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MALARIAL FEVERS.

PREVALENCE AND GEOGRAPHIC DISTRIBUTION IN ARKANSAS.

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The Arkansas State Board of Health, May 16, 1913, adopted rules and regulations requiring the notification of cases of malaria. These regulations went into effect about September 1, 1913. No official records of the prevalence of the disease were therefore available in the work here reported.

This study is based upon such morbidity reports as could be collected under reply postal cards addressed to all physicians in the State of Arkansas.

The postal cards were mailed September 1, October 1, and November 1, 1913, 2,000 of them being mailed each month. The reply cards called for certain information for each of the preceding months, namely, August, September, and October, which is the period of the year when malarial fevers are said to be most prevalent.

The questions on the reply postal cards were as follows:

1. Does malarial fever prevail in your community?.....
2. How many cases have you treated during.....
   Whites..... Colored.....
3. What types prevail?.....
   (Tertian.) (Quartan.) (Estivo-autumnal.)
4. In how many was diagnosis confirmed microscopically?
   .....
   (Tertian.) (Quartan.) (Estivo autumnal.)
5. How many of your cases are chronic?.....
6. What number of cases occurred in children under 15 years of age?.....
7. Are any children undeveloped, mentally or physically, on account of chronic malaria?.....
8. Do mosquitoes prevail in your community?..... What species?.....
9. Are there any swamps or poorly-drained lands in your community?.....
10. What prophylactic measures, if any, are being taken against malaria?.....

Reports were received from all of the 75 counties in the State, and in all of them malarial fevers were said to occur.

The following table gives a summary of the reports received each month:

	August.	September.	October.
Number of replies	500	385	360
Number of cards returned unclaimed	40	35	13
Number of counties represented in replies	75	73	72
Number of towns or cities represented	297	231	232
Number of cases of malaria reported	9,274	5,266	3,988
White	6,089	3,840	2,592
Colored	3,185	2,426	1,400
Average number of cases per physician reported	18.5	13.7	11.0
Number of cases of malaria confirmed microscopically:			
Tertian	675	221	194
Quartan	129	80	27
Estivo-autumnal	238	151	109
Number of chronic cases of malaria reported	1,081	813	541
Number of cases under 15 years of age	3,176	2,617	1,242
Number of physicians using microscope	100	69	49

General Prevalence.

These morbidity reports indicate the wide prevalence of malaria in the State, cases having been reported from every county, the month of greatest prevalence being August, with a decline during the months of September and October. The tertian type is evidently most common.

The following table is a summary of all reports received each month, giving the number of cases, by color, in the different counties:

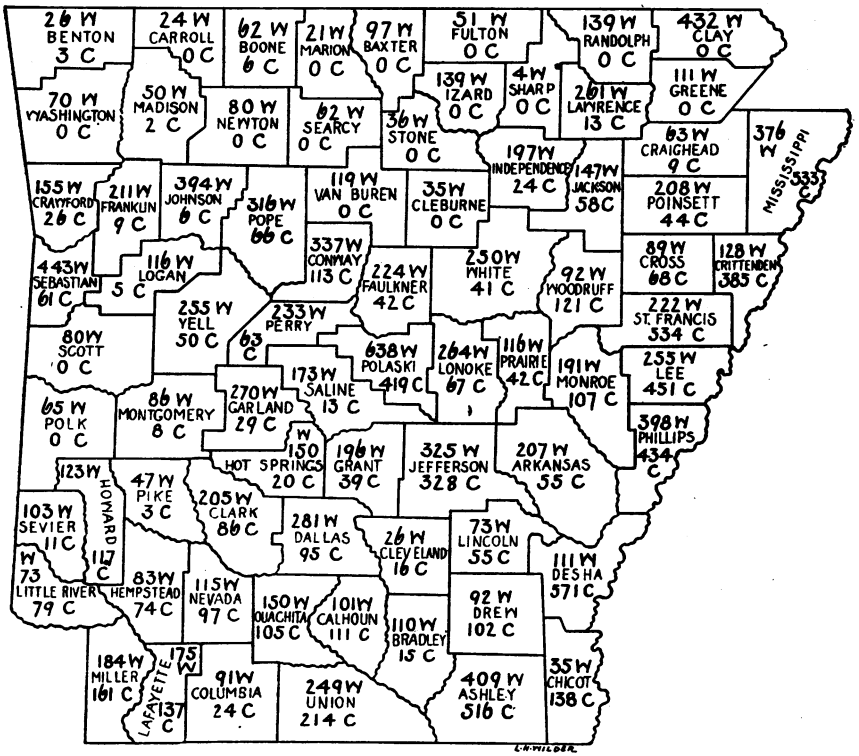
Name of county.	August.		September.		October.	
	White.	Colored.	White.	Colored.	White.	Colored.
Arkansas	84	13	36	10	87	32
Ashley	135	58	165	424	109	34
Baxter	54	0	43	0	0	0
Benton	13	3	13	0	0	0
Boone	29	0	10	0	23	6
Bradley	52	12	39	1	19	2
Calhoun	9	4	7	2	85	105
Carroll	10	0	3	0	11	0
Chicot	20	110	15	28	(?)	(?)
Clarke	42	28	150	50	13	8
Clay	153	0	241	0	38	0
Cleburne	16	0	4	0	15	0
Cleveland	17	8	4	4	5	4
Columbia	17	5	70	17	4	2
Conway	159	59	19	1	159	53
Craighead	39	4	6	4	18	1
Crawford	62	3	93	16	0	7
Crittenden	50	100	74	227	4	58
Cross	24	6	8	28	57	34
Dallas	177	61	59	15	45	19
Desha	43	211	10	125	58	235
Drew	18	44	50	33	24	25
Faulkner	121	13	89	16	14	3
Franklin	85	6	66	3	60	0
Fulton	39	0	10	0	2	0
Garland	124	5	50	11	96	13
Grant	100	15	58	22	38	2
Greene	71	0	22	0	18	0
Hempstead	14	13	14	0	55	61
Hot Spring	58	8	45	9	47	3
Howard	94	114	9	3	20	0
Independence	136	18	16	4	45	2
Izard	118	00	7	0	14	0
Jackson	69	17	31	29	47	12
Jefferson	149	147	101	162	75	19
Johnson	285	5	59	1	50	0

Name of county.	August.		September.		October.	
	White.	Colored.	White.	Colored.	White.	Colored.
Lafayette	24	61	52	33	99	43
Lawrence	90	1	154	5	17	7
Lee	87	205	162	232	6	14
Lincoln	31	18	25	22	17	15
Little River	46	37	14	28	13	14
Logan	87	5	7	0	22	0
Lonoke	125	17	100	25	39	25
Madison	32	2	18	0	0	0
Marion	3	0	18	0	(1)	(1)
Miller	57	41	110	113	17	7
Mississippi	197	291	105	185	74	57
Monroe	69	46	63	29	59	32
Montgomery	29	8	37	0	20	0
Nevada	2	1	28	18	85	78
Newton	25	0	25	0	30	0
Ouachita	98	70	17	6	35	29
Perry	47	4	169	55	17	4
Phillips	334	383	43	20	21	31
Pike	12	0	26	2	9	1
Poinsett	198	42	(1)	(1)	10	2
Polk	18	0	46	0	1	0
Pope	126	18	113	47	77	1
Prairie	52	26	47	14	17	2
Pulaski	365	151	185	131	88	137
Randolph	58	0	55	0	26	0
St. Francis	182	424	40	110	(1)	(1)
Saline	119	13	31	0	23	0
Scott	33	0	18	0	29	0
Searcy	52	0	6	0	4	0
Sebastian	164	20	129	31	150	10
Sevier	11	5	81	3	11	3
Sharp	3	0	1	0	(1)	(1)
Stone	15	0	(1)	(1)	21	0
Union	99	71	33	30	117	113
Van Buren	69	0	35	0	15	0
Washington	18	0	48	0	4	0
White	207	32	33	9	10	0
Woodruff	70	73	2	18	20	30
Yell	149	30	68	15	38	5
Total	6,089	3,185	3,840	2,426	2,592	1,400

[1] No report.

Map No. 1 shows the number of cases of malarial fever reported in each county for the months of August, September, and October, 1913.

MAP No. 1.—*Showing total number of cases of malarial fever reported for the months of August, September, and October, 1913.*



W = White. C = Colored.

Types of Infection.

The types of infection in all cases reported are given in the following table:

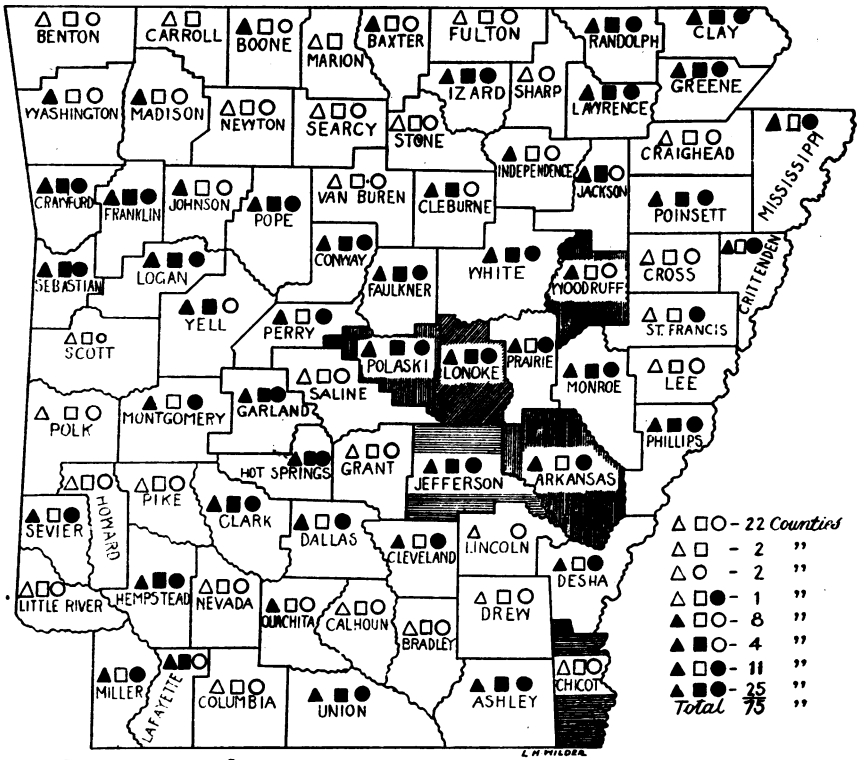
Types.	Counties.		
	August.	September.	October.
Tertian	8	8	6
Estivo-autumnal	1	0	1
Tertian and estivo-autumnal	5	8	11
Tertian and quartan	5	2	6
Tertian, quartan, and estivo-autumnal	56	55	45
Not stated	0	2	6
Total	75	75	75

The types of infection reported confirmed microscopically, were as follows:

Types.	Counties.		
	August.	September.	October.
Tertian	11	6	8
Estivo-autumnal	1	7	8
Tertian and estivo-autumnal	5	8	6
Tertian and quartan	4	4	0
Quartan and estivo-autumnal	1	1	0
Tertian, quartan, and estivo-autumnal	15	7	8
None	38	40	42
No report	0	2	3
	75	75	75

The counties in which the different types have been reported and those confirmed for the entire period, three months, are shown by symbols in the accompanying map No. 2.

MAP No. 2.—*Types of infection reported.*



△ = TERTIAN. □ = QUARTAN. ○ = AESTIVO-AUTUMNAL.

BLACK SYMBOLS INDICATE TYPES CONFIRMED MICROSCOPICALLY.

SHADED COUNTIES - MALARIAL INDEX OBTAINED.

Diagnosis Confirmed Microscopically.

For the month of August, 1,042 cases were reported by 100 physicians from 37 counties to have been diagnosed and confirmed microscopically; for September, 452 cases by 69 physicians from 33 counties, and for October, 330 cases by 49 physicians from 30 counties.

Chronic Malaria.

There were 234 physicians, from 66 counties, reporting 1,081 cases of chronic malarial fever in their practice for August; 161 physicians, from 60 counties, reporting 813 cases for September; and 134 physicians, from 60 counties, reporting 541 cases for October. The cases reported for the three months were from every county in the State, except the following eight: Benton, Carroll, Marion, Perry, Scott, Sharp, Van Buren, and Washington.

Children Under 15 Years of Age.

There was a total of 18,528 cases of malaria reported in the State for the 3 months, of which number 7,035 were reported to have occurred among children under 15 years of age. This represents about 38 per cent of the total number of cases reported.

Children Undeveloped, Mentally or Physically.

The reports of 109 physicians from 42 counties, for the month of August, 1913, 80 physicians from 42 counties for September, and 64 physicians from 35 counties for October, would indicate that there are children undeveloped mentally and physically on account of chronic malaria.

Mosquitoes.

Mosquitoes were reported to be present in every county in the State. The reports on the kinds of mosquitoes were as follows:

	Counties.		
	August.	September.	October.
Anopheles	28	23	23
Anopheles and Culex	24	24	19
Anopheles and Stegomyia	5	1	1
Anopheles, Culex, and Stegomyia	6	2	4
Culex	0	1	1
Unknown	12	19	20
No report	0	5	7
	75	75	75

Swamps and Poorly Drained Lands.

The reports for the three months state that there are swamps or poorly drained lands existing in every county in the State, except in the following four named counties, from which all reports received were in the negative, viz, Boone, Carroll, Marion, and Sharp.

Prophylactic Measures.

From all counties except Baxter, Marion, Nevada, Newton, Polk, Sharp, and Stone, various prophylactic measures were reported as being in use, mention being made of one or more of the following: Screening, mosquito bars, drainage, oil, driven pumps instead of surface wells, quinine, education, and general sanitation. Apparently very little systematic work was being done.

The reports for August show that in 16 counties in the State no measures whatever are being used. Like reports for 19 counties for September and 19 counties for October were received.

Epidemiology.

A survey was made during part of August and September, 1913, of the geographic, climatic, social, and economic conditions prevailing, breeding places, and determination of species of Anopheles mosquitoes, and malarial index obtained by blood examinations from apparently healthy persons, in the following-named places:

Scott, on boundary line.....Lonoke and Pulaski Counties.
Pine Bluff.....Jefferson County.
Lake Village.....Chicot County.
Stuttgart.....Arkansas County.
Augusta.....Woodruff County.

The malarial index includes persons living in, and in the vicinity of, the places mentioned, so that the figures are quite representative of a fair section of the counties.

The State health officer, Dr. Morgan Smith, outlined the itinerary, after considering the information to be ascertained by me in the investigation. He also arranged for the assistance and cooperation of the local physicians and health officers, and arranged for Dr. C. W. Garrison, director of sanitation and assistant State health officer, to accompany me. Dr. Garrison assisted me in all this work of collection of material and in the survey general.

Prevalence of Anopheles Mosquitoes.

Mosquitoes of the species *Anopheles maculipennis* were caught in houses in every place visited, except Augusta. They were found usually in the bedrooms, behind furniture, pictures, clothes, or in the dark corners of the room. It was not unusual to find them also

in the outhouses, barns, and storerooms, when sought in such places. *Anopheles punctipennis* were also found. *Anopheles crucians* is said to make its appearance late in the fall. *Anopheles maculipennis* must be considered as the species which is responsible for transmitting malarial fevers in the counties visited.

Breeding Places of Anopheles.

In all places visited, breeding places of Anopheles were found and the larvæ and pupæ collected. The evidence obtained in these surveys indicated that there were two general classes of breeding places to be considered, namely, those of a constant character and those of a temporary character. According to some authors, the terms "breeding places of choice" and those of "necessity" are used.

Those of a constant character are such places found along poorly drained creeks, cypress brakes, marshy places in woods, ditches, and low places in fields. The temporary places were found around or near houses and served as intermediate places between the constant source and the houses of persons, making for short flights for mosquitoes from place to place. These were such places as poorly drained ditches, gutters, barrels, pools of water overgrown with grass or other vegetation, hoof prints of cattle, and the like. It was not unusual to find Anopheles larvæ to be green in color when found breeding in pools of water covered with green scum or algæ. In barrels containing rain water, with dead leaves of trees or cotton seed floating on the surface and sometimes a green growth along the edges of the water, larvæ and pupæ of the Anopheles were found. The bearing these conditions have in the prophylactic measures must be considered, as sanitary measures recommended were to the effect that temporary breeding places must not be lost sight of in order to make for the flight of Anopheles as far removed from houses as is possible, and thereby to confine them to the constant source where these mosquitoes breed. The destruction of the constant source of breeding places requires a large expenditure of money and involves an engineering problem of some magnitude, thus making it impracticable to advise the undertaking of mosquito elimination for controlling malaria.

Malarial Index.

Blood smears, one thin and one thick film, were made from each person submitting himself for the examination. These were taken at random from any and all persons who were apparently in good health.

A tabulated list of the persons examined, according to age, sex, color, previous history of malaria, together with the results of the microscopic findings, is here given for each place visited:

Scott.

Ages.	Previous history of malaria positive.				Previous history of malaria negative.			
	White.		Colored.		White.		Colored.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1–3 years	1		1	3			1	
4–5 years	1	1	2	2				
6–9 years	4		4	8				
10–14 years		2	6	11				
15–19 years			2	4				
20–29 years			10	7			1	
30–39 years	1	2	3	4			2	
40 or over	2	1	8	8				
	9	6	36	47			4	

Total, 102. 52 of these collected by Dr. Henry Thibault.

The examination of these gave the following results:

Estivo-autumnal infection was found in 5 and tertian type of infection in 4, making a total of 9 positive findings of the 102 examined, equal to 8.8 per cent.

The estivo-autumnal findings were found in three colored females, ages 2, 10, and 30 years, and in two colored males, ages 15 and 20 years. The tertian infections were found in one white male, age 33 years; one white female, age 31 years; one colored male, age 7 years; and one colored female, age 12 years.

This gives a relation of 1 positive finding of the 9 white males, 1 of the 6 white females, 3 of the 40 colored males, and 4 of the 47 colored females examined.

Pine Bluff.

Ages.	Previous history of malaria positive.				Previous history of malaria negative.			
	White.		Colored.		White.		Colored.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1–3 years						1	3	
4–5 years					1	1	1	
6–9 years	2	4	1	1	2	2	2	2
10–14 years	8	5	1	2	3	5	1	1
15–19 years	1	2	4	5	4	1	1	2
20–29 years	1	2	6	5	1		1	2
30–39 years				8		1		1
40 or over	2	1	1				1	4
	14	14	13	21	11	11	10	12

Total, 106.

Of these 30 were obtained from boys and girls, pupils at the Watson Chapel Rural School, about 4 miles from Pine Bluff.

The examination of these gave the following results:

Estivo-autumnal infection was found in 3 and tertian type of infection in 7, making a total of 10 of the 106 examined, equal to 9.4 per cent.

The estivo-autumnal infections were found in 1 white male, age 5 years; 1 white female, age 8 years; 1 colored male, age 13 years. Tertian type of infections were found in two white males, ages 10 and 12 years; 1 white female, age 23 years; 3 colored males, ages 4, 20, and 28 years; and 1 colored female, age 18 years.

This gives a relation of 3 positive findings of the 25 white males, 2 of the 25 white females, 4 of the 23 colored males, and 1 of the 33 colored females examined.

Lake Village.

Ages.	Previous history of malaria positive.				Previous history of malaria negative.			
	White.		Colored.		White.		Colored.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1–3 years	1	2	1	.....	.....	1	.....	.....
4–5 years	3	2	.....	.....	.....	1	.....	1
6–9 years	7	5	1	2	5	3	.....	.....
10–14 years	13	6	5	.....	12	1	2	.....
15–19 years	9	2	4	6	8	1	4	1
20–29 years	26	8	15	10	8	1	4	4
30–39 years	16	4	24	12	11	.....	4	1
40 or over	17	2	16	4	16	2	8	1
	92	31	66	34	60	10	22	8

Total, 323.

There were 17 positive findings of the 323 examined, equal to 5.26 per cent. Of these, 3 were estivo-autumnal and 14 tertian in type.

The estivo-autumnal infections were found in 1 white male, age 36 years; 1 white female, age 25 years; 1 colored male, age 33 years. Tertian type of infections were found in 7 white males—2 age 4 years, 1 age 16 years, 1 age 19 years, 2 age 24 years, and 1 age 26 years; 4 colored males—ages 23, 30, 31, and 32 years; 3 colored females—ages 34, 38, and 39 years.

This gives a relation of 8 positive findings of the 152 white males, 1 of the 41 white females, 5 of the 88 colored males, and 3 of the 42 colored females examined.

This is rather a low percentage of findings for a highly malarious district, as Lake Village and vicinity was found to be. A closer study of the remaining 306 histories taken will be of interest. There were 205 of these who give clear and positive history of attack of malarial fever, ranging from one week to one year before the blood

specimen was taken, and the most of these during the summer. Of the 205, 96 had taken quinine any time between the time when seen and two months before, the statements in the history being: "Taking quinine now," "Took quinine a few days ago," or "One week ago," or "Two weeks ago," or "One month ago," "Two months ago," "Quinine being administered now," "Taking medicine now." This left 109 of those giving positive histories who had not recently taken quinine. Of the negative histories, 2 were taking quinine and 99 were not under treatment.

If we eliminate the 101 giving a negative history and the 96 who had only recently taken quinine, which more than likely affected the blood findings, the result of this blood examination then shows 17 positive findings out of a total of 126 persons who were well but who had had malarial fever at some time, which equals 13.5 per cent. From all data available, 13.5 per cent more fairly represents the actual condition.

Stuttgart.

Ages.	Previous history of malaria positive.				Previous history of malaria negative.			
	White.		Colored.		White.		Colored.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1–3 years								1
4–5 years					1			
6–9 years	4	2	2		5	1	2	
10–14 years	5	3	5		7	1	4	1
15–19 years	3	1	7	2	6	1	4	
20–29 years	1	2	6	3	9	1	6	2
30–39 years	1	1	3	1	1	1	2	
40 or over	5	1	2		2		3	
	19	10	25	6	31	5	21	4

Total, 121.

There were 10 positive findings of the 121 examined, equal to 8.2 per cent.

The findings were estivo-autumnal type of infection, in 3, as follows: 1 white female, age 14; 1 colored male, age 34; and 1 colored female, age 3 years. Tertian type of infection was found in 7, as follows: 2 white males, ages 9 and 12 years; 1 white female, age 13; 3 colored males, ages 21, 28, and 48; and 1 colored female, age 14 years.

This gives a relation of 2 positive findings among the 50 white males, 2 of the 15 white females, 4 of the 46 colored males, and 2 of the 10 colored females examined.

Augusta.

Ages.	Previous history of malaria positive.				Previous history of malaria negative.			
	White.		Colored.		White.		Colored.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1–3 years					1	1		
4–5 years	1	1			1			
6–9 years	4		2		3	1		
10–14 years	7		5		5		3	
15–19 years	9		1	1	3		2	
20–29 years	19		5	1	4		5	
30–39 years	9	2	2	1	6	1		1
40 or over	22		7	1	6	2	5	
	71	3	22	4	29	5	15	1

Total 150.

There were 7 positive findings of the 150 examined, equal to 4.66 per cent. The examination of these gave the following results: Estivo-autumnal types of infection were found in 4 as follows: 3 white males, ages 10, 16, and 28 years; 1 colored male, age 30 years. Tertian type of infection was found in 3 as follows: 2 white males, ages 10 and 46 years; 1 colored male, age 60 years. This gives a relation of 5 positive findings among 100 white males, 2 among 37 colored males, and none among 8 white females and 5 colored females examined.

Summary Report of Malarial Index in Arkansas.

Place.	Examined.		Total.	Number infected.		Per cent.	Types.	
	White.	Colored.		White.	Colored.		Tertian.	Estivo-autumnal.
Scott	15	87	[1] 102	2	7	8.80	4	5
Pine Bluff	50	56	106	5	5	9.40	7	3
Lake Village	193	130	323	9	8	5.26	14	3
Stuttgart	65	56	121	4	6	8.20	7	3
Augusta	108	42	150	5	2	4.66	3	4
	431	371	802	25	28	6.60	35	18

[1] 52 obtained by Dr. Henry Thibault.

Acknowledgments.

Acknowledgments are due to the State health officer, Dr. Morgan Smith, for his active interest; to Dr. C. W. Garrison, director of sanitation and assistant State health officer, for assistance rendered while accompanying me in my survey.

Acknowledgments for assistance rendered at the various places visited are also due to Dr. Henry Thibault, Mr. J. K. Thibault, at Scott; Dr. W. T. Lowe, Dr. W. H. Blankenship, Dr. W. S. Stewart, Dr. B. D. Luck, Dr. H. E. Williams, sr., Mr. F. R. Allen, Mr. H. F.

Dial, of Pine Bluff; Dr. N. M. Norton, T. P. McGehee, at Lake Village; Dr. B. L. Hill, sr., Dr. C. W. Sillin, Mrs. Anna B. Stoops, Mrs. Edwin Pettit, of Stuttgart; Dr. O. E. Pluckett, R. N. Smith, Dr. P. Q. Patterson, Dr. L. E. Piles, and Dr. Brewer, of Augusta; and to the physicians of the State of Arkansas who so kindly responded to the circular postal cards, on whose replies this report is based.

THE FULL-TIME HEALTH OFFICER.

HIS IMPORTANCE IN LOCAL HEALTH ADMINISTRATION AND IN THE ADVANCEMENT OF RURAL HYGIENE.

An address delivered before the State Conference of Health Officers of Kentucky, at Louisville, December 8, 1913.

By LOUIS I. DUBLIN, M. D., statistician, Metropolitan Life Insurance Co.

The State of Kentucky presents a condition of lively interest to the student of health and sanitation. As a State it is among the most typically American in the country. According to the 1910 census you had a population of 2,290,000, of whom about 98 per cent were native born. You have, therefore, no serious problems of assimilating the foreigners in your midst, as we have in the East. The State of New York, for example, has 30 per cent of its total population foreign born, many of whom have come here more or less recently from southern or eastern Europe. Furthermore, over 75 per cent of your population live in rural territory or in small communities of less than 2,500 inhabitants. Your population is, therefore, homogeneous. You live in the country and are free from congestion and those other unfavorable conditions of industrial and urban life which make the health problems of many of our States so acute.

The situation in Kentucky is interesting in another respect. You have upon your statute books a good health law, which provides the necessary machinery for your health work. You have also a model law for the registration of births and deaths and you have been admitted to the registration area. In other words, you have what, to a stranger like myself, would appear to be a very favorable condition for efficient health administration, namely, a population not too large, of good native stock, thoroughly imbued with American ideals, and, secondly, adequate statutory provision to make your sanitary control both sure and efficient.

It is therefore not surprising that health experts look to Kentucky for an encouraging example. They are anxious to learn whether you are ready to take full advantage of your fine opportunities; whether you will make continuous advances in health conditions and perhaps be able to solve for other States some of the vexing problems of rural

hygiene. Not only are your own best interests involved in the success or failure of your endeavors, but the success of health work in other places is at stake. Other communities will be guided by your results in the provision which they will make for the protection of their people.

Permit me to review the essential features of your health law:

In the main, your administration is based on the county as the unit of organization. The county boards of health are each clothed with responsibility in their several jurisdictions. They have power to establish and execute sanitary regulations for the control of disease; to establish quarantine and erect hospitals for the treatment of communicable diseases. The county boards must, moreover, report to the State board at least every three months on the incidence of communicable diseases and on the general sanitary condition of the county. Each county board acts through an executive secretary, who is the health officer of the county. He receives compensation from the county and holds office at the pleasure of the local board. Apart from the officers of the State board and a few local health officers in each of the larger cities, the county health officers hold the key to the situation in your State. Upon their efficiency and loyalty depends the health progress of Kentucky.

Kentucky has 119 counties, the population ranging from about 4,000 in Robertson County to 263,000 in Jefferson County. A large number of your counties have much the same land area, with a population density of about 57 inhabitants per square mile, or an average of a little under 20,000 per county. This makes a favorable unit for the administration of rural health work, and you are to be congratulated upon your natural advantages of geographical distribution. The one question that arises in my mind, however, is this: To what extent are your local county organizations fighting machines for vigorous administration? What provisions have you made for getting the work done that must be done? To what extent is your county health officer a live public-health executive, giving all his time and energy to the public service? In the last analysis this is the one great question which you must face squarely and answer.

The problem that I am here considering is not a new one. Other States have addressed themselves to it, and to-day there is agreement that the work of the local health officer must measure up to certain standards. I propose to review some of these standards, not because you are not familiar with them, but rather for the sake of emphasis. In this way we may examine our problem comprehensively and draw the necessary conclusions.

1. The county health officer must be a full-time official; that is essential. In certain States the county unit has not been closely followed, and where the county is too small or too sparsely settled to

permit the services of a full-time official a few counties have been merged for health purposes. In every instance, however, the full time of a competent person is obtained and the geographical arrangement is modified to suit. I do not know to what extent your distribution of population in certain of the smaller counties calls for a similar arrangement; nor do I know whether your laws would permit of such a merging of county lines, but whether they do or not, the principle is clear. The health officer must be one whose sole interest is in the community to the exclusion of private interest, be it his own or that of private individuals or groups. The occasion should no longer arise when a health officer may be tempted by personal considerations to neglect the clear dictates of community needs. You know only too well how often the part-time health officer who has a private practice to maintain must choose between the performance of public duty and the loss of his practice. This situation should not arise; he should never find it necessary to compete with those whom it is his sworn duty to supervise.

2. The county health officer should be well trained in the modern science of sanitation and public health. The average practicing physician is not well enough equipped, as a rule, to administer a progressive health office. The protection of the public health, as now conceived, is a science with its own data and formulas. The larger medical schools, such as those at Harvard and at the University of Michigan, for example, have organized special postgraduate courses leading to the degree of doctor of public health. It will be a great day in American public-health affairs when medical officers will, as a class, qualify by study in such postgraduate courses for their arduous duties. But experience is also a good school, and the health officers here assembled have been trained in the severest of schools. Ultimately provision will undoubtedly be made in your State for the exclusive appointment of holders of the diploma in public health. May I suggest that you direct your energies toward your personal improvement through study to qualify for the distinctive degree of your profession?

3. The tenure of office of the health officer should be coextensive with his efficient service. The successful health officer is made, not born. With a proper background of training, every year of added experience makes him a more useful servant of the State. The health officer should therefore be assured of a continuous tenure of office. He should in no way be a pawn in the political game. A period of six to eight years has been suggested as a sufficient term. Health officers who have made good should then be considered for reappointment, although the State may reserve the right to dismiss in shorter time those who are incompetent or neglectful of their duties. There is no better reason for removing good health officers than there is for

changing other public servants whose work is necessarily continuous, and who, in the first instance, are properly chosen.

In view of these requirements it should hardly be necessary to point out that health officers must be reasonably compensated for their services. We have already assumed that the man chosen for the place is the one in a hundred best qualified by training. Surely, if his full time is required, his compensation must be sufficient to attract him in the first place, and to keep him later in the service without inflicting any hardship upon him or his family. It is folly to set high standards and make them impossible of attainment through inadequate compensation or uncertainty of tenure. Health laws may as well not exist if they are not properly enforced through adequate appropriations. A county health officer, having in his safe-keeping 20,000 lives, can not maintain himself on an annual allowance of a few hundred dollars. It is not for me to determine what you shall pay, but your salaries must be adequate to attract able men and to maintain them in a state of comfort consistent with their important duties.

I say this guardedly. I am one of those who believe in governmental economy. I have always urged that the efficiency tests which have been introduced into modern business must also be applied to the expenditure of public funds. It is because of this very conviction that I maintain that communities must tax themselves liberally to support high standards of health administration; for it is the best economy in the end. The chief assets of a community are the life and the health of its citizens. We are realizing more and more that life and health are within our control. Changes in century-old conditions are being brought about everywhere under our very eyes, and the marvels of modern medicine are visible on all sides.

Permit me to point out more definitely the character of the return that awaits you on your investment for full-time health officers. In spite of the fact that yours is a rural State, you are by no means free from the ravages of tuberculosis. In the year 1911, 5,293 deaths from this disease were reported in your State—a rate of 229.3 per hundred thousand. In the registration States, which include the centers of congestion, the rate was 155.6 per hundred thousand. A clear duty is therefore at your door, namely, to reduce the prevalence of tuberculosis. This would be the first task of a full-time health officer. If in five years the mortality rate from this disease be reduced to what it is in the registration area to-day, about 1,700 lives will be saved annually for the State of Kentucky. The victims are largely men and women in their prime, whose money value to the State would be enough to compensate for the cost of the additional health work.

Your typhoid problem is equally urgent. In 1911 your death rate from this disease was 46.3 per hundred thousand, as against 20.4 in the registration States. In this respect your experience is parallel to that of other rural communities and reflects clearly the many sanitary dangers incident to life in the country. Typhoid fever is always, to the health engineer, an unerring signal directing him toward polluted water supplies, infected food products, and unsupervised typhoid carriers, who are a constant menace to the entire State through their effect on milk and other food supplies. All of these sources of typhoid infection, including the disposal of dangerous waste products, lend themselves to concerted efforts of modern sanitary science. Indeed, no disease has shown such a ready response to control as this preventable filth disease. What is everyone's concern is no one's. The full-time health officer, supported enthusiastically by his community, would in the course of his first administration earn many times his cost in reducing the amount of sickness from this cause alone.

The full-time health officer would, of course, participate in other lines of activity. The influence of his work would soon become manifest in reduced rates of sickness for the other preventable diseases. The records put at my disposal show that in 1912, 39.5 per cent of all your deaths were of this character. In other words, about 12,000 deaths and many more cases of sickness occurred in the course of the year which might to a large extent have been prevented if proper sanitary facilities had been at work during the past few years. In no one respect, however, would the service of the full-time health officer be more constructive and remunerative to a community than in his active participation in what we now call "child hygiene." In the larger cities throughout the country this phase of health administration is becoming permanently established. In New York, where I am best acquainted with its results, there is no division of the health department which has aroused greater enthusiasm among experts than the division of child hygiene. It would be a function of the full-time county health officer to work in cooperation with the school authorities of his community and to see that each child in his jurisdiction is examined at least once annually. It is during the period of child life that the foundation is laid for the physique which will determine largely the usefulness and longevity of the future citizen. If there were no better excuse than the need for some local authority to carry on intelligent and modern child-hygiene work in each community, you would be justified in appointing a full-time health officer for this purpose.

The full-time health officer would also be of great service as the representative of the State health board in overseeing the reporting of the notifiable diseases and the registration of births and deaths

in each county. Fortunately the health law of Kentucky clearly provides for the reporting of epidemic and communicable diseases to the local boards of health. Your county health officers are, moreover, under obligation by law to see that all the cases are registered and in turn to notify the State office. In spite of the importance of this work it is clear that without adequate administrative supervision it is sure to be neglected. The reports of your county health officers compel me to believe that this is the condition of morbidity registration at the present time in your State, except perhaps in the larger cities, where tuberculosis and typhoid fever are carefully handled. The morbidity reports of your county health officers are extremely vague and indefinite. With full-time health officers to do this important work scientifically and effectively the State would not be deprived, as it is at present, of a most useful agency of sanitation.

An examination of your annual reports has raised a number of other questions in my mind, which I submit frankly for your attention and discussion. I have already remarked that your death rate from tuberculosis is relatively high. For pulmonary tuberculosis alone your figure for 1911 was 200.4 per hundred thousand, or 15.2 per cent of the total deaths for the year. In the registration States the corresponding figures are 134.7 per hundred thousand and 9.7 per cent of the total deaths. In other words, you have a high tuberculosis rate coupled with a low general death rate. As you know, the death rate from tuberculosis presents a fairly constant relation of about 10 per cent to the total deaths in most communities where satisfactory registration conditions prevail. In view of this fact two questions arise, namely, either your tuberculosis rate is inordinately high or, what is perhaps more likely, you are not registering a considerable number of your actual deaths. A death rate of 200 per hundred thousand from pulmonary tuberculosis should, I believe, show a general death rate of about 20 per thousand, and not 13, as your reports indicate. In this connection I need hardly point out how valuable full-time health officers would be to your State health department and to your legislature in putting at their disposal a complete accounting of all the occurrence of disease and death which come under their jurisdiction. You will thus be in a position to see annually what your added expenditures for health work had accomplished in the conservation of health and life.

It was proposed by Dr. Heizer, your State registrar of vital statistics, that I also discuss the economic saving that would accrue to your State through the employment of full-time health officers in the lowered cost of life insurance. I believe that this is the least interesting phase of the discussion. Insurance costs are naturally dependent upon the death rates the companies experience. If your new program results, as it should, in reduced death rates, certain appreciable savings will undoubtedly be experienced by the com-

panies operating in Kentucky. It has been the constant policy of insurance companies to keep in close touch with the life and health conditions prevailing in their territory and in every case to accommodate their rates to the changing mortality. Life insurance is the one essential commodity in modern life the cost of which has not risen during the last 20 years. Further reductions will undoubtedly follow in the wake of improved living standards. Indeed, the history of insurance is the best index of the constant increase in the average span of life which has been observed during the last century.

There is still one other source of communal gain which goes hand in hand with high health standards. I refer to the added commercial value of locations in which good health conditions prevail. Such communities have added attractiveness for purposes of residence and industrial development. Persons who contemplate a change of residence are naturally attracted to places where they can be assured of a good water supply and other safeguards to health. Industrial concerns are located in these days only where a large number of employees can be housed with safety. As a result of these things, land values rise and an impetus is given to the general prosperity of the community.

In closing, let me once more urge upon you that life and health are both largely purchasable. It is only in the present day and generation that we realize the full significance of the situation and feel the obligation that it places upon us. It lies with ourselves whether our communities shall rise up in their strength, to work and accomplish their full possibilities, or whether we shall continue to pay a constant tribute with human life through our indifference and neglect. Public health is no longer an individual matter. We must protect ourselves by keeping watch over all. This is the new order of living, and a new public health, with rigid standards and methods, has come to stay. The full-time health officer is the keystone in the arch of the new public-health service. You are at a crucial point in your health administration. I am sure that you will take good counsel and that your decision will be a source of inspiration to other communities who have not as yet seen the light.

MORBIDITY REPORTS.

PRACTICE IN MINNESOTA IN CASES EXTRA-STATE IN ORIGIN.

In the Public Health Reports of December 5 reference was made to the practice of the Minnesota State Department of Health in regard to the cases of typhoid fever reported in Minnesota in which the patients had apparently received their infection outside the State. The practice referred to was that of notifying the health authorities of the States in which the infection had been received.

During the month of November three cases of typhoid fever were thus referred, and a local health officer in another State was in one instance notified of a case of tuberculosis which had been diagnosed in Minnesota, but at the time of writing had probably returned to his former residence. Copies of these letters of notification, which illustrate the value of such cooperation, follow:

MINNESOTA STATE BOARD OF HEALTH,
DIVISION OF EPIDEMIOLOGY,
Minneapolis, Minn., November 22, 1913.

Dr. C. J. McGURREN,
Superintendent of Health, Devils Lake, N. Dak.

DEAR DOCTOR: By direction of the executive officer of the State board of health, I respectfully refer to you the following case of typhoid fever, treated in Minnesota, but apparently infected in territory over which you have sanitary jurisdiction:

L. F., m., 22; first symptoms November 4, 1913.

Reported by Dr. F. Sheppard, health officer, Hutchinson V., McLeod County; now in Ellsworth Township, Meeker County, Minn., but for the three weeks before the earliest symptoms appeared, at Aurelia, Ford County, N. Dak. He was working in a thrashing crew for a man named "Erickson." Does not know of having associated with anyone previously sick with typhoid fever, but states that the crew used water from pools by the roadside and from sloughs, etc., wherever they happened to be.

Respectfully,

A. J. CHESLEY, *Director.*

MINNESOTA STATE BOARD OF HEALTH,
DIVISION OF EPIDEMIOLOGY,
Minneapolis, Minn., December 13, 1913.

Dr. G. H. SUMNER,
Secretary State Board of Health, Des Moines, Iowa.

DEAR DOCTOR: By direction of the executive officer, I respectfully refer to you the following case of typhoid fever mentioned in clippings from the Eye, of Elmore, Minn., of November 13, and the Post, of Blue Earth, Minn., of December 2:

The patient's name is H. C. It is stated that he boarded and roomed at Elmore for several weeks in August and September while assisting in surveying the big drainage ditch through Lincoln and Hebron townships. When he was at Elmore he stated that his mother, who lived at Redfield, S. Dak., was sick with typhoid fever, and it is said she died later. It is supposed that he may have contracted the disease while there attending the funeral. As he is sick at his home in Algona, Kossuth County, Iowa, we are unable to verify these reports, but as there is a possibility that his infection was incurred in Minnesota and not in South Dakota, as stated, we would like to know more about the case in order that if this seems probable the matter may be investigated at once.

Will you kindly favor us with information concerning this case?

Respectfully,

A. J. CHESLEY, *Director.*

MINNESOTA STATE BOARD OF HEALTH,
DIVISION OF EPIDEMIOLOGY,
Minneapolis, Minn., December 16, 1913.

Dr. P. B. JENKINS,
Secretary and Executive Officer.
South Dakota Department of Health and Medical Examiners, Waubay, S. Dak.

DEAR DOCTOR: By direction of the executive officer, I respectfully refer to you a case of tuberculosis treated in Minnesota, but evidently a resident of territory over which you have sanitary jurisdiction:

The patient is P. J., 69; post office, Brandt, S. Dak.; consulted Dr. E. M. Lundholm, 436 Sibley Street, St. Paul, Minn., December 6. Dr. Lundholm has reported the case as follows:

"According to your desire to have all cases of tuberculosis reported, I hereby inclose the report of a case outside of Minnesota. I am sorry that I also, in this case, can give no more particulars than post office and State, but the patient left before I had been able to demonstrate tuberculosis in his sputum and before that I was not positive he had tuberculosis."

Probably you will not be able to trace this case unless the man consults some local physician, but it is evident that he has tuberculosis, as Dr. Lundholm has demonstrated the bacilli in a specimen of his sputum.

Respectfully, A. J. CHESLEY, *Director.*

MINNESOTA STATE BOARD OF HEALTH,
DIVISION OF EPIDEMIOLOGY,
Minneapolis, Minn., December 17, 1913.

Dr. C. J. McGURREN,
Superintendent of Health, Devils Lake, N. Dak.

DEAR DOCTOR: By direction of the executive officer I respectfully refer to you the following case of typhoid fever, treated in Minnesota, but apparently infected in territory over which you have sanitary jurisdiction:

M. T. (m), 28; first symptoms October 10.

Reported by Dr. Hans Johnson, health officer, Kerkhoven, Swift County, Minn.; treated by him in Kerkhoven, but for the three weeks before the earliest symptoms appeared, at Larimore, N. Dak., working as a common laborer. The patient is now in Iowa. No secondaries have arisen in the family at Kerkhoven where he was while sick. The doctor's view of the source of infection is: "Probably water supply at Larimore."

Respectfully, A. J. CHESLEY, *Director.*

LEPROSY.

TREATMENT OF TWO CASES WITH APPARENT CURE.

By VICTOR G. HEISER, Surgeon, United States Public Health Service, Chief Quarantine Officer and Director of Health for the Philippine Islands.

Two lepers in addition to those previously reported [1] as successfully treated with hypodermic injections of chaulmoogra oil and resorcin have been discharged from San Lazaro Hospital, Manila, after having been free from leprosy for a period of two years. The principal interest in these cases is in the fact that, unlike the two preceding cases, which were reported as having been released as apparently cured, the cases here reported received no vaccine treatment. They were also very mild cases. The history is briefly as follows:

F. A., female, aged 11, a native of Zamboanga, Moro Province, was admitted to the San Lazaro Hospital January 5, 1911. She had large leprous macules over the outer surfaces of both legs, extending from the malleolus almost to the knee, and similar large leprous macules upon the forearm. The diagnosis was microscopically confirmed. The

[1] Public Health Reports, Vol. XXVIII, No. 36, Sept. 5, 1913, p. 1855.

use of chaulmoogra oil by mouth was begun January 7, 1911, in 10 drop doses three times a day, with one-sixtieth of a grain of strychnine. By February 15 the nausea became so great that the patient refused to take any more of the oil by mouth. Hypodermic injections with the formula composed of chaulmoogra oil, resorcin, and camphorated olive oil was started on February 15, 1911, in 1 cubic centimeter doses. The injections were repeated at weekly intervals and gradually increased in quantity until they reached 12 cubic centimeters per dose by April 20. The dose was then gradually reduced in the same period as it was increased until 1 cubic centimeter was reached and then gradually increased again to the maximum dose. On October 15, 1911, the patient was microscopically negative for leprosy. From that date until January 7, 1913, the patient absolutely refused to take any form of treatment. Microscopical examinations made from time to time during this period resulted negatively. From January 7, 1913, until October 30 ascending and descending doses of the chaulmoogra oil mixture were administered as before. A few months after the original hypodermic injection of the oil was begun the leprous macules began to ulcerate. These ulcers gradually healed and by October, 1911, were entirely scarred over. A final microscopical examination was made October 30, 1913, and no leprosy bacilli could be found nor was there any clinical evidence of the disease. The only signs observable were the scars where the leprous lesions had previously existed. The patient was discharged October 30, on probation, as being apparently cured.

The other case is that of C. A., Filipino, aged 40, who was admitted to the San Lazaro Leper Hospital on May 4, 1911, with the diagnosis of leprosy, which was microscopically confirmed. He had a large, dark, pigmented leprous macule, approximately 5 by 10 centimeters in outline, on the outer side of the leg above the malleolus. He had a similar lesion, but somewhat smaller, which involved the area above the left ear and some infiltration of the lobe of the left ear. Upon admission to the hospital the chaulmoogra oil mixture was injected into the buttocks at weekly intervals, with an initial dose of 1 centimeter, which was gradually increased to 5 centimeters. When efforts were made to give him larger doses he suffered from severe palpitation of the heart and a precordial distress. The leprous macules began to improve a few weeks after the treatment was started and had entirely disappeared by August 25, upon which date the leprosy bacillus could no longer be found. After August 25 he refused further treatment. He was then placed under observation in nonleprous quarters. Microscopic examinations were made from time to time, all of which resulted negatively. He was microscopically examined on November 4, 1913, with negative results, and has been discharged from San Lazaro Hospital on probation, the same as other cases.

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.

IN CERTAIN STATES AND CITIES.

SMALLPOX.

State Reports for November, 1913.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Maryland, exclusive of Baltimore City:						
Allegany County—						
Westernport	1					
Total	1					
Minnesota:						
Becker County—						
Detroit	5			4	1	
Beltrami County—						
Lee Township	1				1	
Spruce Grove Township	1				1	
Carver County—						
Hancock Township	3				3	
Clearwater County—						
Sinclair Township	7				7	
Crow Wing County—						
Crosby	1					1
Grant County—						
Logan Township	1				1	
Hennepin County—						
Minneapolis	18		2	1	15	
Houston County—						
Spring Grove Township	1				1	
Hubbard County—						
Hubbard Township	6				6	
Kanabec County—						
Comfort Township	1				1	
Marshall County—						
New Solum Township	1					1
Viking Township	12			3	9	
Martin County—						
Ceylon	5				5	
Nicollet County—						
St. Peter	1				1	
Olmsted County—						
Eyota	1					1
Rochester	8			2	6	
Pipestone County—						
Pipestone	1					1
Ramsey County—						
St. Paul	4			1	1	2
Redwood County—						
Johnsonville Township	1					1
North Hero Township	1					1

SMALLPOX—Continued.

State Reports for November, 1913—Continued.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Minnesota—Continued.						
St. Louis County—						
Duluth	1				1	
Eveleth	4				4	
Virginia	27			2	25	
Township 62, R. 17	1			1		
Washington County—						
Newport Township	1				1	
Stillwater	1				1	
Wright County—						
Delano	1				1	
Waverly	5				5	
Woodland Township	4			3	1	
Total	125		2	17	98	8
New York:						
Clinton County	1					1
Essex County	1				1	
Franklin County	2			1	1	
Niagara County	66		4		5	57
Schenectady County	2				2	
Wayne County	1				1	
Total	73		4	1	10	58

California—Los Angeles.

Senior Surg. Brooks, of the United States Public Health Service, reported by telegraph that during the week ended December 27, 1913, three cases of smallpox were notified in Los Angeles, Cal.

New York—Niagara Falls.

Acting Asst. Surg. Bingham, of the United States Public Health Service, reported by telegraph that during the week ended December 27, 1913, 15 cases of smallpox had been notified in Niagara Falls, N. Y.

SMALLPOX—Continued.

Miscellaneous State Reports.

Places.	Cases.	Deaths.
Indiana (Nov. 1-30):		
Counties—		
Benton	10	
Blackford	2	
Carroll	1	
Clinton	2	
Crawford	10	
Daviess	2	
Du Bois	3	
Floyd	23	
Grant	10	
Howard	1	
Lake	1	
Marion	8	
Miami	5	
Noble	3	
Owen	4	
Posey	12	
Putnam	1	
St. Joseph	7	3
Vanderburgh	16	
Wayne	4	
Total	125	3
Iowa (Nov. 1-30):		
Counties—		
Appanoose	5	
Benton	1	
Boone	1	
Carroll	1	
Clayton	1	
Clinton	1	
Crawford	3	
Dallas	2	
Davis	24	
Dickinson	2	
Dubuque	2	
Fremont	2	
Jasper	4	
Lee	4	
Marion	9	
Mills	1	
O'Brien	2	
Polk	38	
Pottawattamie	3	
Scott	2	
Sioux	4	
Story	1	
Washington	1	
Total	114	
Kansas (Nov. 1-30):		
Counties—		
Bourbon	1	
Chase	4	

Places.	Cases.	Deaths.
Kansas—Continued.		
Counties—Continued.		
Cowley	1	
Crawford	14	
Finney	9	
Ford	11	
Franklin	5	
Greenwood	5	
Montgomery	1	
Republic	12	
Sedgwick	2	
Shawnee	1	
Wyandotte	17	
Total	83	
North Dakota (Nov. 1-30):		
Counties—		
Bowman	1	
Cass	2	
Ramsey	3	
Ransom	5	
Richland	2	
Rolette	4	
Stutsman	14	
Ward	2	
Wells	6	
Total	39	
Oregon (Nov. 1-30):		
Counties—		
Clatsop	1	
Gilliam	5	
Marion	2	
Tillamook	1	
Umatilla	5	
Wasco	158	
Yamhill	1	
Total	173	
Utah (Nov. 1-30):		
Counties—		
Davis	2	
Millard	2	
Piute	1	
Salt Lake	63	
San Pete	14	
Sevier	11	
Summit	1	
Tooele	2	
Utah	5	
Weber	21	
Total	122	

City Reports for Week Ended Dec. 13, 1913.

Places.	Cases.	Deaths.
Altoona, Pa	1	
Chicago, Ill	1	
Evansville, Ind	6	
Kansas City, Kans	4	
Kansas City, Mo	3	
Knoxville, Tenn	3	
Lexington, Ky	1	
Los Angeles, Cal	1	
Marinette, Wis	3	
Milwaukee, Wis	33	
Nashville, Tenn	7	
Niagara Falls, N. Y	11	
Reading, Pa	5	
St. Joseph, Mo	1	
San Diego, Cal	1	
Schenectady, N. Y	1	
South Bend, Ind	1	
Spokane, Wash	4	
Superior, Wis	3	
Toledo, Ohio	54	
Zanesville, Ohio	3	

TYPHOID FEVER.

State Reports for November, 1913.

Places.	Number of new cases reported during month.
Indiana:	
Bartholomew County	1
Benton County	1
Blackford County	1
Brown County	1
Carroll County	1
Cass County	23
Clark County	14
Crawford County	5
Daviess County	2
De Kalb County	1
Delaware County	1
Du Bois County	10
Elkhart County	9
Fayette County	2
Floyd County	4
Fountain County	1
Franklin County	10
Fulton County	2
Gibson County	2
Greene County	3
Hamilton County	7
Hendricks County	2
Henry County	5
Huntington County	3
Jackson County	6
Jay County	2
Jefferson County	3
Jennings County	1
Johnson County	6
Knox County	2
Kosciusco County	3
Lake County	2
La Porte County	1
Lawrence County	6
Madison County	2
Marion County	19
Marshall County	2
Martin County	15
Monroe County	2
Montgomery County	5
Morgan County	3
Newton County	1
Noble County	1
Orange County	2
Parke County	18
Perry County	1
Porter County	1
Posey County	2
Pulaski County	17
Putman County	6
Ripley County	8
Scott County	1
Shelby County	4
Steuben County	4
St. Joseph County	3
Switzerland County	1
Tippecanoe County	4
Tipton County	2
Union County	2
Vanderburg County	15
Vermilion County	1
Vigo County	4
Warrick County	7
Washington County	5
Wayne County	7
Wells County	4
Whitley County	2
Total	314
Kansas:	
Allen County	6
Atchison County—	
Atchison	2
Barber County	1
Kansas—Continued.	
Bourbon County—	
Fort Scott	2
Brown County	1
Butler County	1
Chautauqua County	2
Cherokee County	11
Cloud County	2
Crawford County	2
Pittsburg	2
Dickinson County	1
Doniphan County	1
Douglas County	3
Elk County	2
Ellsworth County	1
Franklin County	2
Gray County	1
Greenwood County	4
Harper County	3
Harvey County	1
Jackson County	1
Kearny County	2
Labette County	15
Parsons	2
Leavenworth County	3
Leavenworth	2
Linn County	1
Lyon County	1
Marion County	11
Meade County	1
Miami County	1
Mitchell County	1
Montgomery County	1
Coffeyville	2
Morris County	8
Neosho County	2
Norton County	1
Osage County	1
Osborne County	2
Pottawatomie County	1
Rawlins County	1
Reno County—	
Hutchinson	3
Republic County	1
Rooks County	1
Russell County	2
Saline County	1
Scott County	1
Sedgwick County	3
Wichita	3
Stevens County	2
Sumner County	4
Washington County	5
Wilson County	3
Woodson County	2
Wyandotte County	1
Kansas City	8
Total	151
Maryland exclusive of Baltimore City:	
Allegany County—	
Cumberland	28
Western Maryland Hospital	6
Allegany Hospital	5
Near Cumberland	3
Lonaconing	2
Eckhart Mines	1
Ellerslie	1
Vale Summit	1
Mount Savage	1
Litnerville	1
Valley Road	1
Midland	1
Westernport	1
Luke	1

TYPHOID FEVER—Continued.

State Reports for November, 1913—Continued.

Places.	Number of new cases reported during month.
Maryland exclusive of Baltimore City—Continued.	
Anne Arundel County—	
Deale	5
Curtis Bay	4
Nutwell	2
Waterbury	2
Brooklyn R. F. D	1
Robinsonville	1
Baltimore County—	
Highlandtown	5
Catonsville	4
Parkton	2
Arlington	2
Phoenix	1
Ruxton	1
Govans	1
Towson	1
Mount Washington	1
Mount Winans	1
Relay	1
Halethrope	1
Owings Mills	1
Turners Station	1
Hyde R. F. D	1
Uplands	1
Parkton R. F. D	1
Loch Raven	1
St. Agnes Hospital	1
Calvert County—	
Owings	1
North Beach	1
Caroline County—	
Federalsburg	2
Preston	1
Carroll County—	
Union Bridge	3
Westminster	1
Mount Airy	1
Cecil County—	
Elkton	3
Rowlandville	1
North East	1
Rising Sun	1
Near Cecilton	1
Charles County—	
La Plata	5
Pomfret	1
Indian Head	1
Popes Creek	1
Dorchester County—	
Cambridge	14
Fishing Creek	4
Andrews	4
Aireys R. F. D	2
Cambridge R. F. D	1
Burktown	1
Lakesville	1
Wingate	1
Crapo	1
Toddville	1
Vienna	1
Frederick County—	
Brunswick	1
Liberty	1
Walkersville	1
Burkittsville	1
Araby	1
Myersville	1
Lewistown	1
Utica Mills	1
Frederick	1
Thurmont	1
Maryland exclusive of Baltimore City—Continued.	
Garrett County—	
Bittinger	2
Crellin	1
Oakland	1
Oakland R. F. D	1
Harford County—	
Joppa	1
Perryman	1
Fallston	1
Aberdeen	1
Howard County—	
Lisbon	1
Poplar Springs	1
Kent County—	
Kennedyville	1
Montgomery County—	
Brighton	3
Brinklow	1
Forest Glen	1
Prince Georges County—	
Capitol Heights	2
Nottingham	1
Oxen Hill	1
Riverdale	1
Queen Anne County—	
Church Hill	3
Sudlersville R. F. D	2
Millington R. F. D	1
St. Marys County—	
St. Marys City	1
Somerset County—	
Dames Quarter	9
Crisfield	4
Chance	2
Fairmount	1
Lawsonia	1
Lawsons District	1
Eden	1
Ewell	1
Talbot County—	
Tilghman	2
Trappe	2
Easton	2
Washington County—	
Hagerstown	3
Hancock	3
Mercerville	1
Smithsburg	1
Wicomico County—	
Salisbury	6
Fruitland	3
North Salisbury	2
Worcester County—	
Snow Hill	3
Pocomoke City	2
Berlin	2
Bishopville	1
Total	246
Minnesota:	
Anoka County—	
Anoka	1
Ramsey Township	1
Becker County—	
Detroit	1
Beltrami County—	
Spooner	2
Blue Earth County—	
Rapidan Township	1
Brown County—	
Sleepy Eye	1

TYPHOID FEVER—Continued.

State Reports for November, 1913—Continued.

Places.	Number of new cases reported during month.
Minnesota—Continued.	
Carlton County—	
Cloquet	5
Clearwater County—	
Eddy Township	1
Crow Wing County—	
Brainerd	3
Crosby	2
Cuyuna	1
Goodhue County—	
Cannon Falls	1
Grant County—	
North Ottawa Township	3
Hennepin County—	
Excelsior	1
Minneapolis	22
Isanti County—	
Dalbo Township	1
Kandiyohi County—	
Willmar	1
Lac Qui Parle County—	
Lake Shore Township	2
Lake County—	
Two Harbors Township	1
Meeker County—	
Ellsworth Township	1
Grove City	2
Morrison County—	
Granite Township	1
Murray County—	
Bondin Township	1
Currie	1
Fenton Township	1
Nobles County—	
Brewster	1
Norman County—	
Ada	1
Olmsted County—	
Eyota	1
Rochester	1
Pine County—	
Bruno	1
Hinckley	1
Polk County—	
Eden Township	1
Roome Township	1
Pope County—	
Glenwood	1
Ramsey County—	
North St. Paul	1
Rose Township	1
St. Paul	18
Red Lake County—	
Lambert Township	1
Renville County—	
Norfolk Township	6
Rice County—	
Faribault	1
Roseau County—	
Palmville Township	1
Warroad	2
St. Louis County—	
Ault Township	1
Duluth	17
Ely	5
Eveleth	1
Fall Lake	3
Keewatin	1
Mesaba	1
Proctor	1
Virginia	5
Stearns County—	
Avon	1
Minnesota—Continued.	
Todd County—	
Stowe Prairie Township	1
Traverse County—	
Wheaton	1
Wabasha County—	
Plainview Township	1
Washington County—	
Hugo	1
Stillwater	1
Watonwan County—	
Butterfield	1
Wright County—	
Southside Township	1
Yellow Medicine County—	
Canby	1
Total	142
New York:	
Albany County	4
Allegany County	4
Broome County	3
Cattaraugus County	8
Cayuga County	6
Chautauqua County	5
Chemung County	7
Chenango County	2
Clinton County	2
Columbia County	7
Cortland County	1
Delaware County	14
Dutchess County	17
Erie County	32
Essex County	2
Franklin County	7
Genesee County	1
Greene County	12
Herkimer County	2
Jefferson County	5
Madison County	1
Monroe County	2
Montgomery County	1
Nassau County	4
New York City	289
Niagara County	8
Oneida County	9
Onondaga County	13
Ontario County	6
Orange County	6
Orleans County	3
Oswego County	17
Otsego County	3
Rensselaer County	10
St. Lawrence County	3
Saratoga County	12
Schenectady County	4
Schoharie County	3
Schuyler County	1
Seneca County	2
Steuben County	20
Suffolk County	1
Sullivan County	1
Tioga County	4
Tompkins County	7
Ulster County	8
Warren County	4
Washington County	2
Wayne County	3
Westchester County	9
Yates County	3
Total	600

TYPHOID FEVER—Continued.

State Reports for November, 1913—Continued.

Places.	Number of new cases reported during month.
North Dakota:	
Burleigh County	3
Bowman County	1
Cavalier County	1
Dunn County	6
Eddy County	1
Golden Valley County	3
Grand Forks County	1
Morton County	4
Nelson County	2
Pierce County	1
Ramsey County	4
Richland County	5
Steele County	1
Ward County	1
Williams County	9
Total	43

Places.	Number of new cases reported during month.
Oregon:	
Clackamas County	1
Clatsop County	1
Douglas County	1
Grant County	1
Jackson County	2
Multnomah County	7
Tillamook County	1
Wallowa County	3
Wasco County	1
Total	18

City Reports for Week Ended Dec. 13, 1913.

Places.	Cases.	Deaths.
Alameda, Cal	2	
Ann Arbor, Mich	1	
Atlantic City, N. J	1	
Austin, Tex	1	
Baltimore, Md	5	2
Beaver Falls, Pa	1	
Boston, Mass	11	
Brockton, Mass	1	
Buffalo, N. Y	7	3
Cambridge, Mass	1	
Chicago, Ill	41	4
Cincinnati, Ohio	1	
Cleveland, Ohio	5	1
Cumberland, Md	2	
Dunkirk, N. Y	2	1
Elmira, N. Y	1	
Erie, Pa	5	
Evansville, Ind		1
Everett, Mass	1	
Fall River, Mass	2	
Fitchburg, Mass	1	1
Grand Rapids, Mich	1	
Harrisburg, Pa		1
Hartford, Conn	1	
Kalamazoo, Mich		1
Kansas City, Kans	2	
Kansas City, Mo	2	1
Little Rock, Ark	2	
Lowell, Mass	2	
Lynchburg, Va	1	
Lynn, Mass	1	
Malden, Mass	1	
Milwaukee, Wis	1	1

Places.	Cases.	Deaths.
Moline, Ill	1	1
Newark, N. J	6	
New Bedford, Mass	2	
New Orleans, La	2	3
Newport, Ky	1	1
Norristown, Pa	2	
Pasadena, Cal	1	
Pawtucket, R. I	1	
Philadelphia, Pa	10	5
Pittsburgh, Pa	9	2
Plainfield, N. J	1	
Providence, R. I	3	
Reading, Pa	3	1
Richmond, Va	2	
Sacramento, Cal	8	
Saginaw, Mich	2	
St. Joseph, Mo	3	1
St. Louis, Mo	15	3
San Francisco, Cal	2	1
South Bend, Ind	3	
South Bethlehem, Pa	1	
Spokane, Wash	1	
Springfield, Ill	1	
Springfield, Mass	1	
Trenton, N. J	1	
Waltham, Mass	2	
Washington, D. C	2	
Wheeling, W. Va		1
Wilkinsburg, Pa	1	
Worcester, Mass	4	
York, Pa	3	
Zanesville, Ohio	5	

CEREBROSPINAL MENINGITIS.

State Reports for November, 1913.

Places.	Number of new cases reported during month.
Indiana:	
Daviess County	2
Parke County	1
Total	3
Iowa:	
Linn County	1
Pottawattamie County	1
Total	2
Minnesota:	
St. Louis County—Duluth	1
Total	1
New York:	
Cattaraugus County	1
Delaware County	1
Jefferson County	1
Oneida County	1
Saratoga County	1
Total	5

City Reports for Week Ended Dec. 13, 1913.

Places.	Cases.	Deaths.
Boston, Mass.	1	
Chicago, Ill.		1
Dayton, Ohio		1
Kansas City, Mo.	1	1
Lexington, Ky.	1	
Los Angeles, Cal.		1
New Bedford, Mass.	2	2
New Orleans, La.	1	
Oakland, Cal.	1	
Philadelphia, Pa.	1	1
Waltham, Mass.	1	

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for November, 1913.

Places.	Number of new cases reported during month.
Indiana:	
Hamilton County	1
Hancock County	1
Hendricks County	2
La Porte County	1
Marion County	1
Tippecanoe County	1
Vanderburg County	1
Total	8
Iowa:	
Audubon County	1
Emmet County	1
Polk County	1
Total	3
Kansas:	
Barton County	1
Jackson County	1
Leavenworth County	1
Marion County	1
Neosho County	1
Phillips County	1
Wilson County	1
Harvey County	1
Total	8
Minnesota:	
Mower County—Austin	1
Rock County—Battle Plain Township	1
St. Louis County—Duluth	1
Steele County—Somerset Township	1
Washington County—Baytown Township	1
Total	5
New York:	
Columbia County	2
Essex County	1
Jefferson County	1
Otsego County	1
St. Lawrence County	1
Schenectady County	1
Tioga County	2
Westchester County	3
Total	12

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

City Reports for Week Ended Dec. 13, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Dayton, Ohio	.....	1	Philadelphia, Pa	1	.....
Franklin, N. H	1	.....	Pittsburgh, Pa	1	.....
Morristown, N. J	1	.....	Worcester, Mass	1	.....

ERYSIPELAS.

City Reports for Week Ended Dec. 13, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Binghamton, N. Y	1	.....	Montclair, N. J	.....	1
Boston, Mass	.....	1	Morristown, N. J	1	.....
Brockton, Mass	1	.....	Norristown, Pa	.....	1
Bridgeport, Conn	1	.....	Philadelphia, Pa	9	2
Buffalo, N. Y	4	.....	Pittsburgh, Pa	5	.....
Chicago, Ill	6	1	Reading, Pa	2	.....
Cincinnati, Ohio	2	.....	St. Louis, Mo	5	.....
Cleveland, Ohio	8	1	San Francisco, Cal	2	2
Elmira, N. Y	.....	1	Schenectady, N. Y	.....	1
Erie, Pa	1	.....	Spokane, Wash	1	1
Lancaster, Pa	1	.....	Yonkers, N. Y	1	.....
Milwaukee, Wis	.....	1			

LEPROSY.

Louisiana—New Orleans.

The city health officer for New Orleans, La., reports that during the week ended December 13, 1913, 2 cases of leprosy were notified in that city.

PELLAGRA.

During the week ended December 13, 1913, pellagra was reported by cities as follows: La Crosse, Wis., 1 death; Lynchburg, Va., 2 cases; North Adams, Mass., 2 deaths; San Francisco, Cal., 1 death.

PLAGUE.

Rats Collected and Examined.

Places.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
California:					
Cities—					
Oakland	Dec. 6, 1913	14	593	464	.....
Berkeley	do	6	175	124	.....
San Francisco	do	10	1,711	1,320	.....
Washington:					
Seattle	do	.....	[1] 742	719	1

[1] Including 4 shrews and 2 mountain beavers.

California—Squirrels Collected and Examined.

During the week ended December 6, 1913, 6 ground squirrels from Alameda County were examined for plague infection. None was found plague infected.

PNEUMONIA.

City Reports for Week Ended Dec. 13, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Binghamton, N. Y.	5	4	Manchester, N. H.	3	3
Braddock, Pa.	1	.....	Newport, Ky.	3	3
Chicago, Ill.	104	69	Philadelphia, Pa.	30	54
Cleveland, Ohio	18	11	Pittsburgh, Pa.	17	21
Grand Rapids, Mich.	3	1	San Francisco, Cal.	10	.....
Kalamazoo, Mich.	3	1	South Bethlehem, Pa.	1	1
Kansas City, Mo.	3	9	South Omaha, Nebr.	1	.....
Lancaster, Pa.	1	.....	Spokane, Wash.	1	.....
Los Angeles, Cal.	15	9	Steelton, Pa.	1	.....

ROCKY MOUNTAIN SPOTTED FEVER.

Minnesota.

Dr. A. J. Chesley, director of the division of epidemiology of the Minnesota State Board of Health, stated under date of December 19, that information in the case reported as Rocky Mountain spotted fever and described below and also another case similar to it, was not received by the State board of health until after the patients had died; that a history of the second case had not as yet been obtained; that both patients lived near the main line of the Northern Pacific Railway, which is suggestive of the possibility of importation of infected ticks from Montana; and that as no member of the Minnesota State Board of Health staff had had personal experience with Rocky Mountain spotted fever, the case history was submitted without comment.

History of a case of Rocky Mountain spotted or tick fever occurring at Frazee, Minn., May 4, 1913.

M. A. P.—Age 7, visited by me on May 4, 1913, gave me the following history through her mother:

The child had not been feeling well for several days, refusing food and showing a disinclination to be about with other children. Following a few days of malaise she became feverish and suffered repeated chills and also complained of an intense headache and leg ache. She was nauseated and began to vomit profusely. On the evening of May 3, 1913, she complained of pain under her right arm, and on looking for some cause of the pain in the right axilla the father found a tick in situ which he immediately removed. The child was very feverish during the night, continued to complain of severe headache and suffered a persistent emesis.

Family history negative. On examination found child's face flushed. Patient was nauseated and complained of headache. She was nervous and very restless, tossing herself about on the bed. Slight cough present. Patient constipated. No tympanites. No opisthotonos. Kernig's sign absent. Temperature 103.2° F., pulse 120, respiration 28. Tongue heavily furred. The whole picture was strongly suggestive of a typhoid condition. The skin was negative. Pulse though rapid was of good volume. Urine passed was dark in color and somewhat scanty. Widal and Diazo negative.

The slightest movement of the right arm caused the child to scream, complaining of intense pain referred to the axilla. On inspection I found a small cavity surrounded by necrotic tissue. The cavity was about 1 cm. in breadth and 8 mm. in depth, and discharging a sero-purulent matter. On palpation found a mass comprising the axillary glands, the latter being indurated and very painful. There was sufficient tumefaction present to partially obliterate the infra-clavicular fossa.

ROCKY MOUNTAIN SPOTTED FEVER—Continued.

Local and systemic treatment heroic in every sense failed to combat the intense toxemia present; and the subsequent history, in symptomatology and pathology, confirmed my erstwhile suspicion that I had a case of spotted fever to deal with.

Temperature.—The temperature curve gradually reached, 48 hours before death, 105.2° F. Daily morning remissions were noticed. Twenty-four hours before death temperature became subnormal.

Skin.—Some 72 hours before death petechiæ, scattered over trunk and extremities, showed themselves. A pronounced hemorrhagic diathesis was present for two weeks prior to death. Free bleeding from the nasal mucous membrane, as also from slight abrasions from picking of mouth and nose, gave rise in turn to black scabs and incrustations about mouth and nose. The small subcutaneous hemorrhages scattered over the body gave it a mottled aspect, spoken of by all observers and investigators of this disease. Forty-eight hours before death the skin took an ashy hue, undoubtedly a cynanosis of passive congestion, secondary to the pathology of the viscera.

Nervous system.—The intense headache complained of during the first week was followed by mental hebetude, which held forth for a few days, only to be replaced by a low muttering delirium, which persisted until death. The movement of the right arm remained painful until dissolution. The induration also persisted in the lymph glands, and no suggestion of resolution was present. For a period of two weeks the patient's hands were gloved because of the desire to continually pick mouth and nose.

Circulatory system.—The pulse represented a very interesting condition. With all the evidence of an intense toxemia, it remained full and strong until about 48 hours before death. Its rate at this time was 160. It subsequently became weak and intermittent. Blood at bleeding points was very dark in color. The final cause of death was hypostatic pneumonia, May 26, 1913.

Tick bites often came to the notice of a physician during the past summer because of the severity of local lesions. The local reaction in every instance, where the mandibles had been detached because of excessive force used in removing the tick body, was intense. Disagreeable inflammatory symptoms were always present.

Dr. Oscar C. Breitenbach,
Frazee, Minn.

December 1, 1913.

TETANUS.

During the week ended December 13, 1913, tetanus was reported by cities as follows: Baltimore, Md., 1 case; Chicago, Ill., 4 deaths; Pittsburgh, Pa., 1 case; St. Louis, Mo., 1 case; Wilmington, N. C., 1 death.

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.

State Reports for November, 1913.

State.	Cases.		
	Scarlet fever.	Measles.	Diphtheria.
Indiana	486	126	775
Iowa	92	.....	104
Kansas	109	49	112
Maryland, exclusive of Baltimore City	120	56	204
Minnesota	252	230	483
New York	829	1,630	1,303
North Dakota	10	3	5
Oregon	35	141	21

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Dec. 13, 1913.

Cities.	Population United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md	558,485	187	55	1	2	1	21	.....	37	13
Boston, Mass	670,585	236	63	2	25	.....	70	1	103	20
Chicago, Ill	2,185,283	557	193	19	33	.....	85	6	167	67
Cleveland, Ohio	560,663	167	116	9	29	.....	19	4	24	7
Philadelphia, Pa	1.549,008	463	73	9	30	.....	55	2	94	40
Pittsburgh, Pa	533,905	160	64	7	76	2	74	3	28	13
St. Louis, Mo	687,029	191	84	4	29	1	26	.....	42	17
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	423,715	145	28	2	11	1	10	.....	27	12
Cincinnati, Ohio	364,463	125	36	2	5	.....	12	.....	35	21
Los Angeles, Cal	319,198	123	14	1	4	.....	15	.....	41	18
Milwaukee, Wis	373,857	103	41	3	15	.....	19	.....	13	14
Newark, N. J	347,469	108	44	2	111	.....	28	.....	30	15
New Orleans, La	339,075	141	39	3	20	.....	3	.....	14	17
San Francisco, Cal	416,912	143	5	1	5	.....	9	.....	30	20
Washington, D. C	331,069	95	18	.....	2	.....	9	.....	14	7
From 200,000 to 300,000 inhabitants:										
Jersey City, N. J	267,779	69	.....	.....	.....	.....	.....	.....	.....	.....
Kansas City, Mo	248,381	84	15	2	3	1	.....	.....	4	9
Providence, R. I	224,326	.....	18	2	7	1	3	.....	5	5
From 100,000 to 200,000 inhabitants:										
Bridgeport, Conn	102,054	33	11	.....	21	5	3	.....	5	.....
Cambridge, Mass	104,839	37	2	.....	6	.....	12	.....	7	5
Dayton, Ohio	116,577	30	27	.....	18	.....	3	.....	3	1
Fall River, Mass	119,295	36	4	.....	2	.....	6	.....	6	6
Grand Rapids, Mich	112,571	25	22	1	173	.....	12	.....	1	2
Lowell, Mass	106,294	31	5	1	8	.....	8	.....	5	2
Nashville, Tenn	110,364	32	1	.....	.....	.....	6	.....	6	4
Oakland, Cal	150,174	46	12	.....	.....	.....	4	.....	5	2
Richmond, Va	127,628	46	9	.....	1	.....	5	.....	6	3
Spokane, Wash	104,402	.....	2	.....	3	.....	1	.....	1	1
Toledo, Ohio	168,497	54	13	2	.....	.....	3	1	.....	6
Worcester, Mass	145,986	42	7	.....	2	.....	15	1	12	1
From 50,000 to 100,000 inhabitants:										
Altoona, Pa	52,127	5	2	.....	.....	.....	.....	1	.....	1
Bayonne, N. J	55,545	18	4	.....	6	.....	3	2	1	3
Brockton, Mass	56,878	22	14	.....	1	.....	7	.....	.....	2
Camden, N. J	94,538	.....	12	.....	.....	.....	3	.....	3	.....
Erie, Pa	66,525	16	6	.....	4	.....	2	.....	1	.....
Evansville, Ind	69,647	20	4	.....	.....	.....	4	.....	.....	1
Harrisburg, Pa	64,186	21	10	.....	.....	.....	2	.....	.....	.....
Hartford, Conn	98,915	33	5	.....	.....	.....	4	2	.....	2
Hoboken, N. J	70,324	.....	3	.....	1	.....	2	.....	17	2
Houston, Tex	78,800	33	8	.....	.....	.....	.....	.....	2	3
Johnstown, Pa	55,482	24	14	1	4	.....	2	.....	.....	1
Kansas City, Kans	82,331	.....	4	.....	.....	.....	5	.....	6	.....
Lawrence, Mass	85,892	.....	3	.....	1	.....	3	.....	3	2
Lynn, Mass	89,336	22	7	.....	2	.....	4	.....	4	.....
Manchester, N. H	70,063	25	1	.....	3	.....	5	.....	1	1
New Bedford, Mass	96,652	37	1	.....	.....	.....	6	.....	7	2
Passaic, N. J	54,773	20	3	.....	1	.....	1	.....	3	.....
Pawtucket, R. I	51,622	4	1	.....	.....	.....	2	.....	.....	2
Reading, Pa	96,071	25	12	1	.....	.....	5	.....	6	1
Saginaw, Mich	50,510	13	2	.....	1	.....	4	.....	.....	.....
St. Joseph, Mo	77,403	24	3	.....	1	.....	1	.....	2	1
Schenectady, N. Y	72,826	13	5	.....	.....	.....	2	.....	2	3
South Bend, Ind	53,684	9	5	.....	1	.....	.....	.....	.....	2
Springfield, Ill	51,678	12	3	.....	.....	.....	1	.....	.....	.....
Springfield, Mass	88,926	26	5	1	2	.....	1	.....	3	2
Trenton, N. J	96,815	38	4	.....	1	.....	4	1	6	2
Wilkes-Barre, Pa	67,105	27	6	.....	3	.....	8	.....	2	2
Yonkers, N. Y	79,803	23	4	.....	58	2	3	.....	5	2
From 25,000 to 50,000 inhabitants:										
Atlantic City, N. J	46,150	7	1	.....	.....	.....	.....	.....	3	.....
Aurora, Ill	29,807	7	1	.....	.....	.....	1	.....	.....	.....
Austin, Tex	29,860	10	1	.....	.....	.....	8	.....	.....	3
Binghamton, N. Y	48,443	16	.....	.....	.....	.....	.....	.....	.....	1
Brookline, Mass	27,792	6	4	.....	.....	.....	1	.....	2	1
Chelsea, Mass	32,452	15	5	.....	3	.....	.....	.....	4	.....
Chicopee, Mass	25,401	7	2	.....	1	.....	3	.....	1	.....

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Dec. 13, 1913—Continued.

Cities.	Population United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabitants—Continued.										
Danville, Ill.	27,871	12	1	1	1					1
East Orange, N. J.	34,371		8	1	27					
Elmira, N. Y.	37,176	10	1					1		
Everett, Mass.	33,484	8	1		1		3			1
Fitchburg, Mass.	37,826	10	3						1	1
Haverhill, Mass.	44,115						2		1	
Kalamazoo, Mich.	39,437	16	1						1	2
Knoxville, Tenn.	36,346	11	1		2					
La Crosse, Wis.	30,417	10	2				1		1	3
Lancaster, Pa.	47,227		2		1		1			
Lexington, Ky.	35,099	6	1				5		4	1
Little Rock, Ark.	45,941		2		9		2			
Lynchburg, Va.	29,494	13					1		1	2
Malden, Mass.	44,404	12	4	1	1		3		2	
Newcastle, Pa.	36,280		4	1	1					
Newport, Ky.	30,309	13	3							
Newton, Mass.	39,806	11					1		1	
Niagara Falls, N. Y.	30,445	11	1				1			
Norristown, Pa.	27,875	7			1					
Orange, N. J.	29,630	13	2		1		1		2	1
Pasadena, Cal.	30,291	5							2	2
Portsmouth, Va.	33,190	8	4				2			
Racine, Wis.	38,002	6	3				2			
Roanoke, Va.	34,874	9	1				4		5	
Sacramento, Cal.	44,696	20	1		2		1			1
San Diego, Cal.	39,578		5						1	1
South Omaha, Nebr.	26,259	10					1			
Superior, Wis.	40,384	12					4			1
Taunton, Mass.	34,259	10	1	1			8		3	
Waltham, Mass.	27,834	13	2		1		4	1	2	
Wheeling, W. Va.	41,641		9				1			
Wilmington, N. C.	25,748	18	3		24				1	2
York, Pa.	44,750		1						4	
Zanesville, Ohio.	28,026		5							
Less than 25,000 inhabitants:										
Alameda, Cal.	23,383	5								
Ann Arbor, Mich.	14,817	7	2				4		7	1
Braddock, Pa.	19,357		3		3		2			
Cambridge, Ohio.	11,327	1	2				5			
Clinton, Mass.	13,075	2								
Coffeyville, Kans.	12,687		1							
Columbus, Ind.	8,813	1	1							
Concord, N. H.	21,497	13					2			
Cumberland, Md.	21,839	9	7	1			9		3	1
Dunkirk, N. Y.	17,221	8			11		1			1
Franklin, N. H.	6,132	3					2			
Galesburg, Ill.	22,089	4								
Gloucester, Mass.	24,398	4								
Harrison, N. J.	14,498	1		2						
Kearny, N. J.	18,659	7	4		13		1		1	1
La Fayette, Ind.	20,081	4	1				1			
Marinette, Wis.	14,610	2								
Massillon, Ohio.	13,879	2							1	1
Medford, Mass.	23,150	7	2				1		1	2
Melrose, Mass.	15,715	6					4			
Moline, Ill.	24,199	3	2				1			
Montclair, N. J.	21,550	7					6			
Morristown, N. J.	12,507	5								
Nanticoke, Pa.	18,877	6	4	1	1		1			
Newburyport, Mass.	14,949	10								1
North Adams, Mass.	22,019	7	1	1			1			
Northampton, Mass.	19,431	10							1	2
Palmer, Mass.	8,610	3								
Plainfield, N. J.	20,550		1		2				1	
Pottstown, Pa.	15,599	7								2
Rutland, Vt.	13,546	3	3				2			
Saratoga Springs, N. Y.	12,693	3			1					
South Bethlehem, Pa.	19,973	11					5	1		1
Steelton, Pa.	14,246				1				2	
Wilkinsburg, Pa.	18,924	4	2						2	
Woburn, Mass.	15,308	2								

IN INSULAR POSSESSIONS.

HAWAII.

Plague-Infected Rat Found.

A plague-infected rat was found November 19, 1913, at a camp of the Honokaa Sugar Co.

Examination of Rats and Mongoose.

Rats and mongoose have been examined in Hawaii for plague infection as follows: Honolulu, week ended November 29, 1913, 347; week ended December 6, 1913, 397; Hilo, week ended November 22, 1913, 3,486; week ended November 29, 1913, 3,449; week ended December 6, 1913, 3,290.

PHILIPPINE ISLANDS.

Cholera—Manila.

Cholera has been notified in the city of Manila as follows: Week ended November 15, 1913, 8 cases with 8 deaths; week ended November 22, 1913, 21 cases with 10 deaths.

Surg. Heiser, chief quarantine officer and director of health, reports, under date of November 19, 1913, as follows:

Cholera is now present in Dagupan, Pangasinan Province; Santa Cruz, Cavite Province; Pasig, Rizal Province; and in Manila.

The disease is now apparently under control in all of these places and has yielded promptly to the sanitary measures which have been applied. Pasig is the only town in which the disease spread and was not eradicated within a few days after the first cases were discovered

Cholera vibrio carriers are still being found among the contacts, but there is now apparently a reduction in the percentage of such infections.

There has been a total of 126 cases and 90 deaths in Manila since the beginning of the outbreak on August 23, 1913, and 66 cases and 35 deaths in the provinces.

Cholera—Cebu.

Two cases of cholera were notified November 22, 1913, in Cebu, Philippine Islands.

Rabies in Animals—Manila.

A dog which bit two persons in Manila during the week ended November 15, 1913, was found upon post mortem examination at the bureau of science to be afflicted with rabies, negri bodies being present in large numbers. Pasteur treatment is available.

FOREIGN REPORTS.

CUBA.

Communicable Diseases—Habana.

DEC. 1-10, 1913.

Diseases.	New cases.	Deaths.	Remaining under treatment.
Leprosy			258
Malaria	24		[1] 5
Typhoid fever	13	3	49
Diphtheria	17		10
Scarlet fever	6		5
Measles	39		65
Varicella	13		13
Paratyphoid fever	4		6

[1] All from interior points of the Republic.

JAPAN.

Communicable Diseases.

Communicable diseases have been notified in the Empire of Japan (exclusive of Formosa) as follows:

MONTH OF OCTOBER, 1913.

Diseases.	Cases.	Deaths.	Diseases.	Cases.	Deaths.
Diphtheria	1,398	338	Scarlet fever	97	5
Dysentery	2,362	575	Smallpox	3	3
Paratyphoid fever	591	67	Typhoid fever	4,108	768
Plague	11	8			

JAN. 1-OCT. 31, 1913.

Diseases.	Cases.	Deaths.	Diseases.	Cases.	Deaths.
Cholera	78	22	Plague	14	11
Diphtheria	15,201	3,918	Scarlet fever	1,058	87
Dysentery	15,325	3,259	Smallpox	105	39
Paratyphoid fever	3,255	387	Typhoid fever	22,805	4,192

RUSSIA.

Plague—Ural Territory.

During the period from October 20 to November 10, 1913, 212 cases of plague with 170 deaths were notified in Ural Territory, Russia.

ZANZIBAR.

Examination of Rats—Zanzibar.

During the two weeks ended November 14, 1913, 1,801 rats were examined at Zanzibar for plague infection. None was found plague infected.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Jan. 2, 1914.

[These tables include cases and deaths recorded in reports received by the Surgeon General, Public Health Service, from American consuls through the Department of State and from other sources.]
[For reports received from June 28, 1913, to Dec. 26, 1913, see PUBLIC HEALTH REPORTS for Dec. 26, 1913. In accordance with custom, the tables of epidemic diseases are terminated semiannually and new tables begun.]

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Bosnia-Herzegovina—				
Brod	Nov. 13–18	2		
Kostjnica	do	1		
Novigrad	Oct. 26–Nov. 5	1		
Sjekocac	Nov. 6	1		
Zenica	Oct. 26–Nov. 18	9	2	
Ceylon:				
Colombo	Nov. 9–15	3	5	
Dutch East Indies:				
Java—				
Batavia and Tanjong Priok.	do	10	8	
India:				
Bombay	Nov. 10–22	5	4	
Calcutta	Nov. 9–15		35	
Madras	Nov. 16–22	2	2	
Philippine Islands				Nov. 19, present in Dagupan, Pasig, and Santa Cruz. Nov. 22, present in Cebu.
Manila	Nov. 9–22	29	18	
Straits Settlements:				
Singapore	Nov. 2–8	5	4	
Turkey in Asia:				
Trebizond	Dec. 19			Present.
Turkey in Europe:				
Constantinople	Nov. 25–Dec. 7	45	17	Total Aug. 2–Dec. 7: Cases 119, deaths 57.

YELLOW FEVER.

Brazil:				
Bahia	Nov. 23–29	1		
Southern Nigeria:				
Lagos	Oct. 20	2		Including 1 European.

PLAGUE.

Brazil:				
Bahia	Nov. 23–29	3		
Rio de Janeiro	Nov. 16–22	1	1	
British East Africa:				
Kisumu	Sept. 12–Oct. 13	2	2	
Mombasa	Sept. 12–Nov. 15	31	10	
Nairobi	do	3	3	
China:				
Hongkong	Nov. 2–8	1	1	
India:				
Bombay	Nov. 9–22	6	6	
Calcutta	Nov. 2–9		3	
Karachi	Nov. 9–22	29	29	
Madras	Nov. 16–22	3	1	
Rangoon	Oct. 26–31	7	7	

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

Reports Received During Week Ended Jan. 2, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Russia:				
Ural, territory				Total Oct. 20–Nov. 10: Cases, 212; deaths, 170; and 2 fatal cases from Issum-Tube.
Djakisabevsk district—				
Djumarta	Nov. 9–10	5	1	
Djantayut	Nov. 8–10	2	2	
Kizilu	Nov. 8	1	1	
Fourteenth village	Nov. 7–9	6		
Sarbas	Nov. 8–10	13	7	
Kaziljar district	Nov. 5–10	39	24	In Assaukurt, Baitchurek, Biskuduk, and Djamankuduk.
Lbistchensky district—				
Issum-Tube	Oct. 20–Nov. 10	138	127	
Kaimikov	Nov. 4–10	6	6	

SMALLPOX.

Arabia:				
Aden	Nov. 25–Dec. 1		1	
Brazil:				
Bahia	Nov. 23–29	1		
Para	Dec. 1–6		6	
Pernambuco	Nov. 1–15		18	
Rio de Janeiro	Nov. 9–22	35	6	
Canada:				
Ontario—				
Ottawa	Dec. 7–13	5		
Toronto	do	1		
Quebec—				
Montreal	Dec. 7–20	8		
China:				
Hankow	Nov. 2–22	2		
Tientsin	Nov. 9–15		1	
Dutch East Indies:				
Java—				
Batavia	do	15		
Surabaya	Oct. 28–Nov. 8	3		
Egypt:				
Alexandria	Nov. 26–Dec. 2	2	1	
France:				
Nice	Nov. 1–30	1		
Paris	Nov. 23–29	4		
St. Etienne	Nov. 16–30	8	3	
Gibraltar	Dec. 1–7	1		
India:				
Calcutta	Nov. 2–8		1	
Madras	Nov. 2–15	3	1	
Japan				Total, Jan. 1–Oct. 31: Cases, 105; deaths, 39.
Mexico:				
Aguascalientes	Dec. 1–14		4	
Monterey	Nov. 17–23		3	
Veracruz	Dec. 6–13	2		
Norway:				
Trondhjem	Nov. 1–30	5		
Portugal:				
Lisbon	Nov. 16–29	5		
Russia:				
St. Petersburg	Nov. 23–29	4	1	
Warsaw	Oct. 5–11	1	2	
Spain:				
Almeria	Nov. 1–30		2	
Barcelona	Nov. 30–Dec. 6		4	
Madrid	Nov. 1–30		31	
Seville	do		1	
Valencia	Dec. 1–6	2		
Switzerland:				
Basel	Nov. 23–29	3		
Turkey in Asia:				
Beirut	do	20	3	
Turkey in Europe:				
Constantinople	Nov. 30–Dec. 6		2	
Saloniki	Dec. 1–7		7	

SANITARY LEGISLATION.

MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

SAULT STE. MARIE, MICH.

Laundries—Licensing and Regulation of. (Ord. 224, Feb. 12, 1912.)

SECTION 1. Any place, building, structure, premises, or establishment in said city, which is used for the purpose of laundering wearing apparel, shirts, collars, cuffs, handkerchiefs, table or bed linen, or towels, for the general public, for hire, compensation, or reward therefor, shall be deemed a laundry for all purposes of this ordinance.

SEC. 2. No person, persons, firm, or corporation shall establish, maintain, or operate any such laundry without having been licensed so to do by said city. Every person, persons, firm, or corporation establishing, maintaining, or operating any such laundry shall annually, on the 1st day of May of each year, pay into the city treasury a license fee of $17 per year for each laundry so established, maintained, or operated, which license shall be issued for the unexpired period of the year ending on the 1st day of May after the date of said license.

SEC. 3. Any person, persons, firm, or corporation desiring to establish, maintain, or operate a laundry, as defined in the ordinance, shall make application therefor in writing to the mayor of said city. Such application shall set forth the name and residence of the applicant, if an individual, the names and residences of all copartners, if a firm, and the names and residences of the principal officers of the applicant, if a corporation, together with the location of the place for which such license is desired. Such applicant shall also state the maximum number of persons to be employed in such laundry, the number of rooms or apartments therein, and whether or not any of said rooms or apartments are used entirely for laundry purposes or otherwise. Upon receipt of such application by the mayor, he shall thereupon transmit the same to the health officer of said city for investigation and report as herein provided.

SEC. 4. Upon the receipt of any such application by the health officer, he shall, within five days thereafter, make an examination of the place described in such application for the purpose of ascertaining whether the location of such proposed laundry, the construction and ventilation thereof, the amount of space therein, and the sanitary and drainage arrangements and appliances are sufficient to properly protect the public health and the health of the persons to be employed in such proposed laundry. If such health officer shall find upon examination that said proposed laundry is so constructed and located that it can be kept, operated, and maintained in accordance with the provisions of this ordinance, he shall return such application, with his approval indorsed thereon; whereupon the mayor shall cause to be issued to such applicant, upon payment of said license fee as herein required, a license authorizing such applicant to establish, maintain, or operate a laundry at the place described in such application for and during the period of such license. Such license

so issued shall be countersigned by the city recorder and shall bear the impress of the corporate seal of said city. But no license shall be issued hereunder unless the application therefor shall first be approved as herein provided by the health officer of said city.

SEC. 5. If at any time after the granting of such license, the licensee shall keep, maintain, or operate any such laundry in such manner that the public health, or the health of the persons employed in such laundry is endangered, it shall be the duty of the mayor, and he is hereby authorized, to revoke such license.

SEC. 6. Every such license granted under the provisions of this ordinance shall be posted in a conspicuous place in the laundry for which such license was issued.

SEC. 7. Every place used as such laundry as aforesaid shall be kept in a reasonably clean and sanitary condition as to its floors, side walls, ceilings, woodwork, fixtures, furniture, tools, machinery, and utensils. All rooms used in connection with such laundry shall be provided with adequate ventilation by means of windows, air shafts, or air ducts or other mechanical apparatus, if needed, so as at all times to insure a free circulation of fresh air in such laundry. In any laundry maintained or operated under the provisions of this ordinance, or licensed so to do, the floor of the part of such laundry used as a wash room shall be constructed of stone, cement, or other impervious material, and shall be so arranged that all water upon the floor of such wash room will immediately run into drains or gutters to be connected with the sewers of said city. Every such laundry shall be provided with adequate plumbing and drainage facilities, including suitable wash sinks and water-closets.

SEC. 8. No person shall be permitted to sleep or eat in any of the rooms of such laundry which may be used for the purpose of washing, drying, starching, or ironing wearing apparel, shirts, collars, cuffs, handkerchiefs, table or bed linen, or towels; nor shall any room, section, or apartment of such laundry be used by any person for general living or sleeping purposes.

SEC. 9. No person who has consumption, scrofula, or communicable skin or other disease shall work in any such laundry, and no owner, proprietor, or person in charge of such laundry shall require, permit, or suffer such person to be employed in or about any such laundry. And it shall further be unlawful for any owner, proprietor, or person in charge of any such laundry to knowingly receive, wash, or launder any of the aforesaid articles from any person afflicted with any contagious or infectious disease, or from any infected premises, water craft, railway coach, or car without said article or articles having been first disinfected by the health officer of said city.

SEC. 10. The mayor or health officer of said city or any person or persons designated for such purpose by either of them shall have the right at all times to enter and inspect any such laundry for the purpose of ascertaining if the conditions and requirements of this ordinance are being complied with. And if such inspection shall disclose any lack of conformity to this ordinance, said health officer shall require such changes, alterations, and renovations as he may deem necessaryf or compliance with this ordinance.

SEC. 11. Every such laundry which is not maintained and conducted as herein provided for is hereby declared to be a public nuisance and shall be abated in the same manner as any other nuisance.

SEC. 12. No laundry shall be allowed or permitted to use as a workroom any room, basement, or cellars in which the clear height between the finished floor and the finished ceiling thereof is less than 8 feet, or in any basement or cellar which is not well drained, or in any location which is not in such communication with the outer air as to allow of adequate ventilation.

SEC. 13. It shall be unlawful for any person in any way connected with or employed by any such laundry to in any manner obstruct, hinder, or interfere with any officer or person in the full discharge of their duty hereunder, or to refuse or withhold any

information from the mayor, health officer, or other person acting under their authority relative to the sanitary management or arrangement of such laundry.

SEC. 14. Any license granted hereunder may be transferred from one location to another upon written application made therefor to the mayor in writing and upon the approval of said transfer by the health officer of said city.

SEC. 15. Any person, firm, or corporation violating any of the provisions of this ordinance shall upon conviction thereof be fined not to exceed $100 and costs of prosecution, or by imprisonment in the city or county jail for a period of not exceeding 30 days, or by both such fine and imprisonment in the discretion of the court.

SEC. 16. This ordinance shall take effect on and after the 1st day of May, 1912.

Buildings—Sewer Connections. (Ord. 226, May 20, 1912.)

SECTION 1. It shall be unlawful for the owner or owners of any dwelling house, store, living apartments, or other building occupied by a person or persons, to neglect or refuse to connect said described building or buildings with the public sewer under the conditions and after notice as prescribed in this ordinance.

SEC. 2. All dwelling houses, stores, living apartments, or other building or buildings occupied or used by any person or persons, and situate on or adjacent to any of the streets or alleys within which a public sewer is laid, shall be connected by a private sewer with such public sewer.

SEC. 3. Whenever any building herein described is deemed insanitary by the city health officer, or board of health, said health officer shall give the owner. owners, or his or their authorized agent, a notice thereof in writing, requiring said owner or owners to connect said building or buildings by a proper private sewage system with the public sewer within 30 days from date of said notice. Said notice may be served by mail or by personal service.

SEC. 4. If after the expiration of 30 days from the serving of such notice as provided in section 3 of this ordinance such owner or owners or authorized agent shall refuse or neglect to make the required connections with the public sewer, the board of health of said city may authorize any competent plumber to make such connections, and upon the completion thereof such plumber so authorized shall certify upon oath to said board of health that said connections have been made and the cost and expense thereof. Said board of health shall immediately file the same with the city recorder, together with certified copy of the notice served upon the owner or owners of such premises, and at the same time said board shall also file with the city recorder a statement in writing signed by said board showing the title description of said premises and the insanitary conditions which required said connections to be made. All such papers so filed with the recorder shall be presented to the council at the next regular meeting thereof, and the council shall thereupon levy against said premises a special assessment to defray the cost and expense to said city of making said connections, which said assessment shall stand as a charge against the property so assessed and benefited as taxes, and the same shall be collected and payment enforced in the same way as other city taxes. And any owner or owners of any building or buildings so connected with the public sewer who shall fail, neglect, or refuse thereafter to properly equip said building or buildings with the necessary drain pipes, sinks, or closets to properly carry all sewage from said premises into the public sewer, or who shall neglect and refuse to use said sewer for such purposes, shall be deemed guilty of a misdemeanor, and shall be punished as hereinafter provided.

SEC. 5. All connections from any building with the public sewer through which grease water is discharged must be provided with proper grease trap, approved by the board of health.

SEC. 6. Every plumber authorized by the board of health or otherwise to make any connections with any public sewer shall, before entering upon such work, file with the city recorder a bond in the penal sum of $1,000, with one or more sufficient sureties,

and approved by the city attorney, conditioned to indemnify said city from any and all damage resulting from such work. Such plumber shall be subject to the directions and supervision of the city engineer in the performance of such work. He shall also restore any street, sidewalk, gutter, or pavement disturbed by him in the performance of such work to the satisfaction of the superintendent of public works.

SEC. 7. No person shall erect a privy or privy vault on any property adjoining any street or alley within which a public sewer is laid.

SEC. 8. No person shall make any connection with or opening into any public or private sewer without permission of the city engineer.

SEC. 9. No person shall break, remove, or injure any portion of any manhole, flush tank, catch basin, or any part of any public or private sewer except authorized officers or agents of the city acting in the performance of their respective duties.

SEC. 10. All connections made with the public sewers shall conform to the grades established by the city engineer.

SEC. 11. No person shall connect any open gutter, cesspool, privy vault, or cistern with any public sewer or with any private sewer connected with the public sewer.

SEC. 12. No person shall deposit any garbage, offal, animal matter, filth, or any substance that would tend to obstruct the flow of sewage in any drain or other opening in the public or private sewer connected with the public sewers.

SEC. 13. It shall be the duty of the board of health to cause to be made all complaints for the prosecution of any person or persons found violating sections 1, 2, 4, 5, and 7 of this ordinance.

SEC. 14. Any person or persons who shall violate any of the provisions of this ordinance, or who shall aid or abet in the violation of the same, shall, upon conviction thereof, be punished by a fine not exceeding $100, or by imprisonment in the county or city jail for a period of 30 days, or by both such fine and imprisonment, in the discretion of the court.

SEC. 15. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SEC. 16. This ordinance shall take effect from and after the expiration of 20 days from its approval by the mayor.

SEATTLE, WASH.

Foodstuffs—Protection of. (Ord. 29778, July 30, 1912.)

SECTION 1. That section 1 of ordinance No. 24027, entitled "An ordinance relating to and providing for the protection of food and food products from pollution and contamination by dust, flies, and other insects, or other sources, and providing penalties for the violation thereof," approved May 9, 1910, be and the same is hereby amended to read as follows:

"SECTION 1. It shall be unlawful to keep, offer for sale, or expose for sale any meat, game, fish, fowl, vegetable, fruit, or prepared food in open receptacles or broken packages less than 2 feet above the floor of any building, store, room, or place in which the same may be sold or offered for sale. It shall also be unlawful to keep fish, meat, poultry, game, cheese, figs, dates, dried fruits, olives, sauerkraut, mincemeat, lard, butter, butterine, candy, crackers, cakes, bread, or any prepared food for sale, or exposed for sale, unless the same is protected in such manner as to exclude, so far as practicable, dust, flies, or other insects from coming in contact therewith. Fruits which are generally or frequently eaten in the raw condition when offered for sale in broken packages shall at all times be so protected by screens or netting, or otherwise, as to exclude dust, flies, or other insects. When fruits, vegetables, meats, and other foods are kept, sold, or offered for sale in receptacles, such receptacles shall be at all times free from decayed matter of every kind. Raw or uncooked meat, drawn poultry, game, fish, or other sea food shall not be kept or offered for sale unless suit-

ably covered, in an open window or doorway, or outside of a building, or in any street, private way, or public place.

"Live poultry shall not be kept in the same room or compartment in which meat is kept or offered for sale, nor shall live poultry be kept in any room or compartment adjoining such room or compartment if the conditions are such that the room or compartment in which the live poultry is kept ventilates, or is likely to ventilate, into such other room or compartment so that the odors from the fowls and their inclosures may contaminate the meat.

"All meat markets or other places of business for the sale of game, poultry, meat, fish, or other sea food shall be provided with tight floors made of tongue-and-groove flooring, or of concrete, and with water and sewer connections, and all windows and doors in such places shall be properly screened, when necessary, to exclude flies or other insects therefrom. All meat markets or places where the above-mentioned food products are sold or offered for sale, and all tools, implements, and fixtures used or handled therein shall be kept clean and in a sanitary condition, and all employees when handling meat or other food products shall wear clean linen or rubber aprons. All delivery wagons used in the city for the delivery of any food products shall be properly covered and kept in a clean, sanitary condition and so covered and handled as to keep the same free from dirt, dust, flies, and other insects, or other contamination."

SEWARD, ALASKA.

Board of Health—Organization of—Health Officer. (Ord. 10, Sept. 16, 1912.)

SECTION 1. There is hereby established a board of health, consisting of the ex officio mayor, the health officer, the chairman of the committee on health and police protection, the town marshal, and the town clerk, who shall be members ex officio of the board of health.

SEC. 2. That the town council shall appoint a physician as health officer, whose duty it shall be, under the direction of the common council, to execute and enforce all laws and regulations relating to public health and vital statistics, and to perform all such duties as may be assigned to him by said council.

SEC. 3. That the town council may employ, on the recommendation of the health officer, a reasonable number of guards, but no greater number shall be appointed than the public interests demand.

Garbage and Refuse—Care and Disposal of. (Ord. 10, Sept. 16, 1912.)

SEC. 4. That filth, the contents of cesspools, offal, garbage, foul water, refuse, or urine, stable manure, decayed animal and vegetable matter, or other offensive substance detrimental to health, thrown, placed, or allowed to remain in or upon any street, avenue, alley, sidewalk, gutter, public reservation, open lots, or upon the beach of Resurrection Bay within the corporate limits of the town of Seward, save as hereinafter mentioned, are hereby declared a nuisance injurious to health; and any person who shall commit, create, or maintain the aforesaid nuisances, or either of them, shall upon conviction be fined not less than $5 nor more than $50 for every such offense.

SEC. 5. That all refuse, dirt, manure, offal, garbage, filth, or trash of any kind shall be dumped into Resurrection Bay at a point below the line of high tide and between the north line of Washington Street and the south line of Adams Street. That it shall be unlawful for any person or persons to cast, throw, drop, or deposit any dirt, ballast, ashes, or refuse, offal, manure, or garbage in any other place in the town of Seward than such as is herein provided. That any person violating any of the provisions of this section shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding $100.

Privies and Water-Closets—Care of—Connections with Sewers. (Ord. 10, Sept. 16, 1912.)

SEC. 6. That hereafter it shall be unlawful for any person or persons to build or construct upon any original or subdivisional lot, situated on any street in the town of Seward, Alaska, where there is a public sewer and water main available for the use of such lot, any system of disposal of human excreta except by means of water-closets connected with such sewer and water main. That no privy shall be constructed or maintained in said town, every part of which is not at least 5 feet from the line of any adjoining lot, 2 feet from any street or public or private passageway, and 10 feet from any building used or intended to be used for dwelling purposes, or wherein persons are employed; nor within 50 feet of any well or any spring used or likely to be used by man as a source of water for drinking or domestic purposes.

SEC. 7. That all water-closets and privies connected with any house, building, or premises within the town of Seward, Alaska, in and upon which people live, or where they congregate or assemble, or any kind of business is done, kept in a foul or unclean condition, and from which offensive smells and noxious gases arise, and all water-closets located within and being a part of any such house or building not provided with proper sewer traps, so as to prevent the return and escape of noxious gases and offensive odors from any public or private sewer connected therewith, are hereby declared a nuisance injurious to health; and any person creating, keeping, or maintaining such a nuisance after due notice served upon him by the health officer to abate the same within 24 hours, or within such reasonable time as may be determined by the health officer, shall, upon conviction thereof, be punished by a fine of not less than $5 nor more than $25 for each and every day such nuisance is allowed to remain unabated.

Domestic Animals—Contagious Diseases of—Slaughterhouses, Care of. (Ord. 10, Sept. 16, 1912.)

SEC. 8. That any animal affected with a contagious or pestilential disease, kept or remaining in any stable, shed, pen, or place within the town of Seward, is hereby declared a nuisance, injurious to health, and any person keeping or maintaining such nuisance who shall fail, after due notice from the health officer, to abate the same, shall, upon conviction, be fined not less than $5 nor more than $20 for every such offense.

SEC. 9. That unclean or filthy slaughterhouses, rooms, buildings, or places where sheep, cattle, hogs, or other animals are slaughtered, within the town of Seward, are hereby declared nuisances, injurious to health, and any person creating, keeping, or maintaining such nuisance who shall fail, after due notice from the health officer, to abate the same, shall, upon conviction, be fined not less than $10 nor more than $50 for every such offense.

Nuisances—Abatement of. (Ord. 10, Sept. 16, 1912.)

SEC. 10. That it shall be the duty of the health officer appointed by the town council, upon receiving information or obtaining knowledge of the existence of any thing or things herein declared to be nuisances, or any thing or things which may hereafter be declared to be nuisances by the ordinances or resolutions enacted or adopted by the town council, to notify the person or persons committing, creating, keeping, or maintaining the same to remove, or cause to be removed, the same within 24 hours or such other reasonable time as he may deem proper, after such notice be duly given; and if the same be not removed by such person or persons within the time prescribed in said notice, it shall be the duty of the town marshal, under the direction of the health officer aforesaid, to remove or cause to be removed such nuisance or nuisances;

and all costs and expenses of such removal shall be paid by the persons committing, creating, keeping, or maintaining such nuisance or nuisances; and if said costs and expenses thus accruing shall not be paid within 10 days after such removal by said health officer, the same shall be collected from the person or persons committing, creating, keeping, or maintaining such nuisance by suit at law.

SEC. 11. That all fines and penalties imposed by any section of this ordinance, or any subsequent ordinance or regulation made by the common council pertaining to health regulations, shall be collected by prosecution in the municipal magistrate's court by information filed therein, at the instance of the health officer. And whenever the nuisance complained of is set forth as continuing and existing, and is shown to be such to the satisfaction of the court, the party so offending shall, upon conviction thereof, in addition to the fine imposed, be ordered by said court to abate or remove said nuisance.

SOUTHBRIDGE, MASS.

Milk and Cream—Production, Care, and Sale. (Reg. Bd. of H., Mar. 28, 1912.)

1. No person, firm, or corporation shall engage in the production, sale, delivery, or distribution of milk in the town of Southbridge, except in accordance with the provisions of Revised Laws of Massachusetts and of acts of the legislature additional thereto or in amendment thereof, and in compliance with the following rules and regulations of the board of health of said town.

2. Every person, firm, or corporation producing, keeping, or offering for sale milk in the town of Southbridge shall annually, before the 1st day of June, be licensed so to do by the milk inspector of said town.

3. No milk shall be produced, kept, sold, or offered for sale in the town of Southbridge from any cow or cows that are not properly cared for or that have not—within one year—been examined by competent authority and certified to be free from all diseases dangerous to the public health or that are kept in a stable that is not in a clean, healthful, and sanitary condition and that is not open to inspection by the board of health or the milk inspector at all times.

4. No milk shall be produced, kept, sold, or offered for sale in the town of Southbridge unless it has been strained, mixed, and cooled immediately after it is drawn from the cow. Said milk shall not be strained, mixed, or cooled in any room which is not provided with tight walls and floor of such construction as will allow easy and thorough cleaning, or which is not kept constantly clean, or which is occupied by horses, cows, or other animals, or in any room which is used in whole or in part for domestic or sleeping purposes, unless the storage room for milk is separated from the other parts of the building and provision made for the exclusion of outside dust and flies, to the satisfaction of the board of health.

5. Milk kept for sale in any shop, restaurant, market, bakery, or other establishment shall be stored in a covered cooler box or refrigerator. No vessel containing milk for sale shall be allowed to stand outside of said cooler box or refrigerator except while a sale of said milk is being made. Every such cooler box or refrigerator shall be properly drained, cleansed, and cared for and shall be kept tightly closed except during such intervals as are necessary for the introduction of milk or ice, and shall be kept only in such locations as shall be approved by the board of health.

6. The milk inspector shall, under the direction of this board, investigate and take samples, to determine the quality of the milk sold, offered or exposed for sale, or intended for sale in this town; and he shall make, or cause to be made, examinations and inspections thereof, to ascertain whether or not adulterated or impure milk is sold, kept, offered, or exposed for sale, or intended for sale in said town, contrary to the statutes of this Commonwealth, or to the provisions of these rules and regulations. He shall visit dairies supplying milk in, and to the inhabitants of the town of Southbridge, and all places where milk is stored, kept, or offered for sale, as often as deemed

necessary by this board; and he shall report the conditions thereof at the time of such inspection, in writing, to this board. He shall act as agent and prosecuting officer for the board of health in all matters pertaining to milk.

7. All cans, bottles, or other vessels of any sort used in the production, storage, sale, or distribution of milk in this town shall be cleaned and sterilized with boiling water or steam before they are again used for the same purpose; and all cans, measures, or other utensils made of metal shall be kept free from dents and rust, and there shall be proper appliances for washing all utensils used in the production, mixing, storage, sale, or distribution of milk; and all such utensils shall be washed, cleaned, and sterilized with boiling water or steam, regularly, after being so used. The filling of bottles, except at the dairy or creamery, is prohibited.

8. The water used in washing apparatus and utensils must be from a public water supply, or if from any other source, its use must be subject to the approval of the board of health.

9. No milk shall be brought into or carried within the town of Southbridge for the purpose of sale, which has been carried upon any wagon or vehicle which is not clean and free from offensive odors, or upon which swill, refuse, garbage, or decaying, unwholesome or filthy matter is carried.

10. No person, by himself, or by his servant or agent, or as the servant or agent of any other person, firm, or corporation, shall, in the town of Southbridge, sell, exchange, or deliver, or have in his custody or possession with intent to sell, exchange, or deliver, any milk, skimmed milk, or cream which contains more than 500,000 bacteria per cubic centimeter, or any pathogenic microorganism.

11. Every person engaged in the production, storage, transportation, sale, delivery, or distribution of milk for sale in this town shall notify the board of health immediately on the occurrence of any case or cases of infectious disease, either in himself or his family, or among his employees, or their immediate associates, or within the building or premises where milk is stored, sold, or distributed, and at the same time shall suspend the sale or distribution of milk until authorized to resume the same by the board of health. No vessel which has been handled by a person suffering from a disease, or which is on the premises of a person in whose family or household infectious disease exists, shall be removed to hold or convey milk until it has been thoroughly disinfected and sterilized under the supervision of an agent of the board of health.

12. Bottles or other milk containers shall not be left with any family in which there is any contagious disease; but milk may be delivered to such families by pouring into vessels furnished by said families. No bottle or other container, previously left with any family in which a contagious disease occurs, shall be removed therefrom, except with the consent of the board of health in writing.

13. For the purpose of enabling the board of health to carry out and enforce the provisions of these rules and regulations the milk inspector, acting as the authorized agent of, or any other qualified inspector or agent of, the board of health, or any member of said board shall at all times have free access to all barns, stables, dairies, creameries, stores, wagons, and all other buildings or premises in which cattle are kept, from which any part of the milk supply of the town of Southbridge is obtained, or in which milk is received, kept, bottled, canned, or offered for sale, for the purpose of making inspection of said premises, cattle, vehicles, cans, vessels, measures, and other utensils used in conducting the handling, sale, and delivery of milk, and for the purpose of taking for analysis or other tests to determine its quality samples of milk kept or intended for sale in the town of Southbridge.

14. Whoever tests milk or cream which is to be offered for sale in any form, by tasting, shall do so by means of a spoon or piece of wood, paper, cardboard, or other article, and such spoon, piece of wood, paper, cardboard, or other article shall not again be brought in contact with the milk intended for sale or be used for testing milk until after being thoroughly washed and sterilized. No person shall permit his hands,

fingers, lips, or tongue to come in contact with milk intended for sale in any form. All persons engaged in the tasting, mixing, or handling of milk for sale in any form shall, before engaging in such tasting, mixing, or handling, thoroughly clean his hands and finger nails and keep them clean and dry during such tasting, mixing, or handling. No person shall permit his hands while wet to remain or pass over any open vessel containing milk intended for sale in any form. No person shall fill a jar, can, or other receptacle with milk while the aforesaid jar, can, or other receptacle is held over an open vessel containing milk intended for sale in any form. No person who has sore throat, diarrhea, or is suffering from any other disturbance of the bowels, or has symptoms of infectious or contagious disease shall engage in the handling of milk which is to be offered for sale or which is for sale.

15. No urinal, water closet or privy shall be located in rooms in which milk is handled, or so situated as to pollute the atmosphere of said rooms.

16. Dealers in milk are prohibited from allowing any person or persons not in their employ to loiter about the milk room, or handle any vessel or utensil used in the sale and distribution of milk.

17. Every person, firm, or corporation in the town of Southbridge engaged in the sale, delivery, or distribution of milk from dairies, shall, upon request from the board, certify that the above rules are complied with by said dairies.

SPOKANE, WASH.

Foodstuffs—Protection of. (Ord. C 884, July 23, 1912.)

SEC. 3. No goods, wares, or merchandise for eating purposes shall be placed, exposed, kept, exhibited, prepared for sale, offered for sale, or sold, in any room in which a toilet is located, or in any room opening directly into a toilet room, unless there be an outside ventilation in said toilet room.

SEC. 4. In every place in the city of Spokane where food or food products are kept for sale, offered for sale, or sold, there shall be at least one running-water faucet with a sink, or lavatory conveniences for the use of employees in the room or rooms where the business is carried on, in all cases where said room or rooms can be connected with the city water supply.

SEC. 5. It shall be unlawful for any person or persons being the owner, lessee, occupant of, or user of any room, stall, place, vehicle, conveyance, or receptacle wherein food or food products are placed, exposed, kept, exhibited, prepared for sale, offered for sale, or sold, or being employed in any such place, or in the use of such receptacle, to fail, neglect, or refuse to put and keep such room, stall, place, vehicle, conveyance, or receptacle in a clean and wholesome condition.

SEC. 6. It shall be the duty of the health officer of the city, or such official or employee of the health department as he may direct, to make any and all inspections and to issue any and all orders required by this ordinance or necessary for its enforcement.

SEC. 7. Any person violating any of the provisions of this ordinance shall be fined in any sum not less than $5 nor more than $100.

Foodstuffs—Protection of. (Ord. C 1011, Sept. 6, 1912.)

SECTION 1. It shall be unlawful within the city of Spokane for any person, as owner, agent, or employee, to display, exhibit, offer for sale, or sell any dressed meats or meat products, or fresh or dried fish, oysters, crabs, or other sea foods, cracked nuts or nut meats, preserved or dried fruit or fruit products, candies or confectionery products, bread or bakers' goods or products, dates, figs, cherries, berries, grapes, plums, or prunes, and pears, peaches, apples, or apricots with skins so cut or

broken as to expose the meat of same, cut fruits or cut melons, bananas when separated from the bunch or stem, and having the skin so cut or broken as to expose the meat of the same, or any prepared foods either in the raw or cooked state (all of which shall be known as intended for human use and hereinafter referred to as food and foodstuffs) unless the same is protected from street dust, flies, animals, and from handling by persons in the manner hereinafter specified.

First. When such food or foodstuffs are exposed for sale on any street or sidewalk, or outside of an inclosed room or within an inclosed room nearer than 4 feet of any open window or doorway, the same shall be inclosed in tight boxes, cans, bags, or barrels, or in glass, wood, or metal cases; any of which containers may be ventilated by openings or apertures as numerous or as large as desired; provided that all such openings and apertures shall be completely screened with brass or copper wire netting not coarser than No. 40 standard wire mesh or by some other noncorrosive material with openings of no greater size than No. 40 standard wire mesh; and all such containers shall be raised at least 24 inches above the street, sidewalk, floor, platform, or landing upon which such container rests.

Second. When such food or foodstuffs are exposed for sale inside of an inclosed room and not nearer than 4 feet to any open window or doorway such food and foodstuffs shall be protected from flies. Such protection may be provided by means of a covering of mosquito or wire netting, or other like material, not coarser than No. 12 standard gauge wire mesh, said covering to be so placed as not to lie in contact with such food or foodstuffs; or protection may be provided by the use of containers as specified in subdivision 1 hereof, which containers shall have all openings and apertures for ventilation covered with mosquito or wire netting, or other like material, not coarser than No. 12 standard wire mesh. When the room in which such food or foodstuffs is exposed for sale is kept free from flies by the use of screen doors and windows, by a system of fans, or otherwise, further compliance with the requirements of this subdivision shall not be required. The requirements of this subdivision shall have no application from the 1st day of November to the 31st day of March of each calendar year.

Third. Such food and foodstuffs shall not be kept or exposed as to permit of handling by the public, provided it shall be deemed sufficient protection from handling when such food or foodstuffs are kept beyond ordinary reach of the public, surrounded by wire guards or glass cases, or inclosed or covered in any manner as hereinabove provided.

SEC. 2. All such food and foodstuffs moved or transported through, on, or about the streets, avenues, alleys, and public places in the city of Spokane shall be protected from dirt, dust, filth, and insects either by means of screening not coarser than No. 40 standard wire mesh, by inclosing the same in a covered receptacle or receptacles, by wrapping with clean paper, cloth, or canvas, or by completely covering the same with tarpaulin, or other covering of like character. Every peddler of food or foodstuffs from wagons or carts, in addition to the covering and screening provided for in this section, shall keep in his wagon a suitable receptacle for the wastes of his business, such wastes to be disposed of in a manner that shall not create a nuisance.

SEC. 3. None of the requirements contained in sections 1 or 2 of this ordinance shall apply to food or foodstuffs inclosed in unopened boxes, crates, cartons, or barrels which were unused in the original shipment of such food or foodstuffs into the city of Spokane, except that the same shall be raised at least 24 inches above the street or sidewalk when exposed thereon.

SEC. 4. It shall be the duty of the health officer of the city, or such official or employee of the health department as he may direct, to make any and all inspections and to issue any and all orders required by this ordinance or necessary to its enforcement.

SEC. 5. Any person violating any of the provisions of this ordinance shall upon conviction thereof be punished by a fine in any sum not less than $5 nor more than $100 or by imprisonment.

SEC. 6. All ordinances and parts of ordinances in conflict herewith are hereby repealed.

SPRINGFIELD, MASS.

Water, Polluted—Warning Notices. (Reg. Bd. of H., Dec. 19, 1912.)

There shall be displayed in a conspicuous place at or near all faucets or other original outlets from which polluted water is drawn a sign marked: "Warning! Polluted water," in letters not less than 1 inch in height and in all languages necessary to be readily understood by every employee who may have access to such faucets or outlets.

All pipes exposed to view, faucets, outlets, hose, pails, or other fixtures or utensils from which polluted water is drawn or used shall be painted and maintained a brilliant red.

The term "polluted water," as used in this regulation, shall be considered to mean the waters of the Connecticut River, Chicopee River, and Mill River, and any other water which may from time to time be declared impure by the board of health.

TOLEDO, OHIO.

Ophthalmia Neonatorum—Reporting of Cases of. (Reg. Bd. of H., Oct. 25, 1912.)

SECTION 1. Every physician, midwife, or person having charge of an infant shall report to the Department of Health, within twenty-four hours, the existence of any suspicious inflammation or unnatural discharge occurring in the eyes of an infant.

SEC. 2. Every physician, midwife, or person having charge of any child shall report to the Department of Health, within twenty-four hours, the existence of any purulent ophthalmia in the eyes of any child.

SEC. 3. Whoever violates the foregoing rule and regulation shall be fined in any sum not exceeding $100, or imprisoned for any time not exceeding 90 days, or both, but no person shall be imprisoned for any violation or failure to obey the foregoing rule or regulation for a first offense.

WARREN, PA.

Milk—Production and Care of. (Reg. Bd. of H., May 1, 1912.)

MILK HYGIENE.

(1) The room in which cows are kept and milked must be reserved for the exclusive use of the cows. Straw, hay, and other foods, wagons, stable tools and the like, should not be stored therein.

All livestock other than cows, such as dogs, cats, poultry, etc., must be excluded from the stable in which the milch cows are kept, and an effort should be made to eliminate rats and other vermin. (Calves and bulls may be allowed in the same room, if kept clean and sanitary.)

(2) The cow stable should be provided with adequate ventilation, either through the medium of air chutes extending from the room in which the cows are kept to the outside air, or by the substitution of muslin for glass in the window openings. At least 600 cubic feet of air space must be provided for each cow.

(3) Enough windows must be installed for the satisfactory lighting of the stable (2 square feet of window light to each 600 cubic feet of air space to represent the minimum) and the glass in such windows must be kept free from dust and dirt.

(4) Stable floors must be water-tight; they must be properly graded and well drained; and must be made of some nonabsorbent material, such as cement, since such floors can be more easily kept clean than floors made of wood or earth.

(5) Manure gutters should be provided, and they should be from 6 to 8 inches deep, and constructed of nonabsorbent material.

(6) The platform on which the cows stand must be made of some nonabsorbent material, and so constructed that manure and urine will drop into the gutter, and it must be well lighted and kept clean at all times.

(7) The ceilings and walls must be so constructed as to be easily cleaned. If the space above the cows is used for storage, the ceiling must be made tight, so as to prevent chaff and dust from falling through. The ceilings, walls, and ledges must be thoroughly swept down and kept free from dust, dirt, manure, or cobwebs. They must be whitewashed at least twice each year unless the walls are painted or made of smooth cement.

(8) If individual drinking basins are used, they should be drained and cleaned at least twice each week.

(9) Feed boxes, mangers, and feeding floors shall be kept in a clean and sanitary condition.

(10) There should be no direct opening from the silo or grain pit into the room in which the cows are milked.

(11) In order to protect the atmosphere from dust, dry fodder should not be fed to the cows during or just before milking.

(12) Horse manure must not be used as bedding. Only bedding which is clean, dry, and absorbent may be used. Preferably it should be shavings, straw, fodder, or dried leaves.

(13) Manure must be removed from the stable at least once each day, and the floors must be swept and kept free from dirt, rubbish, and decaying animal or vegetable matter. Such cleaning must not be done during the milking hour nor within one hour prior to the milking time. Manure, when removed from the stable, should be drawn to the field. If this is not possible, it must be stored at a safe distance from the stable and milk house and in a place not accessible to the dairy herd.

(14) All liquid matter should be absorbed and removed daily, and at no time should it be allowed to overflow or saturate the ground under or around the cow barn or milk house.

(15) It is recommended that the floors and gutters be sprinkled daily with land plaster or phosphate rock.

(16) All doors and windows should be well screened during fly time.

CARE OF THE COWS.

(17) Each cow in the herd must be groomed daily and no manure, mud, or filth allowed to remain upon the tail, the flanks, udder, or belly during milking.

(18) Long hairs must be clipped from the udder and flanks of the cow. The hair on the tails must be cut so that the brush may be well above the ground.

(19) The udders and teats of the cow must be cleaned before milking by being brushed, after which they must be wiped with a cloth and warm water.

(20) To prevent the cows from lying down and becoming dirty between the time of cleaning and the time of milking, a throat latch of rope or chain must be fastened under the cow's neck.

(21) Only food which is of good quality and free from dirt and mold may be fed. Any food in a state of decomposition or putrefaction must not be given.

(22) All dairy cows should be turned out for exercise at least 2 hours in each 24 in suitable weather. Exercise yards must be free from manure and other filth.

CONTROL OF DISEASE IN THE HERD.

(24) Cows having rheumatism, leucorrhea, inflammation of the uterus, severe diarrhea, or disease of the udder, or, cows that from any other cause may be a menace

to the herd, shall be removed from the herd, placed in a building separate from that which may be used for the isolation of cows with tuberculosis, unless such building has been properly disinfected since it was last used for this purpose.

The milk from such cows shall not be used, nor shall the cows be restored to the herd until permission has been given by the inspector after a careful physical examination.

(25) In the event of the occurrence of any of the diseases just described between the visits of the inspector, or if at any time a number of cows become sick at one time in such a way as to suggest the outbreak of a contagious disease or poisoning it shall be the duty of the dairyman to withdraw such sickened cattle from the herd, to destroy their milk, and to notify the inspector by telegraph or telephone immediately.

(26) Cows that are emaciated from chronic diseases or any cause that in the opinion of the inspector may endanger the quality of the milk must be removed from the herd.

MILKERS.

(27) The hands of the milkers must be thoroughly washed with soap, water, and brush, and carefully dried on a clean towel immediately before milking. The practice of moistening the hands with milk is forbidden.

(28) Clean overalls, jumper, and cap must be worn during milking. They should be kept clean and used for no other purpose, and when not in use they must be kept in a clean place, protected from dust and dirt.

(29) No milker shall permit his hands, fingers, lips, or tongue to come in contact with milk intended for sale.

(30) Milkers must see that the milking stools are kept clean.

(31) Milkers are forbidden to spit upon the walls or floors or into the gutters of stables, or upon the walls or floors of milk houses, or into the water used for cooling the milk or washing the utensils.

(32) No sick person shall be permitted in the dairy or milk room, nor shall any person who has been in contact with a person suffering from a contagious disease be admitted to milk room or stable.

(33) The first stream from each teat should be rejected, as this fore milk contains large numbers of bacteria. Such milk should be collected in a separate vessel and not milked onto the floor or into the gutter. The milking should be done rapidly and quietly, and the cows should be treated kindly.

(34) Milk from all cows should be excluded for a period of 15 days before and 5 days after calving.

(35) If milk from any cow is bloody and stringy or of unnatural appearance, the milk from that cow must be rejected and the cow isolated from the herd until the cause of such abnormal appearance has been determined and removed.

HANDLING THE MILK.

(36) Milk, when emptied from the milk pail to the can, must be strained through strainers made of a double layer of finely meshed cheese cloth or gauze. The strainers must be cleaned immediately after being used by thorough washing, after which they must be boiled. They must be scalded a second time immediately before using. In large herds several strainers must be provided for each milking, in order that they may be frequently changed during the straining of the milk.

(37) Properly constructed cooler of sufficient capacity to reduce the temperature to 50° F. must be used, and it must be so situated that it can be protected from flies, dust, and odors, and on no account shall it be used in the stable or out of doors. Milk shall be passed over the cooler immediately after being milked.

(38) Milk, after being cooled and placed in cans, should be tightly covered and securely wired and sealed.

MILK HOUSE.

(39) A milk house must be provided which shall be separated from the stable and dwelling and located a safe distance from the hog pen, privy, or manure pile and at a higher level.

(40) It must be kept clean and must not be used for purposes other than the handling and storing of milk and milk utensils. It must be provided with light and ventilation, and the floors must be graded and water-tight.

(41) It must be provided with ample facilities for cooling milk to the required standard of 50° F., and be supplied with an adequate amount of clean hot and cold water.

(42) The milk house must be properly screened to exclude flies.

UTENSILS.

(43) After each milking the milk pails, cans, and other utensils shall be thoroughly rinsed in cold water, then washed in hot water, then rinsed in boiling water and inverted in a place free from dust, flies, and obnoxious odors; preferably all utensils should be subjected to the action of live steam after washing.

(44) All utensils must be so constructed as to be easily cleaned. The milk pail should have an elliptical opening 5 by 7 inches in diameter (the modified Loy type). The cover of this pail should be so convex as to make the entire interior of the pail visible and accessible for cleaning. It should be made flush with the very top of the pail, so as to avoid a groove which would conduct milk that might fall upon the top around to the opening of the pail. A suitable cover soldered to an ordinary milk pail by a local tinsmith will answer if the work is well done and all of the seams are carefully filled with solder. The pail should be made of heavy seamless tin, or with seams which are flushed and made smooth by solder. Wooden pails, galvanized iron pails, or pails made of rough, porous materials are forbidden.

(45) No producer of milk shall be permitted to have in his possession any bottle, milk can, or other container bearing the name of any other producer or any dealer, unless such bottle, can, or container is so marked as to indicate that it has just come into his possession through the purchase of milk from the person whose name appears upon said bottle, milk can, or other container.

(46) All utensils used in milking must be kept in good repair. Rusty, leaking, or broken cans, old, broken, or perforated, or badly fitting lids, and all other utensils which, in the judgment of the inspector, are dangerous receptacles for milk, may be condemned after due notice has been given, and after such utensils have been branded by him.

WATER SUPPLY.

(47) The entire water supply shall be absolutely free from contamination, and shall be sufficient for all dairy purposes. It shall be protected against flood or surface drainage, and shall be conveniently situated in relation to the milk house.

(48) Privies, pigpens, manure piles, and all other possible sources of contamination shall be so situated on the farm as to render impossible the contamination of the water supply.

TOILET ROOMS.

(49) Toilet facilities for the milkers, outside of the stable or milk house, must be supplied. These shall be kept clean and shall be provided with washbasins, water, soap and towels, and the milkers shall be required to wash and dry their hands before leaving the toilet room.

(50) The milk gathered at the morning and evening milkings should be shipped on the evening of the same day.

(51) Vehicles used for carrying milk from the dairy farm to the railroad stations, receiving stations, creameries or condensaries, and all vehicles used for carrying milk from receiving stations to the railroad shipping station, should be covered.

All such wagons must be kept sweet and clean at all times, and suitable provisions must be made to keep milk cooled to the required temperature of 50° F.

WASHINGTON, PA.

Communicable Diseases—Quarantine. (Reg. Bd. of H., Nov. 11, 1912.)

From and after the date of the adoption and establishment of this rule and regulation all members of families and households of or in which persons are suffering from or afflicted with diphtheria, diphtheretic croup, membranous croup, putrid sore throat, scarlet fever, scarlatina or scarlet rash, except adult breadwinners of the family or household who have had no contact, and have not been in the same room, with the person suffering or afflicted with such disease after the time of actual onset thereof, or as hereinafter provided, are forbidden to enter or to be in any store, public conveyance, place of public assembly, worship, or amusement, or to go upon any of the streets or alleys of this borough, and heads of families and parents and guardians of children in such families and households are required to keep such children away from association and contact with other children, and to exclude all children and all other persons having no proper business therein from the quarantined premises, during the entire period of quarantine and until the placard of the board of health has been removed by the health officer; and adult breadwinners aforesaid are forbidden during the period aforesaid to enter any place of public amusement, assembly, or worship for any purpose, and may only go to the places of their work (other than places of public amusement, assembly, or worship) and enter stores and go upon streets and alleys so much as may be reasonably necessary to enable them to carry on their regular work or employment.

But an adult breadwinner of and in such family and household who has been in contact or in the same room with any person suffering or afflicted with any of the diseases aforesaid may only continue at his or her regular work and employment in manner and subject to the restrictions hereinbefore set forth as to other breadwinners: *Provided*, That such breadwinner leave and remain away from such suffering and afflicted person and from the quarantined premises: *And provided further*, That before going elsewhere to reside during quarantine and before going to his or her place of work and employment such breadwinners secure and file with the secretary of the board of health a certificate of a practicing physician that his or her person and clothing have been so cleaned and disinfected as to be reasonably free from danger as carriers of disease.

Any person who shall violate any provision of this rule of the board of health shall, for every such offense, upon conviction thereof before any magistrate or justice of the peace of the county wherein such offense was committed, be sentenced to pay a fine of not less than $50 or more than $100, to be paid to the use of the said county, or to be imprisoned in the county jail for a period of not less than 30 days, or both. at the discretion of the court.

WATERLOO, IOWA.

Dead Animals—Transportation of. (Ord. 754, July 15, 1912.)

SECTION 1. The taking, carrying, or hauling dead animals through the streets, lanes, or alleys of this city in the daytime and up to 10 o'clock at night without being securely covered so as to not be exposed to public view, is hereby prohibited, and any person who shall take, draw, haul, or carry any dead animal through any street, lane, or alley of this city in the daytime or before 10 o'clock at night shall first securely

cover and protect such animal in a manner that will screen the same from public view and exposure: *Provided*, That the provisions of this section shall not apply to animals slaughtered for food or to persons bringing slaughtered animals to market for sale.

SEC. 2. Any person who shall violate the provisions of this ordinance shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined not less than $1 or more than $100, and be imprisoned until such fine is paid: *Provided, however*, That such imprisonment shall not exceed 30 days, or may be punished by imprisonment in jail not to exceed 30 days.

Wells and Cisterns—Care of. (Ord. 750, July 15, 1912.)

SECTION 1. All wells and cisterns and cisterns containing impure, stagnant, or unhealthy water, which is now or may hereafter be used for domestic purposes, or containing water likely to contribute to or occasion sickness, disease, or infection, are hereby declared nuisances, and subject to be abated, as hereinafter provided.

SEC. 2. The owner, lessee, or occupant of any lot or part thereof, or tract of ground containing a well or cistern, the water of which is used for domestic purposes, shall keep or cause to be kept, said well or cistern in such a condition as that the water shall be pure and healthful and free from anything offensive, or likely to contribute to sickness, disease, or infection; and upon failure to do so it is hereby made the duty of the health officer, either upon his own inspection, complaint of others, or order of the board of health, immediately to give notice to the owner, lessee, or occupant of the lot, or part of lot, or tract of land on which said well or cistern is situated, requiring him to do such act as the said board of health shall deem necessary to place the water in said well or cistern in a pure and healthful condition, and in case of failure to comply with such requirements for the space of 48 hours, or within such time as the board of health may designate, from and after the service of such notice, said health officer is required and empowered to do such act himself, keeping a correct account of expense of the same, and said owner, lessee, or occupant shall be liable to the city for the expense of such work, to be collected by an action at law in the name of the city.

SEC. 3. The city council is hereby invested with power and authority to fill up or cause to be filled up or closed by the owners or health officer, either permanently or for such time as they may direct, such wells and cisterns as in their opinion contain impure or unhealthy water, or water the use of which is likely to contribute to sickness, disease, infection, and to this end and for the purpose of determining the necessity of filling up or closing any well or cistern, must cause a written or printed notice to be served on the owner or occupant of the lot or land on which the well or cistern is situated, to the effect that the city council at a certain time, not earlier than 24 hours after the service of such notice, will hold a meeting for the purpose of there and then deciding such questions, and ordering said owner to appear and show cause why the same should not be filled or closed; if ordered filled or closed, the same shall be done in such a way, and within such time, as may be directed by the board; if at the expense of the owner, the liability shall attach and be collected in the same manner as provided by section 2 hereof for failure to perform the acts herein required.

SEC. 4. Any person failing to perform any of the acts required of him by the board of health or city council, as provided by the second and third sections hereof, or any person who shall persist in using water of wells or cisterns after the same shall have been closed or ordered closed, or in removing plank or other material used in closing wells or cisterns, or who shall open wells or cisterns after the same shall have been filled or closed, shall be guilty of a misdemeanor, and on conviction thereof, be fined not more than $30, and pay the costs of prosecution.

Milk—Production, Care, and Sale. (Ord. 765, Nov. 25, 1912.)

SECTION 1. *Scale card.*—That the city council adopt the national score card herein set out to be used by the inspector of dairies and require said inspector to visit each dairy and dealer and make inspection thereof as he may deem necessary.

SEC. 2. *Milk permit.*—That the city require all producers and sellers of milk to procure a permit to sell milk from the city board of health.

SEC. 3. *Dairy test.*—That the dairy test with a score of 55 be required for the permit to sell raw milk, and that a dairy score of 50 be required for the sale of milk to be pasteurized. This requirement to be in effect until 1914, after which time the dairy score shall be 60 for the sale of raw milk and a score of 55 for milk that is to be pasteurized.

SEC. 4. *Temperature.*—That all milk sold shall be kept and delivered at a temperature not above 55° F.

SEC. 5. *Milk grades.*—That all raw milk sold shall be graded in three grades and labeled as to grade A, B, and C. "A" grade milk to be milk from a tuberculin-tested herd with a dairy score of not less than 60. "B" grade milk to be milk from a tuberculin-tested herd with a dairy score of not less than 50. "C" grade milk to be from a tuberculin-tested herd or not with a dairy score of less than 50. That the grade milk shall be designated by the proper letter to be not less than three-fourths of an inch in height and placed upon the milk container. There shall be such contrast between the color of the letter and the background as shall render the letter perfectly legible.

SEC. 6. *Milk test.*—That all pasteurized milk sold must be from dairies scoring not less than 60; must be bottled with bacterial count of not more than 100,000 and be kept and delivered at a temperature of not more than 50° F.

SEC. 7. *Bacterial count.*—That the bacterial count of the milk from all dairies and sellers of milk be made from time to time and that no milk showing a bacterial count of more than 1,000,000 per cubic centimeter be allowed sold.

SEC. 8. *Milk bottled.*—No milk shall be bottled in transit or under conditions insanitary.

SEC. 9. *Report.*—That a monthly report of the inspector of dairies and milk-producing places be made to the city board of health.

SEC. 10. *Milk containers.*—That all consumers of milk, hotels, restaurants, and eating houses are hereby compelled to wash thoroughly all milk bottles and milk containers, and said milk containers shall be used for no other than milk purposes.

SEC. 11. *Penalty.*—Any person, firm, or corporation violating any provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be subject to a fine not exceeding $100 or 30 days in jail.

WAUSAU, WIS.

Nuisances—Garbage, Manure, Privies and Cesspools—Exclusion of Flies. (Ord. June 4, 1912.)

SECTION 1. All cans or other receptacles for the holding of garbage in the city of Wausau pending its removal from the premises shall have a top or lid fitting tightly over the same, so as to prevent as far as possible the emission of odors therefrom and the entrance of flies therein.

SEC. 2. It shall be the duty of every person owning, controlling, or having in charge any stable, barn, or other place where horses, mules, cows, or other live stock are kept, to have and maintain at all times upon the premises in or adjacent to said stable, barn, or place, a fly-tight receptacle of sufficient dimensions for the purpose of containing the droppings of manure from said stock, and the same shall have a top, lid, or door so arranged as to be fly tight and to exclude therefrom all flies, and to de-

posit therein promptly all droppings from said stock, and to keep this top, lid, or door thereon closed at all times in such a manner as to prevent the ingress of flies thereto, except when necessarily opened for the purpose of depositing therein or removing therefrom such droppings as referred to.

SEC. 3. Every person having or keeping such garbage and manure within the limits of the city of Wausau shall cause the same to be removed from the premises at least once every week from the 1st day of June to the 1st day of October following, but nothing contained in this ordinance shall prohibit the placing of manure for fertilizing purposes on premises within the city of Wausau during the period of time from the 1st day of October to the 1st day of June following.

SEC. 4. No person shall remove or transport any such manure, garbage, or other waste material over any highway in the city except in a tight vehicle, which, if not inclosed, must be effectually covered with canvas or other suitable material, so as to prevent the manure, garbage, or waste material from falling therefrom.

SEC. 5. Any person maintaining on their premises in this city any privy, vault, or cesspool shall keep these places closed or screened in such a manner as to prevent the ingress of flies thereto, or deposit within such privy, vault, or cesspool a sufficient amount of quicklime or kerosene oil frequently enough so as to render them an unsuitable place for the habitation of flies.

SEC. 6. Any person violating or failing to comply with the provisions of this ordinance shall be guilty of a misdemeanor and shall be fined not less than $2 nor more than $10 for each offense, and each separate day upon which the offense is committed shall be deemed a separate offense within the meaning of this ordinance.

SEC. 7. It shall be the duty of the health commissioner of the city of Wausau, and of all police officers and others vested with police powers, to see to the enforcement of this ordinance and to arrest or cause to be arrested all offenders against the same.

WEST HOBOKEN, N. J.

Births, Marriages, and Deaths—Registration of—Burials. (Reg. Bd. of H., May 20, 1912.)

SECTION 1. That a bureau of vital statistics be, and is hereby, instituted in the town of West Hoboken, county of Hudson, N. J. The said bureau shall have control over the issuing of marriage licenses and shall be empowered to compel the return of all births, deaths, and marriages by physicians, midwives, nurses, clergymen, magistrates, and other persons professionally officiating at such death, birth, or marriage, and to regulate the burial and disinterment of human bodies. The said bureau shall be in charge of a registrar of vital statistics, who shall keep all death, birth and stillbirth, and marriage records, and other records connected with the powers herein granted, as well as issue all licenses and permits in connection with such powers.

SEC. 2. No undertaker or other person shall bury in, or bring into, or remove from this town the dead body of any person without first having received from the bureau of vital statistics of this town a permit so to do; said permit shall be granted only upon presenting to the said bureau the certificate of death, which shall be in accordance with the requirements of the laws of the State of New Jersey, or which shall be given by the coroners of the county of Hudson. *Provided*, That nothing in this ordinance shall be understood to prevent the transportation of the dead bodies of persons dying from noncommunicable diseases through the streets of the town of West Hoboken, N. J., for the purpose of shipping said bodies by rail or for direct transit from one adjoining sanitary district to another. Any person or persons violating any of the provisions of this section shall forfeit and pay a penalty of $50.

SEC. 3. Every person having authority to solemnize marriages shall transmit to the bureau of vital statistics of this town a certificate of every marriage solemnized before

him, within 5 days next thereafter, and said certificate shall be made out on the blank forms furnished by this bureau for that purpose, and shall include all facts required by said form. Any person or persons violating any of the provisions of this section shall forfeit and pay a penalty of $25.

SEC. 4. It shall be the duty of the physician or midwife present at the birth of every child born in this town, and in case there is no physician or midwife present, it shall be the duty of the parent or witness present at said birth, to report in writing to the said bureau of vital statistics of this town all particulars concerning said birth and called for on the blank forms furnished by this bureau for that purpose, and said report shall be made within 5 days next after the date of said birth. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of $25. No undertaker or other person shall bury in, or bring into, or remove from this town the dead body of any person without first having received from the bureau of vital statistics of this town a permit so to do; said permit shall be granted only upon presenting to the said bureau the certificate of death, which shall be in accordance with the requirements of the law of the State of New Jersey, or which shall be given by one of the coroners of the county of Hudson. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of $25. No person shall retain or allow to be retained unburied the dead body of any human being for a longer time than 4 days after death of such person, without a permit from the bureau of vital statistics, which permit shall specify the length of time during which such body may be retained unburied. Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of $25.

SEC. 5. That in the case of any person dying within this town it shall be the duty of the physician who may have attended said person during the last illness to furnish the undertaker, or any member of the family, a certificate of death, which certificate shall be made out on and shall comprise all the facts stated in the blank forms furnished for that purpose by this bureau.

Any person or persons offending against any of the provisions of this section shall forfeit and pay a penalty of $25.

Domestic Animals—Keeping of—Disposal of Dead Bodies and Other Offensive Matter. (Reg. Bd. of H., May 20, 1912.)

SECTION 1. No person, firm, or corporation shall have or keep upon any premises in the town of West Hoboken any cattle, sheep, goat, or swine without a permit from the board of health, which permit shall be renewable annually, registered in the office of the board and revocable at the pleasure of the board, and for each and every permit so granted the sum of $1 for each animal shall be paid.

SEC. 2. No live chickens, geese, ducks, pigeons, or rabbits shall be kept or held or offered for sale in any tenement house, dwelling, or any part thereof, nor in any cellar, store, or on any sidewalk, except the same are kept outside of any dwelling or tenement house, in the rear of same, and in a proper inclosure, which shall be at least 10 feet away from any window or door of any building inhabited by human beings.

SEC. 3. No dead animal, nor any putrid, noxious, or vegetable or animal matter, nor blood, butchers' offal, or garbage, shall be thrown by any person, or allowed to go into any street, place, sewer, or receiving basin, or into any ground or premises, nor shall any person keep any dead animal or any offensive meat, bird, fowl, or fish in a place where the same may be dangerous to the life or detrimental to the health of any person. Any person, firm, or corporation offending against any provisions of this ordinance shall pay a fine of $10 for each and every offense.

WILMINGTON, N. C.

Nuisances—Depositing or Burying Offensive Matter Prohibited. (Ord. Mar. 12, 1912.)

SECTION 1. That on and after the date of the passage of this ordinance it shall be unlawful for any person, firm, or corporation to deposit upon the surface or bury beneath the surface of the soil within the limits of the city of Wilmington any human excrement, carrion, putrid or decaying animal matter of any sort whatsoever.

SEC. 2. It shall also be unlawful for any person, firm, or corporation to bury beneath the soil within the limits of the city of Wilmington any carcass or body or any part thereof.

Any person violating any of the provisions of this ordinance shall be fined $50 for each and every offense.

All ordinances or parts of ordinances heretofore passed by the council of the city of Wilmington in conflict with this ordinance are hereby repealed.

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