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## MORTALITY FROM CERTAIN CAUSES DURING THE FIRST 9 MONTHS OF 1936<sup>1</sup>

This report presents mortality data for 29 States, the District of Columbia, and Hawaii for the first 9 months of 1936, with comparative data for recent years. In addition to the death rate from all causes, rates are shown for 17 specific causes, 4 groups of causes, and for infant and maternal mortality.

The rates are computed from current and generally preliminary reports furnished by State departments of health. Because of some lack of uniformity in the method of classifying deaths according to cause, some delayed death certificates, and various other reasons, these preliminary rates cannot be expected to agree in all instances with final rates published by the Bureau of the Census. The final figures are based on a complete review and retabulation of the individual death certificates from each State. The preliminary rates given in the accompanying table are intended to serve as a current index of mortality until final figures are available.

The populations used for 1934 and 1935 are the official estimates as published by the United States Bureau of the Census on May 11, 1936, which are corrected to agree with the population of the United States as computed from births, deaths, immigration, and emigration since the 1930 census. The populations used for 1936 are the same as those used in previous mortality summaries for that year,<sup>2</sup> and were arrived at by extrapolation from the official 1935 estimates, using the same annual increment as that used by the Bureau of the Census for the year 1935 as compared with 1934. Populations for 1933 were estimated by making the increment for 1934 over 1933 the same as that used by the Census Bureau for 1935 as compared with 1934.

At the top of the table, rates are given for a group of 21<sup>3</sup> States with an estimated population of 72,000,000 that have data available for the first 9 months of each of the 4 years 1933-36. For individual States, data are shown for the first 9 months or for as many of those months as can be included on the basis of available information, with

<sup>1</sup> From the Office of Statistical Investigations, U. S. Public Health Service.

<sup>2</sup> Public Health Reports, July 3 and Oct. 30, 1936.

<sup>3</sup> See footnote to table for States included.

rates for corresponding periods of 2 preceding years. The following comparisons refer only to the 21 States with complete data.

The death rate from all causes for the first 9 months of 1936 was 11.4 per 1,000 (annual basis), as compared with 10.8, 11.0, and 10.6 in the first 9 months of 1935, 1934, and 1933, respectively. In 17 of the 21 States the rate was higher in the first 9 months of 1936 than in the same period of 1935. In all three quarters of 1936 the rates exceeded those for the corresponding quarters in the 3 preceding years.

The relatively high mortality from all causes is partly accounted for by the increased mortality from influenza and pneumonia during the first half of 1936. The combined mortality from these causes was slightly higher in the first half of 1936 than in the same period of 1935 and 1933, and markedly higher than in 1934, a year of low influenza and pneumonia mortality. Rates for pneumonia were higher in all three quarters of 1936 than in corresponding quarters of the 3 years immediately preceding; 17 of the 21 States showed an increase over the first 9 months of last year and 4 a decrease. Mortality from influenza in the first 9 months of 1936 was about the same as in 1935, higher than in 1934, but lower than in 1933 for the same period; only 6 of the 21 States reported higher rates in the first 9 months of 1936 than in the same period of 1935.

Infant mortality in the first 9 months of 1936 was slightly below last year. Among 21 States with complete data, 12 had lower rates and 9 had higher rates than in 1935.

The mortality rate from meningitis was higher during the first 9 months of 1936 than during the corresponding period in any of the 3 preceding years; 14 of the 21 States had higher rates than in 1935. The incidence of meningitis has stood at a relatively high level since the latter part of 1934. The other infectious disease rates were less in 1936 than in preceding years.

Heart diseases, cerebral hemorrhage, cancer, and diabetes showed increases over recent years. The rise was particularly large for heart diseases, and 20 of the 21 States showed increases over 1935. Although the increase was less for apoplexy and diabetes, it was general, 20 and 19 States, respectively, showing increases for these diseases over 1935. Although the average rate for cancer increased, there were decreases in 9 of the 21 States.

The average tuberculosis rate declined only slightly from the 1935 level, but 9 of the 21 States showed increases

Mortality from certain causes in the first 9 months of 1936, with comparative data for the corresponding period in preceding years

State and period	Death rate per 100,000 population (annual basis)														Nephritis (130-132)								
	Rate per 1,000 live births		Typhoid fever (1, 2)	Measles (7)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Influenza (11)	Polymyellitis (16)	Encephalitis, epidemic or lethargic (17)	Meningococcus meningitis (18)	Tuberculosis, all forms (23-32)	Cancer, all forms (45-53)	Diabetes (59)		Diseases of the nervous system (78-89)	Cerebral hemorrhage, apoplexy (82a, b)	Diseases of the circulatory system (90-103)	Diseases of the heart (90-95)	Diseases of the respiratory system (104-114)	Pneumonia, all forms (107-109)	Diseases of the digestive system (115-129)	Diarrhea and enteritis, under 2 years (119)
	All causes, rate per 1,000 population (annual basis)	Total infant mortality																					
21 STATES *																							
January to September—																							
1937	11.4	52	1.5	0.7	2.3	1.9	1.5	21.3	0.4	0.6	2.5	52.4	114.9	28.1	108.9	85.9	299.8	275.5	100.8	88.9	67.7	7.6	82.3
1935	10.8	53	1.8	3.9	2.4	3.8	1.8	20.9	.7	.7	2.2	52.6	112.6	24.0	103.1	82.4	274.8	250.6	94.5	82.2	66.9	7.6	80.6
1934	11.0	58	2.5	4.9	2.2	4.8	1.8	14.8	.6	.8	1.9	53.7	110.6	24.2	99.8	78.0	277.5	247.8	92.2	80.0	71.6	10.5	85.3
1933	10.6	55	2.4	1.9	2.1	2.9	1.8	27.0	.7	.8	1.2	56.9	107.5	23.2	100.7	77.5	268.6	235.7	81.3	69.3	69.9	9.8	83.0
January to March—																							
1936	12.6	58	2.7	9.9	3.4	2.0	2.2	39.6	.2	.6	3.4	53.7	114.5	30.3	120.6	91.4	338.9	311.7	158.4	142.8	61.7	4.9	92.3
1935	12.0	64	3.1	6.1	3.9	3.9	2.4	43.9	.2	.6	2.4	54.7	110.2	27.0	111.8	90.0	306.5	276.8	141.3	127.2	63.0	4.2	87.9
1934	11.9	64	3.0	9.9	3.8	4.0	2.5	27.7	.2	.6	1.0	55.1	108.1	27.3	110.4	85.5	316.0	280.7	137.8	122.1	63.7	5.8	93.3
1933	11.9	66	3.2	1.9	3.2	2.7	2.5	64.6	.8	.8	1.6	59.2	106.7	27.0	112.2	86.9	291.6	255.4	126.9	112.5	61.6	5.6	90.4
April to June—																							
1936	11.3	52	2.1	1.1	2.7	1.9	1.2	23.0	.1	.6	2.9	53.7	115.5	25.7	108.0	87.5	300.9	275.9	98.8	87.5	64.0	5.7	83.6
1935	11.1	54	2.2	1.2	6.2	3.1	1.4	14.6	.3	.8	2.9	55.9	115.4	24.0	104.1	83.6	280.1	258.0	97.5	83.9	67.1	7.7	83.1
1934	11.1	50	2.5	1.7	7.6	2.4	1.4	12.5	.4	.9	1.4	56.7	112.6	24.5	101.0	78.8	281.3	250.8	95.2	81.5	69.8	8.3	84.8
1933	10.5	54	2.5	1.7	3.8	2.5	2.7	1.3	12.5	.5	1.3	59.5	107.7	22.9	102.7	78.5	260.4	226.8	75.0	62.3	69.4	8.0	84.4
July, September—																							
1936	10.3	46	1.8	4.7	2.7	1.8	1.2	4.5	.7	.6	1.1	49.7	114.8	22.3	98.4	79.1	280.1	239.3	45.7	37.1	77.3	13.9	71.1
1935	9.6	46	1.6	2.4	7.7	1.0	2.6	4.6	1.0	.6	1.5	48.1	112.2	21.3	91.5	73.6	238.6	216.9	45.6	34.6	70.5	10.9	71.0
1934	9.9	52	2.1	4.3	1.5	5.0	1.9	4.7	1.0	.9	1.7	49.4	111.0	21.7	88.2	70.9	236.1	212.8	44.7	34.4	61.2	17.4	76.0
1933	9.3	46	1.9	3.2	4.8	3.2	1.7	4.7	1.4	1.1	.6	52.0	108.0	19.8	87.6	67.2	224.5	198.6	43.0	33.8	78.3	14.8	74.4

\* States included are Connecticut, District of Columbia, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Minnesota, Montana, New Jersey, New York, Pennsylvania, South Dakota, Tennessee, Virginia, West Virginia, and Wisconsin (estimated population July 1, 1936, 71,740,000). Includes all of the States with available data for the 4 years covered by this summary. For a few causes, 1 to 3 States were omitted because of missing data.

Mortality from certain causes in the first 9 months of 1936, with comparative data for the corresponding period in preceding years—Continued

State and period	All causes, rate per 1,000 popu-		Death rate per 100,000 population (annual basis)																				
	lation (annual basis)	Rate per 1,000 live births	Typhoid fever (1, 2)	Measles (7)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Influenza (11)	Poliomyelitis (16)	Encephalitis, epidemic or lethargic (17)	Meningococcal meningitis (18)	Tuberculosis, all forms (23-32)	Cancer, all forms (45-53)	Diabetes (59)	Diseases of the nervous system (78-89)	Cerebral hemorrhage, apoplexy (92a, b)	Diseases of the circulatory system (90-103)	Diseases of the respiratory system (104-114)	Pneumonia, all forms (107-109)	Diseases of the digestive system (115-129)	Dysentery and enteritis, under 2 years (119)	Nephritis (130-132)	
<b>JANUARY TO SEPTEMBER</b>																							
Alabama:																							
1936:	10.9	6.5	2.7	0.8	0.4	2.9	2.8	56.9	1.3	0.8	.8	65.5	57.8	12.5	91.4	65.8	161.6	146.6	112.6	104.0	64.7	17.9	78.7
California:																							
1936:	13.6	24	5.0	1.0	4.2	2.1	2.1	17.2	.5	.5	2.9	55.3	152.9	26.4	120.2	95.0	404.7	366.0	96.1	81.8	84.7	8.7	92.0
1935:	13.0	20	4.8	1.2	1.8	1.2	1.8	11.6	.7	.4	2.2	84.2	147.2	27.0	119.0	90.9	395.7	349.4	83.4	70.4	82.0	9.6	90.6
1934:	12.2	23	4.6	1.3	2.2	1.6	1.9	7.1	1.9	.5	.9	86.2	136.8	24.2	112.4	84.3	350.2	313.3	77.7	65.5	75.0	9.0	85.8
Connecticut:																							
1936:	10.1	42	4.9	.2	.5	.7	1.7	2	2	.2	.9	38.3	124.7	27.2	( )	( )	( )	230.4	( )	73.6	( )	3.0	94.9
1935:	10.2	44	4.6	.9	1.5	1.6	1.0	8.8	1.2	.4	1.9	42.9	125.5	31.4	( )	( )	220.2	( )	69.1	69.1	1.9	96.6	
1934:	10.0	52	6.3	.5	.6	1.0	2	7.2	1.1	.2	.5	42.7	122.2	26.0	( )	( )	215.0	( )	64.8	( )	5.1	84.4	
District of Columbia:																							
1936:	14.5	67	30	1.3	1.5	4	6.4	4.7	8.5	.4	11.1	105.8	132.1	28.5	135.3	107.0	381.6	332.2	155.3	138.3	79.8	8.6	95.8
1935:	14.4	61	26	1.1	1.8	2	3.4	12.6	1.8	.9	16.9	106.9	124.3	26.6	128.1	92.1	375.7	330.2	146.5	130.1	95.9	11.0	103.8
1934:	14.7	66	34	1.7	11.5	1.2	7.9	1.2	7.4	.2	.7	113.4	134.7	32.9	126.8	94.8	396.4	343.8	137.8	118.7	66.1	12.4	112.0
Florida:																							
1936:	12.5	69	30	2.8	2.3	1	1.6	2.3	55.7	.5	3.1	53.6	84.0	18.4	127.6	102.1	234.6	235.2	98.8	84.8	84.0	8.5	105.2
1935:	12.0	64	34	4.1	3.3	1	3.3	3.8	41.1	.5	5.4	51.1	85.7	18.0	118.0	90.6	228.2	207.2	77.0	62.9	14.1	104.7	
1934:	12.5	69	35	3.2	3.0	.3	6.2	4.0	23.2	.6	.4	60.7	82.1	16.6	128.4	94.0	237.8	218.7	88.7	76.3	89.4	31.4	120.2
Georgia:																							
1936:	10.4	68	7.9	5.8	.2	4	2.0	6	61.5	.5	.3	2.1	50.7	49.0	97.2	71.0	163.2	187.0	115.6	107.1	66.4	15.6	94.3
1935:	10.7	68	7.4	7.3	.9	6	5.3	20	42.4	.4	.2	50.2	48.0	10.8	84.0	64.8	131.7	141.3	60.9	53.5	68.2	11.9	91.3
1934:	10.4	82	7.6	10.2	21.1	.5	11.1	3.8	28.1	.7	.2	53.6	48.3	11.2	94.6	68.8	168.2	148.9	98.7	89.7	78.7	21.6	90.1
Hawaii:																							
1936:	7.9	71	39	2.1	( )	( )	.6	2.1	12.1	.3	.6	77.3	63.6	16.2	64.7	44.0	127.8	119.5	80.4	68.8	63.0	16.8	65.4
1935:	7.7	67	38	2.1	3.1	( )	3.1	3.8	5.7	( )	( )	74.2	62.3	13.7	69.1	38.3	104.3	101.3	73.6	62.9	19.8	68.3	
1934:	8.6	79	52	3.3	3.3	( )	16.5	6	15.1	.3	1.9	81.2	57.3	15.8	96.6	49.3	106.0	96.3	141.8	126.6	77.6	30.0	66.7
Idaho:																							
1936:	10.5	46	16	2.4	2.2	1.9	12.4	1.9	8	16.0	.6	26.2	78.8	13.5	108.0	73.5	252.5	181.2	115.1	98.9	66.1	5.8	25.1
1935:	9.9	53	21	2.0	2.5	4.7	8.9	3	17.3	.8	2.2	64.2	12.8	92.9	65.6	206.6	156.3	107.5	92.1	60.9	2.2	33.2	
1934:	9.9	53	19	4.8	4.2	2.8	3.7	2.5	14.7	4.2	2.6	30.8	71.8	11.0	90.4	70.1	187.7	154.9	106.8	95.0	74.3	11.9	33.1

Illinois:	1934.....	11.9	48	19	4.4	-.8	2.0	2.4	14.0	-.6	2.5	52.5	131.6	29.0	102.5	79.0	339.2	314.3	90.7	75.6	72.6	6.3	103.0	
	1935.....	10.9	47	17	5.0	1.3	4.9	2.5	18.0	-.4	1.1	2.9	52.9	127.1	24.7	93.5	71.7	294.4	273.8	87.3	73.4	66.5	4.7	96.9
	1936.....	11.3	53	21	5.1	1.5	3.3	3.8	16.1	-.4	1.1	1.9	53.6	134.1	28.9	99.7	70.8	296.0	272.2	82.4	72.2	78.2	8.5	107.5
	1937.....	12.0	52	22	5.1	1.5	3.4	4.7	2.7	30.7	-.3	1.7	43.8	107.9	17.2	130.6	100.3	298.9	261.8	100.3	100.3	77.2	8.4	77.4
Indiana:	1934.....	11.2	64	24	5.2	1.4	3.5	3.3	2.5	27.8	-.8	2.8	47.3	113.3	14.4	123.0	123.0	261.8	261.8	85.9	85.9	77.2	6.6	66.7
	1935.....	11.8	64	25	5.4	1.1	3.1	3.3	2.4	20.4	-.7	1.0	52.5	110.1	17.8	123.6	123.6	262.7	262.7	77.2	77.2	77.2	11.9	77.0
	1936.....	10.1	50	11	3.3	1.5	3.3	1.5	8	19.1	-.2	4.0	22.4	123.7	24.6	142.3	108.0	263.7	234.9	78.1	69.5	59.6	3.8	60.6
	1937.....	10.4	50	21	5.1	1.4	3.0	2.4	1.9	24.1	-.3	1.0	25.2	123.2	20.8	130.2	104.3	231.3	224.1	87.8	70.1	62.0	4.3	61.9
Kansas:	1934.....	10.6	55	21	5.7	2.0	3.4	4.3	1.4	20.2	-.3	1.0	1.9	24.1	23.8	144.1	110.9	233.6	208.1	88.5	76.1	66.8	7.0	66.1
	1935.....	12.0	63	23	6.0	1.7	4.0	1.0	2.2	54.0	-.7	1.2	31.2	117.6	22.9	133.6	107.8	231.6	249.5	97.8	88.2	75.5	6.5	102.4
	1936.....	11.1	50	23	5.1	1.7	3.3	2.3	1.7	35.7	-.3	1.7	24.2	113.9	24.4	122.5	98.6	249.5	231.5	96.2	86.2	73.8	6.3	98.5
	1937.....	11.0	51	20	5.8	1.5	2.3	2.2	2.3	19.8	-.8	1.3	11.3	113.3	24.2	123.6	98.1	240.7	210.9	64.6	57.7	82.3	7.3	102.0
Louisiana:	1934.....	12.0	76	40	10.1	7.4	8.0	3.0	5.5	15.1	-.4	1.1	23.6	78.7	17.6	68.2	70.5	276.4	193.4	131.2	80.6	17.1	108.7	
	1935.....	10.8	68	37	8.0	6.9	7.6	2.9	4.3	24.3	-.8	1.1	73.2	78.0	11.6	88.0	60.5	198.4	172.5	83.1	81.7	15.0	108.3	
	1936.....	10.6	72	41	9.3	10.0	9.6	8.1	4.0	18.9	-.4	1.3	71.4	72.9	13.2	81.8	55.3	208.1	184.9	82.7	70.9	20.0	108.8	
	1937.....	13.0	62	29	4.8	1.8	1.8	7	4.3	11.7	-.2	1.0	8.6	82.4	27.4	134.1	112.0	326.9	301.4	121.9	110.3	66.0	10.9	141.6
Maryland:	1934.....	12.7	61	29	4.9	2.3	1.8	2.1	17.5	-.2	1.0	8.2	82.3	126.1	26.5	136.0	111.1	266.4	269.2	116.6	103.3	73.3	14.6	136.0
	1935.....	12.6	68	32	5.6	2.5	11.5	1.5	8.9	1.0	-.4	1.1	50.9	128.3	22.7	128.6	102.3	292.4	267.6	114.4	102.1	68.3	13.4	142.7
	1936.....	11.8	51	21	5.0	1.7	2.2	2.5	2.3	13.0	-.4	1.3	45.6	119.1	26.8	124.0	97.4	315.6	267.2	103.4	90.0	78.0	9.5	65.8
	1937.....	11.0	49	18	5.1	1.7	5.2	2.2	3.0	17.2	-.7	1.3	1.0	46.0	111.3	26.7	116.9	280.9	263.4	97.8	84.6	69.6	4.8	63.8
Michigan:	1934.....	10.9	53	19	5.6	1.3	3.9	4.4	3.7	12.7	-.6	1.3	43.1	110.0	23.8	121.7	93.1	279.7	233.3	89.7	70.8	76.0	8.0	66.2
	1935.....	10.9	44	17	4.3	1.1	5.1	1.0	4	13.9	-.2	1.8	36.6	129.9	26.7	113.9	86.6	266.1	242.5	91.8	81.8	64.3	5.0	48.2
	1936.....	10.0	48	18	4.8	1.7	3.2	3.4	2.9	17.7	-.4	1.8	35.8	131.0	22.2	104.8	83.3	233.9	219.1	87.6	77.0	64.1	4.0	47.6
	1937.....	10.1	48	16	5.2	1.8	1.1	4.4	4.4	14.9	-.8	1.2	35.9	131.6	22.6	101.1	79.6	284.1	210.9	89.3	77.0	69.8	4.2	51.9
Minnesota:	1934.....	11.6	50	19	4.0	1.9	2.7	2.7	1.5	94.2	-.4	1.3	56.5	111.4	11.8	89.5	71.5	146.3	132.8	96.6	89.9	69.0	18.6	67.5
	1935.....	11.3	50	18	4.0	1.6	3.0	2.6	9.6	6.4	-.4	1.3	69.8	111.8	11.8	87.6	71.1	139.0	121.0	73.8	88.2	68.3	14.9	104.9
	1936.....	11.9	50	18	4.0	1.6	3.0	2.6	9.6	6.4	-.4	1.3	69.8	111.8	11.8	87.6	71.1	139.0	121.0	73.8	88.2	68.3	14.9	104.9
	1937.....	11.6	50	18	4.0	1.6	3.0	2.6	9.6	6.4	-.4	1.3	69.8	111.8	11.8	87.6	71.1	139.0	121.0	73.8	88.2	68.3	14.9	104.9
Mississippi:	1934.....	11.7	56	20	4.3	1.8	11.8	2.5	3.0	44.6	-.3	1.0	2.3	99.7	19.1	119.0	88.9	216.8	201.2	132.2	119.1	98.7	6.3	78.1
	1935.....	10.4	49	16	6.0	2.8	3.3	2.3	4.3	1.5	28.7	1.0	48.8	91.4	21.2	102.2	77.3	190.6	172.5	91.7	76.5	85.6	14.4	71.0
	1936.....	10.2	44	15	5.9	1.9	6.0	1.7	1.6	21.3	-.6	1.0	18.4	112.5	26.8	120.7	93.9	242.5	225.3	81.3	69.8	78.4	4.6	72.4
	1937.....	9.8	43	17	5.6	1.5	8.2	2.0	1.3	26.1	-.3	1.4	3.5	105.8	18.9	128.8	101.5	205.9	188.4	100.1	86.3	66.4	3.8	50.4
Montana:	1934.....	10.0	48	16	5.9	1.3	2.1	1.4	7.1	1.7	18.3	1.2	23.1	113.6	20.3	125.1	99.1	211.9	190.6	86.1	75.8	70.9	6.0	63.3
	1935.....	10.2	44	16	6.0	1.7	1.6	2.0	1.2	3.8	-.6	1.0	51.0	123.0	30.6	96.3	70.3	315.2	294.7	78.8	68.9	58.4	3.5	70.5
	1936.....	10.0	46	16	6.0	1.7	1.6	2.0	1.2	3.8	-.6	1.0	51.0	123.0	30.6	96.3	70.3	315.2	294.7	78.8	68.9	58.4	3.5	70.5
	1937.....	10.1	49	16	5.2	1.6	1.9	1.4	1.2	6.0	-.3	1.1	53.7	119.5	26.9	98.2	80.2	301.2	281.3	76.1	65.9	58.0	5.4	82.1

January to July only.      \* Data not available.      † No deaths.

Mortality from certain causes in the first 9 months of 1936, with comparative data for the corresponding period in preceding years—Continued

State and period	All causes, rate per 1,000 popu- lation (annual basis)		Death rate per 100,000 population (annual basis)														Nephritis (130-132)									
	Total infant mortality	All except malforma- tions and early infancy	Maternal mortality	Typhoid fever (1, 2)	Measles (7)	Scarlet fever (3)	Whooping cough (9)	Diphtheria (10)	Influenza (11)	Polymyositis (16)	Renephritis, epi- demio or hemorrhagic (17)	Meningococcus menin- gitis (18)	Tuberculosis, all forms (23-32)	Cancer, all forms (45-53)	Diabetes (59)	Diseases of the nerv- ous system (78-89)		Cerebral hemorrhage, apoplexy (82a, b)	Diseases of the circula- tory system (90-103)	Diseases of the heart (90-95)	Diseases of the respi- ratory system (104- 114)	Pneumonia, all forms (107-109)	Diseases of the digest- ive system (115-129)	Dysentery and enteritis, under 2 years (119)		
<b>JANUARY TO SEPTEMBER— continued</b>																										
<b>New York:</b>																										
1936.....	46	17	5.1	0.6	1.3	1.7	1.0	0.5	6.8	0.1	0.6	2.4	59.7	144.8	35.5	102.0	79.1	374.0	348.0	101.4	91.2	69.8	6.0	78.2		
1935.....	49	19	5.2	.5	1.0	1.7	2.8	0.8	7.7	1.2	.6	2.4	58.5	142.4	32.6	97.2	76.1	340.0	317.8	97.3	86.9	68.2	6.6	80.5		
1934.....	53	21	4.5	.6	1.0	1.5	1.6	1.1	6.6	1.5	.5	.7	60.4	138.7	32.0	73.4	50.8	373.7	321.0	100.5	89.8	71.4	7.1	83.3		
<b>North Carolina:</b>																										
1936.....	66	(1)	6.5	2.0	2.7	.5	1.1	2.9	26.9	5	.5	1.6	61.9	50.4	11.9	(1)	(1)	(1)	(1)	(1)	(1)	108.3	(1)	22.4		
1935.....	63	(1)	6.7	2.8	2.7	.5	10.7	2.7	23.4	2.2	.8	.9	57.8	48.9	9.8	(1)	(1)	(1)	(1)	(1)	(1)	69.3	(1)	(1)		
1934.....	73	(1)	7.1	2.9	13.0	1.1	13.3	4.4	31.7	4.4	.4	.5	64.5	50.0	10.7	(1)	(1)	(1)	(1)	(1)	(1)	100.6	(1)	20.7		
<b>Pennsylvania:</b>																										
1936.....	45	20	4.0	.8	4	1.7	1.2	1.2	15.2	2	.6	1.4	44.7	111.0	28.1	108.8	88.2	312.5	290.3	92.9	80.1	54.5	5.9	82.2		
1935.....	51	24	4.1	.8	2.9	2.1	2.1	1.5	21.2	2	.8	1.3	45.0	106.9	20.9	103.5	79.8	291.5	268.6	93.1	81.8	50.3	5.6	83.3		
1934.....	59	29	3.8	1.1	3.3	2.5	2.3	2.1	18.1	3	.6	.7	46.2	105.0	27.1	103.0	80.8	288.1	261.1	95.0	81.8	61.9	6.3	90.2		
<b>Rhode Island: 4</b>																										
1936.....	54	17	4.9	.2	4	2.0	1.3	.2	12.1	(1)	.4	4.0	50.7	136.1	33.7	115.4	96.3	375.6	351.5	105.5	89.8	62.6	4.4	101.3		
1935.....	49	17	4.0	.4	1.5	.4	1.3	.7	11.0	(2)	.2	3.1	52.5	146.9	34.8	113.6	84.8	342.0	323.6	93.3	84.5	66.8	5.3	104.3		
1934.....	56	19	5.7	.7	4	.7	4.0	.2	8.8	2	.2	2.7	46.5	135.9	34.2	118.2	95.1	345.4	320.7	94.4	83.2	64.2	4.2	116.8		
<b>South Carolina:</b>																										
1936.....	82	(1)	8.2	7.7	4	3	3.2	2.3	48.9	8	1	2.7	47.1	42.1	9.2	98.8	85.0	175.3	160.6	107.5	98.9	36.6	11.7	80.9		
1935.....	81	(1)	9.8	9.3	1.3	2	9.7	2.0	45.1	7	1.7	2.7	48.3	41.8	9.7	98.7	85.1	171.8	160.9	80.3	75.1	32.2	7.7	83.8		
1934.....	93	(1)	10.0	8.8	11.6	.4	16.0	3.6	34.3	3	2.0	(1)	52.7	45.8	10.1	(1)	(1)	177.1	(1)	(1)	84.7	43.4	(1)	94.5		
<b>South Dakota:</b>																										
1936.....	47	19	4.3	2.2	4.2	6	1.0	22.4	(1)	2	(1)	25.6	93.6	22.8	110.4	110.4	85.7	176.1	160.1	81.7	69.1	64.3	10.5	65.5		
1935.....	51	25	3.6	1.6	4.5	4.8	1.2	37.4	1.2	8	(1)	41.8	89.5	20.6	120.0	120.0	80.8	160.2	142.0	120.0	104.4	61.8	7.1	60.0		
1934.....	63	30	4.6	1.4	22.3	1.6	9.9	1.2	26.4	1.4	(1)	35.7	89.3	28.3	105.9	105.9	78.9	168.0	148.3	94.6	85.2	72.6	10.1	60.1		
<b>Tennessee:</b>																										
1936.....	69	42	7.2	4.3	1.0	.7	2.3	2.9	59.9	1.4	1.0	4.1	87.6	60.3	11.8	97.7	72.6	170.0	156.0	127.6	116.4	78.2	19.3	66.2		
1935.....	66	40	6.9	4.7	1.6	.6	15.9	3.8	41.3	1.7	1.5	3.9	81.6	62.6	10.9	92.5	76.6	148.8	134.8	102.6	86.8	76.1	19.5	59.6		
1934.....	73	49	6.3	6.3	20.0	1.4	9.0	3.2	32.5	1.3	1.0	1.3	84.1	60.3	9.6	92.7	74.0	149.6	137.7	99.7	83.4	85.8	26.7	60.9		



## SALIENT PUBLIC HEALTH FEATURES OF RHEUMATIC HEART DISEASE<sup>1</sup>

By O. F. HEDLEY, *Passed Assistant Surgeon, United States Public Health Service*

The object of this article is to summarize the public health aspects of rheumatic heart disease. Rheumatic fever is not included in the very useful synopsis on the control of communicable diseases prepared by a committee of the American Public Health Association (1) probably because of lack of an objective method of diagnosis and administrative control. However, the arrangement and order of items under each disease employed by that committee will be followed in this article, although modified to fit the disease under discussion.

One of the chief difficulties lies in the confusing terminology so generally used. "Rheumatic fever" and "rheumatic infection" are here used to describe the generalized infection, while "rheumatic heart disease" or "rheumatic carditis" describe the cardiac involvement.

Rheumatic heart disease should not be looked upon as a *complication* of rheumatic fever but as its *chief manifestation* (2). Were it not for the resultant heart disease, rheumatic fever would be a much less important problem. Joint affections may be absent or result in varying degrees of temporary disability. Rheumatic heart disease is an important cause of acute and chronic disability, invalidism, and early death.

*Definitions.*—Rheumatic fever is an infectious disease of unknown etiology manifested by proliferative and exudative involvement of endothelial and subendothelial tissues, although other structures may also be involved. It has a predilection for the heart, joints, brain, fascia, subcutaneous tissues, and visceral cavities. Evidences of generalized toxemia are common. Its clinical manifestations are protean, depending on the severity of the infection and the organs and tissues involved. Although single attacks occur, the tendency is toward chronicity. No known type of immunity is conferred by an attack. With each period of activity the heart is usually further damaged.

Rheumatic heart disease is a proliferative and exudative involvement of the valves, endocardium, conduction tissues, myocardium, and pericardium in varying degrees and extent, occurring as the chief manifestation of rheumatic fever. In the acute stage it is an inflammation. In its chronic form it is characterized by sclerosis, resulting in valvular deformities as typified by mitral stenosis, myocardial fibrosis, and adherent pericardium.

<sup>1</sup> From the Office of Heart Disease Investigations, U. S. Public Health Service, Maloney Clinic Building, University of Pennsylvania, Philadelphia.



1. *Recognition of the disease.*<sup>2</sup>—Owing to its multiform clinical manifestations, rheumatic fever may be quite easy or extremely difficult to recognize. Polyarthrititis with a rapidly progressive pancarditis is not usually difficult to diagnose. Comparatively few cases fall in this category. Joint manifestations are usually minimal and are frequently absent.

The disease tends to become a smoldering low-grade infection, with periods of reactivation or recrudescences. These are characterized by slowly progressive cardiac involvement, indefinite joint, muscle, or "growing" pains, choreic manifestations, loss of weight or failure to gain, pallor out of proportion to the moderate degree of secondary anemia, slight temperature elevation, tachycardia best indicated by an elevated "sleeping pulse", nosebleeds, vomiting, abdominal distress at times severe enough to be mistaken for appendicitis, subcutaneous nodules, and increased leukocyte count and erythrocyte sedimentation rate. The recognition of these signs of activity is of paramount importance in the diagnosis and management of this disease. Reactivation may follow colds, sinusitis, pharyngitis, tonsillitis, and other intercurrent infections, or may occur without any demonstrable antecedent factor.

In adults the joint manifestations of rheumatic fever are usually more pronounced than in children and the cardiac involvement is not so severe.

The diagnosis of chronic rheumatic heart disease depends upon eliciting physical signs characteristic of valvular lesions and adherent pericardium. The X-ray is a valuable adjunct, and the electrocardiograph is sometimes of indirect assistance. Histories of rheumatic fever or chorea can be obtained in only 50 to 75 percent of cases. A negative history, however, does not invalidate the diagnosis. The presence of auricular fibrillation or subacute bacterial endocarditis should excite suspicion of a rheumatic background.

Practically all valvular disease in persons under 30 years of age is due to rheumatic heart disease. Mitral stenosis is the most typical rheumatic lesion and is apparently due to no other cause. Mitral insufficiency with or without mitral stenosis, aortic insufficiency, and stenosis are frequently noted. Mitral valvular disease is the most common. Affections of other valves or of the pericardium are usually found in combination with mitral involvement. While evidence of tricuspid valvular disease is not infrequently found on post-mortem examinations, it is difficult to recognize clinically. Pulmonic valvular involvement is rare.

Functional murmurs, congenital cardiovascular defects, sclerotic valvular diseases, and syphilitic aortitis with aortic valvular insufficiency must be ruled out.

<sup>2</sup> The paragraph numbers and headings correspond with those in the report of the Committee of the American Public Health Association on The Control of Communicable Diseases (1).

2. *Etiological agent.*—Unknown. Generally ascribed either to various forms of streptococci or to filterable viruses.

3. *Source of infection.*—Probably from discharges of the upper respiratory tract.

4. *Mode of transmission.*—Although difficult to determine in many cases, there is considerable evidence that rheumatic infection is transmitted from person to person. The incidence of multiple cases in families equals that of tuberculosis (3) (4). Localized epidemics in schools, colleges, military organizations, and hospitals have been reported. Waves of rheumatic activity in cardiac hospitals are not infrequent.

5. *Incubation period.*—Unknown.

6. *Period of communicability.*—Unknown.

7. *Susceptibility and immunity.*—While even intrauterine infection has been noted, the disease is infrequent under 3 years. Greatest frequency from 7 to 10 years, the peak incidence of initial cases occurring at about 7 years (5) (6). Diminished initial case incidence after puberty. While first attacks are not infrequent among adults, a careful history often reveals previous rheumatic infection in childhood.

An attack of rheumatic fever results in increased susceptibility to further attacks. In children under 10 years of age subsequent attacks occur in approximately 80 percent of cases.

8. *Prevalence.*—

A. Found only in human beings. Has not been experimentally transmitted.

B. Most frequent in cooler regions of the temperate zones. Infrequent in the tropics. Incidence higher in the Northern States, especially in New England, than in the South. Little difference in incidence in seaboard and inland areas of similar latitudes. Altitude unimportant except as it influences temperature. Rainfall not important factor. Proximity of dwellings to bodies of water of doubtful significance.

C. Slightly more frequent in females.

D. More common in whites than Negroes. Nationality probably unimportant.

E. Found more in urban than rural populations. Especially common among the industrial population of large cities.

F. More frequent among the poor than the well-to-do; cannot, however, be strictly regarded as a disease of poverty.

G. Malnutrition and poor living conditions predispose to rheumatic infection. No evidence that the disease is markedly influenced by lack of vitamins.

H. Incidence: Rheumatic heart disease accounts for 15 to 40 percent of clinical heart disease in the United States, depending

on the locality. The writer found that 13 percent (7) of the deaths from heart disease in Washington (D. C.) hospitals during 1932 was due to this cause. Owing to its extreme chronicity, it is expected that the percentage of heart disease due to rheumatic infection among series of fatal cases is less than that among clinical cases. Paul (8) estimated that there are 840,000 cases in the United States. The importance of this form of heart disease lies in the fact that it accounts for 90 percent of the heart disease under 30 years of age. School surveys indicate that from 0.5 to 4.0 percent of children show evidence of rheumatic heart disease. It is the type of heart disease causing the largest number of rejections for life insurance and military service. During the World War 26 persons in 1,000 were rejected in the draft for heart disease, mostly rheumatic heart disease. It results in maiming and death during the period of greatest social and economic usefulness. Due to its extreme chronicity, it results in varying degrees of disability over a longer period than any other kind of heart disease. The average age at death is about 30 years. In the northern part of the United States it is the third most important chronic infectious disease, exceeded only by tuberculosis and syphilis.

9. *Methods of control.*—The prevention of a disease is usually dependent on adequate knowledge concerning its etiologic agent, mode of transmission, and a reliable objective clinical, serological, or roentgenological basis for its diagnosis. In the case of a disease of childhood, a test for determining susceptibility is highly desirable. None is at present available for rheumatic fever. The following is presented with these limitations in mind and with the desire to utilize existing information to combat this disease.

A. The infected individual, contacts, and environment:

1. Recognition of disease: Clinical symptoms and signs of rheumatic fever and rheumatic heart disease. Its insidiousness and protean manifestations must ever be kept in mind.

2. Reporting: Due to lack of satisfactory criteria, it is doubtful whether rheumatic fever morbidity should be made reportable except for research purposes. While rheumatic heart disease is more easily diagnosed, most cases seen on routine examinations are inactive, and little would be gained by reporting them other than for special studies.

Deaths from rheumatic heart disease are not tabulated as an entity but are listed under rheumatic fever and various forms of heart disease. For this reason it is difficult to determine specific death rates and trends in this disease. Physicians should be encouraged to report rheumatic heart disease deaths according to etiology. The International List of Causes of Death should be revised to permit proper compilation of the reported mortality (9).

3. Isolation: Cases showing evidence of rheumatic activity should be separated at least to the extent of avoiding intimate contact with their fellows. Due to the close association between various forms of sore throat and rheumatic fever, persons suffering from acute or chronic tonsillitis and other respiratory infections should avoid close contacts with rheumatic subjects. Physicians, nurses, teachers, and other attendants with upper respiratory infections should not be assigned to duty among rheumatic cardiac patients. Visitors with these conditions should be refused permission to see patients. Similarly, persons with upper respiratory infections and those with active rheumatic infections should avoid close relations with other persons, especially with young children. These precautions are suggested as it has been noted that a high proportion of both first attacks of rheumatic fever and recrudescences of the infection are initiated or shortly preceded by attacks of upper respiratory infection.

4. Concurrent disinfection: Due to extreme chronicity strict concurrent disinfection appears impracticable. Reasonable care is urged.

5. Terminal disinfection: None.

6. Quarantine: None.

7. Immunization: None.

8. Investigation of source of infection: Due to the high incidence of more than one case in a family, efforts should be made by the attending physician to ascertain whether there are rheumatic stigmata among other members. While it is usually difficult to determine a sequence of events leading to the cases under consideration, much can be done by this method to bring other members of the family under medical care.

#### B. General measures:

1. The realization by all concerned that any kind of joint or "growing" pains in children is potentially serious and demands careful investigation. The nervous or fidgety child should be examined for chorea.

2. Diseased tonsils should be thoroughly removed as soon as is safely possible. Tonsillectomies should be performed when there is a history of repeated sore throats even though the tonsils appear normal on examination. The routine removal of healthy tonsils is not recommended. The early removal exerts a beneficial influence on the incidence and severity of rheumatic heart disease. Kaiser (10) noted among 48,000 school children that 34 percent fewer children had histories of rheumatic infection when tonsillectomies had been performed. In a clinical study of 1,200 rheumatic children the advantage in favor of tonsillectomies was

reduced to slightly less than 10 percent when compared with the expected rate of rheumatic infection among previously tonsillectomized children (11). Kaiser believes that these figures represent the minimum and maximum benefits of tonsillectomy in the prevention of rheumatic infection and that the probable advantage is about 15 to 20 percent in favor of previously tonsillectomized children (12). He also noted that the more severe forms of carditis were less frequent and that, consequently, the mortality was reduced about one-half among children tonsillectomized previous to the onset of rheumatic infection. Mackie observed that tonsillar infection was twice as frequent among rheumatic children as among normal controls (13).

Tonsillectomies should not be regarded as a specific method for prevention and too much should not be expected in a given case. It is only in the aggregate that the benefit becomes apparent.

In well advanced cases of rheumatic heart disease the removal of tonsils is recommended as a general hygienic measure and to reduce upper respiratory infections. It is doubtful whether the ultimate prognosis is greatly affected.

3. The school medical examination should be better utilized as a measure against rheumatic heart disease. *All pupils should be stripped to the waist for physical examination.* A careless examination is worse than useless, as it may result in a sense of false security. To many uneducated persons, "the doctor says" is sufficient.

School nurses and teachers should be trained to be on the alert for the more easily detectable evidence of rheumatic infection and to report such cases to the school physician for further examination. Cases with rheumatic activity should be excluded from school. Treatment should be carried out by the family physician or suitable clinic.

4. School authorities should cooperate in the management of the disease insofar as it pertains to school life. Special schools or classes for rheumatic cardiacs are not, in general, recommended; the psychological effect is bad. Furthermore, it is sometimes detrimental to these children to transport them long distances to a special school; it is better to enroll them in schools near their homes and to limit their activities according to their functional capacity. Special provision should be made for rest periods, the privilege of riding elevators, avoidance of harmful exertion, and reduction in the amount of school work carried. Arrangements should be made for supplemental feeding as needed. Teachers and school nurses should be instructed to screen out cases not doing well for further examinations by the school physicians.

5. School medical authorities, including college health services, should assist in the vocational guidance of persons with rheumatic heart disease. They should be tactfully advised against planning careers which they have little chance of consummating.

6. Candidates for athletic teams should be subjected to a careful physical examination at the beginning of each practice season. Those with organic heart disease should not be permitted to engage in strenuous competitive athletics. Candidates with possible or potential heart disease should be given a complete cardiac survey by a competent specialist. In case of doubt it is better to err on the side of conservatism and refuse permission to play. On the other hand, it is unfair to deprive a person of the pleasure of athletics and possibly develop a cardiac neurosis because of some inconsequential finding.

7. Convalescent cardiac hospitals where patients with rheumatic fever are treated in a manner similar to that followed in pulmonary tuberculosis have never been developed on a sufficient scale to determine their value. It is estimated that there should be 6 to 8 beds per 100,000 population devoted to this purpose. Few cities have any facilities for the care of these patients. These hospitals are so crowded with far advanced cases of rheumatic heart disease requiring domiciliary care that few beds are devoted to children convalescing from rheumatic fever with little or no evidence of heart disease. Aside from the humanitarian aspects, these institutions almost invariably serve as research and teaching centers and should be encouraged for this reason.

8. During the past few years much has been written about sending rheumatic fever patients to warm climates. While this is helpful in limited cases, it does not appear practicable on a large scale. Care should be exercised in selecting the locality, providing proper medical care, and determining in advance that these patients will not become a burden on the Southern States. One should be prepared to maintain the patient there for a long period, preferably several years.

9. It is a mistake to consider rheumatic cardiac patients in the same category as those afflicted with disabilities of locomotion. The motor cripple, with the exception of the patient with bone and joint tuberculosis, usually represents an end result. In fact, varying degrees of return of function can be expected. On the other hand, the rheumatic cardiac subject is liable to reactivation resulting in further cardiac damage.

10. The management of rheumatic infection depends largely upon the recognition of activity outlined in section 1. Patients should be kept in bed for some time after all evidences of activity

have subsided. When the patient is underweight, efforts should be made to correct it by a suitable diet. This should be well-balanced from the standpoints of protein, fat, and carbohydrate intake and the accessory vitamins. Secondary anemia is a prominent symptom in many cases and must be treated with iron and in some cases by blood transfusions. The patient's mode of living has to be regulated to fit the cardiac reserve. Salicylates are of value in controlling the arthritic manifestations but have little effect on cardiac involvement. When congestive failure supervenes, it must be treated by appropriate measures.

11. In view of the high incidence of this disease among the lower economic groups, especially in large cities, it is doubtful whether much can be accomplished without a betterment of living conditions. It is confidently felt that better housing, the provision of proper food and clothing, adequate medical care, and other measures to promote child welfare will be reflected in a lower incidence of this disease.

#### ACKNOWLEDGMENT

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## CONTROL OF CHROMIC ACID MISTS FROM PLATING TANKS<sup>1</sup>

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Since the investigation of the health hazards in chromium plating by Bloomfield and Blum (1) in 1928, chromium plating has been widely used in industry where a brilliant luster and a hard corrosion-resisting surface are desired. In almost every case a cross-draft ventilation system has been utilized to remove the mists and fumes, but few data regarding the effectiveness of this type of exhaust are available. By measuring the air velocity and sampling the air in a chromium plating shop, an attempt has been made here to evaluate the control with reference to the standards recommended in 1928 (1).

Three instruments were used to measure the velocity at the face of the exhaust hood. The kata thermometer and anemometer were used to check the newer and more convenient Alnor velometer. An additional check was obtained by measuring the static suction on the hood.

Air samples were collected by the modified Greenburg-Smith impinger (2) at the rate of 1 cubic foot per minute. A 5 percent solution of sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) was used as a collecting medium.

Where low concentrations were encountered, samples were taken for several hours, while much shorter sampling periods sufficed for heavy concentrations such as were encountered when no local exhaust was used. In every case the impinger flask was attached directly over the edge of the tank so that the air intake was about 1 foot above the side of the tank and  $1\frac{1}{2}$  feet above the solution in the plating tank. When a man is working over the plating tank he breathes air from about this level and should be subjected to the concentrations obtained by this sampling technique.

Two samples were collected simultaneously, the suction being produced by two Hancock air ejectors operated by compressed air at 50 to 60 pounds per square inch. The flow was regulated by orifices calibrated to give 1 cubic foot per minute.

The amount of chromic acid in these samples was determined by the iodometric method (1). The samples were acidified with sulphuric acid, potassium iodide was added, and then the samples were titrated with 0.01 N sodium thiosulphate, using starch as an indicator.

Table 1 summarizes the results obtained. All tests were made using current densities of 150 to 200 amperes per square foot of surface area.

Although adequate control was maintained when velocities of about 1,500 and 2,000 feet per minute were created at the face of the

<sup>1</sup> From Laboratory of Industrial Hygiene, U. S. Public Health Service.



hood, when the velocity was reduced to about one-third the control was unsatisfactory. With no exhaust the general atmosphere becomes polluted even in a large shop with good general ventilation. In this case, the concentrations to which the operator would be exposed are decidedly unpleasant and may produce irritation (1).

With adequate exhaust ventilation there is little difference between the operator's exposure and the general atmosphere, whereas the operator is exposed to greater pollution when no local exhaust is utilized.

For control purposes the velocity at the point of generation of the mist or fumes is the most important single factor. Using the equation  $Q=100L \times W$ , where  $Q$ =capacity in cubic feet per minute,  $L$ =length of tank in feet, and  $W$ =width of tank in feet, the capacity of the exhaust system may be roughly computed (3).

Since the mist originates at the cathode and anode, which are usually at a distance from the face of the hood, the quantity ( $Q$ ) seems a better criterion than the face velocity. A value of  $Q=50 L \times W$  is suggested for each hood, since in good practice there are usually two hoods, one on each of the long sides of the tank. The use of the equation given checks with values found in systems known to operate successfully.

#### SUMMARY

In large rooms with good general ventilation alone, the atmosphere near chromium plating tanks may contain concentrations of chromic acid greater than 1 milligram per 10 cubic meters, which has been taken as the safe limit (1). With a cross-draft local-exhaust system it is possible to keep the concentration down to less than this limit.

#### RECOMMENDATIONS

For the standard type of plating tank, a cross-draft exhaust system satisfying the equation  $Q=100 L \times W$  has been found adequate.

Previous recommendations suggested by Bloomfield and Blum (1) have been confirmed and are again emphasized.

TABLE 1.—Summary of results

Concentration of CrO <sub>3</sub> , mg per 10 cubic meters	Number of samples	Size of tanks L×W (feet)	Local exhaust ventilation, cubic feet per minute	Cubic feet per minute per foot of slot	Approximate velocity at face of hood	Remarks
0.33.....	1	5×5	2,500.....	250	2,000	Exhaust on 2 sides.
0.34.....	2	20×4	9,000.....	225	1,800	Exhaust on 2 long sides.
11.2.....	2	20×4	3,000.....	75	600	Do.
36.8.....	2	20×4	None.....	.....	.....	General ventilation good.
26.0.....	1	20×4	.....do.....	.....	.....	Strong breeze outside causing exceptionally good general ventilation.
27.8.....	1	5×5	.....do.....	.....	.....	General air near tanks.
0.26.....	1	.....	On full.....	.....	.....	General air near tanks.
6.82.....	1	.....	None.....	.....	.....	General air near tanks. Natural ventilation good.

## REFERENCES

- (1) Bloomfield, J. J., and Blum, William: Health hazards in chromium plating. *Pub. Health Rep.*, 43: 2330 (Sept. 7, 1928). Reprint No. 1245.
- (2) Hatch, T., Warren, H., and Drinker, P.: Modified form of the Greenburg-Smith impinger for field use, with a study of its operating characteristics. *J. Ind. Hyg.*, 14:301-311 (October 1932).
- (3) Bloomfield, J. J., and Dalla Valle, J. M.: The determination and control of industrial dust. *Pub. Health Bull. No. 217*, U. S. Public Health Service. Gov't Printing Office, 1935.

## FIVE HUNDRED CASES OF SCARLET FEVER CAUSED BY USE OF RAW MILK FROM INFECTED COW—A CORRECTION

In the report of the epidemic of scarlet fever caused by the use of raw milk from an infected cow, published in the *PUBLIC HEALTH REPORTS* for January 22, 1937, page 113, the outbreak was stated to have occurred in Oswego, N. Y. This was an error; it occurred in Owego, Tioga County.

## DEATHS DURING WEEK ENDED JANUARY 16, 1937

(From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended Jan. 16, 1937	Corresponding week, 1936
<b>Data from 86 large cities of the United States:</b>		
Total deaths.....	11, 152	9, 440
Average for 3 prior years.....	9, 787	-----
Total deaths, first 2 weeks of year.....	22, 555	19, 591
Deaths under 1 year of age.....	642	569
Average for 3 prior years.....	631	-----
Deaths under 1 year of age, first 2 weeks of year.....	1, 361	1, 183
<b>Data from industrial insurance companies:</b>		
Policies in force.....	69, 211, 701	67, 939, 756
Number of death claims.....	15, 652	14, 700
Death claims per 1,000 policies in force, annual rate.....	11. 8	11. 3
Death claims per 1,000 policies, 2 weeks of year, annual rate.....	11. 3	10. 9

## MORTALITY SUMMARY FOR LARGE CITIES, 1936

Number of deaths, death rates, and infant mortality for a group of 86 large cities in the United States for the 53-week period Dec. 30, 1935, to Jan. 2, 1937, and comparison with 1935

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

City	Provisional mortality figures for year 1936				Final mortality figures for calendar year 1935			
	Total deaths <sup>1</sup>	Death rate (per 1,000 estimated population) <sup>2</sup>	Deaths under 1 year <sup>1</sup>	Infant mortality rate <sup>3</sup>	Total deaths	Death rate (per 1,000 estimated population)	Deaths under 1 year	Infant mortality rate <sup>3</sup>
Total (86 cities).....	458, 754	12.8	29, 424	51	427, 736	11.4	31, 229	54
Akron.....	2, 241	8.4	190	47	2, 207	8.2	196	48
Albany.....	1, 970	15.0	131	54	2, 016	15.3	109	47
Atlanta.....	4, 910	17.1	427	76	4, 340	15.0	408	74
Baltimore.....	11, 684	14.2	898	67	11, 149	13.5	774	66
Birmingham.....	8, 859	13.6	396	83	8, 348	11.8	316	64
Boston.....	11, 670	14.8	824	53	11, 469	14.5	814	51
Bridgeport.....	1, 720	11.7	100	39	1, 581	10.7	78	30
Buffalo.....	7, 760	13.1	478	49	7, 187	12.1	524	52
Cambridge.....	1, 458	12.8	103	49	1, 426	12.4	127	57
Camden.....	1, 652	13.9	155	51	1, 591	13.3	170	58
Canton.....	1, 173	10.7	112	52	1, 200	10.9	98	53
Chicago.....	38, 610	10.8	1, 889	40	35, 431	9.9	1, 994	40
Cincinnati.....	7, 506	16.2	480	61	7, 105	15.2	468	61
Cleveland.....	10, 770	11.6	598	42	9, 966	10.7	640	44
Columbus.....	4, 784	15.8	290	59	4, 406	14.5	267	55
Dallas.....	3, 689	12.7	365	72	3, 148	10.8	373	73
Dayton.....	2, 909	13.9	205	52	2, 656	12.6	159	47
Denver.....	4, 653	15.7	320	63	4, 369	14.7	334	60
Des Moines.....	1, 826	12.4	86	29	1, 916	13.0	125	43
Detroit.....	15, 031	8.4	1, 398	53	13, 644	7.6	1, 173	45
Duluth.....	1, 206	11.8	56	32	1, 157	11.3	48	29
El Paso.....	1, 433	13.2	218	83	1, 455	13.3	282	104
Erie.....	1, 542	12.8	79	34	1, 280	10.6	86	41
Evansville.....	1, 642	15.3	110	64	1, 269	11.8	92	58
Fall River <sup>4</sup> .....	1, 639	14.3	87	45	1, 460	12.7	114	57
Flint.....	1, 438	8.2	208	57	1, 389	7.9	175	51
Fort Wayne.....	1, 338	10.9	72	35	1, 298	10.5	69	38
Fort Worth.....	2, 200	12.7	172	61	1, 913	11.0	176	64
Grand Rapids.....	1, 756	10.0	117	45	1, 756	9.9	153	57
Hartford.....	2, 213	12.9	153	66	2, 252	13.1	172	47
Houston.....	4, 333	12.8	350	68	3, 763	11.1	325	58
Indianapolis.....	5, 843	15.5	378	65	5, 293	14.0	390	66
Jersey City.....	3, 622	11.3	238	36	3, 490	10.8	273	41
Kansas City, Kans.....	1, 937	15.6	146	80	1, 676	13.4	127	52
Kansas City, Mo.....	5, 745	13.6	320	55	5, 032	11.9	334	58
Knoxville.....	1, 555	13.6	193	82	1, 420	12.4	154	72
Long Beach.....	1, 636	9.7	87	36	1, 524	9.0	83	38
Los Angeles.....	17, 001	11.8	994	57	16, 112	11.1	892	53
Louisville.....	4, 165	13.5	237	46	4, 483	14.5	269	54
Lowell <sup>4</sup> .....	1, 393	14.0	88	73	1, 316	13.1	115	68
Lynn.....	1, 070	10.4	30	23	1, 013	9.8	100	71
Memphis.....	4, 817	18.0	452	92	4, 403	16.4	418	90
Miami.....	1, 672	15.2	106	50	1, 544	14.0	121	63
Milwaukee.....	5, 480	9.0	431	45	5, 067	8.3	414	46
Minneapolis.....	5, 830	12.0	301	39	5, 121	10.5	316	43
Nashville.....	3, 025	19.2	259	69	2, 733	17.3	252	76
New Bedford <sup>4</sup> .....	1, 339	12.0	107	62	1, 267	11.3	97	56
New Haven.....	2, 191	13.5	66	31	2, 170	13.3	125	41
New Orleans.....	8, 906	18.6	833	93	7, 924	16.5	691	77
New York.....	78, 803	10.8	4, 545	46	75, 060	10.2	4, 807	48
Bronx Borough.....	12, 220	8.6	641	42	11, 429	8.0	718	45
Brooklyn Borough.....	26, 520	9.8	1, 691	43	25, 798	9.4	1, 818	45
Manhattan Borough.....	28, 501	16.5	1, 697	54	27, 539	15.9	1, 683	53
Queens Borough.....	9, 141	7.2	431	41	8, 039	6.4	480	46
Richmond Borough.....	2, 421	14.2	85	37	2, 225	13.0	108	45
Newark, N. J.....	5, 158	11.5	319	44	4, 792	10.6	389	51
Oakland.....	3, 661	12.0	188	45	3, 529	11.5	171	42
Oklahoma City.....	2, 471	11.5	169	44	2, 254	10.5	242	64
Omaha.....	3, 203	14.6	223	53	2, 878	13.0	181	42
Paterson.....	1, 782	12.9	114	44	1, 684	12.1	105	42
Peoria.....	1, 610	14.2	143	60	1, 417	12.4	104	54

See footnotes at end of table.

Number of deaths, death rates, and infant mortality for a group of 88 large cities in the United States for the 53-week period Dec. 30, 1935, to Jan. 2, 1937, and comparison with 1935—Continued

City	Provisional mortality figures for year 1936				Final mortality figures for calendar year 1935			
	Total deaths <sup>1</sup>	Death rate (per 1,000 estimated population) <sup>2</sup>	Deaths under 1 year <sup>3</sup>	Infant mortality rate <sup>4</sup>	Total deaths	Death rate (per 1,000 estimated population)	Deaths under 1 year	Infant mortality rate <sup>5</sup>
Philadelphia.....	25,489	12.8	1,411	47	24,118	12.1	1,453	49
Pittsburgh.....	9,146	13.4	636	51	8,404	12.3	614	50
Portland, Oreg.....	4,270	13.6	166	38	4,020	12.7	142	34
Providence.....	3,340	13.0	200	40	3,166	12.3	213	41
Richmond.....	3,281	17.7	236	77	2,941	15.8	240	79
Rochester.....	4,080	12.1	198	40	3,640	10.8	229	46
St. Louis.....	12,549	15.1	422	34	10,533	12.6	666	52
St. Paul.....	3,235	11.5	149	30	3,113	11.0	177	37
Salt Lake City.....	1,802	12.3	144	41	1,906	12.3	174	50
San Antonio.....	3,772	15.6	623	108	3,251	13.4	532	96
San Diego.....	2,489	14.7	141	46	2,281	13.4	111	39
San Francisco.....	9,162	13.6	291	41	8,502	12.6	252	35
Schenectady.....	1,051	10.9	64	46	1,068	11.2	66	46
Seattle.....	4,979	13.1	173	35	4,623	12.1	208	41
Somerville.....	983	9.2	45	38	862	8.6	42	35
South Bend.....	917	8.1	62	40	991	8.7	100	63
Spokane.....	1,684	14.4	125	57	1,721	14.6	112	54
Springfield, Mass.....	1,891	12.2	129	54	1,747	11.2	134	52
Syracuse.....	2,494	11.4	163	45	2,428	11.1	168	47
Tacoma.....	1,614	14.8	71	39	1,436	13.1	66	36
Tampa.....	1,326	12.0	80	50	1,283	11.6	94	57
Toledo.....	3,888	12.8	220	47	3,591	11.8	241	54
Trenton.....	1,936	15.6	133	55	1,768	14.2	127	54
Utica.....	1,427	13.9	86	45	1,531	14.8	91	51
Washington, D. C.....	9,217	18.7	848	72	8,483	17.1	642	59
Waterbury.....	899	8.8	74	54	1,061	10.4	67	37
Wilmington, Del. <sup>6</sup>	1,514	14.3	108	51	1,484	13.9	133	59
Worcester.....	2,699	13.5	171	51	2,508	12.5	160	48
Yonkers.....	1,201	8.3	82	48	1,111	7.6	61	35
Youngstown.....	1,931	10.9	130	43	1,841	10.4	117	42

<sup>1</sup> Based upon telegraphic reports received each week from city health officers.

<sup>2</sup> Rates on the basis of a calendar year.

<sup>3</sup> The infant mortality rate is the number of deaths under 1 year of age per 1,000 live births.

<sup>4</sup> Provisional rate is computed from deaths under 1 year as reported each week and estimated live births for 1936.

<sup>5</sup> Mortality rates based upon population Apr. 1, 1930, decreased 1920 to 1930; no estimate made.

# PREVALENCE OF DISEASE

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended January 22, 1937, and January 25, 1936

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Jan. 23, 1937, and Jan. 25, 1936*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936
<b>New England States:</b>								
Maine.....	2	1	204	40	96	195	1	0
New Hampshire.....	1	3	3		22	31	0	0
Vermont.....					5	121	0	0
Massachusetts.....	3	8			1,074	344	1	4
Rhode Island.....	1		4		188	120	0	0
Connecticut.....	3	2	1,152	18	307	87	0	3
<b>Middle Atlantic States:</b>								
New York.....	43	50	1,432	121	280	916	17	22
New Jersey.....	8	14	356	11	467	33	5	3
Pennsylvania.....	61	41			90	518	6	6
<b>East North Central States:</b>								
Ohio.....	41	27	115	7	39	60	6	9
Indiana.....	20	30	307	47	8	165	3	4
Illinois.....	23	48	486	22	26	47	8	12
Michigan.....	23	11	139	4	50	52	5	6
Wisconsin.....	3	1	2,462	53	24	74	1	5
<b>West North Central States:</b>								
Minnesota.....		4	11		25	104	0	3
Iowa.....	5	17	1,564	7	3	5	0	2
Missouri.....	15	31	1,624	214	3	21	0	2
North Dakota.....	1	8	460	16	1	4	1	0
South Dakota.....		9	266		2	14	2	0
Nebraska.....		9	94		3	56	0	0
Kansas.....	7	17	4,988	25	3	41	0	1
<b>South Atlantic States:</b>								
Delaware.....	1		32		138	113	0	0
Maryland <sup>1</sup> .....	7	7	416	15	253	137	7	9
District of Columbia.....	9	31	143	4	31	9	4	3
Virginia.....	25	44			188	34	7	2
West Virginia.....	6	20	900	51	17	4	6	1
North Carolina <sup>2</sup> .....	29	31	62	11	59	21	1	6
South Carolina <sup>3</sup> .....	13	3	861	391	9	3	5	1
Georgia <sup>4</sup> .....	11	18	470	193			4	0
Florida.....	8	5	50	1	6	3	10	0
<b>East South Central States:</b>								
Kentucky <sup>5</sup> .....		15		33		5		8
Tennessee.....	20	24	746	122	15	25	6	9
Alabama <sup>6</sup> .....	14	23	399	302	2	19	1	2
Mississippi <sup>7</sup> .....		9						1

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Jan. 23, 1937, and Jan. 25, 1936—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936
<b>West South Central States:</b>								
Arkansas.....	3	13	651	94		2	1	5
Louisiana.....	27	19	193	6	4	56	5	0
Oklahoma.....	4	10	485	183	3		6	3
Texas.....	67	64	2,421	347	442	53	5	23
<b>Mountain States:</b>								
Montana.....		6	2,706	57	3	54	0	0
Idaho.....		1	843	2	71	90	0	0
Wyoming.....					1	1	0	1
Colorado.....	3	9			3	8	0	1
New Mexico.....		3	331	3	32	4	1	0
Arizona.....	7	3	747	92	172		2	0
Utah.....	1		70		16	2	0	0
<b>Pacific States:</b>								
Washington.....	3		226		29	193	1	1
Oregon.....		3	2,324	16	14	674	0	3
California.....	42	44	6,210	129	82	987	1	3
<b>Total</b> .....	<b>564</b>	<b>735</b>	<b>35,953</b>	<b>2,547</b>	<b>4,306</b>	<b>5,506</b>	<b>130</b>	<b>167</b>
<b>First 3 weeks of year</b> .....	<b>1,917</b>	<b>2,301</b>	<b>71,368</b>	<b>8,115</b>	<b>12,549</b>	<b>15,592</b>	<b>431</b>	<b>538</b>

Division and State	Polioomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936
<b>New England States:</b>								
Maine.....	0	0	18	23	0	0	21	0
New Hampshire.....	0	0	4	18	0	0	0	0
Vermont.....	0	0	1	11	0	0	0	0
Massachusetts.....	1	1	235	290	0	0	0	1
Rhode Island.....	0	0	43	18	0	0	0	1
Connecticut.....	0	0	99	63	0	0	3	0
<b>Middle Atlantic States:</b>								
New York.....	1	1	783	899	13	0	5	3
New Jersey.....	0	0	131	243	0	0	0	3
Pennsylvania.....	0	1	641	620	0	0	6	4
<b>East North Central States:</b>								
Ohio.....	2	0	299	307	3	3	2	0
Indiana.....	0	0	194	301	4	0	1	0
Illinois.....	1	0	496	594	26	17	8	11
Michigan.....	0	0	659	316	0	0	2	7
Wisconsin.....	0	0	339	598	15	33	1	2
<b>West North Central States:</b>								
Minnesota.....	3	0	141	353	9	15	0	6
Iowa.....	0	0	168	203	12	20	1	0
Missouri.....	0	1	206	210	75	3	1	4
North Dakota.....	0	0	21	79	15	7	0	0
South Dakota.....	0	0	87	71	0	9	0	0
Nebraska.....	0	0	67	163	13	23	0	6
Kansas.....	0	1	256	213	26	9	0	0
<b>South Atlantic States:</b>								
Delaware.....	0	0	4	14	0	0	0	1
Maryland.....	0	0	72	94	0	0	3	2
District of Columbia.....	0	0	18	19	0	0	1	0
Virginia.....	0	0	26	54	0	0	7	7
West Virginia.....	1	0	56	36	0	2	1	4
North Carolina.....	1	2	35	50	0	0	1	5
South Carolina.....	1	0	7	10	0	0	1	1
Georgia.....	3	1	36	29	0	1	7	1
Florida.....	0	0	5	13	0	0	0	1

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Jan. 23, 1937, and Jan. 25, 1936—Continued

Division and State	Pollomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936	Week ended Jan. 23, 1937	Week ended Jan. 25, 1936
<b>East South Central States:</b>								
Kentucky <sup>1</sup> .....		0		67		0		4
Tennessee.....	1	0	30	43	0	0	4	2
Alabama <sup>2</sup> .....	1	3	9	13	0	0	3	3
Mississippi <sup>3,4</sup> .....	0	0	9	11	1	0	1	0
<b>West South Central States:</b>								
Arkansas.....	1	0	11	6	0	0	3	1
Louisiana.....	2	1	15	31	0	0	5	1
Oklahoma <sup>5</sup> .....	2	0	25	48	0	1	1	1
Texas <sup>1</sup> .....	0	0	107	110	1	1	11	5
<b>Mountain States:</b>								
Montana.....	0	0	66	180	12	10	0	1
Idaho.....	0	0	24	60	8	3	0	0
Wyoming.....	0	0	8	79	17	0	0	0
Colorado.....	0	0	19	174	1	4	0	1
New Mexico.....	0	0	23	41	0	0	3	2
Arizona.....	0	0	24	47	0	0	0	0
Utah <sup>1</sup> .....	0	0	31	91	0	0	0	1
<b>Pacific States:</b>								
Washington.....	1	0	45	74	4	15	0	0
Oregon.....	1	0	29	77	5	4	0	0
California.....	1	1	270	349	10	0	5	4
<b>Total</b> .....	<b>24</b>	<b>13</b>	<b>5,819</b>	<b>7,411</b>	<b>278</b>	<b>185</b>	<b>113</b>	<b>101</b>
<b>First 3 weeks of year</b> .....	<b>72</b>	<b>58</b>	<b>17,256</b>	<b>22,217</b>	<b>369</b>	<b>701</b>	<b>389</b>	<b>335</b>

<sup>1</sup> New York City only.

<sup>2</sup> Week ended earlier than Saturday.

<sup>3</sup> Typhus fever, week ended Jan. 23, 1937, 36 cases, as follows: North Carolina, 1; South Carolina, 4; Georgia, 16; Alabama, 4; Mississippi, 1; Texas, 10.

<sup>4</sup> Report for week ended Jan. 23, 1937, not received.

<sup>5</sup> Exclusive of Oklahoma City and Tulsa.

### 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	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Mea- sles	Pol- lagra	Pollo- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>November 1936</i>										
Hawaii Territory.....		8	506		390		1	1	0	1
Missouri.....	14	132	273	28	18		22	431	22	35
<i>December 1936</i>										
California.....	24	269	377	5	140	7	32	1,350	26	56
Georgia.....	12	123	522	359	7	17	12	164	3	26
Hawaii Territory.....	1	15	18		1,153		0	0	0	7
Iowa.....	8	14	70		12		2	441	50	9
Louisiana.....	4	82	60	40	20	2	4	62	1	28
Maryland.....	15	61	75		544		2	324	0	19
Michigan.....	11	98	20	5	137		7	1,752	1	39
Minnesota.....	5	57	5		107		1	616	38	13
Mississippi.....	7	46	6,044	1,784	410	155	5	63	1	10
Missouri.....	8	169	316	4	26		6	602	43	44
Nebraska.....	2	17			8		1	194	12	2
Nevada.....	3		33		8		0	34	0	0
New Mexico.....	1	15	19	1	184	2	3	85	0	34
New York.....	25	129		11	1,507		3	2,251	110	36
Ohio.....	32	169	119	5	87		16	1,293	17	29
Oklahoma <sup>1</sup> .....	12	41	348	26	29		11	94	3	19
Rhode Island.....	3	3			563		0	168	0	3
Vermont.....		1	21		4		0	23	0	1

<sup>1</sup> Exclusive of Oklahoma City and Tulsa.





## Summary of monthly reports from States—Continued

December 1936—Continued		December 1936—Continued		December 1936—Continued	
Whooping cough:	Cases	Whooping cough—Con.	Cases	Whooping cough—Con.	Cases
California	1, 208	Michigan	1, 308	New Mexico	39
Georgia	28	Minnesota	206	New York	1, 408
Hawaii Territory	8	Mississippi	235	Ohio	1, 041
Iowa	85	Missouri	229	Oklahoma <sup>1</sup>	3
Louisiana	3	Nebraska	19	Rhode Island	84
Maryland	582	Nevada	1	Vermont	88

<sup>1</sup> Exclusive of Oklahoma City and Tulsa.<sup>2</sup> Exclusive of New York City.

## WEEKLY REPORTS FROM CITIES

City reports for week ended Jan. 16, 1937

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. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diphtheria cases		Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
	Cases	Deaths	Cases	Deaths								
<b>Maine:</b>												
Portland	0	2	0	0	5	6	1	0	0	0	2	84
<b>New Hampshire:</b>												
Concord	0	0	0	0	0	2	0	0	0	0	0	10
Manchester	0	0	1	0	0	2	8	0	0	0	0	6
Nashua	0	0	0	0	0	0	0	0	0	0	0	0
<b>Vermont:</b>												
Barre	0	0	1	1	0	0	0	0	0	0	2	8
Burlington	0	0	0	0	0	0	0	0	0	0	2	6
Rutland	0	0	0	0	1	0	0	0	0	0	0	8
<b>Massachusetts:</b>												
Boston	3	0	1	9	40	74	0	12	1	208	283	
Fall River	0	0	1	3	5	4	0	3	0	0	0	31
Springfield	0	0	0	34	5	8	0	2	0	10	40	
Worcester	0	0	0	88	23	3	0	3	0	41	73	
<b>Rhode Island:</b>												
Pawtucket	0	0	0	0	0	2	0	0	0	0	0	25
Providence	1	0	0	53	13	32	0	2	0	29	88	
<b>Connecticut:</b>												
Bridgeport	1	63	2	71	7	15	0	2	0	3	39	
Hartford	0	95	0	0	7	18	0	1	0	2	30	
New Haven	0	202	0	5	4	6	0	0	0	0	45	
<b>New York:</b>												
Buffalo	0	38	4	40	26	20	0	0	0	19	154	
New York	45	926	60	54	394	290	0	92	4	66	2, 121	
Rochester	1	6	0	2	8	6	0	3	0	16	53	
Syracuse	0	0	0	10	8	26	0	0	1	20	66	
<b>New Jersey:</b>												
Camden	3	19	5	0	3	2	0	0	1	1	43	
Newark	0	102	2	163	23	16	0	8	0	24	146	
Trenton	6	1	0	0	3	2	0	6	0	2	37	
<b>Pennsylvania:</b>												
Philadelphia	6	75	15	14	40	186	0	27	2	131	541	
Pittsburgh	6	107	26	4	59	51	0	9	0	40	271	
Reading	0	0	1	2	6	3	0	0	0	39	37	
Scranton	2	0	0	0	0	17	0	0	0	2	0	
<b>Ohio:</b>												
Cincinnati	2	78	14	1	46	22	0	10	0	16	217	
Cleveland	0	210	5	2	28	74	0	9	0	61	230	
Columbus	2	6	6	2	14	9	1	0	0	6	91	
Toledo	1	8	5	1	14	23	0	5	0	34	96	
<b>Indiana:</b>												
Anderson	0	0	2	3	2	8	0	0	0	0	19	
Fort Wayne	0	0	0	1	8	3	0	3	0	0	33	
Indianapolis	7	0	11	8	38	29	0	5	0	10	142	
Muncie	0	0	0	1	0	0	1	0	0	0	14	
South Bend	0	0	0	0	6	4	0	1	0	13	20	
Terre Haute	0	0	0	0	0	4	0	0	0	0	23	
<b>Illinois:</b>												
Alton	0	0	0	0	6	3	0	0	0	0	17	
Chicago	8	124	23	7	71	207	0	38	1	60	813	
Elgin	0	0	0	0	3	0	0	0	0	8	11	
Moline	1	22	1	0	2	0	0	0	0	2	17	
Springfield	2	0	1	0	5	5	0	0	0	4	29	

City reports for week ended Jan. 16, 1937—Continued

State and city	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes	
	Cases	Deaths									
<b>Michigan:</b>											
Detroit.....	16	120	23	6	67	337	0	20	2	66	407
Flint.....	1		1	0	6	28	0	4	0	9	80
Grand Rapids.....	0	8	0	2	5	16	0	0	0	19	82
<b>Wisconsin:</b>											
Kenosha.....	0	12	0	0	1	10	0	0	0	2	12
Madison.....	0		0	2	0	6	0	0	0	5	12
Milwaukee.....	0	11	10	3	26	33	0	3	0	22	150
Racine.....	0	1	1	0	1	5	0	1	0	1	18
Superior.....	2		0	0	1	10	0	0	0	8	5
<b>Minnesota:</b>											
Duluth.....	0		0	0	3	11	0	0	0	0	28
Minneapolis.....	4	13	14	3	34	25	0	2	0	10	186
St. Paul.....	0	7	7	4	21	18	0	1	0	27	96
<b>Iowa:</b>											
Cedar Rapids.....	0			0		4	0		0	0	
Davenport.....	0			0		1	0		0	0	
Des Moines.....	0	448		0		9	0		0	0	47
Sioux City.....	0	584		0		17	2		0	0	
Waterloo.....	1			1		3	0		0	16	
<b>Missouri:</b>											
Kansas City.....	2	26	5	0	23	33	0	3	0	3	128
St. Joseph.....	2		0	1	4	3	34	0	0	1	30
St. Louis.....	8	23	15	3	47	82	2	14	0	31	334
<b>North Dakota:</b>											
Fargo.....	0		2	0	5	0	0	0	0	0	17
Grand Forks.....	0			0		0	0	0	0	0	
Minot.....	0		0	0	0	0	0	0	0	0	5
<b>South Dakota:</b>											
Aberdeen.....	0			0		5	0		0	0	
Sioux Falls.....	0		0	0	0	0	0	0	0	0	6
<b>Nebraska:</b>											
Omaha.....	0		4	2	28	16	0	0	0	0	100
<b>Kansas:</b>											
Lawrence.....	0	30	0	0	3	0	0	0	0	0	10
Topeka.....	0		2	0	4	5	0	0	0	0	20
Wichita.....	2		0	0	5	10	1	0	0	2	38
<b>Delaware:</b>											
Wilmington.....	3		0	87	5	1	0	0	0	0	36
<b>Maryland:</b>											
Baltimore.....	1	107	5	248	27	31	0	12	1	128	269
Cumberland.....	0	1	0	0	4	1	0	0	0	5	11
Frederick.....	0		0	0	1	1	0	0	0	0	3
<b>District of Columbia:</b>											
Washington.....	19	107	6	23	27	22	0	13	1	15	217
<b>Virginia:</b>											
Lynchburg.....	2		0	2	6	1	0	0	0	3	25
Norfolk.....	2	59	0	1	6	1	0	1	0	0	25
Richmond.....	1		3	0	12	6	0	0	0	1	62
Roanoke.....	0		0	4	4	3	0	0	0	0	21
<b>West Virginia:</b>											
Charleston.....	0	11	0	0	11	1	0	1	0	0	45
Wheeling.....	0		0	1	3	3	0	0	0	0	18
<b>North Carolina:</b>											
Gastonia.....	0		0	0	0	1	0	0	0	1	1
Raleigh.....	0		0	0	4	2	0	2	0	0	17
Wilmington.....	2		0	0	3	0	0	0	0	0	15
Winston-Salem.....	0	7	0	0	1	3	0	1	0	0	11
<b>South Carolina:</b>											
Charleston.....	3	63	0	0	9	7	0	1	0	0	29
Columbia.....											
Florence.....	0		0	0	2	0	0	1	0	0	15
Greenville.....	1		0	0	5	0	0	0	0	0	15
<b>Georgia:</b>											
Atlanta.....	0	38	4	0	19	0	0	2	0	0	96
Brunswick.....	0		0	0	0	0	0	0	0	3	8
Savannah.....	0	27	1	3	3	1	0	2	0	1	24
<b>Florida:</b>											
Miami.....	3	7	1	0	1	1	0	1	0	1	41
Tampa.....	2		0	0	2	2	0	2	0	1	35

## City reports for week ended Jan. 16, 1937—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
<b>Kentucky:</b>											
Ashland.....	0			0	2	0	0	1	0	0	13
Covington.....	0	23	1	0	10	1	0	0	0	0	
Lexington.....	0	5	0	5	6	0	0	1	0	0	21
<b>Tennessee:</b>											
Knoxville.....	2	363	1	0	5	1	0	2	0	0	29
Memphis.....	4	0	0	3	9	4	0	2	1	32	98
Nashville.....	0		3	1	8	1	0	1	0	0	57
<b>Alabama:</b>											
Birmingham.....	4	38	1	1	8	1	0	4	0	3	72
Mobile.....	3		1	0	1	2	0	1	0	0	27
Montgomery.....	0			0		2	0		1	0	
<b>Arkansas:</b>											
Fort Smith.....	0			0		1	0		0	0	
Little Rock.....	1	3	2	0	3	3	0	1	0	0	7
<b>Louisiana:</b>											
Lake Charles.....	0	5	0	0	0	0	0	0	0	0	2
New Orleans.....	5	12	0	1	22	0	0	16	1	0	164
Shreveport.....	1		0	1	7	0	0	1	1	1	34
<b>Oklahoma:</b>											
Muskogee.....	0			0		2	0		0	0	
Oklahoma City.....	0	14	0	8	10	3	0	2	0	1	49
Tulsa.....	2			1		4	0		0	0	
<b>Texas:</b>											
Dallas.....	3	16	4	1	10	9	0	2	1	9	77
Fort Worth.....	5		0	53	11	4	0	0	0	0	50
Galveston.....	0		0	2	1	0	0	2	0	0	14
Houston.....	8		1	0	12	3	0	4	0	3	88
San Antonio.....	1		6	1	11	3	0	7	1	0	79
<b>Montana:</b>											
Billings.....	0	9	1	0	7	0	0	0	0	2	16
Great Falls.....	0		2	0	1	1	0	0	0	0	10
Helena.....	0		0	0	0	5	0	0	0	0	3
Missoula.....	0	458	0	0	1	0	0	0	0	0	7
<b>Idaho:</b>											
Boise.....	0		0	0	2	2	0	1	0	0	14
<b>Colorado:</b>											
<b>C o l o r a d o</b>											
Springs.....	0		1	2	5	8	0	1	0	1	18
Denver.....	1		49	4	33	12	0	4	0	43	200
Pueblo.....	0	5	0	0	8	2	0	0	0	1	
<b>New Mexico:</b>											
Albuquerque.....	0	14	0	0	6	3	0	4	0	2	19
<b>Utah:</b>											
Salt Lake City.....	0		2	11	0	15	0	0	0	6	43
<b>Nevada:</b>											
Reno.....											
<b>Washington:</b>											
Seattle.....	0		4	12	10	1	0	6	0	6	129
Spokane.....											
Tacoma.....	0		0	0	5	2	0	0	0	1	30
<b>Oregon:</b>											
Portland.....	0	160	2	1	12	13	0	3	0	10	101
Salem.....	0	24		0		1	0		0	3	
<b>California:</b>											
Los Angeles.....	0	5	0	2	11	21	0	1	0	1	44
Sacramento.....											
San Francisco.....	3	316	7	4	23	20	0	9	0	24	248

City reports for week ended Jan. 16, 1937—Continued

State and city	Meningococcus meningitis		Polio- mye- litis cases	State and city	Meningococcus meningitis		Polio- mye- litis cases
	Cases	Deaths			Cases	Deaths	
New Hampshire:				District of Columbia:			
Manchester.....	0	1	0	Washington.....	2	1	0
Massachusetts:				West Virginia:			
Boston.....	2	1	0	Wheeling.....	0	0	1
Worcester.....	1	1	0	South Carolina:			
New York:				Greenville.....	1	0	0
New York.....	17	3	0	Florida:			
New Jersey:				Miami.....	1	1	0
Newark.....	0	2	0	Kentucky:			
Pennsylvania:				Ashland.....	0	1	0
Philadelphia.....	2	3	0	Alabama:			
Pittsburgh.....	2	0	0	Birmingham.....	4	0	0
Ohio:				Arkansas:			
Cincinnati.....	0	1	0	Little Rock.....	1	1	0
Columbus.....	1	0	0	Louisiana:			
Toledo.....	1	0	0	New Orleans.....	0	1	1
Indiana:				Shreveport.....	0	2	0
Indianapolis.....	2	0	0	Oklahoma:			
Illinois:				Tulsa.....	0	0	1
Chicago.....	8	1	0	Texas:			
Springfield.....	0	1	0	Houston.....	2	0	0
Michigan:				Colorado:			
Detroit.....	1	0	0	Denver.....	1	0	0
Grand Rapids.....	0	0	1	Utah:			
Minnesota:				Salt Lake City.....	1	0	0
Minneapolis.....	1	1	1	California:			
Missouri:				Sacramento.....	1	1	0
St. Louis.....	2	0	0				
Maryland:							
Baltimore.....	5	3	0				

*Encephalitis, epidemic or lethargic.*—Cases: New York, 4; Philadelphia, 1; St. Paul, 1; Omaha, 1.  
*Pellagra.*—Cases: Atlanta, 1; Savannah, 1; Miami, 2; San Francisco, 1.  
*Typhus fever.*—Cases: Atlanta, 2; Savannah, 1.

## FOREIGN AND INSULAR

### AUSTRIA

*Vital statistics—1933 and 1934—Comparative.*—Following are vital statistics for Austria for the years 1933 and 1934, comparative.

	1933	1934		1933	1934
Population .....	6,536,892	6,760,233	Deaths from—Continued.		
Number of marriages .....	43,914	43,424	Homicide .....	196	329
Number of births .....	98,867	93,602	Inflammation of lungs .....	7,383	6,191
Deaths under 1 year of age .....	9,029	8,314	Malignant tumors .....	11,251	11,810
Total deaths .....	89,092	85,431	Measles .....	89	38
Deaths from:			Puerperal fever .....	244	229
Accidents .....	2,289	2,725	Scarlet fever .....	124	73
Apoplexy .....	6,838	6,644	Suicide .....	2,856	2,651
Cholera, infantile .....	576	534	Tuberculosis .....	8,087	7,506
Congenital debility .....	2,772	2,696	Typhoid fever .....	121	105
Diphtheria .....	980	1,006	Whooping cough .....	147	132
Dysentery .....	20	20			

### CANADA

*Provinces—Communicable diseases—2 weeks ended January 9, 1937.*—During the 2 weeks ended January 9, 1937, 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	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis .....			2		5				5	12
Chicken pox .....		1	7	287	862	80	139	49	219	1,644
Diphtheria .....		7	1	44	29	6	8	1	3	99
Dysentery .....				2	5					7
Erysipelas .....				16	6					43
Influenza .....	1	12			91	3				151
Measles .....		17	10	672	735	26	1,114	491	1,723	4,687
Mumps .....			39		465	107	33	26		804
Paratyphoid fever .....				14	2					16
Pneumonia .....	12	4			68		1			104
Poliomyelitis .....				1	1	6	13			21
Scarlet fever .....		25	11	130	272	88	36	162	51	775
Trachoma .....						1				2
Tuberculosis .....	3	12	18	95	83	12	2	3	29	257
Typhoid fever .....					2	6	4	2	1	15
Undulant fever .....				6	2					8
Whooping cough .....		22		174	236	4	38	10	29	513

## CUBA

*Provinces—Notifiable diseases—4 weeks ended January 9, 1937.*—During the 4 weeks ended January 9, 1937, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Río	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer.....	1			6		8	10
Diphtheria.....	2	4		1	4		11
Malaria.....	166	48	11	57	254	517	1,053
Measles.....	1		1			8	4
Poliomyelitis.....		1	1				2
Tuberculosis.....	8	12	33	19	20	22	114
Typhoid fever.....	11	26	2	60	6	26	131
Yaws.....						8	8

## CZECHOSLOVAKIA

*Communicable diseases—November 1936.*—During the month of November 1936, certain communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	7	1	Paratyphoid fever.....	49	1
Cerebrospinal meningitis.....	6	4	Poliomyelitis.....	20	1
Chicken pox.....	503		Puerperal fever.....	32	15
Diphtheria.....	3,104	174	Scarlet fever.....	2,928	43
Dysentery.....	13	2	Trachoma.....	85	
Influenza.....	75	2	Typhoid fever.....	666	53
Lethargic encephalitis.....	1		Typhus fever.....	10	
Malaria.....	35				

## ITALY

*Communicable diseases—4 weeks ended November 8, 1936.*—During the 4 weeks ended November 8, 1936, cases of certain communicable diseases were reported in Italy as follows:

Disease	Oct. 12-18		Oct. 19-25		Oct. 26-Nov. 1		Nov. 2-8	
	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected
Anthrax.....	30	23	23	20	28	20	17	17
Cerebrospinal meningitis.....	10	9	12	12	9	9	15	12
Chicken pox.....	79	51	173	82	164	87	257	122
Diphtheria and croup.....	633	804	750	335	642	318	638	333
Dysentery.....	23	17	10	9	11	7	19	14
Hookworm disease.....	20	8	16	8	8	7	3	2
Lethargic encephalitis.....	1	1	1	1	2	2		
Measles.....	369	93	557	124	692	137	918	155
Mumps.....	90	49	104	49	156	55	212	70
Paratyphoid fever.....	129	73	102	63	91	68	57	48
Poliomyelitis.....	39	32	23	22	45	40	38	34
Puerperal fever.....	41	38	46	46	33	30	44	41
Rabies.....			1	1				
Scarlet fever.....	350	170	390	179	333	149	402	176
Typhoid fever.....	700	392	717	378	568	312	491	263
Undulant fever.....	19	17	47	32	30	28	16	16
Whooping cough.....	245	100	240	79	238	74	243	72

## NEWFOUNDLAND AND LABRADOR

*Vital statistics—1935.*—The following table shows the births and deaths, together with deaths from certain diseases, reported in Newfoundland and Labrador during 1935.

Population.....	296, 994
Births.....	6, 800
Birth rate per 1,000 population.....	22.89
Deaths.....	4, 057
Death rate per 1,000 population.....	13.66
Infant mortality rate.....	103.8
Deaths from—	
Cancer.....	235
Heart disease.....	197
Pneumonia.....	272
Tuberculosis, all forms...	580

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

NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for January 29, 1937, pages 143-155. A similar cumulative table will appear in the PUBLIC HEALTH REPORTS to be issued February 26, 1937, and thereafter, at least for the time being, in the issue published on the last Friday of each month.

## Cholera

*Siam.*—Information received from the American Consul in Bangkok, Siam, under date of December 31, 1936, states that the cholera epidemic in Siam appeared on the northwestern frontier during the first week in December, and was thought to have been introduced from Burma. The outbreak was stated to be increasing in both incidence of cases and deaths and in area of prevalence. Physicians have been sent to the severely infected areas, and efforts are being made to bring the epidemic under control by the establishment of quarantine stations, inoculation, and education in preventive measures by means of handbills and posters. More than 10,000 persons had been inoculated. It was feared that, with the approach of the warm season, the epidemic may increase in the rural districts.

## Smallpox

*Mexico.*—During the month of October 1936, smallpox was reported in Mexico as follows: Mexico, D. F., 6 cases, 1 death; Nogales, Sonora State, 1 case; Toluca, Mexico State, 1 case.

## Typhus fever

*Mexico.*—During the month of October 1936, typhus fever was reported in Mexico as follows: Aguascalientes, Aguascalientes State, 2 cases; Mexico, D. F., 14 cases, 7 deaths; Oaxaca, Oaxaca State, 2 cases, 1 death; Puebla, Puebla State, 2 cases; Queretaro, Queretaro State, 3 cases; San Luis Potosi, San Luis Potosi State, 1 case; Toluca, Mexico State, 18 cases, 1 death.

*Peru.*—During the month of October 1936, cases of typhus fever were reported in Peru, by Departments, as follows: Apurimac, 1; Arequipa, 3; Ayacucho, 1; Cuzco, 23; Huancavelica, 1; Huanuco, 12; Ica, 8; Junin, 12; Libertad, 6; Lima, 1; Puno, 12.

**Yellow fever**

*Brazil—Matto Grosso State—Entre Rios.*—On December 12, 1936, one case of yellow fever with one death was reported in Entre Rios, Matto Grosso State, Brazil.

*Gold Coast—Accra.*—During the week ended January 23, 1937, four fatal cases of yellow fever were reported at Accra, Gold Coast.

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