9	4	5	0	1	127
Shreveport	1	1	0	0	0	2	1	0	1	1	29
Oklahoma:											
Muskogee	0	0	----	0	0	0	----	0	0	0	----
Texas:											
Dallas	2	3	0	0	0	1	3	1	1	0	46
Fort Worth	0	1	0	0	0	1	1	6	0	0	----
Galveston	0	0	0	0	0	1	0	0	0	0	14
Houston	1	1	0	0	0	4	2	0	0	0	56
San Antonio	2	0	0	0	0	2	1	0	0	0	40
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	0	----
Great Falls	0	0	0	0	0	0	0	0	0	4	6
Helena	0	0	0	0	0	0	0	0	0	0	3
Missoula	0	0	0	0	0	0	0	0	0	0	9
Idaho:											
Boise	0	0	0	5	0	1	0	0	0	0	5
Colorado:											
Denver	3	1	0	0	0	4	1	1	0	8	64
Pueblo	0	0	0	0	0	0	0	1	0	6	7
New Mexico:											
Albuquerque	0	3	0	0	0	0	0	0	0	0	----
Utah:											
Salt Lake City	2	----	0	----	----	----	2	----	----	----	----
Nevada:											
Reno	0	0	0	0	0	1	0	0	0	0	7
PACIFIC											
Washington:											
Seattle	5	0	0	0	----	----	2	2	----	0	----
Spokane	2	0	1	0	----	----	0	2	----	1	----
Tacoma	1	3	1	0	0	0	0	0	0	0	26
Oregon:											
Portland	1	1	3	0	0	0	1	0	0	0	75
Salem	0	0	0	0	0	0	----	0	0	0	----
California:											
Los Angeles	7	6	1	0	0	20	2	1	1	60	250
Sacramento	0	0	0	0	0	0	1	3	1	0	22
San Francisco	4	1	0	0	0	11	0	0	1	12	163

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston	0	0	0	0	0	1	5	1	0
Rhode Island:									
Providence	0	0	0	0	0	0	0	1	0
MIDDLE ATLANTIC									
New York:									
New York	3	1	1	1	0	0	15	8	3
Rochester	1	0	0	0	0	0	1	0	0
New Jersey:									
Camden	0	0	0	0	0	0	0	1	0
Newark	1	0	0	0	0	0	1	0	0
Trenton	0	0	1	1	0	0	0	0	0

City reports for week ended September 3, 1932—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
MIDDLE ATLANTIC—continued									
Pennsylvania:									
Philadelphia	2	2	0	0	0	0	1	102	11
Pittsburgh	0	0	0	0	0	0	0	1	0
Reading	0	0	0	0	0	0	0	1	0
Scranton	0	0	0	0	0	0	----	3	0
EAST NORTH CENTRAL									
Ohio:									
Cleveland	0	2	1	0	0	0	3	0	0
Illinois:									
Chicago	2	0	2	1	0	1	4	6	0
Michigan:									
Detroit	0	0	0	0	0	0	3	1	0
Grand Rapids	0	0	0	0	0	0	0	1	0
Wisconsin:									
Milwaukee	0	0	0	0	0	0	0	1	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	0	0	0	0	0	0	0	2	0
Minneapolis	0	0	0	0	0	0	1	1	0
St. Paul	1	0	0	0	0	0	1	1	1
Iowa:									
Des Moines	0	0	0	0	0	0	0	1	0
Kansas:									
Wichita	0	0	0	0	0	0	1	1	0
SOUTH ATLANTIC									
Maryland:									
Baltimore [1]	1	0	0	0	0	0	1	0	0
District of Columbia:									
Washington	1	0	0	0	0	0	0	8	2
Virginia:									
Roanoke	1	0	0	0	0	0	0	0	0
South Carolina: [1]									
Charleston	0	0	0	0	2	0	0	1	0
Georgia: [1]									
Savannah [1]	0	0	0	0	1	0	0	0	0
Florida: [1]									
Miami	0	0	0	0	1	1	0	0	0
EAST SOUTH CENTRAL									
Kentucky:									
Louisville	1	1	0	0	0	0	----	0	0
Tennessee:									
Memphis	0	0	0	0	1	1	0	1	0
Alabama:									
Birmingham [1]	0	1	0	0	0	0	0	0	0
Mobile	0	0	0	0	4	1	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans [1]	3	1	0	0	0	0	0	2	0
Oklahoma:									
Muskogee	0	0	0	0	1	0	----	0	0
Texas:									
Fort Worth	0	0	0	0	0	2	1	0	0
San Antonio	0	0	0	0	0	1	0	0	0
PACIFIC									
California:									
Los Angeles	1	0	0	0	0	0	2	3	1
Sacramento	0	0	1	0	0	0	0	0	0
San Francisco	0	0	0	0	0	0	0	0	1

[1] Typhus fever, 7 cases and 1 death: 1 case at Baltimore, Md.; 1 case at Columbia, S. C.; 1 case at Atlanta, Ga.; 1 case at Savannah, Ga.; 2 cases at Tampa, Fla.; 1 death at Birmingham, Ala.; and 1 case at New Orleans, La.

FOREIGN AND INSULAR

Quebec Province—Communicable diseases—Week ended August 27, 1932.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended August 27, 1932, as follows:

Disease	Cases	Disease	Cases
Chicken pox	14	Puerperal fever	1
Diphtheria	20	Scarlet fever	19
Erysipelas	2	Tuberculosis	78
German measles	3	Typhoid fever	16
Measles	12	Whooping cough	84
Poliomyelitis	61		

CZECHOSLOVAKIA

Communicable diseases—July, 1932.—During the month of July, 1932, certain communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	17	2	Paratyphoid fever	21	----
Cerebrospinal meningitis	8	2	Puerperal fever	34	15
Diphtheria	1,397	76	Scarlet fever	1,195	18
Dysentery	11	----	Trachoma	117	----
Malaria	82	----	Typhoid fever	377	31

ITALY

Communicable diseases—Four weeks ended April 3, 1932.—During the four weeks ended April 3, 1932, cases of certain communicable diseases were reported in Italy as follows:

Disease	Mar. 7–13		Mar. 14–20		Mar. 21–27		Mar. 28–Apr. 3	
	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected
Anthrax	16	15	11	11	12	12	8	8
Cerebrospinal meningitis	13	12	9	9	11	11	22	18
Chicken pox	290	95	233	93	237	103	235	79
Diphtheria and croup	452	260	419	240	468	265	400	227
Dysentery	2	2	3	3	1	1	3	3
Lethargic encephalitis	2	2	1	1	1	1	4	4
Measles	2,599	278	2,717	281	2,511	282	2,380	284
Poliomyelitis	10	9	3	3	2	2	3	3
Scarlet fever	307	101	262	95	327	120	257	93
Typhoid fever	158	114	163	112	262	130	168	97

MEXICO

Tampico—Communicable diseases—August, 1932.—During the month of August, 1932, certain communicable diseases were reported in Tampico, Mexico, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	34	1	Paratyphoid fever		2
Enteritis (various)		86	Smallpox	2	1
Influenza	10	1	Tuberculosis		28
Malaria	491	18	Typhoid fever	12	
Measles	2		Whooping cough	55	1

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

(NOTE.—A table giving current information of the world prevalence of the quarantinable diseases appears in the Public Health Reports for August 26, 1932, pp. 1798-1811. A similar cumulative table will appear in the Public Health Reports to be issued September 30, 1932, and thereafter, at least for the time being, in the last issue (published on the last Friday) of each month.)

Cholera

Baluchistan.—During the two weeks ended August 27, 1932, 46 cases of cholera with 28 deaths were reported in Baluchistan.

China.—Cholera is still reported from most of the cities in China from which reports of its presence have been received. The incidence appears to be diminishing in most places. For the two weeks ended August 27, 1932, Hankow reported 225 cases and 36 deaths. For the week ended September 3, 1932, Amoy reported 52 cases and 1 death; Hong Kong, 8 cases and 5 deaths; Macao, 4 cases, 4 deaths; Nanking, 197 cases, 21 deaths; and Shanghai, 389 cases, 28 deaths.

Philippine Islands.—For the week ended September 10, 1932, cholera was reported in the Philippine Islands as follows: Biliran Island, 30 cases, 10 deaths; Daram Island, 9 cases, 9 deaths. On September 10 and 11, 1932, 7 cases of cholera and 3 deaths were reported at Catbalogan, Samar, Philippine Islands.

Plague

Hawaii Territory.—A plague-infected rat was found August 15, 1932, and another August 17, at Makawao, island of Maui, Territory of Hawaii. Late report states that the report of two plague-infected rats captured August 11, 1932, at Makawao, should have read one plague-infected rat. (See Public Health Reports, Sept. 2, 1932, p. 1857.)