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PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

August 14–September 10, 1938

The accompanying table summarizes the prevalence of eight important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State are published in the Public Health Reports under the section "Prevalence of disease." The table gives the number of cases of these diseases for the 4-week period ending September 10, 1938, the number reported for the corresponding period in 1937, and the median number for the years 1933–37.

DISEASES ABOVE MEDIAN PREVALENCE

Influenza.—The number of cases of influenza reported for the four weeks ending September 10 was 1,561, as compared with 1,193, 834, and 1,257 for the corresponding period in the years 1937, 1936, and 1935, respectively. The incidence in the North Atlantic and Pacific regions was about normal and in the East North Central region the number of cases was relatively low, but in all other regions the incidence was comparatively high, the South Atlantic and West South Central areas reporting the highest incidence.

Smallpox.—After a period of unusually high incidence, smallpox has dropped to a more normal level. The current incidence was only about 65 percent of that for the corresponding period in 1937, but was still about 1.3 times the 1933–37 median figure for this period. During several preceding 4-week periods the incidence during the current year was more than three times the 1933–37 average. In the Mountain and Pacific regions the incidence was still somewhat above the preceding 5-year average, but in the North Central regions, where the disease has also been unusually prevalent, the incidence dropped to a normal seasonal level; in other regions the situation was quite favorable.

Number of reported cases of 8 communicable diseases in the United States during the 4-week period Aug. 14–Sept. 10, 1938, the number for the corresponding period in 1937, and the median number of cases reported for the corresponding period 1933–37 [1]

Division	Current period	1937	5-year median	Current period	1937	5-year median	Current period	1937	5-year median	Current period	1937	5-year median
	Diphtheria			Influenza [2]			Measles [3]			Meningitis, meningococcus		
United States [1]	1,909	1,468	1,975	1,561	1,193	1,257	2,819	2,972	2,909	136	216	216
New England	17	28	35	4	3	4	210	124	175	7	7	7
Middle Atlantic	139	128	187	29	22	28	684	963	785	23	40	40
East North Central	159	185	236	88	161	184	545	751	683	18	29	37
West North Central	103	78	166	107	167	63	189	139	139	11	19	19
South Atlantic	705	466	484	501	336	367	320	240	240	23	47	41
East South Central	336	232	391	154	57	65	117	243	137	21	28	21
West South Central	299	214	251	513	318	189	121	126	126	16	22	8
Mountain	80	51	47	98	45	30	184	189	87	11	8	5
Pacific	71	86	91	67	84	71	449	197	208	6	16	13
	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
United States [1]	307	2,572	1,412	3,264	3,450	3,922	147	222	117	2,295	2,467	2,955
New England	18	284	183	161	142	247	0	0	0	42	44	44
Middle Atlantic	79	390	390	514	595	727	0	0	0	272	265	265
East North Central	68	749	217	918	1,024	1,129	28	28	25	315	464	464
West North Central	31	394	69	435	431	419	21	44	19	169	173	209
South Atlantic	41	111	65	329	303	459	1	0	0	537	434	682
East South Central	21	88	88	269	243	245	3	21	2	318	395	586
West South Central	15	265	15	230	194	187	8	5	5	449	519	481
Mountain	9	127	14	120	214	138	24	71	8	107	78	112
Pacific	25	164	113	288	304	335	62	53	28	86	95	78

[1] 48 States. Nevada is excluded and the District of Columbia is counted as a State in these reports.
[2] 44 States and New York City.
[3] 46 States. Mississippi and Georgia are not included.

DISEASES BELOW MEDIAN PREVALENCE

Poliomyelitis.—During the current 4-week period, 307 cases of poliomyelitis were reported, as compared with 2,572, 626, and 3,625 for the corresponding period in the years 1937, 1936, and 1935, respectively. While the expected seasonal increase of this disease was apparent in all sections of the country, the number of cases in each region was comparatively small. For the country as a whole the incidence is the lowest for this period in the 10 years for which these data are available. The summer rise of poliomyelitis has, during recent years, reached its peak during the month of September. It is possible, therefore, that the number of reported cases for the current year may be the lowest on record for this disease.

Scarlet fever.—The number of cases (3,264) of scarlet fever was the lowest reported for the corresponding period in 8 years. In the West North Central and South Central regions the current incidence was slightly above the 1933–37 average, but all other regions reported fewer cases than normally occur at this season of the year.

Diphtheria.—The reported incidence of diphtheria for the current period was 1,909 cases, as compared with 1,288 for the preceding 4-week period. The incidence was about 30 percent in excess of that for the corresponding period in 1937, but it still remained below the 1933–37 median incidence for this period. The greatest increases over last year, as well as over the preceding 5-year averages, were reported from the South Atlantic, West South Central, and Mountain regions.

Measles.—The number of cases (2,819) of measles dropped slightly below the average seasonal incidence. The New England, West North Central, and South Atlantic regions reported slight increases over the seasonal expectancy, while the Mountain and Pacific areas reported more definite increases. The South Central regions reported about the normal incidence, and in the Middle Atlantic and East North Central sections the incidence was comparatively low.

Meningococcus meningitis.—The incidence of meningococcus meningitis continued at its recent low level. With the exception of the years 1933 and 1934, when there were 129 cases reported for this period in each year, the current incidence (136 cases) is the lowest in the 10 years for which these data are available. The West South Central and Mountain regions reported a few more cases than normally occur at this season of the year, and in the New England and East South Central regions the incidence equaled the 1933–37 median figure; in other regions the incidence was considerably below the average for recent years.

Typhoid fever.—The typhoid fever incidence was also relatively low. The number of cases (2,215) reported for the current period was about 10 percent below that for the corresponding period in 1937, and nearly 25 percent below the seasonal average. For the country as a whole the current incidence is the lowest recorded for this period in 10 years. The incidence in the North Atlantic, Mountain, and Pacific regions closely approximated the average for the season, but all other regions reported very definite decreases.

MORTALITY, ALL CAUSES

The average mortality rate from all causes in large cities for the 4 weeks ending September 10, based on data received from the Bureau of the Census, was 9.7 per 1,000 inhabitants (annual basis). The rate is normal for this season of the year; the average rate for the 8 preceding years is 9.7.

MOTTLED ENAMEL SURVEY OF BAUXITE, ARK., 10 YEARS AFTER A CHANGE IN THE COMMON WATER SUPPLY*

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Bauxite, Arkansas, occupies a prominent place in mottled enamel history. It is a small mining community that was established in 1901 to provide homes and a social environment for the employees of the mining company. It is owned by the Republic Mining and Manufacturing Company, a subsidiary of the Aluminum Company of America and is located about 25 miles southwest of Little Rock. The present population is estimated to be about 1,800.

Apparently the first to report endemic mottled enamel at Bauxite was Dr. F. L. Robertson, a practicing dentist of Benton, a city about 5 miles from Bauxite. His report was made to the Arkansas State Board of Health, and in March 1926 the State health officer asked the United States Public Health Service to make a study of mottled enamel in Bauxite.[1]

The original domestic water supply of Bauxite was obtained from shallow wells and a few springs. With the increase in population and contamination of certain of these surface supplies, a new water supply became necessary, and in 1909 two 297-foot wells were drilled. One of these wells became partly filled at the bottom from caving, and in September 1925 a new 245-foot well was added.

It appears that the association of mottled enamel with the use of water from the deep wells was recognized even before a survey of the community had been made; Mr. L. R. Branting, Superintendent, wrote to one of us (F. S. McK.) as early as September 1927 that steps had already been taken to change the common water supply.[2] He states: "In choosing our new supply of water, we took account of the fact that the city of Benton gets its domestic water from the Saline River and that this water does not seem to affect the teeth of the children."[3] He further added that a 6-inch pipe leading from the Saline River, 7 miles distant, had already been installed and that construction had been started on a filter to render the water suitable for domestic purposes.

In February 1928 a survey of mottled enamel was made by Kempf and McKay (*1*). In this survey 458 children, ages 5 to 18, were

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[1] Official request for a survey of Bauxite from the State Health Officer, C. W. Garrison, addressed to the Surgeon General, U. S. Public Health Service, dated March 16, 1926.

[2] Personal communication dated September 14, 1927.

[3] At the time of the 1928 survey, the public school children at Benton were also examined and the fact established that mottled enamel was not associated with the use of the Saline River water. These observations were included in the report of the original survey at Bauxite. See ref. (*1*).

examined in the schools of Bauxite. Mottled enamel of some teeth was found in 202 cases, or 44 percent. Among the 458 children examined, there were 66 children, ages 5 to 18 years, who, the authors state, were born in Bauxite, had lived there all of their lives, and had always used the municipal deep-well supply. Of these 66 children, 63 had some permanent teeth erupted. Sixty-one of the 63 showed evidence of mottled enamel. It was also noted in this report that the homes of each of the two children with normal teeth were piped for the common water supply, but one gave a history of not using this water for either cooking or drinking, while the other is recorded as having used spring water for drinking most of the time.

The evidence collected by these investigators in the examination of the elementary and high school children was summarized as follows:

"1. No cases of the enamel defect were found which antedated the introduction of the deep-well water.

"2. The oldest individual found with this enamel defect was born about the time that the deep-well water was introduced.

"3. All individuals in the community who had used the deep-well water during any considerable period of enamel formation exhibited this defect.

"4. No individual in the community whose enamel had developed elsewhere exhibited this defect.

"5. Certain individuals, who, although residents of the community and attending school there, but who actually lived beyond the distribution of the deep-well water and depended upon the original shallow wells, exhibited only normal enamel."

In 1931 Churchill (*2*) stated that, following the publication of the report of Kempf and McKay (November 28, 1930), "A. W. Petrey of this laboratory [4] spectrographically discovered the presence of fluorides in deep-well water from Bauxite, Arkansas." In the same article Churchill reported that a quantitative determination of the flourine content of the Bauxite deep-well water showed 13.7 parts per million.

The use of filtered river water began in May 1928, and has been continuous since that time. Of the two deep wells from which water was obtained prior to the time of the change, one, the 245-foot well, is still used for industrial purposes, the other having been abandoned. Water from the deep well may be pumped into the distribution system, but it would necessitate the repair of a relift pump and manipulation of a one-gate valve. There is no record of this having been done since the installation of the filtered river water in 1928. Practically all of the population use the common water supply.

Adjoining Bauxite is a small mining community known as Norton Town. The water supply for this community is obtained from a well 247 feet deep located about 300 to 400 yards from the old Bauxite

[4] Aluminum Research Laboratories, New Kensington, Pa.

deep wells and apparently obtaining water from the same stratum. The water from this supply is piped to the Norton Town homes. At the time of the resurvey (March 1938), there were 14 families using this water. The Norton Town families use the Saline River water, the present Bauxite water supply, for drinking, and Norton Town deep-well water for cooking. There is no known connection between these two supplies. Children from Norton Town using this dual domestic water supply were excluded from this study.

The present Bauxite common water supply is obtained from the Saline River. It is pumped from the river to Bauxite, subjected to rapid sand filtration, and disinfected with liquid chlorine. This supply is used almost wholly for domestic purposes, although there are some fire hydrants connected with the treated water system in the residential districts. The major fire protection for the manufacturing plants, however, is carried from the main raw water line from the river. As has been noted, water for industrial purposes is also being obtained from one of the old deep wells. There is, however, no record of a connection between any of these water systems.

RESURVEY OF BAUXITE

Approximately 10 years [5] after the change in the communal water supply, Bauxite was resurveyed. A brief description will be given of the criteria followed in the selection of the sample and the standards used in the clinical survey. The study included all children in the Bauxite school system, first to eighth grades, inclusive, whose history indicated continuous use of the communal water supply. The age distribution of the group was sufficiently wide to permit its subsequent division into three categories, namely, (*a*) children who, during the period of tooth calcification had used the filtered river water exclusively; (*b*) those who had used both the river water and the old deep-well water; and (*c*) those who had used the old deep-well supply almost exclusively.

Each of the class rooms was visited and the purpose of the study carefully explained. Children who stated that they were born in Bauxite, had continuously resided there since birth (30 days in any calendar year excepted), and who had always used the common water supply were assembled in a separate group. This group was then subjected to further interrogation in an attempt to learn of discontinuities in residence or in the use of the common water supply. Judicious questioning often elicited information such as the fact that some children had lived for a time at some nearby town or farm or had used domestic water from a source other than the public supply. Children whose histories indicated any of these discontinuities were

[5] The resurvey was made in March 1938, the original survey in February 1928.

eliminated from further study by this screening method. Those remaining apparently represented a group constantly exposed to the risk of the water-borne endemic hypoplasia of enamel under investigation, and were accordingly listed for detailed dental examination.

The clinical examinations were made in a good light with the child seated facing a window. Mouth mirrors, free from blemishes, and explorers (Nos. 5, 11, and 12) were used in making examinations. Each child was examined independently [6] by each of the field observers (H. T. D. and F. S. McK.), two schedule forms being prepared for each child. The findings were recorded by an amanuensis on the special examination form designed for mottled enamel surveys (fig. 1). In addition to mottled enamel, other defects of the enamel such as caries, present or past (fillings), pits and fissures, and hypoplasias of other types were recorded. The dental examinations were made at the approximate rate of 40 per school day per examiner.

Following the clinical examination, the home of each child was visited and the information recorded on the form shown in figure 1 under the heading "III Water History" was carefully rechecked by an interview with the child's parent. This recheck revealed additional inaccuracies in residence or water supplies used, which the child either did not know or had forgotten. Under the conditions of this study, it was possible to find only 82 children continuously exposed to the common water supply of Bauxite with the facts confirmed by the child's parent.

TABLE 1.—*Summary of data with relation to continuity of residence and concomitant use of the Bauxite common water supply*

	Grades				Total
	1–2	3–4	5–6	7–8	
1. Number of pupils in attendance on the day of screening	73	75	71	89	308
2 Number of pupils whose history on questioning indicated constant residence and continuous use of the communal water supply and who were examined	32	30	20	24	106
3. Percentage of pupils present examined under (2)	44	40	28	26	34
4. Number of schedules eliminated by house-to-house check	7	8	4	5	[1] 24
5. Percentage of total present showing verified constant residence and water history	34	29	22	21	26

[1] The most frequent single cause for rejection was the continued use of water from the "Hamp Smith Spring" for drinking prior to 1928. Eight of the 24 schedules eliminated were for this reason.

PERIOD OF SUSCEPTIBILITY TO MOTTLED ENAMEL

In evaluating clinical data recorded in mottled enamel studies where the age distribution of the group examined overlaps a change in the common water supply, it is essential that the period of susceptibility

[6] With the exception of 10 children later examined solely by one of us (H. T. D.). In order to include in our series the largest number possible of children of verified continuity of exposure, these 10, consisting mostly of children absent on the days that the clinical examinations were being made, were examined a day or two later and added to the series of 72 children of continuous history examined independently by each examiner.

UNITED STATES PUBLIC HEALTH SERVICE
NATIONAL INSTITUTE OF HEALTH
DIVISION OF INFECTIOUS DISEASES

NAME OR NUMBER OF SCHOOL .....

EXAMINER .....

CASE NO. .....

STATE ..... COUNTY ..... NAME .....
LAST FIRST

CITY .....
STREET ADDRESS .....

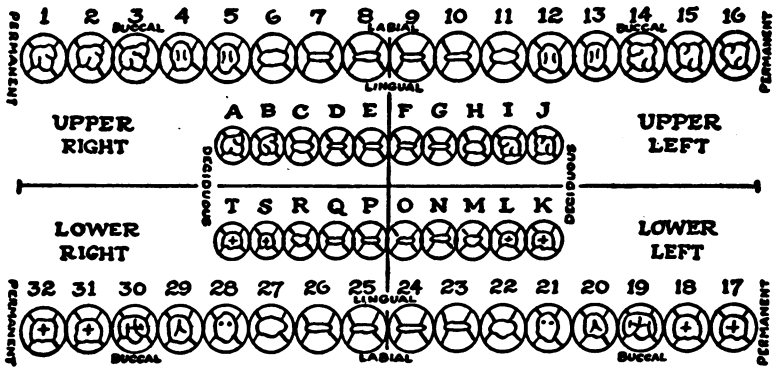
AGE ..... : ..... SEX ..... COLOR .....
YEARS MONTHS

RURAL* ..... GRADE ..... DATE .....

* IF RURAL, NOTE DIRECTION AND MILES FROM NEAREST TOWN.

PARENT'S NAME .....

I. CLINICAL EXAMINATION. THE DIAGRAM SHOULD PRESENT DEFINITE INFORMATION CONCERNING EVERY TOOTH SHOWN IN IT. DRAW AN X THROUGH EACH MISSING TOOTH. DRAW A CIRCLE AROUND THE NUMBER OR LETTER OF EACH TOOTH THAT IS PRESENT AND NORMAL. OUTLINE AND FILL IN CAREFULLY ON TOOTH DESIGN THE AREA OF CARIES OR FILLING PRESENT. SYMBOLS TO BE PLACED UNDER APPROPRIATE TEETH: MOTTLED ENAMEL —, BROWN STAIN +, UNERUPTED O, EXTRACTION INDICATED √, CROWN #, PONTIC £.



LIST NUMBER OR LETTER OF TEETH WITH FILLINGS: .....

OCCLUSION				GINGIVITIS		
I	II	III	NORM.	SEVERE	MILD	FREE

II. CLASSIFICATION OF MOTTLED ENAMEL DIAGNOSIS. FOR DESCRIPTION OF DEGREES OF SEVERITY, SEE J. A. D. A., AUGUST, 1934, OR P. H. R., MARCH 29, 1935. TO SUMMARIZE YOUR GENERAL IMPRESSION OF THE DEGREE OF SEVERITY, PLACE CHECK (√) IN ONE BOX:

NORMAL ☐ QUESTIONABLE ☐ VERY MILD ☐ MILD ☐

MODERATE ☐ MODERATELY SEVERE ☐ SEVERE ☐

(OVER)

FIGURE 1a (Obverse).

ENUMERATOR: _____

III. WATER HISTORY

RESIDENCE FROM BIRTH IN CHRONOLOGICAL ORDER *	DURATION (YRS.)	SOURCE OF DRINKING WATER **					
		MUNICIPAL	DEEP WELL	SHALLOW WELL	CISTERN	SPRING	OTHER
BIRTH PLACE							
2.							
3.							
4.							
5.							
6.							
7.							

WAS ABOVE HISTORY CONFIRMED BY INTERVIEW WITH CHILD'S PARENTS? YES ☐ NO ☐

SIBLINGS IN SCHOOL NONE ( ) NAME_____ GRADE_____ SCHOOL_____

NAME_____ GRADE_____ SCHOOL_____

NAME_____ GRADE_____ SCHOOL_____

REMARKS: _____

* IGNORE CHANGES IN A DURATION OF RESIDENCE LESS THAN THIRTY DAYS IN ONE CALENDAR YEAR.

** MUNICIPAL: DESCRIBE SEPARATELY AND IN DETAIL STATING TYPE AND HOW LONG PRESENT SUPPLY HAS BEEN USED. NOTE ALL CHANGES CONCOMITANT WITH LIFE OF AGE GROUP EXAMINED.

DEEP WELL: STATE DEPTH AND CASING; OBTAIN LOG IF AVAILABLE.

SHALLOW WELL: STATE WHETHER DUG OR DRIVEN AND APPROXIMATE DEPTH.

CISTERN: NOTE WHETHER CISTERN IS TIGHT OR LEAKY.

SPRING: STATE WHETHER HOT OR COLD AND TYPE OF GEOLOGICAL FORMATION THROUGH WHICH ISSUING, IF POSSIBLE.

OTHER: WRITE IN TYPE OF WATER SUPPLY, I.E., OPEN OR IRRIGATION DITCHES, CREEKS, ETC.

(2852)

FIGURE 1b (Reverse)

to mottled enamel be clearly understood. Susceptibility to mottled enamel is limited to a sharply defined age group of the population, namely, those in whom the crowns of the permanent teeth are calcifying. The interval in time between the period during which the toxic fluorides are operative, and the time when the objective evidence is apparent, is unusually long.

In order that this period of susceptibility (period when crowns of the teeth are calcifying), the quiescent period (pre-eruptive), and the time when the pathology is evident (time of eruption) may be clearly understood, the table of the chronology of permanent human dentition by Kronfeld is reproduced here:

Chronology of the human dentition (permanent teeth)

[Logan and Kronfeld [1]]

Tooth			First evidence of calcification	Crown completed (years of age)	Eruption (years of age)	Root completed (years of age)
Permanent dentition.	Upper jaw	Central incisor	3 to 4 months	4 - 5	7- 8	10
		Lateral incisor	1 year	4 - 5	8- 9	11
		Cuspid	4 to 5 months	6 - 7	11-12	13-15
		First bicuspid	1½ to 1¾ years	5 - 6	10-11	12-13
		Second bicuspid	2 to 2¼ years	6 - 7	10-12	12-14
		First molar	At birth	2½- 3	6- 7	9-10
		Second molar	2½ to 3 years	7 - 8	12-13	14-16
		Third molar	7 to 9 years	12 -16	17-21	18-25
	Lower jaw	Central incisor	3 to 4 months	4 - 5	6- 7	9
		Lateral incisor	do	4 - 5	7- 8	10
		Cuspid	4 to 5 months	6 - 7	10-11	12-14
		First bicuspid	1¾ to 2 years	5 - 6	10-12	12-13
		Second bicuspid	2¼ to 2½ years	6 - 7	11-12	13-14
		First molar	At birth	2½- 3	6- 7	9-10
		Second molar	2½ to 3 years	7 - 8	12-13	14-15
		Third molar	8 to 10 years	12 -16	17-30	18-25

[1] The Bur, 35: 18-25 (March 1935).

COMPARISON OF FINDINGS OF 1928 SURVEY AND THE 1938 SURVEY

The findings of the 1928 survey were fortunately recorded in a manner that facilitates comparison with the 1938 data. Due to the fact that certain groups of teeth calcify at different periods in the child's life, Kempf and McKay (*1*) divided the permanent teeth into three different groups, the divisions being based upon the order of calcification in order of time. Their grouping is as follows:

First group	*Second group*	*Third group*
First molars	Second bicuspids	Third molars
Incisors	Cuspids	
First bicuspids	Second molars	

In that portion of the school population showing continuous exposure to the Bauxite deep-well water, Kempf and McKay reported the incidence of mottled enamel by single age groupings with a further classification according to the chronological divisions of calcification just stated.

An analysis of the data from the 1938 survey shows that practically all (98 percent) of the permanent teeth erupted in the Bauxite children, ages 6 to 10, are teeth included in the "first group" (1st molars, incisors, and 1st bicuspids). Hence, in order to show the contrast between data apparently comparable, except for the important difference in the chemical character of the domestic water supply, the findings of the 1928 and 1938 surveys will be limited to a comparison of the changes noted in the permanent teeth in the "first group".

The report of the 1928 survey recorded the condition of the enamel in 66 children, ages 5 to 18, who, the authors state, were born in Bauxite, had lived there all their lives, and who had always used the deep-well water supply. In this group there were 3 children who at

FIGURE 2
A SUMMARY OF TWO SURVEYS OF MOTTLED ENAMEL MADE IN BAUXITE, ARKANSAS IN 1928 AND IN 1938.
(TEN YEARS AFTER A CHANGE IN THE COMMON WATER SUPPLY)

ITEM		YEAR OF BIRTH OF CHILDREN EXAMINED																								
		YEARS DURING WHICH DEEP WELL WATER WAS USED															YEARS DURING WHICH FILTERED RIVER WATER WAS USED									
		FIRST GROUP OF TEETH (1st MOLARS, INCISORS, AND 1st BICUSPIDS) CALCIFIED WHILE USING WELL WATER.											TRANSITIONAL CALCIFICATION			FIRST GROUP OF TEETH (1st MOLARS, INCISORS, AND 1st BICUSPIDS) CALCIFIED WHILE USING FILTERED RIVER WATER									
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
AGE IN YEARS OF CHILDREN EXAMINED AT TIME OF FEB. 1928 SURVEY		15	14	13	12	11	10	9	8	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AGE IN YEARS OF CHILDREN EXAMINED AT TIME OF MAR. 1938 SURVEY		-	-	-	-	-	-	-	-	-	-	15	14	13	12	11	10	9	8	7	6	-	-	-	-	-	-
FEB. 1928 SURVEY	NUMBER EXAMINED	1	3	7	2	2	4	8	10	13	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PERCENT POSITIVE ✓	100	100	100	100	100	100	100	100	100	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAR. 1938 SURVEY	NUMBER EXAMINED	-	-	-	-	-	-	-	-	-	-	7	7	10	6	7	6	13	8	14	5	-	-	-	-	-	-
	PERCENT POSITIVE	-	-	-	-	-	-	-	-	-	-	100	100	60	50	14	0	8	0	7	0	-	-	-	-	-	-
												100		52					4								
	DEGREE OF CLINICAL AFFECTION OBSERVED IN EACH CHILD WITH MOTTLED ENAMEL. ✓											4,	4,	4,													
												4,	4,	3,													
												4,	4,	2,	4,												
												3,	3,	2,	1,	1,	-	1,	-	1,	-	-	-	-	-	-	-
												3,	2,	2,	1,												
												3,	2,	2,													
												2,	2,	1,													
														1,													

✓ INCIDENCE ENTIRE GROUP – 98 PERCENT
✓ 1: VERY MILD; 2: MILD; 3: MODERATE; 4: SEVERE

FIGURE 2.—Comparison of conditions in 1928 and 1938

the time of the examination presented no erupted permanent teeth. These three will be eliminated from further consideration. Four others, aged 5, 16, 17, and 18, respectively, are likewise excluded in order that the age grouping of the 1928 and the 1938 surveys may be similar.

A comparison of the mottled enamel conditions of the 59 children examined in 1928 with those of 82 examined in 1938 is shown in figure 2.

An analysis of the data presented in figure 2 shows that mottled enamel was present in 58 of the 59 children examined in 1928. With regard to the one 6-year-old child listed as normal, Kempf and McKay record in a footnote as follows: "City water available in house but was not used for cooking and drinking."

Study of the 1938 survey shows that the 14 children, 14 and 15 years of age, whose "first group" of permanent teeth were calcified while using the deep-well water, each show mottled enamel, generally of a marked type. The 11-, 12-, and 13-year-old group obviously represents a group of children whose teeth were partially calcified under the influence of the "old" supply and partially while using the "new" supply. Of the ten 13-year-old children who had used the deep-well supply for 3 years prior to the change, 8 were affected. Among the six 12-year-old children who had been exposed for 2 years prior to the change, 3 showed evidence of mottled enamel; but of the seven 11-year-old children who had used the old supply for only a year, only one showed mottled enamel, and that of "very mild" degree. Of the 45 children, ages 6 to 10, born about the time of or subsequent to the change in water supply, 43 showed no evidence of mottled enamel. The two cases diagnosed as positive were each "very mild".[7] Among the 43 children recorded as normal, there were 5 children showing slight aberrations in the enamel of a few of the permanent teeth, generally white flecks or spots. The abnormalities were of a questionable type and a positive diagnosis of even the mildest form of mottled enamel was not warranted.

[7] The classification "very mild" is used to designate the mildest type of mottled enamel, the white opacity which shows irregularly and involves not more than 25 percent of the tooth surface. In most cases, too, only a few teeth are affected, the remainder of the dentition being normal The most frequent use of this classification is in those endemic areas where the fluoride content of the water supply is just above the minimal threshold, 1.0 part per million. In such places, the examiner may find 25 to 30 percent of the children showing the mildest form of dental fluorosis, the others generally being normal or questionable. Even in the surveys of places where the community mottled enamel index is negative (less than 10 percent of the children affected) sporadic cases of very mild degree are occasionally observed. Whether these very mild markings in a community whose index is negative suggest an unusual susceptibility on the part of the child to very small amounts of fluorides ($<$ 1.0 p. p. m. of F), a water intake markedly in excess of that common to the child's age group, peculiarities in culinary habits (high frequency of soups, stews, or boiled cereals, etc.) in the child's home, or other factors, is at present unknown.

In the case of Bauxite, it is well to remember that the water used by the residents during the first few years after the change to the filtered river water may have been slightly higher in fluoride content than the present supply. The incrustations in the iron pipes of the distribution system or in cooking utensils in the homes may have been sufficient to bring the fluoride (F) content of the water up to an amount which could produce sporadic cases of very mild mottled enamel in 4 or 5 percent of the continuous users.

Furthermore, it must be borne in mind that conditions in Bauxite were quite different from those in the average endemic area in the United States. Actually the population using the deep-well supply was ingesting about five and one-half times as much fluorine as the residents of Colorado Springs and about three and one-half times as much as the residents of Amarillo, Tex. The possibility, therefore, of skeletal storage and antepartum maternal fluorosis with subsequent transfer of small amounts of fluorine in the maternal milk, must be given thoughtful consideration. Roholm (*5*) has recorded a "moderate" type of mottled enamel in 3 children nursed for a relatively long period (1 to 2 years) by mothers exposed to cryolite dust previous to gestation and lactation, the fluorine intoxication in the children apparently occurring through the mother's milk. The 7-year-old child at Bauxite in whom "very mild" mottled enamel was observed was nursed 15 months.

It may be observed that the daily use of a domestic water containing 13.7 p. p. m. of fluorine possibly results in a daily fluorine absorption equal to approximately half of that estimated for the cryolite workers who developed osteosclerosis as described by Roholm.

MOTTLED ENAMEL IN RELATION TO TOTAL ERUPTED PERMANENT TEETH

Probably a better way to illustrate the marked changes resulting from the change in the communal water supply is to record the number of permanent teeth affected by mottled enamel in relation to the total number of erupted permanent teeth. Comparisons are limited to the permanent teeth of the "first group" in those 82 children whose continuity of exposure was verified by an interview with the child's parent.

The agreement between the two examiners with respect to mottled enamel diagnosis was so close that there would be little value in a detailed recording of their individual findings with respect to specific teeth. In order, therefore, to simplify the presentation of these data, the findings of one examiner only will be shown. These data are given in table 2.

TABLE 2.—*Percentage of erupted permanent teeth affected with mottled enamel in relation to the domestic water used during the period of calcification*

	First group of permanent teeth calcified while using—									
	Deep-well water		Both water supplies			Filtered river water				
Age of children examined	15	14	13	12	11	10	9	8	7	6
Number of children examined	7	7	10	6	7	5	13	8	14	5
Number of first molars, incisors, and first bicuspids present	112	108	152	93	108	67	157	85	121	31
Number affected with mottled enamel	95	83	73	22	2	0	[1] 3	0	[1] 4	0
Percentage of permanent teeth affected	84.8	76.8	48.0	23.4	1.8	0	1.9	0	3.3	0
Percentage, all ages	80.9		27.4			1.5				

[1] All teeth listed in this group as having mottled enamel were classified as "very mild." As a contrast in the marked quantitative differences in severity, only 36, or about 20 percent, of the 178 affected teeth in the 14–15 year age group were so slightly affected as to permit their inclusion in the lowest grade of mottled enamel classification, "very mild."

NOTE.—Erupting permanent teeth not showing approximately 50 percent of crown and teeth covered by food debris obviating adequate inspection excluded from above data.

THIRD MOLAR IMMUNITY FROM MOTTLED ENAMEL IN HIGHER AGE GROUPS

In surveying endemic areas it is a common experience to note among certain older high school pupils individuals with all permanent teeth showing normal calcification with the exception of the third molars, which are mottled. This condition is seen in children who take up residence in an endemic area when about 8 to 10 years of age and use the mottled-enamel-producing water during the period of third molar calcification.

It was interesting to note a complete reversal of this common observation in the study at Bauxite. Seven or eight young men and

women in the Senior High School were examined, some of whom had also been examined in the 1928 survey.

Practically all permanent teeth with the exception of the third molars were severely affected by mottled enamel. But the third molars, calcified at a later date (since the change to the filtered river water), showed normal calcification. The repeated observation of 4 normally calcified third molars in an individual with the other 28 permanent teeth severely marked by mottled enamel furnished a striking illustration of the effects resulting from the change in the water supply.

The photograph shown in figure 4 was taken during the 1928 survey. A reexamination of this person in 1938 showed the condition just described—4 normally calcified third molars, with the other 28 permanent teeth severely affected by mottled enamel.

CHEMICAL ANALYSES OF WATERS USED

As has been our custom in other mottled enamel surveys, analyses were made of constituents of the water other than fluorides. The fluoride content was estimated colorimetrically by means of the zirconium-alizarin reagent (*4*). Results of the chemical analyses of the waters are given in table 3, the chemical findings made in connection with the 1928 study (*1*) being included for comparative purposes.

TABLE 3.—*Analyses of the waters used*

	1928 [1]		1938 [2]			
	Bauxite deep-well water	Bauxite filtered water	Bauxite 245-foot deep well	Bauxite filtered river water	247-foot Norton Town well	Hamp-Smith spring
	p. p. m.	*p. p. m.*	*p. p. m.*	*p. p. m.*	*p. p. m.*	*p. p. m.*
Total residue on evaporation	1,003.0	86.0	958.6	60.0	805.3	23.8
Loss on ignition	43.0	14.0	27.4	10.6	26.9	4.4
Fixed residue	960.0	72.0	931.2	49.4	778.4	19.4
Silica (SiO_2)	18.6	6.0	13.6	5.8	9.0	10.4
Iron (Fe)	1.0	.3	.1	.02	.09	.02
Aluminum (Al)			.4	0	0	0
Calcium (Ca)	25.3	17.6	30.9	11.4	17.7	1.8
Magnesium (Mg)	7.0	2.1	8.8	3.7	6.6	0
Sodium and potassium (calculated as Na)			333.4	2.9	287.7	2.4
Sodium (Na)	344.6	9.6				
Potassium (K)	9.2	3.4				
Carbonate (CO_3)	1.2	0	0	0	4.8	0
Bicarbonate (HCO_3)	258.2	63.4	247.6	47.5	287.9	4.9
Sulfate (SO_4)	39.6	15.7	36.0	10.3	25.3	2.2
Nitrate (NO_3)	.3	.03	0	.27	0	.13
Chloride (Cl)	415.9	3.75	389.5	3.0	274.5	2.0
Fluoride (F)	(3)		14.1	0	16.9	0
Phosphate (PO_4)			.1	0	.1	0
Boron (B)			.8	0	.8	0

[1] Samples collected July 1928.

[2] Samples collected in March 1938. Assistant Chemist C. G. Remsburg carried out the determinations other than fluoride and boron, using mostly the methods given in the Standard Methods of Water Analysis of the American Public Health Association. The phosphate was determined colorimetrically by an adaptation of the Benedict and Theis method (J. Biol. Chem., 61: 63 (1924)). The boron determinations were made essentially by the method of Foote (J. Ind. Eng. Chem., Anal. Ed., 4: 39 (Jan. 15, 1932)).

[3] In 1931 Churchill reported 13.7 p. p. m. of F in the Bauxite deep well.

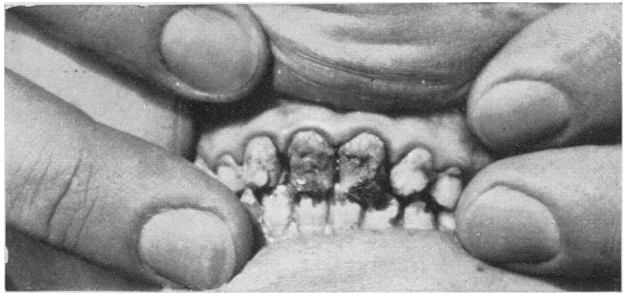


FIGURE 3.—Severe (confluent pitting).

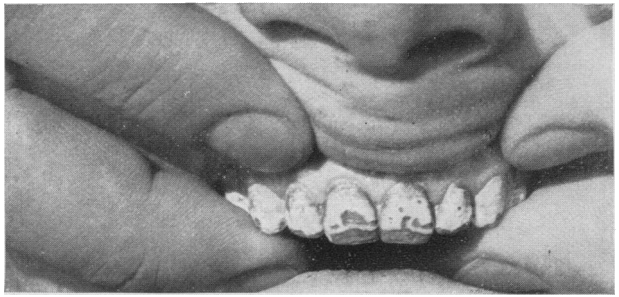


FIGURE 4.—Severe (confluent pitting).

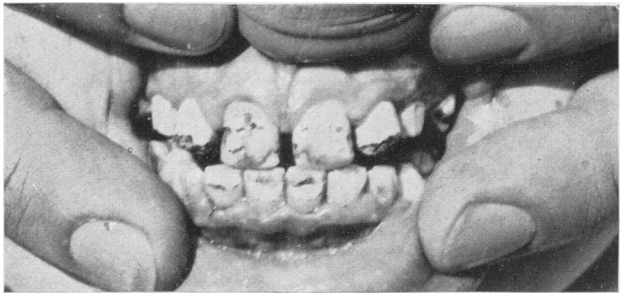


FIGURE 5.—Severe (discrete pitting).

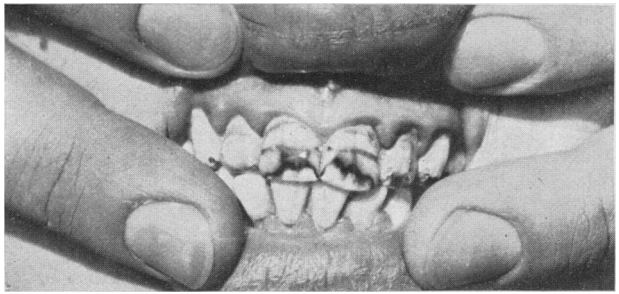


FIGURE 6.—Moderate (brown stain).

Teeth of children in whom the calcification of the permanent teeth occurred while using the deep-well water supply. (Photographs taken during the 1928 survey.)

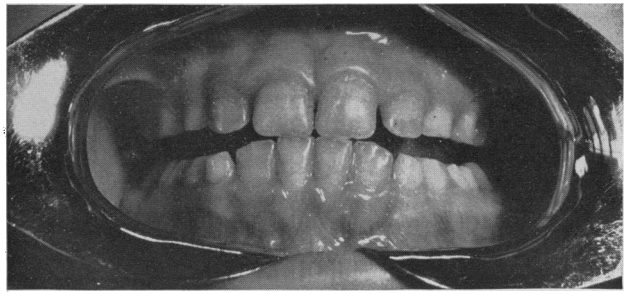


FIGURE 7.—Normal.

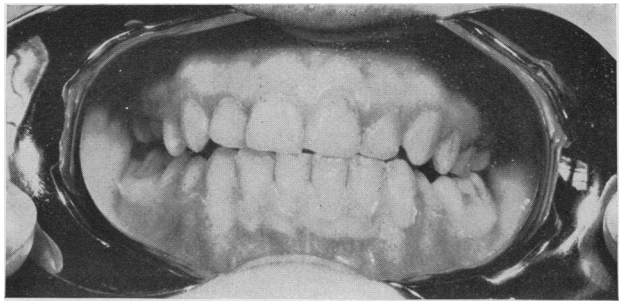


FIGURE 8.—Normal.

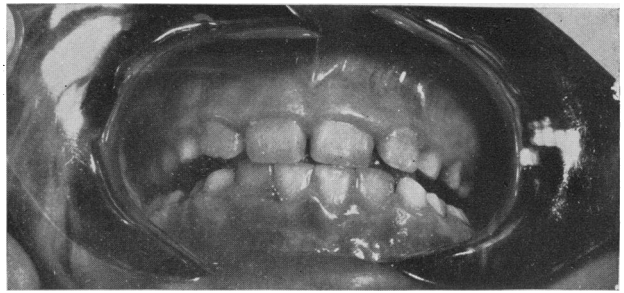


FIGURE 9.—Normal.

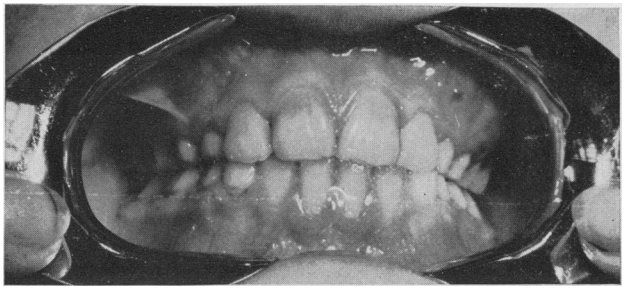


FIGURE 10.—Normal.

Teeth of children in whom the calcification of the permanent teeth occurred while using the filtered river water exclusively.

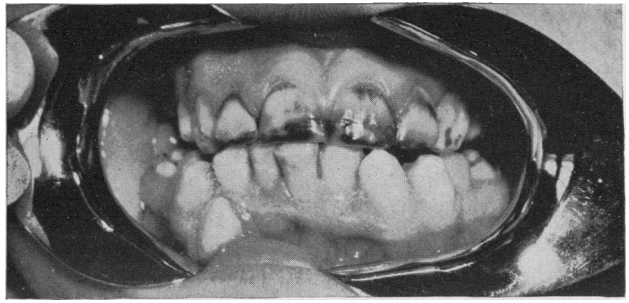


FIGURE 11.—Moderate (brown stain).

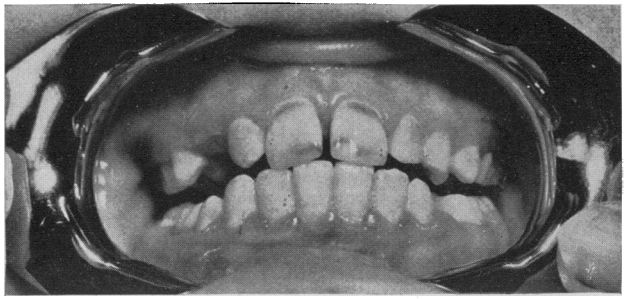


FIGURE 12.—Mild.

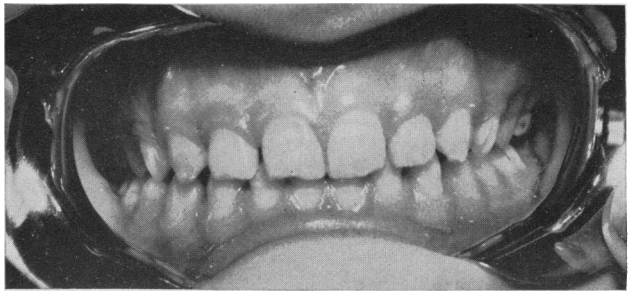


FIGURE 13.—Very mild.

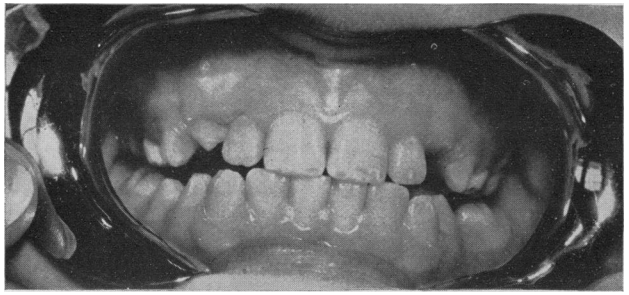


FIGURE 14.—Very mild.

Teeth of children in whom the calcification of the permanent teeth occurred while using the deep-well supply in varying amounts.

DISCUSSION

The development of the endemic hypoplasia known as chronic endemic dental fluorosis (mottled enamel) has again been halted by changing from a common water supply containing toxic amounts of fluorides to one relatively low in fluorides. One of us (F. S. McK.) has previously described (*5*) a similar result in an experiment at Oakley, Idaho, the first known instance of a community abandoning an otherwise satisfactory common water supply solely for the purpose of preventing the development of mottled enamel.

On the basis of the degree of affection observed in the 14- and 15-year old children whose "first group" of permanent teeth were calcified largely under the influence of the "old" deep-well supply, the tentative community mottled enamel index associated with the deep-well supply was "very marked." The application of this same method (*6*) to the percentage distribution of severity in the 45 children born since the change in the water supply shows that the "actual mottled enamel index" of Bauxite at present is "negative."

SUMMARY

1. The production of an unusually severe type of endemic dental flourosis (mottled enamel) at Bauxite, Ark., was halted with the change in the common water supply.

2. This is the second recorded instance in the United States where a community has abandoned the use of an otherwise satisfactory common water supply solely for the purpose of preventing the development of permanent dental disfigurements among its children. The efforts in each instance were successful.

ACKNOWLEDGMENTS

The writers are indebted to Chief Sanitary Engineer F. L. McDonald and Assistant Sanitary Engineer Walter A. Reinman, Arkansas State Board of Health, to Dr. J. Scott Walker, Chetopa, Kansas, and to company officials of the Republic Mining and Manufacturing Company for their assistance and cooperation in the study at Bauxite, and to Senior Statistician Wm. M. Gafafer, National Institute of Health, for helpful suggestions relative to presenting the data shown in figure 2.

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(*2*) Churchill, H. V.: Occurrence of fluorides in some waters of the United States. Ind. and Eng. Chem., **23**: 996–998 (September 1931).

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DEATHS DURING WEEK ENDED SEPTEMBER 17, 1938

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

	Week ended Sept. 17, 1938	Corresponding week, 1937
Data from 88 large cities of the United States:		
Total deaths	6,736	[1] 6,879
Average for 3 prior years	[1] 7,040	
Total deaths, first 36 weeks of year	294,380	318,503
Deaths under 1 year of age	478	[1] 490
Average for 3 prior years	[1] 496	
Deaths under 1 year of age, first 36 weeks of year	19,064	20,532
Data from industrial insurance companies:		
Policies in force	68,305,733	69,801,191
Number of death claims	8,320	8,943
Death claims per 1,000 policies in force, annual rate	6.4	6.7
Death claims per 1,000 policies, first 36 weeks of year, annual rate	9.2	10.0

[1] Data for 86 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.

In these and the following tables, a zero (0) indicates a positive report and has the same significance as any other figure, while leaders (----) represent no report, with the implication that cases or deaths may have occurred but were not reported to the State health officer.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median

Division and State	Diphtheria				Influenza				Measles			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median
NEW ENG.												
Maine	0	0	3	0	----	----	1	----	6	1	----	----
New Hampshire	0	0	0	0	----	----	----	----	20	2	----	----
Vermont	54	0	2	0	----	----	----	----	----	----	1	2
Massachusetts	2	4	0	6	----	----	----	----	25	21	10	17
Rhode Island	0	2	0	0	----	----	----	----	15	2	2	2
Connecticut	0	0	4	3	3	1	1	1	15	5	2	4
MID. ATL.												
New York	8	20	10	15	[1] 3	[1] 4	[1] 6	[1] 5	19	46	74	47
New Jersey	10	8	12	11	8	7	4	7	32	27	20	15
Pennsylvania	10	19	22	23	----	----	----	----	17	33	84	32
E. NO. CEN.												
Ohio	11	14	12	21	----	----	15	25	5	7	55	9
Indiana	14	9	13	19	9	6	8	17	2	1	3	2
Illinois	12	18	23	23	5	7	8	5	6	9	44	21
Michigan	8	7	12	11	1	1	----	----	56	52	14	11
Wisconsin	4	2	5	5	18	10	20	20	53	30	40	40
W. NO. CEN.												
Minnesota	8	4	2	5	6	3	----	2	35	18	5	6
Iowa	2	1	2	3	14	7	----	----	8	4	3	1
Missouri	33	25	21	21	1	1	11	14	4	3	43	10
North Dakota	7	1	1	2	15	2	2	1	59	8	2	3
South Dakota	60	8	1	0	15	2	----	----	----	----	----	----
Nebraska	8	2	0	4	----	----	----	----	27	7	----	1
Kansas	14	5	4	10	3	1	3	2	22	8	5	4
SO. ATL.												
Delaware	0	0	0	0	----	----	----	----	----	----	----	----
Maryland [2]	19	6	6	6	6	2	4	4	28	9	5	5
Dist. of Col	0	0	2	9	----	----	----	----	8	1	----	----
Virginia [3]	100	52	32	33	----	----	----	----	4	2	6	6
West Virginia	31	11	16	22	36	13	18	14	----	----	9	3
North Carolina [3] [4]	160	107	72	69	1	1	----	3	43	29	18	18
South Carolina [4]	86	31	18	18	381	137	104	98	28	10	7	1
Georgia [4]	66	39	30	30	----	----	----	----	----	----	----	----
Florida [4]	25	8	17	10	3	1	----	1	9	3	6	2

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Diphtheria				Influenza				Measles			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median
E. SO. CEN.												
Kentucky	48	27	33	33	12	7	7	------	21	12	8	8
Tennessee [4]	36	20	45	39	16	9	22	9	4	2	18	9
Alabama [4]	59	33	30	34	13	7	10	21	34	19	2	2
Mississippi [2]	67	26	9	15	------	------	------	------	------	------	------	------
W. SO. CEN.												
Arkansas	48	19	16	16	41	16	1	3	13	5	1	------
Louisiana [4]	15	6	10	10	5	2	2	3	42	17	------	2
Oklahoma	16	8	3	10	76	37	10	10	4	2	1	1
Texas [4]	41	48	26	33	70	83	79	25	7	8	20	10
MOUNTAIN												
Montana	0	0	1	2	10	1	------	1	106	11	8	3
Idaho	11	1	0	0	11	1	------	------	42	4	3	------
Wyoming	0	0	1	0	------	------	------	------	22	1	1	1
Colorado	83	17	11	5	------	------	------	------	24	5	7	4
New Mexico	25	2	2	2	12	1	------	------	12	1	2	2
Arizona	25	2	9	2	291	23	15	3	38	3	------	1
Utah [3]	0	0	7	0	30	3	------	------	30	3	10	3
PACIFIC												
Washington	6	2	0	0	------	------	------	------	16	5	10	11
Oregon	0	0	3	1	56	11	10	10	51	10	7	7
California	24	28	17	22	11	13	10	18	123	145	21	38
Total	26	642	565	689	21	420	371	348	24	591	577	433
37 weeks	18	16,640	15,435	20,474	65	47,715	275,825	142,573	846	763,061	243,814	343,707

Division and State	Meningitis, meningococcus				Poliomyelitis				Scarlet fever			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median
NEW ENG.												
Maine	0	0	0	0	0	0	16	4	30	5	3	6
New Hampshire	0	0	0	0	0	0	1	1	0	0	1	3
Vermont	0	0	0	0	14	1	6	1	123	9	3	3
Massachusetts	2.4	2	1	1	0	0	41	21	33	28	45	52
Rhode Island	0	0	0	0	0	0	4	1	0	0	4	5
Connecticut	3	1	0	0	3	1	16	9	42	14	12	12
MID. ATL.												
New York	2.8	7	5	5	3	8	91	91	28	70	88	111
New Jersey	0	0	2	2	4	3	21	21	16	13	16	22
Pennsylvania	1.5	3	7	5	2.6	5	40	35	40	78	73	119
E. NO. CEN.												
Ohio	0	0	7	2	0	0	59	18	45	58	133	109
Indiana	3	2	0	1	0	0	10	2	51	34	44	44
Illinois	0.7	1	1	3	2.0	3	81	21	62	94	101	107
Michigan	1.1	1	3	3	5	5	57	16	137	127	81	66
Wisconsin	0	0	1	2	4	2	45	8	70	39	27	55
W. NO. CEN.												
Minnesota	0	0	0	0	12	6	52	8	53	27	23	23
Iowa	4	2	0	0	6	3	35	4	41	20	24	29
Missouri	1.3	1	2	2	0	0	47	4	38	29	74	43
North Dakota	0	0	1	0	0	0	0	0	37	5	4	6
South Dakota	0	0	1	0	15	2	3	2	60	8	14	11
Nebraska	0	0	0	0	0	0	18	1	42	11	10	10
Kansas	0	0	0	0	0	0	30	3	162	58	31	32

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Meningitis, meningococcus				Poliomyelitis				Scarlet fever			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median
SO. ATL.												
Delaware	20	1	1	0	20	1	0	0	120	6	3	3
Maryland [3]	3	1	2	1	3	1	7	3	28	9	30	21
Dist. of Col	0	0	0	0	42	5	2	0	67	8	5	5
Virginia [3]	0	0	1	2	4	2	5	4	44	23	7	28
West Virginia	0	0	3	3	0	0	2	6	87	31	26	30
North Carolina [3] [4]	0	0	0	1	0	0	4	2	69	46	31	44
South Carolina [4]	0	0	1	0	0	0	1	0	36	13	8	5
Georgia [4]	1.7	1	0	0	3	2	5	2	17	10	20	11
Florida [4]	6	2	1	0	3	1	1	0	12	4	1	2
E. SO. CEN.												
Kentucky	0	0	2	2	1.8	1	4	5	95	53	31	48
Tennessee [4]	1.8	1	3	3	0	0	1	3	41	23	21	41
Alabama [4]	4	2	2	2	9	5	3	2	27	15	20	20
Mississippi [2]	5	2	0	0	15	6	4	1	15	6	8	9
W. SO. CEN.												
Arkansas	0	0	0	0	0	0	9	1	8	3	6	3
Louisiana [4]	2.4	1	2	0	0	0	8	1	10	4	7	4
Oklahoma	4	2	2	1	4	2	19	2	31	15	12	7
Texas [4]	0.8	1	0	1	1.7	2	33	1	30	35	24	19
MOUNTAIN												
Montana	10	1	0	0	0	0	4	1	145	15	37	12
Idaho	0	0	0	0	11	1	0	0	32	3	9	1
Wyoming	0	0	0	0	0	0	5	0	67	3	6	6
Colorado	0	0	1	0	5	1	21	0	19	4	9	9
New Mexico	0	0	0	0	12	1	3	0	124	10	6	6
Arizona	0	0	0	0	0	0	3	3	25	2	7	3
Utah [2]	0	0	0	0	0	0	4	1	70	7	36	13
PACIFIC												
Washington	0	0	0	0	3	1	10	10	63	20	12	13
Oregon	0	0	0	0	0	0	2	2	112	22	16	16
California	0	0	1	1	1.7	2	46	19	55	65	89	84
Total	1.4	35	53	53	2.9	73	879	397	48	1,182	1,298	1,481
37 weeks	2.5	2,285	4,389	4,389	1.3	1,237	6,391	5,292	154	140,899	168,788	168,788

Division and State	Smallpox				Typhoid and paratyphoid fever				Whooping cough	
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases
NEW ENG.										
Maine	0	0	0	0	0	0	1	3	128	21
New Hampshire	0	0	0	0	10	1	1	0	0	0
Vermont	0	0	0	0	0	0	3	0	368	27
Massachusetts	0	0	0	0	4	3	5	5	124	105
Rhode Island	0	0	0	0	15	2	0	0	54	7
Connecticut	0	0	0	0	21	7	4	3	150	50
MID. ATL.										
New York	0	0	0	0	10	24	36	36	[1] 241	[1] 343
New Jersey	0	0	0	0	6	5	12	12	367	306
Pennsylvania	0	0	0	0	19	37	50	45	116	226

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Smallpox				Typhoid and paratyphoid fever				Whooping cough	
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933–37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases
E. NO. CEN.										
Ohio	1	1	0	0	18	23	83	69	33	43
Indiana	3	2	5	0	14	9	3	13	18	12
Illinois	0	0	0	0	11	16	28	23	263	428
Michigan	0	0	2	0	17	16	10	13	356	330
Wisconsin	0	0	0	2	4	2	6	3	540	303
W. NO. CEN.										
Minnesota	0	0	2	0	4	2	5	5	49	25
Iowa	2	1	2	1	18	9	1	5	45	22
Missouri	0	0	3	0	18	14	33	31	12	9
North Dakota	7	1	0	0	7	1	0	1	340	46
South Dakota	8	1	0	0	0	0	1	3	30	4
Nebraska	0	0	1	1	0	0	0	0	38	10
Kansas	6	2	0	0	28	10	14	11	104	37
SO. ATL.										
Delaware	0	0	0	0	40	2	1	1	160	8
Maryland [2]	0	0	0	0	34	11	17	17	121	39
Dist. of Col	0	0	0	0	50	6	1	1	42	5
Virginia [2]	0	0	0	0	25	13	18	27	42	22
West Virginia	0	0	0	0	92	33	15	23	109	39
North Carolina [3] [4]	1	1	1	0	21	14	9	16	260	174
South Carolina [4]	0	0	0	0	53	19	14	15	211	76
Georgia [4]	0	0	0	0	19	11	13	21	29	17
Florida [4]	0	0	0	0	9	3	6	2	66	21
E. SO. CEN.										
Kentucky	4	2	0	0	64	36	25	43	73	41
Tennessee [4]	4	2	0	0	29	16	12	37	29	16
Alabama [4]	2	1	0	0	36	20	6	11	20	11
Mississippi [2]	0	0	0	0	23	9	7	9	------	------
W. SO. CEN.										
Arkansas	0	0	0	0	64	25	13	13	10	4
Louisiana [4]	0	0	0	0	24	10	18	18	24	10
Oklahoma	6	3	0	0	55	27	11	20	14	7
Texas [4]	0	0	1	1	46	55	56	46	74	88
MOUNTAIN										
Montana	0	0	3	0	58	6	3	3	387	40
Idaho	21	2	4	0	42	4	8	6	32	3
Wyoming	0	0	0	0	0	0	0	0	155	7
Colorado	15	3	1	1	34	7	6	5	131	27
New Mexico	12	1	0	0	210	17	16	16	185	15
Arizona	0	0	0	0	76	6	6	3	51	4
Utah [2]	0	0	0	0	0	0	0	1	301	30
PACIFIC										
Washington	50	16	14	4	22	7	6	5	63	20
Oregon	10	2	5	0	10	2	5	5	239	47
California	1	1	4	1	16	19	16	11	137	162
Total	2	42	48	35	23	559	604	669	141	3,287
37 weeks	14	12,852	8,184	5,423	11	10,446	10,614	12,104	183	158,315

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Rocky Mountain spotted fever, week ended September 17, 1938, 3 cases as follows: Virginia, 2, North Carolina, 1.
[4] Typhus fever, week ended September 17, 1938, 75 cases as follows: North Carolina, 1; South Carolina, 7; Georgia, 35; Florida, 2; Tennessee, 2; Alabama, 6; Louisiana, 2; Texas, 20.

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	Meningitis, meningococcus	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
August 1938										
Alabama	4	93	65	1,017	53	35	8	40	0	79
Dist. of Columbia	1	66			10		9	19	0	13
Maryland	1	17	16	3	33	2	5	19	0	57
Michigan	3	35	1	7	440		10	278	10	40
Missouri	2	29	90	96	28	6	4	76	9	73
Nebraska	0	4	5		17		3	11	5	2
New Jersey	0	20	17	3	80		13	59	0	27
New York	16	38		15	799		45	239	0	149
North Carolina	11	154	4	84	284	79	10	96	0	70
Ohio	6	77	16	5	89		6	188	1	97
Pennsylvania	13	84		3	483		15	300	0	94
Texas	10	147	365	1,053		209	9	141		286

August 1938

	Cases
Actinomycosis:	
Michigan	2
Pennsylvania	1
Chickenpox:	
Alabama	3
District of Columbia	7
Maryland	12
Michigan	140
Missouri	7
Nebraska	3
New Jersey	72
New York	272
North Carolina	21
Ohio	95
Pennsylvania	234
Diarrhea:	
Maryland	166
Ohio (under 2 years; enteritis included)	300
Dysentery:	
Maryland	87
Michigan (amoebic)	3
Michigan (bacillary)	42
Missouri	39
New Jersey (amoebic)	1
New Jersey (unspecified)	1
New York (amoebic)	11
New York (bacillary)	380
North Carolina (bacillary)	4
Ohio (bacillary)	19
Pennsylvania (bacillary)	8
Encephalitis, epidemic or lethargic:	
Alabama	4
Michigan	2
Nebraska	2
New Jersey	1
New York	6
Ohio	2
Pennsylvania	1
Texas	1
German measles:	
Alabama	10
Maryland	11
Michigan	14
New Jersey	26
New York	53
North Carolina	8
Ohio	2
Pennsylvania	15
Impetigo contagiosa:	
Maryland	16
Jaundice, infectious:	
Maryland	1
Lead poisoning:	
Ohio	10
Mumps:	
Alabama	28
Maryland	14
Michigan	59
Missouri	40
Nebraska	22
New Jersey	186
Ohio	152
Pennsylvania	510
Ophthalmia neonatorum:	
Alabama	1
Missouri	1
New Jersey	1
New York [1]	3
Ohio	89
Pennsylvania	1
Paratyphoid fever:	
Maryland	3
Michigan	9
New Jersey	1
New York	20
North Carolina	2
Ohio	6
Texas	18
Puerperal septicemia:	
Ohio	3
Rabies in animals:	
Alabama	40
Missouri	10
New Jersey	56
New York [1]	2
Rabies in man:	
Missouri	1
Rocky Mountain spotted fever:	
District of Columbia	4
Maryland	14
Missouri	2
New Jersey	2
New York	1
North Carolina	9
Ohio	3
Pennsylvania	1
Septic sore throat:	
Maryland	21
Michigan	7
Missouri	8
New Jersey	6
New York	97
North Carolina	11
Ohio	48
Tetanus:	
Alabama	9
Maryland	1
Michigan	2
Missouri	1
New Jersey	2
New York	6
Trachoma:	
Alabama	1
Michigan	1
Missouri	36
Pennsylvania	2
Trichinosis:	
New York	4
Pennsylvania	2
Tularaemia:	
Alabama	1
Michigan	1
Missouri	1
Pennsylvania	1
Typhus fever:	
Alabama	38
New York	2
North Carolina	9
Ohio	1
Undulant fever:	
Alabama	14
District of Columbia	1
Maryland	8
Michigan	3
Missouri	1
New Jersey	2
New York	18
North Carolina	5
Ohio	7
Pennsylvania	12
Vincent's infection:	
Maryland	9
Michigan	21
New York [1]	58
Whooping cough:	
Alabama	162
District of Columbia	40
Maryland	136
Michigan	1,716
Missouri	84
Nebraska	54
New Jersey	1,206
New York	2,367
North Carolina	886
Ohio	841
Pennsylvania	1,443

[1] Exclusive of New York City.

WEEKLY REPORTS FROM CITIES

City reports for week ended Sept. 10, 1938

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Data for 90 cities:											
5-year average	123	53	15	132	291	314	2	341	92	978	--------
Current week	65	35	11	126	242	249	7	283	78	1,646	--------
Maine:											
Portland	0	------	0	0	1	0	0	0	1	0	14
New Hampshire:											
Concord	0	------	0	0	0	0	0	1	0	0	13
Manchester	0	------	0	0	1	0	0	0	0	0	15
Nashua	0	------	0	0	0	0	0	0	0	0	5
Vermont:											
Barre	0	------	0	1	0	2	0	0	0	18	4
Burlington	1	------	0	0	0	0	0	0	0	0	8
Rutland	0	------	0	0	0	0	0	0	0	0	4
Massachusetts:											
Boston	0	------	1	3	8	8	0	3	0	18	197
Fall River	0	------	0	0	0	0	0	1	1	0	24
Springfield	0	------	0	1	0	0	0	1	0	1	26
Worcester	1	------	0	0	2	3	0	0	0	11	31
Rhode Island:											
Pawtucket	0	------	0	0	0	0	0	0	0	0	18
Providence	0	------	0	0	1	1	0	1	0	5	44
Connecticut:											
Bridgeport	0	------	0	0	1	0	0	0	0	4	39
Hartford	0	------	0	1	1	1	0	0	1	0	26
New Haven	0	------	0	0	0	0	0	0	0	12	38
New York:											
Buffalo	0	------	0	0	3	5	0	5	0	9	108
New York	14	1	1	19	52	11	0	62	23	398	1,074
Rochester	0	------	0	1	2	0	0	0	0	2	44
Syracuse	0	------	0	1	1	1	0	0	0	18	44
New Jersey:											
Camden	0	------	0	0	0	1	0	0	1	1	26
Newark	1	------	0	1	1	3	0	5	0	57	79
Trenton	0	------	0	0	0	0	0	0	2	1	17
Pennsylvania:											
Philadelphia	0	3	1	2	9	17	0	23	4	65	364
Pittsburgh	1	------	0	2	3	4	0	6	0	27	126
Reading	0	------	0	0	1	2	0	0	0	1	16
Scranton	0	------	--------	1	-------	0	0	-------	0	4	--------
Ohio:											
Cincinnati	0	1	1	0	7	7	0	5	0	1	139
Cleveland	0	1	0	1	9	9	0	18	2	56	187
Columbus	1	------	0	1	1	2	0	3	0	0	75
Toledo	1	------	0	1	1	2	0	5	0	9	54
Indiana:											
Anderson	0	------	0	0	1	1	0	0	0	0	11
Fort Wayne	0	------	0	0	2	2	0	1	0	0	25
Indianapolis	0	------	0	2	7	8	0	4	0	6	104
Muncie	0	------	0	0	2	4	0	0	0	0	19
South Bend	0	------	0	0	0	3	0	0	0	0	11
Terre Haute	2	------	0	0	0	1	0	0	0	0	12
Illinois:											
Alton	0	------	0	0	0	0	0	0	0	0	12
Chicago	4	5	1	8	19	32	0	33	5	306	513
Elgin	1	------	0	0	1	0	0	0	0	1	8
Springfield	1	------	0	0	1	1	0	0	0	2	22
Michigan:											
Detroit	1	------	0	2	8	18	0	5	2	179	212
Flint	0	------	0	0	1	4	0	1	0	0	20
Grand Rapids	0	------	0	0	4	4	0	0	0	0	30
Wisconsin:											
Kenosha	0	------	0	0	0	0	0	0	0	1	4
Madison	0	------	0	1	0	0	0	0	0	4	9
Milwaukee	0	------	0	1	1	11	0	3	1	170	81
Racine	0	------	0	0	0	0	0	0	0	19	9
Superior	0	------	0	0	0	2	0	0	0	5	6

City reports for week ended Sept. 10, 1938—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Minnesota:											
Duluth	0	------	0	0	0	3	2	0	0	19	18
Minneapolis	1	------	1	1	2	10	0	0	0	4	83
St. Paul	0	------	0	1	3	2	0	3	0	13	56
Iowa:											
Cedar Rapids	0	------	------	0	------	0	0	------	0	3	------
Davenport	0	------	------	0	------	0	0	------	0	0	------
Des Moines	0	------	0	0	0	4	0	0	0	0	28
Sioux City	0	------	------	0	------	0	0	------	0	2	------
Waterloo	0	------	------	0	------	1	0	------	0	0	------
Missouri:											
Kansas City	1	------	0	1	1	2	0	3	1	0	82
St. Joseph	0	------	0	1	1	1	0	0	0	0	18
St. Louis	1	------	0	2	0	6	0	8	6	8	147
North Dakota:											
Fargo	0	------	0	4	1	4	0	0	0	5	2
Grand Forks	0	------	------	0	------	0	0	------	0	0	------
Minot	0	------	0	1	0	0	0	0	0	0	8
South Dakota:											
Aberdeen	0	------	------	0	------	0	0	------	0	0	------
Nebraska:											
Lincoln	0	------	------	0	------	1	0	------	0	1	------
Omaha	0	------	0	0	4	1	0	1	0	1	43
Kansas:											
Lawrence	0	------	0	0	0	0	0	0	0	0	6
Topeka	0	------	0	2	1	4	0	0	0	8	17
Wichita	0	------	0	0	1	0	0	2	0	6	16
Delaware:											
Wilmington	1	------	0	0	2	1	0	1	1	2	26
Maryland:											
Baltimore	1	------	0	1	3	6	0	8	2	13	179
Cumberland	0	------	0	0	1	0	0	0	0	0	5
Frederick	0	------	0	0	0	0	0	0	0	0	6
Dist. of Col.:											
Washington	4	1	1	2	5	1	0	7	8	7	127
Virginia:											
Lynchburg	4	------	0	0	0	0	0	0	2	1	13
Norfolk	0	------	0	0	2	1	0	0	0	0	16
Richmond	1	------	0	0	3	1	0	1	1	0	43
Roanoke	0	------	1	0	2	1	0	2	0	3	19
West Virginia:											
Charleston	0	------	0	0	1	0	0	0	0	0	14
Wheeling	0	------	0	0	2	0	0	0	0	3	18
North Carolina:											
Gastonia	0	------	------	0	------	0	0	------	0	0	------
Raleigh	0	------	0	0	1	0	0	0	0	2	10
Wilmington	1	------	0	0	3	0	0	1	0	9	11
Winston-Salem	0	------	0	0	1	0	0	0	0	2	11
South Carolina:											
Charleston	0	7	0	0	0	1	0	0	1	1	9
Florence	0	------	0	0	3	0	0	0	0	0	11
Greenville	0	------	0	0	1	1	0	0	0	2	20
Georgia:											
Atlanta	0	2	0	0	0	0	0	2	1	0	64
Brunswick	0	------	0	0	0	0	0	1	0	0	4
Savannah	0	6	1	0	0	0	0	0	0	3	33
Florida:											
Miami	0	1	0	0	2	0	0	1	0	0	24
Tampa	0	------	0	0	4	0	0	1	0	1	16
Kentucky:											
Ashland	1	------	0	0	1	0	0	0	0	0	37
Covington	0	------	0	0	0	1	0	1	0	0	18
Lexington	0	------	0	1	2	2	0	0	0	2	26
Louisville	0	1	0	0	1	6	0	1	0	2	53
Tennessee:											
Knoxville	1	------	0	0	0	0	0	2	2	0	27
Memphis	0	------	1	0	0	1	0	5	1	3	69
Nashville	0	------	0	0	1	2	0	4	0	5	35
Alabama:											
Birmingham	1	1	1	0	2	2	0	2	0	0	71
Mobile	1	1	0	0	0	1	0	1	0	0	18
Montgomery	1	------	------	0	------	1	0	------	0	4	------
Arkansas:											
Fort Smith	0	------	------	0	------	1	0	------	0	0	------
Little Rock	0	------	------	0	------	0	0	2	0	2	------

City reports for week ended Sept. 10, 1938—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Louisiana:											
New Orleans	0	------	0	1	17	0	0	7	3	38	121
Shreveport	1	------	0	1	6	0	0	0	1	0	56
Oklahoma:											
Oklahoma City	0	------	0	0	1	0	0	1	0	0	32
Tulsa	1	------	--------	0	-------	1	0	-------	0	6	--------
Texas:											
Dallas	4	------	0	1	4	1	0	3	0	2	59
Fort Worth	0	------	0	1	2	0	0	1	1	8	25
Galveston	0	------	0	0	2	0	0	0	0	0	12
Houston	4	------	0	0	4	3	0	3	0	0	74
San Antonio	3	------	0	0	4	1	0	3	0	0	53
Montana:											
Billings	0	------	0	0	0	0	0	0	0	1	7
Great Falls	0	------	0	0	0	1	0	0	0	13	3
Helena	0	------	--------	0	-------	0	0	-------	0	1	--------
Missoula	0	------	0	0	0	0	0	0	0	3	5
Idaho:											
Boise	0	------	0	0	0	0	0	0	0	0	2
Colorado:											
Colorado Springs	0	------	0	0	2	0	0	1	1	10	12
Denver	5	------	0	1	1	3	0	5	1	17	72
Pueblo	0	------	0	0	0	1	0	0	0	1	8
New Mexico:											
Albuquerque	0	------	0	0	0	1	0	2	0	0	7
Utah:											
Salt Lake City	0	------	0	0	2	3	0	3	0	6	30
Washington:											
Seattle	1	------	0	0	6	0	5	3	0	2	88
Spokane	0	------	0	0	0	0	0	0	2	0	18
Tacoma	0	------	0	0	1	1	0	0	0	1	19
Oregon:											
Portland	0	1	0	1	1	2	1	1	1	2	67
Salem	0	------	--------	0	-------	0	0	-------	0	0	--------
California:											
Los Angeles	4	6	0	33	8	19	0	15	0	26	284
Sacramento	0	------	0	3	1	0	0	1	0	2	24
San Francisco	0	------	0	24	5	3	0	3	4	19	148

State and city	Meningitis, meningococcus		Poliomyelitis cases	State and city	Meningitis, meningococcus		Poliomyelitis cases
	Cases	Deaths			Cases	Deaths	
Maine:				Michigan:			
Portland	0	0	1	Detroit	0	0	2
Vermont:				Iowa:			
Burlington	0	0	1	Sioux City	1	1	0
Massachusetts:				District of Columbia:			
Worcester	0	1	0	Washington	0	0	2
Connecticut:				Virginia:			
Hartford	0	0	1	Richmond	1	0	0
New York:				North Carolina:			
New York	2	0	5	Gastonia	0	0	1
Pennsylvania:				South Carolina:			
Philadelphia	0	0	2	Charleston	0	0	1
Indiana:				Georgia:			
Terre Haute	0	0	1	Savannah	1	0	1
Illinois:				Alabama:			
Chicago	1	0	3	Birmingham	1	0	1

Encephalitis, epidemic or lethargic.—Cases: New York, 1; Philadelphia, 1; St. Paul, 2; St. Louis, 1; Minot, 3; Omaha, 1; Lawrence, Kans., 1; Louisville, 1; Billings, 1; Denver, 2.

Pellagra.—Cases: Charleston, S. C., 1; Atlanta, 7; Savannah, 2; New Orleans, 1; San Antonio, 1; Sacramento, 1; San Francisco, 1.

Typhus fever.—Cases: Fort Wayne, 1; Raleigh, 1; Charleston, S. C., 1; Atlanta, 1; Savannah, 9.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended August 27, 1938.—During the 2 weeks ended August 27, 1938, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia [1]	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				1						1
Chickenpox			3	29	47	14	24	3	38	158
Diphtheria		4	2	107	6	6	1			126
Dysentery				2			5		17	24
Erysipelas				3	3	3		1	4	14
Influenza		8			2	5			5	20
Lethargic encephalitis					1					1
Measles		6		28	79	5		5	19	142
Mumps					21	1		4	2	28
Paratyphoid fever					3			1		4
Pneumonia					12				6	18
Poliomyelitis			2	2	21	24	2	27	11	89
Scarlet fever		9	5	77	57	28	12	22	17	227
Trachoma								2		2
Tuberculosis	4	40	40	107	77	98		2	26	394
Typhoid fever			5	46	13	4	8	5	7	88
Undulant fever					4	1		1		6
Whooping cough		6	17	212	305	25	7	2	58	632

[1] For 2 weeks ended Aug. 31, 1938.

CUBA

Habana—Communicable diseases—4 weeks ended August 27, 1938.—During the 4 weeks ended August 27, 1938, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	8	1	Tuberculosis	13	1
Malaria	[1] 26	1	Typhoid fever	[1] 16	2
Scarlet fever	3				

[1] Includes imported cases.

Provinces—Notifiable diseases—4 weeks ended August 20, 1938.—During the 4 weeks ended August 20, 1938, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer		1		10			11
Chickenpox		2				1	3
Diphtheria	1	14	4	4	2	2	27
Dysentery (bacillary)				1			1
Hookworm disease				2			2
Leprosy				3			3
Malaria	49	30	6	50	19	46	200
Measles	3	1	1	1			6
Poliomyelitis						1	1
Scarlet fever		3					3
Tuberculosis	17	24	32	31	8	10	122
Typhoid fever	44	72	28	81	26	55	306
Whooping cough		2		3			5
Yaws						1	1

DENMARK

Notifiable diseases—April–June 1938.—During the months of April, May, and June 1938, cases of certain notifiable diseases were reported in Denmark as follows:

Disease	April	May	June	Disease	April	May	June
Cerebrospinal meningitis	6	6	4	Paradysentery	13	8	20
Chickenpox	1,187	946	668	Paratyphoid fever	2	10	4
Diphtheria	40	73	79	Poliomyelitis	5	5	15
Epidemic encephalitis	2	4	2	Puerperal fever	14	27	20
Erysipelas	222	233	228	Scarlet fever	470	540	438
Gastro-enteritis, acute	2,000	2,232	2,026	Syphilis	36	37	53
German measles	261	314	234	Tetanus, neonatorum	11	2	5
Gonorrhea	717	724	746	Typhoid fever	1	3	3
Influenza	13,507	20,705	9,237	Undulant fever	46	54	49
Malaria		1		Weil's disease	1		
Measles	4,971	4,445	3,852	Whooping cough	911	1,106	1,255
Mumps	571	521	389				

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

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following table must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	May 1–28, 1938	Week ended— June 1938				July 1938					August 1938			
						4	11	18	25	2	9	16	23	30	6	13	20	27
Afghanistan.[1]																		
China: [2]																		
Canton	C								2	2	2	2	5	5	2	2	3	6
	D										3	1		1			2	
Hankow	C				2	1	6		17	35	29	33	47	69				
Hong Kong	C				2	2	9	2	9	25	43	60	48	26	30	39	38	21
	D				1	1	6			14	32	53	33	26	17	17	20	
Kwangtung Province	C									6,267			4,259	769	289			2,292
	D									1,858			539	327	74			622
Macao	C							16	33	76	278	121	63	24	29	62	50	41
	D									148	145	89		17	21	42	37	27
Mukden	C														P			
Shanghai	C				20	13	84	66	319	301	225	901	505	121	1,265	1,066	959	586
Swatow	C			1	17	13	40	500	157	300	150	56	8	4	8	5	7	7
Tientsin	C												2	7				
Tsingtao	C															P		
Dutch East Indies: Macassar	C			[3] 1														
India	C	6,718	12,561	22,930	33,698	13,195	14,499	11,936	8,280	7,071	8,953	10,725	10,366					
	D	3,493	5,818	10,939	18,724	6,593	6,952	5,924	4,218	3,474	3,910	4,643	4,995					
Allahabad	C		4	8	12	2	1		2	7	2	2	1	6	3	1	1	
Assam	C	143	298	938	667	248	395	319	232	169	141	85	71	64	98	38	47	53
	D	80	138	469	340	122	172	159	122	93	80	55	36	32	25	18	29	34
Bassein	C		1	4	3	1		1	2									
Bengal Presidency	C											439	489	353	301			
	D											209	205	173	142			

[1] Cholera reported present early in June in South Afghanistan, Afghanistan.
[2] Under date of June 7, 1938, the American Consul at Swatow reported approximately 200 cases of cholera with 50 deaths, in Swatow, China, for the period May 29–June 6, 1938.
[3] El Tor strain.

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

CHOLERA—Continued

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	May 1–28, 1938	Week ended— June 1938				July 1938					August 1938			
						4	11	18	25	2	9	16	23	30	6	13	20	27
India—Continued.																		
Bombay Presidency	C	4	14	52	22	16	52	20	66		155	123	250	239	287	620		
	D	2	9	38	9	4	34	9	34		67	59	71	80	113	192		
Bombay	C				[4] 1		1								3			
Calcutta	C	226	574	634	436	122	84	73	64	41	40	32	15	16	24	12	20	14
Cawnpore	C			1	15	13	40	28	7	3	22	66	67	44	49	21	24	8
	D			1	6	5	12	12	4	2	2	16	19	10	10	9	11	4
Central Provinces and Berar	C	56	213	4,030	5,640	2,528	1,954	1,259	1,137	1,034	1,959	2,825	3,648	4,961	6,078	5,342	9,264	7,314
Chittagong	C	1	1	5	2	1				[4] 1	1					3		
Delhi	C			29	74	42	8	10	4	3	1	7	3					1
Howrah	C			344	137		52	42	33			19	78	59				
Jodhpur	C				3													
Madras Presidency	C	957	705	1,575	802		238	385	546	604	850	763	710	686				
	D	466	376	730	352		99	168	208	222	324	335	300	320				
Madras	C	16	3	9	1	1			1		1		1	1	1	1		
	D	6	2	4					1									
Northwest Frontier Province	C			1	284	60	171	161	163	149	86	72	73	39	70	42	93	243
Orissa Province	C	82	102	169	425	57	99	116	60	57	45	78	29	24	25	12	11	4
Gopalpur	C						5											
Punjab	C			1,090	2,319	202	153	150	168	112	149	84	134	63	11	43	29	5
Rangoon	C		1		1			1										
Sind State	C			2	57	87	89		66	16	61	91	32	21	23	17	6	15
Larkana	C			[4] 1														
Vizagapatam	C	1																
India (French):																		
Chandernagor Territory	C	10	9	27		1	3	1	6				4	4				
Karikal Province	C	4	8															
Pondichery Province	C		35	6					2									
Yanaon	C									1	1							
India (Portuguese): Noroli	C		7															
Indochina (French):																		
Annam Province	C	338	13	451	615	162	158	225	153	117	86	137	293	290	151	161	53	75
Tonkin Province	C	55	55	1,043	1,659	375	305	519	184	177	107	63	62	42		15	8	
Haiphong	C			1														
Hanoi	C		17	175	193	35	11	20	16	3	11	12	6	2		1	3	

Japan:																		
Fukuoka Prefecture—Wakamatsu	C													2				
Okayama Prefecture	C												5	3				
	D												4					
Siam	C	3																

On vessels:

S. S. *Karoa* at Rangoon from Calcutta — 1 case — Mar. 21, 1938
S. S. *Tsushima Maru* at Calcutta from Japan — 1 case — Apr. 16, 1938
S. S. *Mandasor* at Calcutta — 1 case — Apr. 18, 1938
S. S. *Tak Sang* at Hong Kong from Shanghai and Swatow — 1 case — June 5, 1938

On vessels—Continued.

S. S. *Kikukawa Maru* at Fukuoka from Shanghai — 57 cases — July 28, 1938
S. S. *Mau Sang* at Hong Kong from Sandakan — 1 case — July 18, 1938
S. S. *Kweiyang* at Bangkok from Swatow and Hong Kong — 1 case — Aug. 5, 1938

[1] Imported.
[2] Suspected.

PLAGUE[1]

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	May 1–28, 1938	Week ended— June 1938				July 1938					August 1938			
						4	11	18	25	2	9	16	23	30	6	13	20	27
Argentina. (See table below.)																		
Belgian Congo	C		4	4	3		1	1		1	1		1			3		
Bolivia:																		
Chuquisaca Department	C	35		3														
Santa Cruz Department	C	[2] 1	[2] 1			9	1											
Tarija Department	C	3					52		[3] 44									
Brazil. (See table below.)																		
British East Africa:																		
Kenya	C	4	1	4	10						5	2	2		1	3		
Uganda	C	24	14	7	17	2	6		11	9	15	13	10	12	13	8		
	D	24	14	7	16	2	6		9	11	15	13	10	12	13	8		
Ceylon:																		
Colombo	C	2	1	1	4	1										1		
	D	2			5	1										1		
Plague-infected rats			5	2	4			1						1			1	1

[1] Including plague in the United States and its possessions.
[2] Pneumonic.
[3] For 2 weeks.

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

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	May 1–28, 1938	Week ended— June 1938				July 1938					August 1938			
						4	11	18	25	2	9	16	23	30	6	13	20	27
China.[4]																		
Dutch East Indies:																		
Java and Madura	C	306	238	204	130	29	49	22										
	D	301	235	205	128	29	48	20										
Pasoeroean (vicinity of)	C	3		1														
Ecuador:																		
Chimborazo Province—Chimbo	C		10															
Guayaquil	C	5	5	11	2						1							
	D	2	4	8	1													
Plague-infected rats		3	2		1													
Egypt:																		
Asyut Province	C			[2] 1	7			1										
Beheira Province	C																	
Hawaii Territory: Plague-infected rats:																		
Hawaii Island—Hamakua District:																		
Hamakua Mill Sector		2																
Kukaiau				2														
Paauhau Sector		3	3	6	2													1
Pohakea Sector				1														
India	C	3,482	3,883	2,294	218	16	24	9	19	64	83	71	126					
	D	1,582	2,026	1,164	224	8	8	8	8	29	44	33	81					
Allahabad	C		1	1														
Bassein	C	2	1	1	4	1			1	1	2			1		1	1	
Bombay Presidency	C	7	47	58	6	3	5	3			3	7	10	7	12	7		
	D	2	28	30	2	2	2	5			1	5	4	4	7	5		
Central Provinces and Berar	C	838	1,306	821	42		1								8	11	55	52
Cochin	C																	1
	D																	1
Madras Presidency	C	157	69	70	24		16	16	19	31	45	56	49	50				
	D	69	36	26	15		6	11	7	9	15	20	20	20				
Mandalay	C		121															
	D		115															

Punjab	C		1															
Rangoon	C	3	4	1				1		2		1					1	
	D	3	2	1				1		2		1					1	
Plague-infected rats			1															
Madagascar. (See table below.)																		
Niger Territory. (See table below.)																		
Peru. (See table below.)																		
Senegal: M'Bour subdivision	C							1										
Tunisia: Tunis: Plague-infected rats		1	1							2								
Union of South Africa (see also table below)	C	13	7	[3] 4	21	[3] 7		1		[3] 3				1				
Cape Province—Port Elizabeth	C			8		1		1		2	1							
	D			11								1						
United States.[5]																		
On vessel: S. S. *Ville de Tamatave* at Beirut	C			1														

Place		February 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Argentina: Salta Province	C					4	
Brazil:[6]							
Ceara State	C		2	6	1		
	D		1	3			
Parahyba State	C	1	3				
	D	1	1				
Pernambuco State.[6]							
Madagascar (central region)	C	70	57	29	16	5	22
	D	56	55	26	13	5	20

Place		February 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Niger Territory	C		26				
Peru	C	10	7	3	1		1
Lambayeque Department	C	2					
Libertad Department	C	1	2	2			
Lima Department	C	7	5	1	1		1
Union of South Africa:							
Cape Province	C	7	6	12	19		
Orange Free State	C	5	1	2	7	5	

[3] Pneumonic.
[3] For 2 weeks.
[4] Information dated May 9, 1938, states that an outbreak of bubonic plague has occurred in Kochow District, and on Hainan Island, China.
[5] Last reported human case, August 30, 1937, Fresno County, Calif. Intensive plague work is being conducted in the western States and detailed reports of plague-infection found in animals and insect hosts are published currently in the PUBLIC HEALTH REPORTS. The following summarizes recent reports for 1938: *California*.—Ground squirrels, April, May, June, July, Aug. 4; insects, April, May, June, July, Aug. 4, 8; *Idaho*.—Ground squirrels, May, June; insects, May, June, July; *Montana*.—Ground squirrels, June; insects, May, June; *Nevada*.—Insects, April; *New Mexico*.—Prairie dogs, Aug. 9, 12, 13, 24; insects, Aug. 8, 9, 10, 11, 12, 16, 18, 22, 24; *Oregon*.—Ground squirrels, April, May; insects, April, May; *Utah*.—Ground squirrels, June; insects, May, July; *Washington*.—Ground squirrels, March, April; insects, March, April; *Wyoming*.—Ground squirrels, June, July; insects, June, July, Aug. 2, 3, 10, 11.
[6] Information dated Apr. 19, 1938, states that since Mar. 25, 1938, 4 deaths from bubonic plague have been reported in Nova Exu District, Pernambuco State, Brazil.

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

SMALLPOX

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	May 1–28, 1938	Week ended— June 1938				July 1938					August 1938			
						4	11	18	25	2	9	16	23	30	6	13	20	27
Algeria:																		
Algiers Department	C			1	1			1										
Constantine Department	C	1			1		1										1	
Southern Territories	C			1														
Angola. (See table below.)																		
Belgian Congo. (See table below.)																		
Bolivia. (See table below.)																		
Brazil (see also table below): Porto Alegre	D				2													
British East Africa: Tanganyika	C	190		205		48			36	70		24		64	54		1	
Canada:																		
Alberta	C	3	[1] 8	9				[1] 12				[1] 1						
British Columbia	C	1			1													
Manitoba	C					[1] 8		[1] 8		[1] 10								
Nova Scotia—Halifax	C		3															
Ontario	C														9			
Saskatchewan	C	13								[1] 11								
China:																		
Canton	C	79	98	46	1													
Dairen	C	1	1	2	1	1	1											
Hankow	C	3	1	16	15	3		16	5	6								
Hong Kong	C	641	766	514	90	12	9	3	1	1	1	1	2					
	D	502	639	590	93	10		8	1			1	2					
Macao	C	2		8	1													
Shanghai	C	10	9	12	13	2	3	2	1	1			6		7			
Swatow	C			[2] 1	2													
Tientsin	C							1										
Chosen. (See table below.)																		
Colombia:																		
Barranquilla	D			1														
Cartagena	D					1				1								
Dahomey	C				119													
Dutch East Indies: Batavia	C				4													
Ecuador: Guayaquil	C	1		1														

Egypt:																		
Alexandria	C				1													
Port Said	C	3	6	9														
Eritrea	C	7	14	1	1													
Great Britain: England and Wales—																		
Kent County—Gravesend	C		3		2		1											
Lancaster County	C												2		3			
Leighton Buzzard	C		2															
Port of London	C		1															
Greece. (See table below.)																		
Guatemala. (See table below.)																		
Honduras: Tela	C				2													
India	C	10,096	12,752	16,692	12,001	1,794	1,451	1,224	1,247	962	1,124	920	858					
	D	2,467	2,991	3,575	3,265	477	431	313	400	264	349	223	218					
Allahabad	C			2														
Assam	C	90	147	224	193	48	39	48	28	15	25	18	15	14	26	6	7	10
Bassein	C			1	3								1					
Bengal Presidency	C											162	123	104	104			
	D											56	51	25	36			
Bombay Presidency	C	2,392	3,412	3,569	1,720	272	137	179	238		151	236	151	146	106	90		
	D	674	735	620	337	55	35	36	44		22	47	21	29	18	20		
Bombay	C	950	874	508	159	22	13	9	13	5	7	11	6	8	7	1	4	3
	D	545	491	300	108	13	11	9	5	6	5	7	4	6	6		3	2
Calcutta	C	431	848	768	336	52	42	45	26	22	16	14	16	18	9	6	8	8
	D	273	565	574	273	44	33	40	25	9	15	9	12	9	8	5	5	5
Cawnpore	C	18	13	31	10			1	1									
Central Provinces and Berar	C	230	249	507	340	102	58	45	55	37	43	32	25	7	11	5	11	1
Chittagong	C	1	4	1	1													
Delhi	C	13	11	26	32	1	3	1	3					1				1
Howrah	C			61	23		13	20	17			9	6	9				
Jodhpur	C				1	1												
Karachi	C	12	17	21	5	4									1			
Madras Presidency	C	684	765	699	390		48	90	90	99	97	114	126	103				
	D	129	125	208	75		15	11	18	21	17	18	26	31				
Madras	C	248	249	241	138	47	16	24	39	37	47	33	35	33	46	34	30	22
Negapatam	C	6	8	11	3													
Northwest Frontier Province	C	160	155	86	235	9	45	10	18	28	22	5	21	19	15	9	17	34
Orissa Province	C	940	1,291	936	704	142	146	74	125	102	90	59	106	85	89	65	54	50
Punjab	C	952	836	553	213	14	7	15	8	7	17	2	10	5	1	6		9
Rangoon	C	42	77	23	12	2	2	13	4				2		1			3
Sind State	C	483	522	844	491	92	84	77	47	62	29	25	48	3	14	54	24	20
Vizagapatam	C		2	2														
India (French):																		
Chandernagor Territory	C		2	2	4	1	1											
Karikal Province	C		1															

[1] For 2 weeks.
[2] Imported.

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

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	May 1–28, 1938	Week ended— June 1938				July 1938					August 1938			
						4	11	18	25	2	9	16	23	30	6	13	20	27
Indochina (French) (see also table below):																		
Tonkin Province	C	707	675	905	332	85	35		36		26	19	11	32		10	20	15
Haiphong	C	148	45	30	3	1												
Hanoi	C	15	16	46	6	4												
Saigon-Cholon	C	1	1	2	2						2		3			1	1	1
Tourane	C				1													
Iran	C	6	2	2														
Iraq	C	8		11														
Baghdad	C	1			1													
Basra Province	C		1															
Ivory Coast. (See table below.)																		
Japan:																		
Kobe	C								1									
Nara Prefecture	C								1									
Saga Prefecture	C			1														
Mexico (see also table below):																		
Chihuahua	C		1															
Durango	D	2	2	1														
Mexico, D. F	C	3	2	6	11	6		2			3	3	1					
Monterrey	C	1		2	2		1		4								3	
Saltillo	D						1											
San Luis Potosi	D				2	1												
Torreon	C																	
	D	2																
Morocco. (See table below.)																		
Nigeria	C	57	1,224	253	405		[1] 83		[1] 47				102					
Lagos	C		3	4	1			1	1				1	1				
Niger Territory. (See table below.)																		
Northern Rhodesia	C											9		13			6	
Portugal (see also table below): Lisbon	C	4	12	1	5			3	3	1			4	2		4		1
Salvador. (See table below.)																		
Senegal. (See table below.)																		
Siam	C	26	84	3	1	1												

Sierra Leone	C	4	5	23	6			1		1								
Southern Rhodesia	C	21	7	28	39				70		163	84	549	187	10	225	133	
Straits Settlements: Singapore	C			1														
Sudan (Anglo-Egyptian)	C	63	58	59	19	4			4			1			1		3	
Tunisia: Tunis	C						3											
Union of South Africa. (See table below.)																		
Venezuela (see also table below): Puerto Cabello. [3]																		

On vessels:

- S. S. *Tatsuta Maru* at Honolulu — 1 case — Feb. 4, 1938
- S. S. *Circassia* at Aden from Bombay — 1 case — Feb. 16, 1938
- S. S. *Chantala* at Akyab from Chittagong — 1 case — Feb. 18, 1938
- S. S. *Empress of Japan* at Honolulu — 1 case — Feb. 21, 1938
- S. S. *Tilawa* at Singapore from Hong Kong — 1 case — Feb. 21, 1938
- S. S. *Seringa* at Calcutta from Port Said — 1 case — Feb. 24, 1938
- S. S. *Yuen Sang* at Singapore from Hong Kong — 1 case — Feb. 28, 1938
- S. S. *Cathay* at London — 1 case — Mar. 4, 1938
- S. S. *City of Auckland* at Halifax from Calcutta — 1 case — Mar. 5, 1938
- S. S. *Kaisar-I-Hind* at Yokohama from Hong Kong — 3 cases — Mar. 6-7, 1938
- S. S. *Van Heutsz* at Singapore from Amoy, Swatow, and Hong Kong — 1 case — Mar. 9, 1938
- S. S. *Hai Hing* at Singapore from Amoy, Swatow, and Hoihow — 1 case — Mar. 9, 1938
- S. S. *Netuka Maru* at Moji from Dairen — 1 case — Mar. 11, 1938
- S. S. *Norviken* at Singapore from Hong Kong and Swatow — 1 case — Mar. 13, 1938
- S. S. *Kum Sang* at Singapore from Kobe, Amoy, and Hong Kong — 1 case — Mar. 16, 1938
- S. S. *Haruna Maru* at Kobe from Hong Kong — 1 case — Mar. 16, 1938

On vessels—Continued.

- S. S. *Hinsang* at Sandakan from Hong Kong — 2 cases — Mar. 22-24, 1938
- S. S. *Kiturin Maru* at Moji from Dairen — 1 case — Mar. 31, 1938
- S. S. *Sirdhana* at Singapore from Kobe, Amoy, and Hong Kong — 1 case — Apr. 1, 1938
- S. S. *Prosper* at Singapore from Hong Kong and Swatow — 2 cases — Apr. 3, 1938
- S. S. *Straithaird* at Fremantle — 2 cases — Apr. 7, 1938
- S. S. *Shirala* at Singapore from Japan — 1 case — Apr. 14, 1938
- S. S. *Hosang* at Singapore from Hong Kong — 3 cases — Apr. 15, 1938
- S. S. *Cremer* at Singapore from Amoy, Swatow, and Hong Kong — 1 case — Apr. 19, 1938
- S. S. *Jean Laborde* at Singapore from Kobe, Shanghai, Hong Kong, and Saigon — 1 case — Apr. 21, 1938
- S. S. *Sandviken* at Singapore from Hong Kong — 1 case — Apr. 29, 1938
- S. S. *Hinsang* at Sandakan from Hong Kong — 1 case — May 18, 1938
- S. S. *Forth Bank* at Niigata from Vancouver — 1 case — May 28, 1938
- S. S. *Ellenga* at Rangoon from Calcutta — 1 case — July 19, 1938
- S. S. *Planter* at Aden — 1 case — Aug. 2, 1938
- S. S. *Katori Maru* at Kobe from London, Singapore, Hong Kong, and Shanghai — 3 cases — Aug. 20, 1938

[1] For 2 weeks.

[3] A report dated Feb. 10, 1938, states that 16 cases of smallpox were reported in Puerto Cabello; information dated Feb. 21, 1938, states that 4,000 cases of smallpox (alastrim) were reported in Barquisimeto, Lara State, Venezuela, and that smallpox is present from Barquisimeto to Valencia and Marcay.

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

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		February 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Angola	C	29		86	13		
Belgian Congo	C	336		252	251		
Bolivia:							
Cochabamba Department	C	[4] 4		1	5	4	2
La Paz Department	C	[4] 11	9	12	6	5	5
Oruro Department	C			1	1		
Potosi Department	C	[4] 5	2	4	1	4	2
Santa Cruz Department	C	[4] 5		1	1	1	5
Tarija Department	C		1		1		
Brazil (see also table above)	C	4					
Chosen	C			5	8		
Colombia	C		[5] 194			[5] 226	
Greece: Salonika	C	1	7		2		
Guatemala	C			1	3	4	
Indochina (French) (see also table above)	C	864	1,258	1,237	511		
	D	189	237	161	90		
Ivory Coast	C	48	23	33			
Mexico (see also table above):							
Aguascalientes State—Aguascalientes	C			12	1		
Campeche State	C			2			
Chiapas State	C	1	1				
Chihuahua State	C		1				
Ciudad Juarez	C				4		
Mexico—Continued.							
Coahuila State—Piedras Negras	C				1		
Guerrero State	C			1			
Hidalgo State	C		1	7			
Mexico State	C	1		1			
Mexico, D. F	C	4	6	5	19		
Michoacan State				4	5		
Nuevo Leon State—Monterrey	C			2	4		
Puebla State	C		1				
Queretaro State	C	4	6	3			
San Luis Potosi State	C		1	1	1		
Tamaulipas State	C		4				
Morocco	C			4		3	4
Niger Territory	C	31	53	51			
Portugal (see also table above)	C	13			46	41	
	D				3	2	
Salvador	C	2					
Senegal	C	42	103	116			
Union of South Africa: Transvaal	C			110		72	
Venezuela	D				8	5	2

[4] For 2 months.
[5] For 3 months.

Typhus Fever

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	Week ended— May 1938				June 1938				July 1938					August 1938		
					7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20
Algeria:																				
Algiers Department	C	29	77	43	14	7	9	4	27	16	6	4	1	5	3	4		2	3	
Algiers	C	9	3	3	5		1	1				4								
Constantine Department	C	98	142	163	54	35	43	47	59	23	53	37	16	1	8	6	11	4	1	11
Bone	C	2			1					1		25			1		2	1		1
Constantine	C	38	33	25	34	23	37			5				1	1		3		1	
Philippeville	C	2			1													1		4
Oran Department	C	13	7	34	10	3	3	1	10	2		6	3	3		3			1	
Southern Territory	C	17	13	6	1															
Australia: Brisbane	C		1																	
Basutoland	C	1																		
Bolivia. (See table below.)																				
British East Africa: Kenya	C			5		10														
Bulgaria	C	2		2										4						
Chile	C	11	42	51	5	6	6	9	7	4	10	2	4							
Concepcion Province	C		9	16	1	1				1										
Linares Province	C	2																		
Malleco Province	C		6	2		1	1		2											
Nuble Province	C	10	8	2			3	7	2	1	5	2	1							
Santiago Province	C	33	30	17	1		1				1									
Valparaiso	C	2	3	2	1	1			2	1	3		2		1					
China (see also table below):																				
Dairen	C			2				1	1	2		3		1						
Hankow	C	1		1	2															
Hong Kong	C						[1] 1													
Shanghai	C		26	236		94	64	96	103	65		46		35	27					
Tientsin	C		1	1			1													
Chosen. (See table below.)																				
Colombia: Barranquilla	D												1							
Czechoslovakia. (See table below.)																				
Dutch East Indies: Sumatra. (See table below.)																				
Egypt:																				
Alexandria	C	2	11	9	2	1	8	3	2	2	1		1	1		1			1	
Aswan Province	C	3	16	16	13			11		2	2									
Asyut Province	C			1	1			11		1			2							
Beheira Province	C	10	33	78	50			41		30	15		2			8				
Cairo	C	2	13	20	6	2	4	2	11	3	5	5	2	1	2	1	2		1	

[1] Imported.

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

TYPHUS FEVER—Continued

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	Week ended— May 1938				June 1938				July 1938					August 1938		
					7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20
Egypt—Continued.																				
Dakahliya Province	C	49	27	14	3			7		2	8		16			13				
Gharbiya Province	C	14	5	43	14			12		3	20		4							
Girga Province	C							4								5				
Giza Province	C												15			7				
Kalyubiya Province	C												7							
Minufiya Province	C	13	4	57	33			16		9	24		14			13				
Minya Province	C	5	11	4	4															
Port Said	C					1	1													
Qena Province	C		25	109	28			4		1										
Sharkiya Province	C	7	12	1	8			1		5	3		5			2				
Provinces	C	177	262	626	165	214	161	147	146	86	85	97	65	42	42	70	26	21	24	32
Greece. (See table below.)																				
Guatemala. (See table below.)																				
Hawaii Territory: Honolulu	C	1	1		1		1	1	1	1			1	2						
Hungary	C			1																
Iran	C	1																		
Teheran	C	1																		
Iraq; Baghdad Province	C			1																
Latvia. (See table below.)																				
Lithuania. (See table below.)																				
Mexico (see also table below):																				
Mexico, D. F	C	12	18	40		2	1	2	2	2	2	1			4	4	7			
Saltillo	D	1																		
San Luis Potosi	D	1																		
Torreon	D																		1	
Morocco (see also table below)	C	783	1,316	1,011	162	175	176	171	169	170	166	71	66	56	39	36	29	22	16	9
Casablanca	C	173	213	91	10	77	18	8	9	3	15	7	7	5	1	6	4	1	3	1
Palestine:																				
Haifa	C						1		1	2										
Jaffa	C	3	3	2	2		1	1	1			1			1	1		3	1	
Panama Canal Zone. (See table below.)																				

Poland	C	431	689	652	100	136	100	88	97	67	44	59	64	67	33	31	20	18	10	13
	D	23	38	30	3	7	4	1	3	4	2	3	5	4						
Portugal. (See table below.)																				
Rumania. (See table below.)																				
Sierra Leone: Freetown	C								1											
Straits Settlements: Singapore	C	1		1							1		1					1		
Syria: Deir-ez-Zor	C	10																		
Trans-Jordan	C	2	3	4																
Tunisia:																				
Tunis	C	4	7	12	5	2	6		3	6	6		6	1	2	2		2	1	
Provinces	C	211	261	217	45	38	94	78	93	103	77	76	55	54	52	47	37	12	26	26
Turkey. (See table below.)																				
Union of South Africa. (See table below.)																				
Yugoslavia: Belgrade	C	1																		
On vessel: S. S. *Empress of Japan* at Yokohama	C			1																

Place		February 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Bolivia:							
Cochabamba Department	C				4		1
La Paz Department	C	[3] 18	5	12	17	8	5
Oruro Department	C	[3] 9	3	3	8	6	2
Potosi Department	C	[3] 5	8	5		4	3
China: Manchuria—Harbin	C	1	5	4	9		
Chosen	C			87	55		
Czechoslovakia	C	2	2	12	1		
Dutch East Indies: Sumatra	C	[3] 33					
Greece	C	3	6				
Guatemala	C		1	40	2	11	108
Latvia	C		3				
Lithuania	C	8	49	20	25	3	
Mexico (see also table above):							
Aguascalientes State	C			2	3		
Coahuila State	C	1					
Guanajuato State	C			4	3		
Hidalgo State	C		6	2			
Jalisco State	C		1				
Lower California	D			1			
Mexico State	C	7	6		7		

Place		February 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Mexico—Continued.							
Mexico D. F.	C	16	26	32	5		
Mexico City	D	4					
Oaxaca State	C			1			
Puebla State	C		6				
Queretaro State	C	5	5	2			
San Luis Potosi State	C	2	5	2	2		
Tlaxcala State	D		1				
Zacatecas State	C			4			
Morocco (see also table above)	C	1,118	1,545	1,474	1,264		
Panama Canal Zone	C			1			
Portugal	C	17					
Rumania	C	510	533	257	222	35	
Turkey	C	43	48	73	38		
Istanbul	C	10	1	3	3	6	4
Union of South Africa:							
Cape Province	C	43	49	36	4	37	
Port Elizabeth	C	1	3	1			
Natal	C	4		1			
Orange Free State	C	24	2	6	2	2	
Transvaal	C	4	4	7	3		

[3] For January and February.
[4] Tropical Typhus fever.

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

YELLOW FEVER

[C indicates cases; D, deaths; P, present]

Place		Jan. 30–Feb. 26, 1938	Feb. 27–Mar. 26, 1938	Mar. 27–Apr. 30, 1938	Week ended— May 1938				June 1938				July 1938					August 1938				Sept. 3, 1938
					7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	
Belgian Congo:																						
Saratumba	C		[1] 1																			
Zongo	C	[1] 7	[1] 4																			
	D	4	1																			
Brazil: [2]																						
Amazonas State	D						1										1					
Federal District	D	1	1																			
Minas Geraes State	D	68	55	5	3	2	3		1		1	1										
Rio de Janeiro State	D	10	37	8	1	1	1															
Santa Catherina State	D	1	9	16																		
Sao Paulo State	C	P																				
	D	1	2	2																		
Colombia:																						
Cundinamarca Department	D	2	1				2		2			1	1				1	1				
Santander Department	D			2																		
Dahomey: Allada	C													1								
French Equatorial Africa: Gabon—Koula Moutou	C												[1] 1									
Gold Coast	C			[1] 1	1	[1] 1						3		1			2					1
	D			[1] 1													1					1
Keta	C			[1] 1		1																
Ivory Coast:																						
Abidjan	C	[3] 2																				
Agboville	C		[1] 1																			
Bognoa	C													[1] 1								
Grand Bassam	C		2																			
Spao Plantations (near Bingerville)	C		2																			
Nigeria	C							2										1			[1] 1	
	D																	1				

Senegal	C	[1] 1																					
Dakar	C	[1] 1																					
Diourbel	D			1																			
Sierra Leone: Kailahun	C					[1] 1																	
Sudan (French): Segou Circle—Kokry	C											[1] 1											

[1] Suspected.
[2] See also reports of yellow fever in Brazil in preceding issues of the PUBLIC HEALTH REPORTS.
[3] Includes 1 suspected case.