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HEAT AND INFANT MORTALITY.

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By far the most conspicuous phenomenon in connection with the mortality of infants is the well-known increase in the number of their deaths which takes place in the summer months. No incidence of death in any other age group seems to be so immediately determined by meteorological conditions.

Hot summers produce an abnormally high infant death rate and cool summers the reverse. For instance, Kruse (30) points out that the infant death rate in German cities of over 15,000 inhabitants decreased from 190 in 1901 to 153 in 1910, a cool year. Yet, the universally hot summer (in Europe) of 1911 was accompanied with a great rise in the infant mortality, so that the infant death rate in these cities for that year was 187, a rate not surpassed by any year subsequent to 1901.

Again, Liefman and Lindemann (38) state that the total number of infants dying in Berlin in July and August, 1910, was 1,439, while in the same months of 1911, 2,050 died, an excess of 611.

The relation of heat to the summer deaths of infants has naturally been the subject of much statistical inquiry. Forty years ago, no doubt existed, in this country at least, as to the direct effect of heat in causing increased infant mortality in the summer. The discoveries and developments in bacteriology and the etiology of infectious diseases, however, gradually displaced heat into the background as a direct factor in the deaths of infants during the summer time. Until a few years ago the general opinion has prevailed that, while summer heat stood in casual relation to summer deaths, this relation was by no means immediate. Heat was regarded as an agent calling other deleterious influences into action.

Recent observations, however, particularly those in Germany, of Finkelstein (9), Rietschel (54, 55, 56, 57), Liefman and Lindemann (37), Klose (28), Kathe (25), and others have reopened the question. We must now ask ourselves if summer heat is not, after all, by its direct action the determinant of a large part of the summer mortality of infants.

It is to be regretted that the recent careful studies which have been undertaken abroad have not been duplicated to any great extent in this country and that it has been necessary to derive most of the material for this paper from foreign sources.

It has naturally been found impossible, within the limits of this article, to give complete treatment to the subject, but an endeavor has been made to summarize the more important observations.

Relations of the Summer Mortality of Infants to the Temperature Curve.

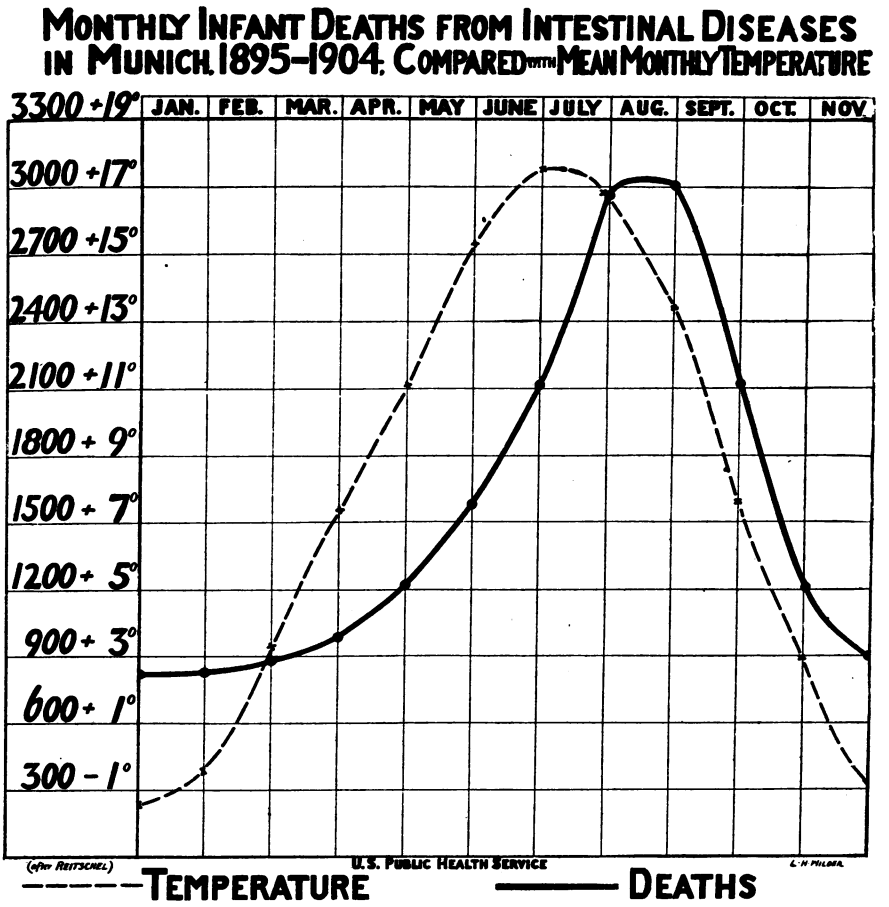
In the past, numerous comparisons have been made and many charts published showing the relation of temperature to infant deaths. Owing to the great prevalence, in the summer, of deaths from intestinal diseases in babies, such curves have dealt mainly with the relation of temperature to deaths from this cause. Moreover, the mean temperatures for weekly or monthly periods have been the values taken with which to compare the infant deaths occurring in like periods.

The resulting curves are of a type familiar to us all. As an example, let us look at Chart I from Fuerst (54). This chart shows the monthly deaths of infants from gastrointestinal diseases in Munich from 1895 to 1904, as compared with the mean monthly temperatures.

It will be seen that the death curve lags behind the temperature curve, rising steeply to its apex in August and declining at a later period than the temperature curve, to reach the winter norm in December.

It has been pointed out by Miller (43) in this country, as far back as 1879, that we can not make reliable deductions from comparisons of this character. If we wish to study the direct effect, if any, of heat upon infant mortality, we must compare the daily deaths with the daily temperatures. More recently this was pointed out by Prausnitz (52), Finkelstein (9), Willim (63), Liefmann and Lindemann (37), Schwarz (69), and others. Willim and Finkelstein seem to have been the first to publish such curves, but the most careful study of this nature in recent literature is that of Liefmann and Lindemann, which deals with the relations of heat to infant mortality in Berlin for a period of 15 years.

CHART I.



Let us now examine one of Liefmann and Lindemann's [1] charts (Chart II), which shows the relation of the daily infant deaths to the daily temperatures in Berlin during the year 1905, which was characterized by some hot weather for that latitude.

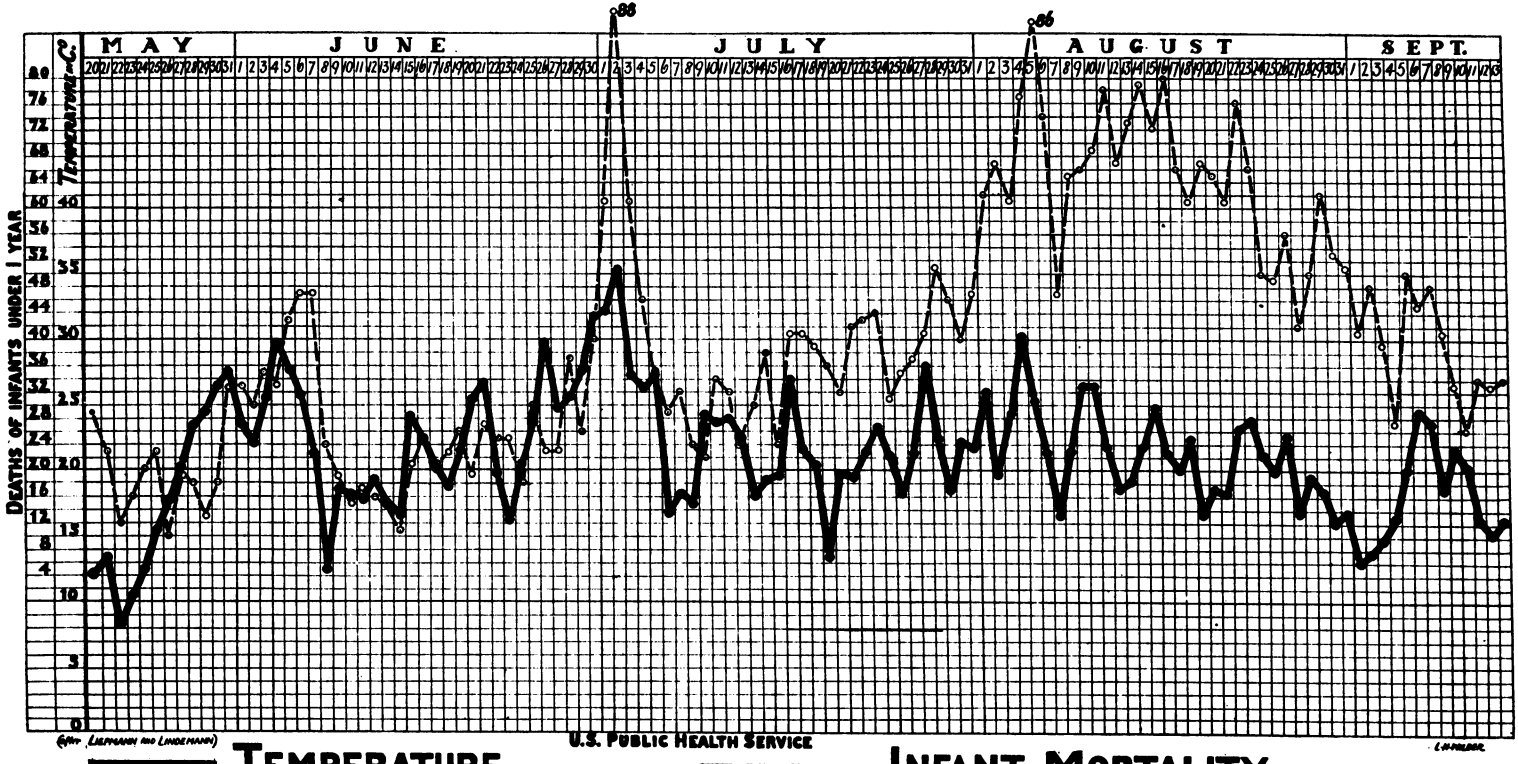
According to these authors, in the spring of that year the daily infant deaths were between 15 and 20. Had this rate been kept up throughout the year, some 7,000 babies would have died. As a matter of fact, there were about 10,000 deaths of infants, the excess being almost entirely due to increased mortality in the summer. On certain days the mortality was so high that it was two or three times the norm.

An examination of this chart shows two striking peculiarities. First, two sharp prominences with their apices on the 7th of June

[1] A careful study of their work is recommended, as well as of Rietschel's comprehensive monograph on this subject. I am indebted to these authors for much of my material.

CHART II.

BERLIN, 1905.—DAILY DEATHS OF CHILDREN UNDER 1 YEAR COMPARED WITH THE DAILY TEMPERATURE AT 2 P.M.



and the 2d of July, respectively, and, second, a high and broad elevation in August, crowned with a succession of smaller secondary prominences.

Liefmann and Lindemann distinguish two elements in their curves, (*a*) the early summer mortality, and (*b*) the late summer mortality.

Early summer mortality.—On inspection it is seen that there is a striking parallelism between the temperature curve and the mortality. This is especially manifest in the sharp increase in the number of deaths on June 30 and July 1, accompanying the high temperature on those dates.

This parallelism is manifest, not only on the hottest days, but the moderate heat of the 4th and 5th of June, also, is sufficient to provoke an increase in the deaths recorded.

An interesting circumstance, developed from the study of this and other curves in their series, is that, generally speaking, only temperatures of considerable height (22° to 25° C.) are effective in producing an increase in infant deaths. Often the first hot wave does not call forth the expected response.

The late summer mortality.—The late summer mortality corresponds to the high and broad curve of deaths from the middle of or end of July to the last of September. This portion of the chart presents a different relation to temperature than that corresponding to the early summer. The high mortality present in the first part of August no longer recedes to the norm with falling temperatures. On the contrary it remains great in spite of the interpolation of periods of cool weather of some duration. Nevertheless, rises in the temperature are accompanied by an increase in the number of deaths, which serves to give this curve its jagged outline.

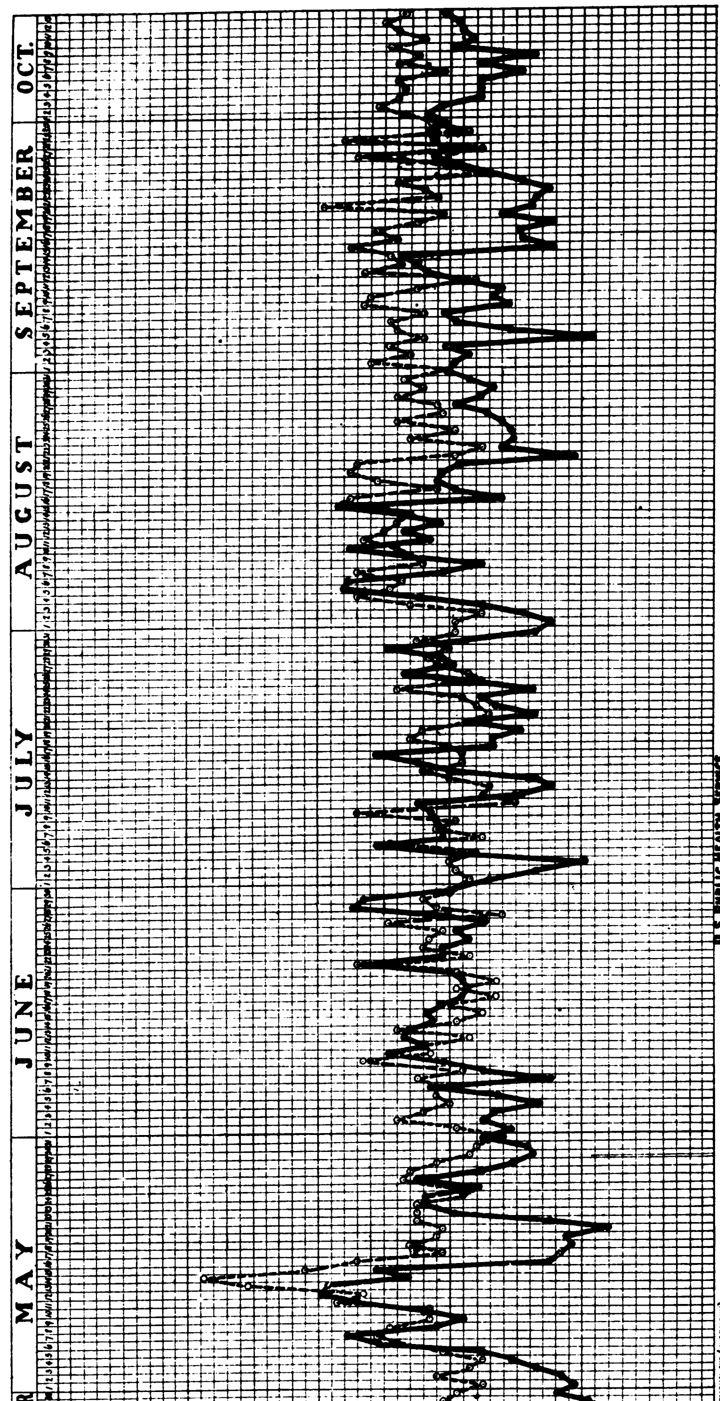
The mortality curve in this portion of the summer seems to express the summation of the effects of a long period of warm weather, as a basis, combined with the exacerbations provoked by repeated sudden increases in the temperature.

Curves of a cool year.—If now we examine these curves for a cool year, we find a different set of relations. Chart III shows these conditions during the year 1907, a cool summer with only one hot period in May.

We see, upon examination, a response to the hot weather of the 7th and 12th of May, but, owing to the very moderate temperatures prevailing throughout the rest of the year, the broad midsummer rise in the mortality curve is practically absent.

CHART III.

Berlin, 1907.—Daily Deaths of Children under 1 Year compared with the Daily Temperature at 2 P.M.



—— Temperature —— ------ Infant Mortality ------

Character of Deaths in the Early and Late Summer.

The differences in the reaction of the mortality curve to temperature in the early and the late summer is accompanied by differences in the nature of the infant deaths recorded. According to Liefmann and Lindemann, an examination of the death certificates showed that in the early summer a large number of deaths were recorded with acute symptoms not referable to the intestinal tract.

For instance, of the 88 infants dying on the hot day of July 2, 1905, only 16 died of intestinal diseases, while in 52, or about 60 per cent, the cause of death was given as convulsions, brain stroke, and heart failure, or, in other words, with symptoms mainly referable to the central nervous system.

As the summer progressed, however, the number of deaths from gastro-intestinal diseases gradually increased, so that toward the end of August and the beginning of September from 72 to 78 per cent of the diagnoses on the death certificates gave this class of diseases as the cause of death. Hot days brought an increased number of certificates recording deaths with acute symptoms, and a number of such deaths were found even in comparatively cool weather at this period.

A considerable difference in the duration of illness was apparent. In the early part of the summer about 50 per cent of the infants died after an illness lasting only one or two days, while in the latter part only about 20 per cent died with such acute symptoms. The remainder succumbed to illness of a more chronic character.

The following tables from Liefmann and Lindemann give a good idea of the relative frequency of deaths with acute symptoms and from gastro-intestinal diseases in the various parts of the summer (Table 1) and the course of the mortality from gastrointestinal diseases during the summer of 1905 in Berlin. (Table 2.)

TABLE 1.—*Causes of mortality during different parts of the summer, Berlin, 1905 (after Liefmann and Lindemann).*

	Number of infants dying each day—		
	In the cool part of early summer.	In the hot part of early summer.	In the cool part of late summer with high mortality.
Gastrointestinal diseases	3.0	13.2	41.3
Congenital debility and atrophy	6.0	6.2	4.3
Other affections	12.6	43.7	25.3
	21.6	63.1	70.9
"Other affections" above include convulsions, brain stroke, and heart failure	7.7	32.7	20

TABLE 2.—*Weekly deaths from gastrointestinal diseases in Berlin during the summer of 1905 (after Liefmann and Lindemann).*

	Total infant deaths.	Deaths from gastrointestinal diseases.	
		Number.	Per cent.
Cool part of early summer (May 14–20)	171	25	14.5
Hot part of early summer (June 4–10)	228	66	29
Cool part of early summer (June 11–17)	125	41	33
Hot part of early summer (July 2–8)	315	148	47
Hot part of late summer (July 30–Aug. 5)	441	306	69
Cool part of late summer (Aug. 13–20)	498	389	79
Cool part of late summer (Aug. 27–Sept. 2)	347	250	72
Cool part of year after decrease in mortality (Oct. 1–7)	168	67	39

We see from the foregoing that the march of infant mortality in the first part of the summer is characterized by the great number of deaths with acute symptoms and short duration (24 to 48 hours), while later the high, broad, and slowly descending curve is largely produced by the deaths of infants who succumb to more or less subacute affections, mainly of the gastro-intestinal tract.

The influence of heat upon the mortality of infants in the first part of the summer is apparently immediate. In the latter part of the summer this no longer seems to be the case. At first sight one would be inclined to state that, while some causal relation is manifest, the late summer mortality of infants is not directly influenced by the heat, which, therefore, can stand in no immediate relation to this phenomenon.

A closer examination, however, shows that we can, by no means, suppose that infants are necessarily relieved from the action of heat by reason of comparatively long remissions of the temperature in the latter part of the summer. If we are to examine the effects of heat upon infants, we can not arrive at conclusions by considering outdoor temperatures only. The nursling passes most of his time indoors, and it is the indoor meteorological conditions to which he is mainly subjected.

Indoor Temperatures.

The credit of calling attention to the importance of indoor temperatures belongs to Flügge (11), who, in 1879, published a series of observations upon indoor temperatures in midsummer. He found that the temperature indoors was dependent upon the degree of heat received by the walls from the sun.

The diffusion of the heat through the walls was found to be relatively slow, so that their inner surfaces reached their maximum temperatures in the following order: East wall, 9 p m.; south wall, 12 m.; west wall, 3 a. m.

The effect of the radiation of heat from the inner surfaces of walls, protracted far into the night, was to maintain the indoor temperature at a level considerably in excess of that of the external air. During a relatively cool summer Flügge found that the mean indoor temperature might exceed the exterior by as much as 9.5° C. (17.1° F.).

Other observations on the indoor temperature have been made by Meinert (41, 42), Hammerl (16), and Rietschel (55), in Germany; in this country by Chapin (4), Knox (29), and Helmholz, (19).

Meinert (41, 42) observed an average excess of 8.8° C. (16° F.) of the indoor over the outdoor temperature in a room in Dresden in which an infant had died of summer diarrhea.

Hammerl (16) made observations in the dwellings of workmen and found that the average mean indoor temperatures were greatly in excess of the outdoor. In one instance the temperature never fell below 24° C. (75.2° F.) for a period of over 14 days and often rose to 32° C. (89.6° F.), and, on one occasion, to 35° C. (95° F.) with outdoor temperatures that never exceeded a maximum of 23.7° C. (74.6° F.).

In the cool summer of 1910 Rietschel (55) made observations with maximum and minimum thermometers and recording thermographs in dwellings in Dresden, in which, for the past 5 years, a high infant mortality had been recorded.

He states:

> I admit frankly that the results astonished me. I had indeed supposed that in such dwellings temperatures of considerable height might prevail in summer, but I had never expected that such excessive temperatures could be maintained, not only daily but weekly, with an outdoor temperature relatively so low.

In some instances the temperature rose to 35° C. (95° F.) and 37° C. (98.6° F.), with outdoor maximums of but 23.5° C. and 21° C. (74.3° F. and 69.8° F.). During the hot summer of 1911 he reports an instance in the home of a workman of maximum temperatures of 38° C. (100.4° F.) with a minimum of 30°C. (86° F.).

Similar measurements have been made in this country by Chapin (4), Knox (29), and Helmholz (19) during the summer of 1912 with like results. Helmholz observed, in the stockyards district of Chicago, maximum indoor temperatures 30° F. in excess of the outdoor maximum. Minimum temperatures below 80° F. were rather infrequent, occurring only 83 times out of 1,374 maximum and minimum readings.

It is clear, from the foregoing, that infants are often obliged to endure, for considerable periods, temperatures which are greatly in excess of those of the external air. Moreover, the effect of these temperatures is often enhanced by excessive clothing and rubber

diapers. It is a too frequent experience to find, in crowded tenement homes, the busy mother keeping the baby in the kitchen, often near the stove, in order to have it close at hand.

Effects of Humidity.

The influence of a high degree of moisture in the air in increasing the effects of heat is well known. It would naturally be expected that hot days with high humidity would show the greatest increase in infant deaths. The observations on this point are inconclusive. Days on which great infant mortality has been recorded have, for the most part, been hot and dry.

Meinert (41), Prausnitz, Liefmann and Lindemann (37), and others point out that the relative humidity of the external air is by no means an index of the moisture to which infants are exposed. In the dwellings of the poor, where the great majority of infant deaths take place, the infant passes a large part of his time in narrow and usually crowded quarters, where the relative humidity may be greatly raised by the lack of ventilation, the moisture derived from the breath and skin of numerous inmates (frequently 5 or 6 in a single room), and the water evaporated in cooking, ironing, and washing.

Indeed, Kubly's (31) observation (cited by Meinert) showed that in the dwellings of the poor in Dorpat a mean relative humidity of 83 per cent was found in 223 observations and in 30 instances 90 to 98 per cent was recorded. Knox's (29) observations in Baltimore during the summer of 1912 showed the relative humidity in such dwellings to vary between 70 and 80 per cent.

Circulation of Air.

It is evident that circulation of the air is of great assistance in eliminating heat from the body by accelerating evaporation. I will cite only the recent experiments of Flügge and his coworkers, Paul, Ercklentz, and Heymann (13). They showed that in stagnant air symptoms of heat retention begin to make their appearance at temperatures of 24 to 25° C. (75.2° F. to 77° F.), which, however, disappeared when the air was set into motion by a fan.

If, then, heat is to be regarded as a direct factor in the causation of summer infant mortality, we would expect to find an increased number of deaths of infants in houses and in sections of cities where conditions are unfavorable to the circulation of air. Such, we find, is the case.

Ballard (1) in his extensive investigations of summer mortality in England noted that when the wind had free access to houses the summer infant mortality was low, while it was high in those cities, or sections of cities, where, from the disposition of the streets or houses, they could not be swept by the prevailing winds in summer.

Meinert (41), to whom belongs the credit of being the first to investigate in Dresden the relation of housing conditions to the summer mortality of infants, found that in practically every instance in the case of 580 infants dying in the 11 summer weeks of 1886. the conditions were such as to prevent the free circulation of air in the rooms in which these children lived. In only one instance did any of these infants die in a house exposed freely on all sides to the wind. The infants died in those dwellings which, from their low-lying situation, their location in the rear of other dwellings, the presence of courts, narrow streets, and shut-in style of architecture, were denied the access of cooling breezes or, in which from the disposition of the windows, through ventilation was impossible.

Thus on low-lying Hechtstrasse, with shut-in houses and many courts, 18.49 per cent of the living children under 1 year died; on high-lying Kiefernstrasse, with a more open style of architecture, only 2½ per cent; upon Johan Meyer Strasse, with model workmen's homes, open to the air on all sides, none.

Prausnitz (52) points out that in the absence of through ventilation the only exchanges which can take place between the inside and the outside air arise through differences in their temperatures.

In the absence of through ventilation these differences of temperature are so slight, in hot weather, that stagnation readily takes place. He and his coworkers investigated in Graz the location of windows in dwellings in which infants had died of summer diarrhea during the years 1903 and 1904. A dwelling was regarded as susceptible of through ventilation when it possessed windows in opposite walls, as partially so when the windows were in walls at right angles to each other, and as not susceptible when windows in one wall only were found.

They obtained the following results:

Year.	Susceptible of through ventilation.	Partially susceptible of through ventilation.	Not susceptible of through ventilation.
	Per cent.	*Per cent.*	*Per cent.*
1903, 1904	15.4	19.5	65

It will be seen from the above that approximately 80 per cent of these dwellings did not present conditions favorable to a free circulation of air.

Other Housing Conditions.

Besides Meinert's former work other careful studies of housing conditions in relation to housing have been made. Among these may be especially mentioned those of Willim (63) in Breslau, of Liefmann (34), and of Kathe (25) in Halle, and of Liefmann and Lindemann in Berlin. These investigations all bear testimony to the great

influence housing conditions have upon infant mortality, and particularly the conditions favoring high indoor temperatures or the absence of free circulation of air.

While it is true that the conditions were often such as would also favor the dissemination of infectious disease, we encounter the paradox that certain conditions, intrinsically unhygienic, have a distinctly favorable influence on the summer mortality of infants.

Thus it was found by Meinert, Willim, and Liefmann and Lindemann that infants living in basements and cellars show a smaller increase in their summer death rates than do breast-fed infants; while, with respect to the other stories, the death rate usually increases as we go up, being found highest next to the roof. (Meinert found the greatest number of deaths in the ground and first floors.)

Liefmann's and Kathe's investigations in Halle showed that the summer mortality of infants was rife, not only in certain streets, but in certain houses. Thus Liefmann found that out of 380 streets which Halle possessed at that time, no less than 141, or over 37 per cent, had no infant deaths.

We can also readily conceive from the character and situation of the houses in which infants die that, once they are heated through by the warmth of the early summer, the heat stored in the earth, pavements, and walls, in their shut-in location, prevents any substantial cooling off in the late summer, in spite of periods of moderately cool weather. In the early summer, before there is much stored heat, remissions in the external temperature have a much greater effect.

Effects of Heat in Causing Death.

It must be clear from the foregoing that the greater the summer heat the greater the number of deaths and that it is an indoor and not an outdoor climate to which infants are exposed. There remains for discussion the manner in which their deaths ensue. There are two hypotheses by which these are usually explained:

I. Owing to the fact that the great majority of infants dying in the summer are bottle-fed, the deduction is logical that the onus of their deaths must be placed largely upon the food most generally used in the artificial feeding of infants, namely, cows' milk, which becomes so readily spoiled by the summer heat when carelessly produced and handled.

We find two views generally held to explain the pernicious action of cow's milk in the summer:

1. That as a result of careless handling and inadequate cooling on the part of the producer and the consumer, the germs which always contaminate cow's milk undergo such proliferation that the ordinary saprophytic bacteria in milk or their toxic products endanger the life of the artificially fed infant.

2. That the deaths of artificially fed infants are not due solely to the use of a germ-laden milk and its resulting poisons, but that the use of an alien food creates a predisposition to infection with pathogenic bacteria which may be acquired in other ways than through the milk—as, for example, through contact or by the agency of flies.

II. A second hypothesis, held in this country some 35 years ago, and advanced anew by Meinert in 1881, is that heat itself, by its various effects upon the infant organism, must be regarded as the chief factor in the summer mortality of infants. This theory has recently gained many adherents abroad, such as Rietschel, Finkelstein, Liefmann and Lindemann, Kathe, Klose, Prausnitz, and others.

I will endeavor to discuss, as briefly as possible, these hypotheses.

Effects of stale or germ laden milk.—Milk is so plentifully seeded, during the course of its production and handling, with germs of all kinds, their multiplication is so favored by temperatures in excess of 60° F., and the possibilities of transmitting disease through its use are so obvious that none can deny its agency in this respect. Indeed, the accumulating literature of the epidemics of typhoid fever, the paratyphoid affections, diphtheria, scarlet fever, and septic sore throat transmitted through the agency of milk, not to mention the frequent presence of the tubercle bacillus in milk and milk products, only serve to emphasize the necessity of rigidly controlling the production and handling of this great source of food.

The most extensive investigation of recent years as to the effects of feeding different kinds of milk to infants is that of Park and Holt (49) in New York. Six groups of infants were observed, respectively fed on cheap store milk, condensed milk, milk from a central distributing station, good bottled milk, the best bottled milk, and breast milk.

During the winter but little differences in the results were noted, no matter what milk was fed. During the summer, however, the differences were striking. The infants fed on breast milk and the best bottled milk showed the best results, while these were very bad in the case of the infants fed on the condensed milk and the cheap store milk.

Rietschel, Liefmann and Lindemann, and others, however, advance the following reasons to show that the influence of cow's milk in causing summer infant mortality has been overestimated:

1. The hypothesis that the ordinary saprophytic germs of milk produce disease and death in infants is singularly lacking in experimental confirmation. The most exhaustive and complete experiments of this kind, i. e., those of Flügge (12), show that, at most, only the peptonizing bacteria in milk may have some harmful action

and are capable of exciting diarrhea when fed to dogs in large quantities.

2. Milk epidemics reported, in the literature, are mass epidemics, like other food epidemics. All the individuals, irrespective of age, who took the milk were affected. The course of these epidemics has also been quite different from that of the summer diarrhea of infants.

3. The use of sterilized milk ought to have a very great influence in reducing summer infant mortality. This does not seem to be the case. For instance, Liefmann (34) reports that infants boarded out in Halle have been provided since 1904 with sterilized milk by the municipality, yet the summer mortality among them from gastro-intestinal diseases has been the same or somewhat greater than that prevailing for the rest of the city infants. Out of 384 infants supplied in this way during 1905, 1906, and 1907, 45, or about 12 per cent, died, of which number 30, or 8 per cent, died of intestinal diseases. Moreover, it has been a common clinical experience to see infants who have received nothing but the purest cow's milk, from a bacteriological standpoint, sicken with all the symptoms of typical summer diarrhea.

4. The increase in the summer mortality of infants seems to be initiated only by temperatures in excess of 24° C. While it is true that multiplication of germs in milk is greater at 30° C. than 24° C. it can not really be maintained that milk will not spoil almost as effectively at the latter temperature as at the former. Yet why should milk, spoiled at 24° C., not increase mortality, while milk spoiled at 30° does?

5. Finkelstein and Liefmann and Lindemann point out that on hot days a large part of the mortality ensues within 24 to 48 hours. Liefmann and Lindemann state, in this connection:

> It is difficult to conceive how the spoiling of the milk, the infection or the intoxication of the child, the sickening, and, finally, the death can be compressed all within a single day.

While it is true, in the case of the investigation of Park and Holt, that the infants who received the cheap store milk showed the worst feeding results there are certain circumstances, noted by the investigators, which must be taken into account in weighing the conclusions.

For instance, the results of feeding with condensed milk, in which the bacteria were found to be relatively few, gave results but very little better than those obtained with the cheap store milk. Again, we are told that the store milk was boiled and subsequently kept on ice in the majority of instances. The results of the laboratory examination of numerous strains of bacteria isolated from the milk showed only one or two strains that produced diarrhea when fed to kittens.

The environment of the children was not the same, those using the store milk belonging to a poorer and needier class. It is just this

class of the population who crowd into the smaller tenement quarters with windows opening on courtyards and light wells.

Moreover, the investigators themselves state:

> There seem to be many factors, but a consideration of the facts accumulated indicates that heat is the primary factor, and bacteria and their products a secondary one except when the contamination is extreme or the pathogenic organisms present.

And again:

> The depressing effects of great atmospheric heat, i. e., a temperature of 90° F. or over, were very marked in all infants, no matter what their food. Those who were ill were almost invariably made worse and many who were previously well became ill.

They also indicate that proper care was, after all, the most important factor in keeping the infants well. With proper care some infants were fed successfully all summer on the cheap store milk.

That stale milk is not always deleterious to infants when the environment and care are good is shown by Rietschel's (57) experiments. Rietschel, after experimenting upon himself, fed to a series of infants cheap store milk which had previously been heated (as is the universal custom in Germany) and then allowed to stand in an open vessel for 24 hours at room temperature in the summer. The infants for the most part did very well on this diet and showed not the slightest trace of disturbance. In a few instances he had the impression that such a milk could cause more readily loose stools than a milk poor in bacteria. The milk was often turned when fed to the infants.

One further point which must be noted is that the infants which show the least increase in their death rate in summer are not the breast-fed infants, but infants who live in basements and cellars. Thus, Liefmann and Lindemann (37) inform us that in the cool part of the early summer in Berlin breast-fed infants died at the rate of 1.5 per day while in the hot part of the summer the rate was 4.5. The cellar infants died at the rate of 0.9 per day in cool weather and 2.25 per day in hot weather. Thus the death rate of the breast-fed children was increased threefold by the hot weather while that of the basement infants was only 2½ times as great. This can only be explained by reason of the greater coolness of cellars and basements.

Again, in the hot month of August in 1911 in Berlin, the breast-fed infants showed twice the mortality they did in the cool part of the summer, 107 dying in August, as against 51 in June.

While it can not be denied that milk, so long as it is exposed to contamination by human hands and flies, or is obtained from cows with inflammatory diseases of udder or with tuberculosis, must ever be liable to convey pathogenic germs, it would seem in view of the above statements that those who would attribute the bulk of the summer mortality of infants to stale milk take a too one-sided view of the matter and one not borne out by the facts.

The rôle of infections in the summer mortality of infants.—The summer diarrhea of infants has presented so many of the appearances, at first sight, of a specific infectious disease, as for example, its restriction to certain streets or sections of a city and the almost explosive rise of the mortality, that much labor has been expended to discover a specific organism.

The bacteriology of summer diarrhea was first carefully studied by Escherich (8) in Europe and Booker (3) in this country. They found no definite organism associated with summer diarrhea. In 1902 and 1903 Flexner (10), Holt, Duval, and Basset (18), Wollstein (67), Gary and Stanton, Wate (62), Kendall (26), and others reported the finding of the bacillus dysenteriæ (Flexner type) in the stools of numerous infants suffering from diarrhea. It should be noted, however, that in the great majority of those cases the dejections were typically dysenteric with blood and mucus in the stools.

Within the last few years Morgan (44, 45) and his coworkers report the isolation of a motile glucose-fermenting organism, which does not attack lactose or mannit from the stools of infants suffering from diarrhea in London during the years 1904–1906. The organism was present in about 45 per cent of the cases examined and produced diarrhea when fed to laboratory animals.

There is therefore evidence that a fair proportion of the deaths of children in summer are due to specific infections, but the evidence adduced is not sufficient to explain all of them in this way. Moreover, Liefmann and Lindemann (37) have studied the course of other epidemics, such as cholera epidemics in Berlin in the summer time, in order to throw some light on this matter. They found that no effect ascribable to temperature was visible in the course of such epidemics, as their progress was quite uninfluenced by meteorological conditions, the curves exhibiting a remarkable contrast to the infant mortality curves in the same city.

Again, McLaughlin (39) has shown that where a definite source of infection from gastro-intestinal diseases exists, as, for instance, a polluted water supply, the death rate in infants from enteritis may be nearly as great in the spring as in the summer months. This has been especially true of localities which have rather cool summers.

Flies.—Any hypothesis considering the summer deaths of infants as due to infections must clearly consider flies as probable or even principal carriers of the infecting organisms. The fly theory has been very carefully considered by O. H. Peters (50), who made an intensive study of the incidence of diarrhea in two sections inhabited by workmen of the city of Mansfield, England. He found no direct proof of the agency of flies in carrying summer diarrhea, and states that before this theory can be confirmed experiments of

scientific accuracy will be required, such as were used to prove the transmission of yellow fever and malaria by mosquitoes. On the other hand, he could develop no data which would render the implication of flies in the transmission of gastro-enteritis inherently impossible.

The following chart drawn from the data given by Niven (48) shows the incidence of flies as compared with the deaths from summer diarrhea in Manchester, England, by weeks. The incidence of flies was determined by counting the numbers caught weekly in traps located in various parts of the city.

It will be seen that the death rate in infants lags behind the fly curve and then increases at a much more rapid rate than the flies. These increase in arithmetrical progression while the increase in infant deaths from diarrhea is almost geometrical. The impression derived from this curve is that of an increase in flies and summer diarrhea both due to a common cause.

One other difficulty is the circumstance that Peters found, that while 32 per cent of the breast-fed infants investigated developed an attack of diarrhea during their first year, 90 per cent of the infants fed on cow's milk were affected. Yet it is difficult to conceive of an affection, spread by flies, being selective in its nature in the same age group, especially as Peters found the proportion of breast-fed and bottle-fed children receiving table food to be approximately the same.

Besides this Peters found that the difference in the incidence noted above was dependent, not upon cow's milk per se but upon the circumstance of being breast-fed or not breast-fed. It can not be denied, however, that cow's milk, when kept uncovered in the home, is much exposed to infection by flies.

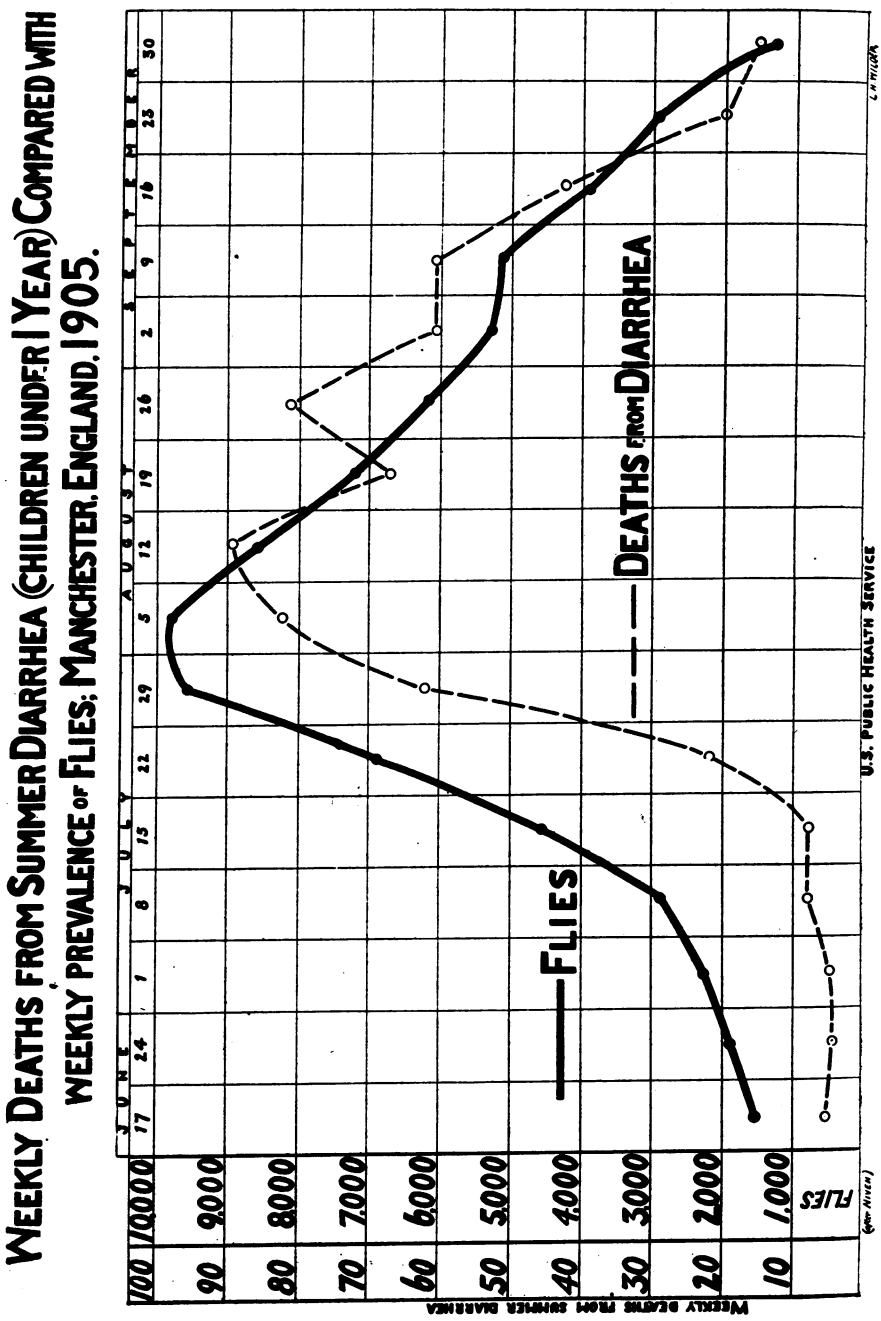
Finally Peters found that certain areas investigated had a much higher incidence of diarrhea than other sections showing a much greater prevalence of flies.

Effects of Heat upon Infants.

There remains now to examine the ways in which heat might damage the organism of the infant.

Heat stroke in infants.—We are all well aware that, every summer, numerous adults die in our great cities through heat stroke. As will be seen later there seem to be strong reasons for believing the infant more sensitive to heat than the adult, so there can be no ground for thinking that when adults perish, infants escape. It has been stated, in the foregoing, that hot days are accompanied by a number of deaths of infants with acute symptoms not referable to the

CHART IV.


WEEKLY DEATHS FROM SUMMER DIARRHEA (CHILDREN UNDER 1 YEAR) COMPARED WITH WEEKLY PREVALENCE OF FLIES; MANCHESTER, ENGLAND, 1905.
JUNE
JULY
AUGUST
SEPTEMBER
17
24
1
8
15
22
29
5
12
19
26
2
9
16
23
30
100
90
80
70
60
50
40
30
20
10
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
FLIES
(per Acre)
WEEKLY DEATHS FROM SUMMER DIARRHEA
FLIES
DEATHS FROM DIARRHEA
U.S. PUBLIC HEALTH SERVICE
L. M. WILLIAMS

gastrointestinal tract. It is probable that a goodly proportion of these are cases of heat stroke.

While references to heat stroke in infants, in the literature, are by no means numerous, a number of cases have been reported by Illoway (21), Zahorsky (68), Snow (60), Finkelstein (9), Neuman and Japha (according to Reitschel) Rietschel (56), Liefmann and Lindemann (37), L. F. Meyer (46), and others. They were often breast-fed infants, were usually in good health, but for the most part of the fat, pasty type. In most instances some prodromal symptoms of restlessness and fretting have been present, after which the baby was taken suddenly ill, often in the evening, with loss of consciousness, high fever, hot skin, running pulse, and convulsions. The urine, when examined, was found to contain casts and acetone (in one case sugar, Finkelstein). With prompt hydrotherapy cures have been effected in many instances, while in others rapid death has ensued.

But, after all, only a small percentage of infants die during the summer in this fashion. Illoway estimates their number at 2 or 3 per cent, Finkelstein at 6 or 7 per cent of the total infant deaths in the summer. These are simple guesses for which there is no statistical verification.

Besides thermic fever we have two other types of affections especially fatal to infants in hot weather, (*a*) typical cholera infantum, running a rapidly fatal course with watery diarrhea, vomiting, fever, frequently convulsions, and (*b*) the subacute diarrheas which may last for days or weeks before a fatal termination.

It will be well, at this point, to run over the principal effects which have been noted as to the action of heat upon the human body.

Tolerance of heat.—With respect to adults, Rubner (58) found that temperatures in excess of 24° centigrade and relative humidities of 80 per cent caused symptoms of heat retention to make their appearance in adults. The experiments of Flügge, Paul, Ercklentz, and Heymann (13) have already been referred to as to the effects of stagnant air in setting up symptoms of heat retention.

Haldane (15) found that moderate work at wet-bulb temperatures in excess of 25.5° C. (78° F.) was impracticable by reason of symptoms of heat retention.

Effects of heat upon metabolism.—With rising temperatures the heat eliminated from the body by means of radiation and convection becomes progressively less until a point is reached in which all the labor of heat elimination is performed by the evaporation of moisture. Ranke (53) points out that when the body has to choose between the quantity of food necessary for nutrition and that consistent with heat regulation, it is compelled to choose the latter in self-defense. As a consequence in hot weather the appetite is greatly reduced.

As a result of calorimetric measurements, Ranke found that, with mean temperatures of 25° C. the intake of food sank, in adults, to energy values, below those represented by the metabolism of the fasting, resting adult.

Another effect of heat is to depress the anabolic processes. Thus L. F. Meyer (46) found while the weekly gains in weight by the infants at the Berlin City Orphanage during the relatively cool months of July and August, 1910, were 590 and 600 grams respectively, in the very hot months of July and August, 1911, that these were but 290 and 350 grams.

Heat, sufficient to cause rises in the rectal temperature of the resting adult and other symptoms of heat retention has also the property of increasing the rate of metabolism. Sutton (61) found that in an adult exposed to relatively high temperatures (37° C.), in addition to the symptoms of heat retention, the respiratory exchange and the respiratory quotient were raised. He concludes that high temperatures accelerate the metabolism as heat does any simple chemical reaction. In this way a vicious circle is established.

Evaporation of moisture.—While it is a matter of common knowledge that heat greatly increases the amount of water evaporated by the body, there is interest in referring to the amount of this loss. Hunt (20) found that with high dry temperatures (wet bulb around 70° F.) and exercise, as much as 13½ liters of water were taken daily and the secretion of urine was then by no means free. In another series of observations he found that, in spite of frequent drinking, 16 hours were required to replace water evaporated from the body during a day's experiments in the hot room. In these latter experiments the hemoglobin index of the blood was the same before and after exposure to the heat. Therefore the source of the water evaporated was the tissues of the body.

Effect of heat upon the digestive secretions.—There is evidence to show that the activities of the digestive glands, especially the stomach, are depressed by heat. V. Salle (59) found from animal experimentation that exposures to moderately high temperatures—29° to 31° C. (84.2° to 87.8° F.)—had the effect of greatly diminishing not only the amount of the gastric secretions but their acidity and digestive activity. In this way the stomach not only loses a portion of its power to act upon food, but from the diminished or absent acidity there is a corresponding loss in the antiseptic and antifermentative action of the gastric juice.

Effect of heat upon the resistance to bacteria.—The observations of Medowikow (40) show that exposure to heat has the effect of diminishing the resistance of young animals to bacteria in the intestinal tract. Medowikow exposed young rabbits to incubator temperature for 12 hours. He found at the close of the experiment that not only

were the bacteria in the intestinal tract increased but that in nine cases out of ten *B. coli* was present in the spleen or in the liver.

Effects upon the infant organism.—Let us now examine in what way the results enumerated above can be interpreted with respect to infants.

Metabolism of the infant.—In the first place the metabolism of the infant is keyed to a much higher plane than that of the adult. According to Nieman (47) the respiratory exchange of the infant is higher than that of the resting adult and corresponds to that of the adult doing moderate work. The total metabolism of infants is about 100 calories per kilogram and from 50 to 90 calories are required exclusive of the amounts retained for the purposes of growth. This corresponds to the energy quotient of an adult doing fairly severe muscular work.

Another evidence of the more active metabolism of the infant is shown by the skin temperature. Rubner (58) found that a thermometer placed between the skin of an adult's chest and a woolen undershirt registered about 32° C. Liefmann and Lindemann (37) state that thermometers inserted between the skin and clothing of infants registered between 34° and 35° C.

Since the metabolism of infants is higher, they produce much more heat than the adult in proportion to their weight. Though it is true that they have also a proportionately greater skin surface to provide for the elimination of this increased amount of heat, it must follow that when the escape of heat is prevented by meteorological conditions their greater rate of metabolism must favor heat retention.

Thermo regulation in the infant.—We can deduce from the above for the infant narrower temperature limits within which heat regulation is efficient than for adults, and consequently a more labile condition of temperature equilibrium. Experimentally such has proven to be the case. The observations of Generisch (14), Rietschel (57), Kleinschmidt (27), Heim and John (17), show that when infants are experimentally exposed to moderately high heat (28° to 32° C.) a rise in their body temperatures takes place. This rise was found to be greater in infants suffering from disturbances of the nutrition (Kleinschmidt, Rietschel).

Meinert (41) in his investigations in Dresden found that the rectal temperatures of infants in homes where the indoor temperatures were high were increased to 39° or 40° C., although according to the parents' statements the infants had been comparatively well.

Reduction of tolerance for food.—Another effect of heat is the reduction of the tolerance for food. Ranke's observations in respect to this effect of heat upon adults have already been mentioned. The adult, however, taking both solids and liquids, can diminish the one and increase the other.

Meinert (41) points out that in the breast-fed infant this demand for increased liquids is regulated by the breast, for as a result of numerous observations he has found that breast milk is more fluid in the summer than in the winter. Indeed this is to be expected, as in hot weather the mother will instinctively drink more and eat less.

Besides this, v. Pirquet (51) also points out that not only the quantity but the quality of the food obtained by the breast-fed child is influenced by its appetite. In hot weather, when this is reduced, it quickly ceases to suck, hence it receives only the more fluid "foremilk," while the rich "aftermilk" remains in the breast.

The bottle-fed child is far more passive in this respect to its food, which it obtains with a minimum effort through the effects of gravity. It therefore varies its intake far less than the breast-fed child. Moreover, its increased thirst often leads mothers to satisfy it with additional food instead of water.

It is obvious under these conditions that bottle-fed babies are often relatively overfed in hot weather, a circumstance commented on by numerous authors.

Another effect of heat of importance to the digestion of infants is the diminution of the quantity, acidity, and activity of the gastric juice, as shown by Salle's experiments and the resistance of the intestinal tract to bacteria as demonstrated by Medowikow.

Not only will the digestive processes take place with greater slowness, thus favoring stagnation of the intestinal contents, but the deficient acidity of the gastric juice may doubtless permit pathogenic germs which would otherwise succumb to its acidity to gain access to the intestine. The diminished resistance of the intestine to bacteria would permit the proliferation of germs introduced in this manner or favor endogenous infections.

We see from the foregoing that there are a number of reasons why heat should exercise a particularly deleterious influence on infants. There remain for final examination the possible effects of heat in respect to cholera infantum and the subacute intestinal infections.

Effect of Heat in Producing Cholera Infantum.

Typical cholera infantum has always been regarded by the earlier American authors (cf. Miller) as a heat effect. The following reasons have been advanced by Meinert, Rietschel, and others for regarding it from this standpoint:

1. The severe form makes its appearance only after exposure to very hot weather or high indoor temperatures.

2. It often attacks infants hitherto in the best of health. Meinert found that 54 per cent of all the infants whose deaths he investigated had always enjoyed good health, while Johnston (24), from his observations in Leicester, places this at 75 per cent.

3. The bacteriological findings and post-mortem appearances in cholera infantum are far more indefinite than in the subacute intestinal affections.

4. High fever is usually present.

5. A heat effect may be inferred *ex juvantibus*, or, in other words, the most effective treatment is removal to a cool location, hydrotherapy, and restoration of the body fluids.

In this connection a case recited by Rietschel (56) is instructive. During the summer of 1911 an artificially fed infant, receiving excellent milk, both from a quantitative and qualitative standpoint from the Dresden Säuglingsheim, lived in a dwelling where continuously high temperatures were registered. The infant bore the heat very well up to the 8th of August. No diarrhea was present up to that time, the bowels being somewhat constipated. On that date slight diarrhea made its appearance, but the child, while listless, seemed comfortable. On the 9th the symptoms suddenly changed. The diarrhea became spurting and the child's temperature rose to 40 C. The infant was quickly removed to the hospital, where the fever was reduced by hydrotherapy. We are not informed as to the subsequent fate of the child.

Subacute diarrhea.—While in this class of affections the influence of heat is by no means so apparent, from the statements already made, however, it must be conceded that heat has important predisposing effects in the following ways:

1. By reduction of the tolerance for food.

2. By reduction of the activity of the digestive secretions.

3. By reduction of the normal resistance of the intestines to bacterial invasions.

Clinical experience has shown that stormy symptoms can be induced by feeding infants excessive amounts of the purest food from the bacteriological standpoint. The relative reduction of the tolerance for food by the action of heat must, as has already been pointed out, produce many instances of overfeeding, leading to nutritional disturbances.

The continued influence of heat upon the infant, whose nutrition has been thus disturbed, leads to disturbances of the thermal regulation which has been found to be more labile in children with digestive disturbances.

This in turn has the effect of still further lowering the tolerance, so that in this way a vicious circle is established. Added to this are the weakness of the digestive secretions, the stagnation of food in the intestine, and increased susceptibility to exogenous and endogenous infections.

It seems clear, from the foregoing, that we must regard heat as a powerful factor in directly determining the summer mortality of infants. Yet to ascribe all of summer mortality directly to this

cause would be as one-sided as to ascribe it all to the method of feeding.

I think, however, that the recent observations recorded have furnished us with lines of much greater precision on which to base our preventive measures. Our attention has, besides, been especially directed anew to the influence of poor housing conditions in the production of summer deaths in babies.

The indications for prophylaxis are plain. They consist, hand in hand with an improvement in housing conditions and the development of residential suburbs, in a greater emphasis upon the care of infants in their homes in the summer months. Mothers must also be informed of the fact that excessive heat, per se, is deleterious to infants and, when hot weather is present, special efforts must be made to prevent overheating and relative overfeeding of babies by the use of frequent tepid baths, light clothing, fresh air, increase in the amount of water given, lengthening of the feeding intervals, and reduction in the amounts of food. The advantages of breast-feeding are only emphasized by all that has been brought out. Here nature automatically modifies the composition of a food in accordance with the heat in a way to which artificial feeding can never compare.

Conclusions.

1. The action of heat as a direct cause in the summer mortality of infants has been greatly underestimated in the last 25 years. In the future much more weight should be given to its influence.

2. The lethal action of heat is a function, not so much of the maximum and mean temperatures of the external air as of the indoor temperatures, which, in the late summer, may continue to be high, in spite of remissions in temperature of the external air.

3. The action of dirty and stale milk in causing the death of infants has been given a significance which has overshadowed other factors of equal or greater importance.

4. There is evidence to show that a certain proportion of infant deaths are due to specific infections, in the dissemination of which contact infection and flies doubtless play a part.

5. As a result, future activities for the prevention of infant mortality must concentrate themselves to a greater extent on the question of housing, especially the conditions productive of high indoor temperatures, such as overcrowding, narrow streets, and the absence of through ventilation.

6. Poor housing conditions can be partially neutralized by the proper care of babies in the summer. The general public should be educated as to the importance of high indoor temperature in caus-

ing the death of infants, and especially as to measures which prevent babies from suffering from the heat.

7. Breast feeding must still be regarded as a most, if not the most, important preventive of the summer death of infants.

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TYPHOID MORBIDITY REPORTS.

PRACTICE IN MINNESOTA IN CASES EXTRA-STATE IN ORIGIN.

The Minnesota State Department of Health is making a practice, where possible, of determining, in reported cases of typhoid fever, whether the infection was received in Minnesota or elsewhere. The cases receiving infection from outside the State are being reported by the Minnesota authorities to the health authorities of the States in which the infection was received.

In the control of typhoid fever cooperation of this kind is desirable, and the practice of the Minnesota authorities is highly commendable. In time the notification of extra-State cases in this way will undoubtedly become general.

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.

New York Report for October, 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.
New York:						
Franklin County	8	.....	1	.....	[1] 7	.....
Herkimer County	2	.....	.....	.....	2	.....
New York City	1	.....	.....	.....	.....	1
Niagara County	9	.....	.....	.....	.....	9
Schenectady County	1	.....	.....	1	.....	.....
Total	21	.....	1	1	9	10

[1] Three of these cases were vaccinated a few days before onset.

California—Imperial County.

Acting Asst. Surg. Richter, of the United States Public Health Service, reports by telegraph, under date of November 29, 1913, that since November 15, 1913, four cases of smallpox had been notified in Imperial County, Cal. One of these cases occurred in Brawley and three in Imperial.

California—Los Angeles.

Senior Surg. Brooks, of the United States Public Health Service, reported by telegraph that during the week ended November 29, 1913, two 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 November 29, 1913, 50 cases of smallpox had been notified in Niagara Falls, N. Y. No deaths were reported.

SMALLPOX—Continued.

Tennessee—Memphis.

Senior Surg. Kalloch, of the United States Public Health Service, reported November 26, 1913, that a case of smallpox had occurred at Memphis, Tenn., on the fleet of the Mississippi River Commission. Persons who had been exposed to possible infection were vaccinated and sleeping quarters were fumigated.

Miscellaneous State Reports.

Places.	Cases.	Deaths.
Florida (Oct. 1-31):		
Counties—		
Alachua	13	.....
Bradford	9	.....
Brevard	1	.....
Duval	15	1
Escambia	1	.....
Hillsboro	3	.....
Pinellas	3	.....
Polk	8	.....
Suwanee	1	.....
Total	54	1
Illinois (Oct. 1-31):		
Counties—		
Adams	5	.....
Cook	4	.....
Fayette	1	.....
Fulton	3	.....
Grundy	1	.....
Hardin	1	.....
Henry	3	.....
Jo Daviess	1	.....
La Salle	2	.....
Lee	12	.....
Madison	5	.....
Monroe	2	.....
Piatt	1	.....
Rock Island	3	.....
Stephenson	3	.....
Will	7	.....
Whiteside	15	.....
Total	69	.....
Iowa (Oct. 1-31):		
Counties—		
Crawford	1	.....
Des Moines	5	.....
Dubuque	1	.....
Fremont	1	.....
Harrison	1	.....
Jasper	3	.....
Marion	2	.....
Palo Alto	1	.....
Polk	23	.....
Pottawattamie	1	.....
Sioux	4	.....
Warren	2	.....
Iowa (Oct. 1-31)—Continued.		
Counties—Continued.		
Washington	5	.....
Wright	3	.....
Total	53	.....
Kansas (Oct. 1-31):		
Counties—		
Crawford	5	.....
Franklin	1	.....
Marshall	1	.....
Sedgwick	2	.....
Sumner	3	.....
Wyandotte	12	.....
Total	24	.....
Montana (Oct. 1-31):		
Counties—		
Blaine	4	.....
Broadwater	7	.....
Carbon	5	.....
Cascade	12	.....
Flathead	1	.....
Hill	4	.....
Ravalli	19	.....
Silverbow	2	.....
Total	54	.....
North Dakota (Oct. 1-31):		
Counties—		
Grand Forks	1	.....
McKenzie	1	.....
Sargent	44	.....
Wells	20	.....
Total	66	.....
Texas (Oct. 1-31):		
Counties—		
Dallas	3	.....
Eastland	1	.....
Jones	8	.....
Kaufman	11	.....
Navarro	2	.....
Neuces	1	.....
Total	26	.....

City Reports for Week Ended Nov. 15, 1913.

Places.	Cases.	Deaths.
Altoona, Pa	1	.....
Biddeford, Me	1	.....
Butte, Mont	1	.....
Chattanooga, Tenn	8	.....
Chicago, Ill	4	.....
Evansville, Ind	3	.....
Harrisburg, Pa	1	.....
Kansas City, Kans	4	.....
La Crosse, Wis	1	.....
Marinette, Wis	14	.....
Milwaukee, Wis	2	.....
Nashville, Tenn	7	.....
Niagara Falls, N. Y	2	.....
Reading, Pa	1	.....
San Francisco, Cal	1	.....
Schenectady, N. Y	2	.....
South Bend, Ind	1	1
Toledo, Ohio	2	.....

TYPHOID FEVER.

State Reports for October, 1913.

Places.	Number of new cases reported during month.
Kansas:	
Allen County	8
Anderson County	1
Barton County	1
Bourbon County	2
Fort Scott	2
Brown County	4
Butler County	6
Cherokee County	5
Cloud County	4
Coffey County	3
Comanche County	1
Cowley County	7
Crawford County	10
Pittsburg	2
Decatur County	10
Douglas County	1
Edwards County	1
Elk County	1
Ellsworth County	7
Finney County	3
Franklin County	1
Geary County	2
Greenwood County	7
Harvey County	2
Jefferson County	1
Kearney County	3
Labette County	8
Parsons	4
Lane County	2
Leavenworth County	3
Leavenworth	1
Lincoln County	1
Linn County	2
Lyon County	2
Marion County	5
Marshall County	2
Meade County	2
Montgomery County	3
Coffeyville	3
Morris County	3
Morton County	1
Neosho County	1
Norton County	5
Osborne County	2
Reno County	1
Hutchinson	7
Republic County	3
Rice County	3
Riley County	2
Rooks County	5
Russell County	5
Saline County	2
Sedgwick County	2
Wichita	12
Stevens County	2
Sumner County	9
Wichita County	1
Wilson County	1
Woodson County	4
Wyandotte County	1
Kansas City	6
Total	211
New York:	
Albany County	9
Allegany County	1
Broome County	9
Cattaraugus County	14
Cayuga County	5
Chautauqua County	7
Chemung County	16
Chenango County	4
Clinton County	17
Columbia County	3

Places.	Number of new cases reported during month.
New York—Continued.	
Cortland County	10
Delaware County	23
Dutchess County	8
Erie County	43
Essex County	3
Franklin County	6
Fulton County	4
Genesee County	3
Greene County	13
Herkimer County	15
Jefferson County	21
Lewis County	3
Madison County	5
Monroe County	22
Nassau County	3
New York City	631
Niagara County	33
Oneida County	10
Onondaga County	20
Ontario County	4
Orange County	11
Orleans County	3
Oswego County	21
Otsego County	3
Putnam County	1
Rensselaer County	7
St. Lawrence County	2
Saratoga County	4
Schenectady County	12
Schoharie County	12
Schuyler County	1
Seneca County	4
Steuben County	14
Suffolk County	7
Sullivan County	2
Tioga County	2
Tompkins County	11
Ulster County	22
Warren County	2
Washington County	6
Wayne County	4
Westchester County	15
Yates County	2
	1,133
Texas:	
Childress County—	
Childress	2
Culberson County	5
Dallas County—	
Dallas	18
Eastland County	1
Cisco	1
Hale County	2
Hunt County	5
Kaufman County	1
Matagorda County—	
Bay City	1
Montague County—	
Bowie	1
Navarro County—	
Corsicana	1
Reeves County—	
Pecos	1
Tarrant County—	
Fort Worth	16
Travis County—	
Austin	2
Van Zandt County	1
Williamson County—	
Taylor	1
Total	50

TYPHOID FEVER—Continued.

City Reports for Week Ended Nov. 15, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Atlantic, N. J.	1		Lynn, Mass.	2	
Baltimore, Md.	8	4	Marinette, Wis.	1	
Bennington, Vt.	1		Massillon, Ohio.	1	
Binghampton, N. Y.	1		Milwaukee, Wis.	2	
Boston, Mass.	19	1	Moline, Ill.	1	
Brockton, Mass.	1		Morristown, N. J.	6	
Buffalo, N. Y.	2	1	Nashville, Tenn.	4	
Cambridge, Mass.	1		Newburyport, Mass.	1	
Camden, N. J.	3		New Castle, Pa.	4	
Chicago, Ill.	58	8	New Orleans, La.	5	2
Chicopee, Mass.	1		Niagara Falls, N. Y.		1
Cincinnati, Ohio.	3		North Adams, Mass.	1	2
Cleveland, Ohio.	12	2	Oakland, Cal.	4	
Coffeyville, Kans.	1		Pawtucket, R. I.	1	
Concord, N. H.	1		Philadelphia, Pa.	30	5
Cumberland, Md.	9	1	Pittsburgh, Pa.	7	
Danville, Ill.		1	Portland, Me.	2	
Dayton, Ohio.	3	2	Providence, R. I.	9	
Dunkirk, N. Y.	1	1	Reading, Pa.	4	4
Elmira, N. Y.	1		Roanoke, Va.	1	
Erie, Pa.	4		Saginaw, Mich.	1	
Evansville, Ind.	3		St. Joseph, Mo.	1	
Everett, Mass.	1		St. Louis, Mo.	21	6
Fall River, Mass.	1		San Diego, Cal.	1	1
Fitchburg, Mas.	1	1	San Francisco, Cal.	12	1
Galesburg, Ill.	1	1	Saratoga Springs, N. Y.	1	
Grand Rapids, Mich.	2		Schnectady, N. Y.	1	
Harrisburg, Pa.	1	1	South Bend, Ind.		1
Harrison, N. J.	1		Springfield, Ill.	2	
Hartford, Conn.	3		Springfield, Mass.	1	
Jersey City, N. J.		1	Toledo, Ohio.	2	2
Kansas City, Kans.	2		Trenton, N. J.	1	
La Crosse, Wis.	1		Washington, D. C.	5	1
Lancaster, Pa.	1		Worcester, Mass.	3	1
Los Angeles, Cal.	5	3	York, Pa.	1	
Lowell, Mass.	2		Yonkers, N. Y.	1	

CEREBROSPINAL MENINGITIS.

State Reports for October, 1913.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
New York:		Texas:	
Broome County	1	Dallas County—	
Cattaraugus County	1	Dallas	1
Erie County	1	Tarrant County—	
Essex County	1	Fort Worth	1
Monroe County	1		
New York City	20	Total	2
St. Lawrence County	1		
Seneca County	1		
Westchester County	2		
Total	29		

City Reports for Week Ended Nov. 15, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Boston, Mass.	1	1	Palmer, Mass.		1
Butte, Ment.		3	Pittsburgh, Pa.	1	1
Chicago, Ill.	1		Springfield, Ill.		1
Cleveland, Ohio.	1	1	Worcester, Mass.	1	
Milwaukee, Wis.	1	1			

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for October, 1913.

Places.	Number of new cases reported during month.
Kansas:	
Elk County	1
Leavenworth County	1
Lyon County	1
Marion County	1
McPherson County	2
Montgomery County	1
Neosho County	4
Washington County	1
Wilson County	1
Wyandotte County—	
Kansas City	1
Total	14
New York:	
Albany County	1
Cayuga County	1
Chenango County	1
Delaware County	1
Dutchess County	2
Fulton County	2
Herkimer County	1
Lewis County	1
New York—Continued.	
Nassau County	3
New York City	48
Niagara County	1
Oneida County	1
Onondaga County	5
Orleans County	1
Rensselaer County	1
Saratoga County	2
Schenectady County	4
Steuben County	1
Tioga County	1
Washington County	1
Westchester County	6
Total	85
Texas:	
Matagorda County—	
Bay City	2
Midland County	2
Total	4

City Reports for Week Ended Nov. 15, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1		New Bedford, Mass.	1	
Boston, Mass.	2		Pawtucket, R. I.	1	
Cincinnati, Ohio	1		Philadelphia, Pa.	2	
Cleveland, Ohio	1		Richmond, Va.	1	
Coffeyville, Kans.	1		San Diego, Cal.	1	
Evansville, Ind.	1		Schenectady, N. Y.	1	
Fitchburg, Mass.	1		Trenton, N. J.		1
Lowell, Mass.	1		Worcester, Mass.	1	

ERYSIPELAS.

City Reports for Week Ended Nov. 15, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Braddock, Pa.	1		Los Angeles, Cal.	1	
Buffalo, N. Y.	1		Milwaukee, Wis.	2	1
Cambridge, Mass.		1	Niagara Falls, N. Y.	1	
Chicago, Ill.	6	1	Philadelphia, Pa.	6	1
Cincinnati, Ohio	3		Pittsburgh, Pa.	8	
Cleveland, Ohio	2		Reading, Pa.	2	
East Orange, N. J.	1		St. Louis, Mo.	7	
Erie, Pa.	1		San Francisco, Cal.	2	
Hartford, Conn.	2		South Bethlehem, Pa.	1	

PELLAGRA.

During the week ended November 15, 1913, pellagra was notified by cities as follows: Austin, Tex., 1 death; New Orleans, La., 2 deaths.

PLAGUE.

Rats Collected and Examined.

Places.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
California:					
Cities—					
Oakland	Nov. 8, 1913	22	772	401	.....
Berkeley	.....do.....	5	216	106	.....
San Francisco	.....do.....	21	1,957	1,236	.....

California—Squirrels Collected and Examined.

During the week ended November 8, 1913, 10 squirrels from Alameda County were examined for plague infection. None was found to be plague infected.

Washington—Seattle—Plague in Rats.

Surg. Lloyd, of the United States Public Health Service, reported by telegraph November 30, 1913, that a plague-infected rat had been found in Seattle, Wash.

PNEUMONIA.

City Reports for Week Ended Nov. 15, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Binghamton, N. Y.	4	5	Philadelphia, Pa.	28	37
Braddock, Pa.	1	.....	Pittsburgh, Pa.	32	46
Chicago, Ill.	220	72	Pottstown, Pa.	1	.....
Cleveland, Ohio	17	14	Reading, Pa.	1	1
Dunkirk, N. Y.	1	1	Rutland, Vt.	3	3
Galesburg, Ill.	2	2	San Francisco, Cal.	6	.....
Los Angeles, Cal.	12	6	Schenectady, N. Y.	4	2
New Castle, Pa.	4	.....	South Omaha, Nebr.	1	.....
Norristown, Pa.	2	2	York, Pa.	1	.....

RABIES.

California—Berkeley and Oakland—Rabies in Animals.

Surg. Long, of the Public Health Service, reported, by telegraph, that during the week ended November 29, 1913, 3 cases of rabies in dogs had been reported in Berkeley and 1 case in Oakland, Cal.

TETANUS.

During the week ended November 15, 1913, a death from tetanus was notified at New Orleans, La.

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.

State Reports for October, 1913.

	Scarlet fever.	Measles.	Diphtheria.
Kansas	122	15	83
New York	654	1,245	1,598
Texas	132	.....	72

City Reports for Week Ended Nov. 15, 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	184	55	3	1	.....	28	.....	31	20
Boston, Mass	670,585	174	38	2	21	.....	43	1	49	18
Chicago, Ill	2,185,283	613	173	29	14	.....	99	6	237	62
Cleveland, Ohio	560,663	140	96	8	21	.....	16	3	20	9
Philadelphia, Pa	1,549,008	459	58	8	16	.....	63	4	88	47
Pittsburgh, Pa	533,905	184	78	7	44	4	113	1	22	10
St. Louis, Mo	687,029	217	83	5	9	.....	23	.....	36	14
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	423,715	127	20	2	25	.....	14	.....	21	13
Cincinnati, Ohio	364,463	119	31	4	.....	.....	8	.....	24	19
Los Angeles, Cal	319,198	105	25	3	5	.....	9	.....	39	10
Milwaukee, Wis	373,857	114	15	3	9	.....	17	.....	19	4
New Orleans, La	339,075	141	29	8	4	.....	1	.....	32	19
San Francisco, Cal	416,912	134	12	.....	1	.....	9	.....	22	19
Washington, D. C	331,069	116	33	1	1	1	11	.....	26	7
From 200,000 to 300,000 inhabitants:										
Jersey City, N. J	267,779	58	.....	1	.....	.....	.....	.....	.....	3
Portland, Oreg	207,214	.....	.....	.....	.....	.....	.....	.....	.....	.....
Providence, R. I	224,326	63	21	3	9	2	9	.....	4	5
From 100,000 to 200,000 inhabitants:										
Bridgeport, Conn	102,054	25	8	1	5	.....	4	.....	2	1
Cambridge, Mass	104,839	25	2	.....	4	.....	2	.....	2	6
Dayton, Ohio	116,577	31	36	.....	10	.....	5	.....	1	2
Fall River, Mass	119,295	32	5	.....	.....	.....	4	.....	2	4
Grand Rapids, Mich	112,571	49	16	1	101	.....	18	.....	3	1
Lowell, Mass	106,294	21	9	.....	.....	.....	2	.....	1	1
Nashville, Tenn	110,364	41	3	.....	2	.....	4	.....	5	3
Oakland, Cal	150,174	31	6	.....	.....	.....	4	.....	4	4
Richmond, Va	127,628	51	6	1	.....	.....	7	.....	4	.....
Toledo, Ohio	168,497	62	12	4	.....	.....	7	.....	.....	10
Worcester, Mass	145,986	38	8	.....	7	1	8	.....	7	4
From 50,000 to 100,000 inhabitants:										
Altoona, Pa	52,127	.....	3	.....	.....	.....	5	.....	.....	.....
Bayonne, N. J	55,545	15	16	2	6	.....	3	1	7	.....
Brockton, Mass	56,878	7	11	3	.....	.....	5	.....	3	1
Camden, N. J	94,538	.....	3	.....	2	.....	1	.....	7	.....
Erie, Pa	66,525	24	13	.....	1	.....	2	.....	2	.....
Evansville, Ind	69,647	23	3	.....	1	.....	.....	.....	1	.....
Harrisburg, Pa	64,186	21	15	1	.....	.....	1	.....	3	1
Hartford, Conn	98,915	37	13	.....	1	.....	3	.....	3	2
Hoboken, N. J	70,324	.....	3	.....	.....	.....	3	.....	12	1
Johnstown, Pa	55,482	16	15	.....	.....	.....	.....	.....	.....	3
Kansas City, Kans	82,331	.....	.....	.....	.....	.....	2	.....	5	.....
Lawrence, Mass	85,892	.....	.....	.....	1	.....	1	.....	3	1
Lynn, Mass	89,336	16	4	.....	1	.....	3	.....	4	4
Manchester, N. H	70,063	30	2	2	1	.....	3	.....	1	1
New Bedford, Mass	96,652	31	5	.....	2	.....	6	.....	3	5
Passaic, N. J	54,773	18	3	.....	5	.....	1	.....	6	1
Pawtucket, R. I	51,622	.....	3	.....	.....	.....	1	.....	.....	1
Portland, Me	58,571	19	1	.....	.....	.....	.....	.....	.....	1
Reading, Pa	96,071	31	10	1	2	.....	2	.....	1	2
Saginaw, Mich	50,510	16	4	.....	.....	.....	1	.....	.....	.....
St. Joseph, Mo	77,403	24	1	.....	.....	.....	1	.....	2	4
Schenectady, N. Y	72,826	16	1	.....	1	.....	4	.....	3	2
South Bend, Ind	53,684	14	3	1	1	.....	.....	.....	.....	.....

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

City Reports for Week Ended Nov. 15, 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 50,000 to 100,000 inhabitants—Continued.										
Springfield, Ill	51,678	19	2			1				2
Springfield, Mass	88,926	26	5	1			1		1	3
Trenton, N. J	96,815	31	2		1	1	3		4	2
Wilkes-Barre, Pa	67,105	20	9	2			2		4	3
Yonkers, N. Y	79,803	24	3		39		2		8	4
From 25,000 to 50,000 inhabitants:										
Atlantic City, N. J	46,150	8	2							
Aurora, Ill	29,807		1							1
Austin, Tex	29,860	15	5				3			4
Binghamton, N. Y	48,443	24	5	2	1		2			3
Brookline, Mass	27,792	3	4				2		2	
Butte, Mont	39,165	8					1			1
Chattanooga, Tenn	44,604						4		1	
Chelsea, Mass	32,452	9	2		2		2			2
Chicopee, Mass	25,401	4	2						3	2
Danville, Ill	27,871	7	3	1			3			2
East Orange, N. J	34,371		3		5		1			
Elmira, N. Y	37,176	10	2							
Everett, Mass	33,484	2	1				13		3	
Fitchburg, Mass	37,826	8	2	1			3			1
Haverhill, Mass	44,115		3		8				3	
La Crosse, Wis	30,417	11	8	1						1
Lancaster, Pa	47,227		1						1	
Lexington, Ky	35,099	12	2	1	1		1		3	2
Little Rock, Ark	45,941		1						1	
Lynchburg, Va	29,494	13	3				5		2	2
Newcastle, Pa	36,280		1		4				2	
Newton, Mass	39,806	8	2						2	
Niagara Falls, N. Y	30,445	15	1				2			1
Norristown, Pa	27,875	12	1							1
Orange, N. J	29,630	9	1				4			1
Pasadena, Cal	30,291	12					1		1	1
Pittsfield, Mass	32,121	9	2		1		1	1	1	1
Portsmouth, Va	33,190	5								
Racine, Wis	38,002	14	6	1			1		1	
Roanoke, Va	34,874	9	3		1		5			
San Diego, Cal	39,578		4						2	1
South Omaha, Nebr	26,259	9	1							
Superior, Wis	40,384	6	1				4			
Taunton, Mass	34,259	13	1	1			3			1
Waltham, Mass	27,834	11	3		1		1			2
West Hoboken, N. J	35,403		3				2		2	
Wheeling, W. Va	41,641	11	4				1			1
York, Pa	44,750		1						2	
Zanesville, Ohio	28,026						2			
Less than 25,000 inhabitants:										
Alameda, Cal	23,383	4							2	1
Ann Arbor, Mich	14,817	10	4						6	
Beaver Falls, Pa	12,191		2							
Bennington, Vt	8,698	3								
Biddeford, Me	17,079	2								
Braddock, Pa	19,357				1					
Cambridge, Ohio	11,327	1					3			
Clinton, Mass	13,075	1	1							1
Coffeyville, Kans	12,687		1	1			1			
Columbus, Ind	8,813	1	2							
Concord, N. H	21,497	10	5							1
Cumberland, Md	21,839	9	4		1		4		1	
Dunkirk, N. Y	17,221	7			57		2			
Franklin, N. H	6,132	3								
Galesburg, Ill	22,089	7	3						1	1
Harrison, N. J	14,498	4							1	
Kearny, N. J	18,659	5	1		6					
Lafayette, Ind	20,081	7	14	1						1
Marinette, Wis	14,610	2								
Massillon, Ohio	13,879	2								
Medford, Mass	23,150	5					5		1	
Melrose, Mass	15,715	2	1				5		1	
Moline, Ill	24,199	4	1							
Montclair, N. J	21,550	6								

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

City Reports for Week Ended Nov. 15, 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.
Less than 25,000 inhabitants—Continued.										
Morristown, N. J.	12,507	4	.....	1	2	.....	1	.....	3	.....
Nanticoke, Pa.	18,877	3	4	.....	.....	.....	1	.....	.....	.....
Newburyport, Mass.	14,949	7	.....	.....	.....	.....	.....	.....	.....	1
North Adams, Mass.	22,019	13	1	1	.....	.....	2	.....	1	1
Northampton, Mass.	19,431	4	.....	.....	.....	.....	1	.....	.....	.....
Palmer, Mass.	8,610	2	.....	.....	.....	.....	.....	.....	.....	.....
Plainfield, N. J.	20,550	4	.....	.....	.....	.....	.....	.....	2	1
Pottstown, Pa.	15,599	9	1	.....	.....	.....	.....	.....	2	2
Rutland, Vt.	13,546	8	.....	.....	.....	.....	3	.....	.....	.....
Saratoga Springs, N. Y.	12,693	9	.....	.....	.....	.....	.....	.....	.....	1
South Bethlehem, Pa.	19,973	4	.....	.....	1	.....	.....	.....	1	.....
Steelton, Pa.	14,246	1	1	1	.....	.....	.....	.....	4	.....
Wilkinsburg, Pa.	18,924	3	2	.....	.....	.....	3	.....	.....	.....
Woburn, Mass.	15,308	5	.....	.....	.....	.....	.....	.....	.....	.....

IN INSULAR POSSESSIONS.

HAWAII.

Examination of Rodents.

Rats and mongoose have been examined in Hawaii as follows: Honolulu, week ended November 8, 1913, 459; Hilo, week ended November 1, 1913, 2,372. None was found plague infected.

PHILIPPINE ISLANDS.

Status of Cholera.

In Manila cholera has been notified as follows: Week ended October 18, 1913, 20 cases, with 14 deaths; week ended October 25, 1913, 19 cases, with 12 deaths.

The majority of the new cases are no longer being found among the shipping population. With few exceptions cholera is occurring in widely scattered sections of the city. It is very rare to find more than one case in any particular district. At times cholera also makes its appearance in towns where it is impossible to trace the origin of the disease. For instance, on October 15, 1913, a case of cholera suddenly appeared at Novaliches, which is an isolated town about 10 miles from Manila, in the person of a child 9 years of age. The history of the family showed that none of them had been out of Novaliches for more than two weeks. The only food which they ate which was imported into the town was rice and fish. A most careful house inspection was made of Novaliches and not another case could be found, so that it would seem to be fair to assume that there was no general food infection. The child died the next day and upon the return from the funeral the father was seized with cholera. He died the succeeding day and before he could be buried the mother of the child was seized with cholera and died two days later, the diagnosis having been confirmed bacteriologically. The two last cases were of course in all probability contact infection, but there is no satisfactory explanation for the original case.

An exception to isolated cholera cases in Manila occurred in the houses located on premises Nos. 700–714 Calle Camba, in the San Nicolas district. This is practically one large two-story tenement house and is occupied entirely by Japanese, most of whom are fishermen. Fecal disposal is by tight vaults. Cholera occurred on these premises on October 8, 10, 11, 15, and 25, with a total of 5 cases.

Disinfections have been made repeatedly in these houses and special attention was given to the vaults. One vibrio carrier, but not a true cholera vibrio carrier, was found among the contacts of these cases on October 11.

Sporadic cases similar to those described at Novaliches have also occurred at Bacoor, in Cavite Province, and at Paranaque, San Felipe Nery, and Pasig, in Rizal Province. A death suspicious of cholera occurred in a tuberculous prisoner at Bilibid, but the organism could not be recovered, and the death was finally ascribed to chronic nephritis and pulmonary tuberculosis. Two hundred prisoners who were contacts of this patient were examined, but no vibrios were found in any of them. In other instances groups of 20 to 30 persons have been examined from different blocks in Tondo and San Nicolas, and in two instances true cholera vibrio carriers were found.

Cholera Carriers.

From the table which follows it will be seen that there is much reason to believe that there are many cholera carriers in the city of Manila. Cholera perhaps does not become epidemic; first, because the organism is apparently not very virulent; second, because the disposal of human excreta has been improved since the last outbreak of cholera; third, because of the promptness with which the cases are discovered and disinfecting measures carried out; and, fourth, because the modern sewer system, with the sanitary plumbing, which is now gradually coming into use in all sections of the city.

In order to deal with the vibrio problem, general disinfection of vaults and privies in the more crowded sections of the city has been carried out.

The following table is appended to show the number of contacts of each case of cholera that were examined, with the vibrios and the true cholera vibrios found in each.

The table also shows that of 59 toilet facilities reported upon only 18 were of the modern type. In other words, in 69 per cent of the buildings the disposal of human excreta was unsatisfactory. This fact is in all probability intimately associated with the spread of cholera.

Table of cholera contacts examined and vibrios found.

Case number.	Number of contacts examined.	Number found harboring vibrios.	Number found harboring true cholera vibrios.	Percentage of persons examined harboring cholera vibrios.	Toilet facilities.
1	20	1	1	5	Flush closet.
2	17	2	0	0	Pail system.
3	0	0	0	.....	
4	7	1	0	0	Public closet.
5	4	0	0	0	Flush closet with septic tank.
6	2	0	0	0	Pail system.
7	6	0	0	0	Public closet.
8	5	0	0	0	Flush closet.
9	14	0	0	0	Do.
10	6	0	0	0	Public closet.
11	9	0	0	0	Dry vault.
12	17	0	0	0	Pail system.
13	5	0	0	0	Public closet.
14	10	0	0	0	Do.
15	10	0	0	0	
16	9	0	0	0	Flush closet.
17	14	1	1	7.14	Public closet.
18	12	1	1	8.33	
19	51	1	1	1.96	
20	29	0	0	0	Dry vault.
21	5	0	0	0	Public closet.
22	4	0	0	0	Do.
23	19	0	0	0	Flush closet.
24	4	0	0	0	Public closet.
25	6	0	0	0	Pail system and dry vault.
26	11	4	4	36.36	Dry vault.
27	13	0	0	0	Do.
28	70	4	4	5.7	Flush closet.
29	7	0	0	0	Public closet.
30	15	0	0	0	Do.
31	14	0	0	0	Dry vault.
32	14	0	0	0	Do.
33	14	0	0	0	Public closet.
34	40	4	1	2.5	Flush closet.
35	4	1	0	0	Dry vault.
36	40	0	0	0	Pail system and dry vault.
37	4	2	0	0	Flush closet.
38	2	1	0	0	Do.
39	19	0	0	0	
40	14	1	1	7.14	
41	28	0	0	0	Public closet.
42	13	1	1	7.7	Do.
43	15	0	0	0	
44	0	0	0	.....	None.
45	9	1	0	0	Dry vault.
46	3	0	0	0	Public closet.
47	10	0	0	0	None.
48	27	1	1	3.7	Flush closet.
49	19	0	0	0	Public closet.
50	0	0	0	.....	
51	8	0	0	0	Pail system.
52	8	0	0	0	Do.
53	19	0	0	0	Public closet.
54	0	0	0	0	
55	19	0	0	0	
56	2	2	2	100	Do.
57	13	0	0	0	Do.
58	14	3	3	21.43	
59	17	0	0	0	
60	10	1	1	10	Dry vault.
61	4	0	0	0	Do.
62	13	3	3	23	Public closet.
63	7	0	0	0	Do.
64	17	4	4	23.33	Dry vault.
65	8	0	0	0	Public closet.
66	0	0	0	.....	
67	0	0	0	.....	Do.
68	9	0	0	0	Do.
69	0	0	0	.....	Do.
70	3	0	0	0	Do.
71	0	0	0	.....	
72	4	0	0	0	None.
73	0	0	0	.....	

FOREIGN REPORTS.

CHINA.

Dengue—Amoy.

Dengue was reported prevalent at Amoy November 3, 1913.

Cholera—Plague—Hongkong.

During the week ended October 6, 1913, 5 cases of cholera and 4 cases of plague with 4 deaths were notified in Hongkong. During the same period 2,476 rats were examined at Hongkong for plague infection. Of this number, 1 was found to be plague infected.

Plague-infected Rats—Shanghai.

During the two weeks ended November 1, 1913, 488 rats were examined at Shanghai for plague infection. Of this number, 6 were found to be plague infected.

CUBA.

Communicable Diseases—Habana.

NOV. 1-10, 1913.

Diseases.	New cases.	Deaths.	Under treatment.
Leprosy	1		259
Malaria	4		[1] 12
Typhoid fever	8	3	39
Diphtheria	7		8
Scarlet fever	2		4
Measles	38		68
Varicella	6		9
Paratyphoid fever	2		5

[1] All from interior points of the Republic.

JAPAN.

Status of Plague—Plague-Infected Rats—Yokohama.

To November 12, 1913, 19 cases of plague were notified in Yokohama. The disease has been confined chiefly to coolies working on the water front. The total number of rats found to date to be plague infected was 78.

JAVA.

Status of Plague.

Plague has been notified in East Java as follows:

MONTH OF SEPTEMBER, 1913.

Districts.	Cases.	Deaths.
Kediri	501	460
Madioen	196	167
Malang	674	634
Surabaya	44	42
Total	1,415	1,303

ROUMANIA.

Status of Cholera.

During the week ended November 5, 1913, 10 cases of cholera with 9 deaths were notified in Roumania, making a total from the beginning of the outbreak to date of 5,666 cases, with 2,918 deaths. On November 5, 1913, 49 cases remained under treatment.

RUSSIA.

Plague.

During the period from September 26 to October 19, 1913, 56 cases of plague with 51 deaths were notified in Russia, the cases being distributed in 4 localities in the Don territory. The disease was of the pneumonic form.

TRINIDAD.

Yellow Fever on Vessel.

A case of yellow fever was notified November 28, 1913, on steamship *Peter Hamre*, at Trinidad.

ZANZIBAR.

Examination of Rats—Zanzibar.

During the two weeks ended October 14, 1913, 2,083 rats were examined at Zanzibar for plague infection. None was found plague infected.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Dec. 5, 1913.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary.				
Bosnia-Herzegovina—				
Brecko	Oct. 16-31	16	7	
Dereventa	do	6	3	
Gracanica	do		2	
Gradista	do	2	2	
Croatia-Slavonia				Total Oct. 6-12: Cases, 62; deaths, 22.
Hungary				Total Oct. 12-Nov. 8: Cases, 189; deaths, 95.
Ceylon:				
Colombo	Oct. 22-25	5	4	
China:				
Hongkong	Oct. 5-11	5		
Dutch East Indies:				
Java—				
Batavia and Tanjong-Priok.	Oct. 5-18	34	31	1 European.
Pamanoekan	To Oct. 4	34	27	
Sumatra—				
Djambi	Oct. 5-11	32	12	
Padang	Sept. 11-20	5	4	
Palembang district	Oct. 12-18	27	8	
India:				
Bombay	Oct. 12-25	4	2	
Calcutta	Sept. 29-Oct. 18		46	
Madras	Oct. 12-18	1		
Rangoon	Sept. 1-31	1	1	
Do	Oct. 1-11	1	1	
Japan				Total Jan. 1-Aug. 31: Cases, 78; deaths, 22. Aug. 1-31, 2 cases.
Roumania				Total Aug. 1-Nov. 5: Cases, 10; deaths, 9.
Philippine Islands				Oct. 19-25, present in Bacoor, Cavite Province, and in Paranaque, San Filipe Nery, and Pasig, Rizal Province.
Manila	Oct. 11-25	39	26	
Novaliches	Oct. 15-18	3	3	
Straits Settlements:				
Singapore	Oct. 5-18	15	15	
Turkey in Asia:				
Derindje	Oct. 11			Present among troops.
Turkey in Europe:				
Constantinople	Oct. 27-Nov. 2	2		

YELLOW FEVER.

Brazil:				
Bahia	Oct. 19-Nov. 1	6	2	
Rio de Janeiro	Oct. 12-18		1	
British East Africa:				
Kisumu	Sept. 12-Oct. 13	2	2	
Mombasa	do	25	24	
Nairobi	do	1	1	
Trinidad				Nov. 28, 1 case on s. s. Peter Hamre.

See p. 2858

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

Reports Received During Week Ended Dec. 5, 1913—Continued.

PLAGUE.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:[1]				
Trieste				1 fatal case on a post steamer from Buenos Aires.
Brazil:				
Rio de Janeiro	Oct. 5–11		1	
China:				
Hongkong	do	4	4	
Nangking	Oct. 25			Present.
Dutch East Indies:				
Java—				
Districts—				
Kediri	Sept. 1–30	501	460	
Madioen	do	196	167	
Malang	do	674	634	
Surabaya	do	44	42	
India:				
Bombay	Oct. 12	17	11	
Karachi	Oct. 12–Nov. 1	22	11	
Rangoon	Sept. 1–30	60	55	
Do	Oct. 1–25	36	36	
Provinces				Total Sept. 14–Oct. 18: Cases, 11,077; deaths, 7,064.
Bombay	Sept. 14–Oct. 18	7,872	5,588	
Madras	do	346	258	
Bengal	do	8	8	
Bihar and Orissa	do	237	167	
United Provinces	do	854	668	
Punjab	do	354	202	
Burma	do	167	151	
Central Provinces	do	5	3	
Mysore	do	765	514	
Hyderabad	do	348	297	
Central India	do	34	22	
Rajputana	do	54	44	
North West Province	do	33	32	
Japan:				
Yokohama	Oct. 30–Nov. 12	7		
Russia:				
Breslavsk	Oct. 3–19	5	5	Pneumonic.
Gromoslavsk	do	11	7	Do.
Kalatch	do	5	4	Do.
Novopetrovsk	Sept. 26–Oct. 21	35	35	
Ralatch Estate	Sept. 28–Oct. 16	4	4	
Voisko-Donsky	Oct. 19–21	31	28	

SMALLPOX.

Austria-Hungary:				
Trieste	Oct. 26–Nov. 1	2		
Tyrol and Vorarlberg	Oct. 19–25	1		
Brazil:				
Para	Nov. 2–8	2	6	
Rio de Janeiro	Oct. 5–18	23	7	
Canada:				
Ottawa	Oct. 19–Nov. 22	10		
China:				
Shanghai	Oct. 22–28	1		
Dutch East Indies:				
Java—				
Batavia	Oct. 5–18	9	4	
Klatten	Sept. 8–29	78	3	
Patjittan	do	15	7	
Samarang	do	637	78	
Soerkarta	Aug. 15	517	39	
Surabaya	Sept. 26–Oct. 11	5		
Egypt:				
Alexandria	Oct. 22–Nov. 4	1	3	
France:				
Marseille	Oct. 1–31		45	
Nantes	Oct. 26–Nov. 1	1		
Paris	Oct. 19–25	2		
St. Etienne	Oct. 16–31	3		

[1] From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, Nov. 12, 1913.

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

Reports Received During Week Ended Dec. 5, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Oct. 19–25	2	1	
Rangoon	Sept. 1–30	1		
Japan				Total, Jan. 1–Aug. 31: Cases, 95; deaths, 33.
Tokyo	Aug. 1–31	7	4	
Malta	Sept. 1–30	2		
Mexico:				
Aguascalientes	Nov. 3–9		2	
Hermosillo	Oct. 28–Nov. 3	2		
Mexico	Sept. 21–Oct. 4	17	10	
Monterey	Oct. 20–26		1	
San Luis Potosi	Oct. 12–18	2		
Veracruz	Nov. 10–16		1	
Norway:				
Trondjem	Oct. 1–31	6		
Portugal:				
Lisbon	Oct. 19–Nov. 8	2		
Russia:				
Moscow	Oct. 4–Nov. 1	3	5	
Odessa	Oct. 26–Nov. 1	1		
St. Petersburg	Oct. 19–Nov. 1	4	2	
Warsaw	Sept. 7–20	16	4	
Spain:				
Barcelona	Oct. 12–Nov. 15		10	
Madrid	Oct. 1–31		56	
Valencia	Oct. 19–25	1		
Straits Settlements:				
Singapore	Oct. 5–11	1		
Turkey in Europe:				
Constantinople	Nov. 2–8		1	
Saloniki	Oct. 26–Nov. 1		13	
Turkey in Asia:				
Beirut	Oct. 26–Nov. 8	13	2	
Uruguay:				
Montevideo	Sept. 1–30	38		

Reports Received from June 28 to Nov. 28, 1913.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Hodeidah	Aug. 27–Sept. 4	3	2	
Do	Aug. 20–Sept. 4	123	21	Among the military at quarantine.
Austria-Hungary:				
Bosnia-Herzegovina—				
Bijela	Aug. 16–Oct. 13	7		
Boljanic	Sept. 30–Oct. 13	2		
Bosnisch Samac	Aug. 16, Sept. 15	7	1	
Brad	Sept. 30–Oct. 7	1		
Brecko	Aug. 1–Sept. 29	34	7	
Brezovopolje	Sept. 1–30	1		
Buskinje	Aug. 1	1		
Creveno Brodo	Aug. 28–Sept. 6			
Donja Skukva	Aug. 16–27	1	1	
Golovac	Sept. 1–30	1		
Gornja Tuzla	Aug. 1–Sept. 7	6	1	
Gracamca	Aug. 16–27	1		
Gracanica	Sept. 30–Oct. 13	6		
Janja	Aug. 28–Sept. 29	5		
Kostajnica	Sept. 30–Oct. 13	2		
Labuca	do	1		
Lajubaca	Aug. 28–Sept. 6	1		
Morac	do	2		
Orasje	Aug. 16–Sept. 29	18	1	
Tuzla	Aug. 28–Sept. 29	2		
Uljice	Aug. 16–26	1		
Vidovice	Aug. 16, Sept. 29	9		
Vusic Doinji	Aug. 16–Sept. 7	3		
Vusic Gornji	Aug. 16–Sept. 15	4		

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Croatia-Slavonia—				
Pozenga—				
Brod	Sept. 29–Oct. 5	4		
Davor	do	2		
Jasenovac	Sept. 22–Oct. 5	2	2	
Novska	Sept. 22–28	1	1	
Syrmien—				
Adasevci	Sept. 8–Oct. 5	12	7	
Alt Slankamen	Aug. 16	2		
Bacinici	Sept. 8–14	5	3	
Bebrina	Sept. 1–7	1	1	
Beska	Sept. 14–28	2		
Bosnjaci, Mitrovica district.	do	1		
Bosnjaci, Zupenja district.	Aug. 16–Sept. 28	39	13	
Bosut	Aug. 25–Sept. 28	4	2	
Cerna	Sept. 22–Oct. 5	9		
Cortanovci	Aug. 25–Sept. 28	6	3	
Djakova	Aug. 25–Sept. 2	1		
Drenovci	Sept. 14–28	6	2	
Galubinci	Sept. 8–Oct. 5	18	6	
Grad, Mitrovica district.	Sept. 1–14	2	1	
Grad, Zemum district.	Sept. 8–14	1	1	
Ilinci	Aug. 25–Oct. 5	2		
Klenac	Sept. 29–Oct. 4	2	2	
Kreevna	July 31	5	3	
Kupinovo	Aug. 17–Sept. 22	2	1	
Kutina	Aug. 25–Sept. 2	1		
Kuzmin	Sept. 1–Oct. 5	142	45	
Lacarak	Aug. 25–Oct. 5	13	1	
Martinci	Aug. 16–Oct. 5	19	13	
Micanovici	Sept. 29–Oct. 5	2		
Mitrovica	July 15–Sept. 28	10	5	
Morovic	Sept. 14–28	5	1	
Novo Karlovci	Aug. 25–Oct. 5	30	18	
Novo Slankamen	Sept. 8–14	1	1	
Ogar, Ruma district	do	2	1	
Ogar, Sid district	Sept. 8–Oct. 5	17	5	
Osiek	Sept. 22–28	3	1	
Otok	Sept. 1–7	2	1	
Podgajci	Aug. 16–Sept. 14	3	2	
Raca	Sept. 22–28	1	1	
Rivica	Sept. 8–14	2	2	
Semlin	Aug. 25–Sept. 22	2	2	
Sid	Sept. 29–Oct. 5	1		
Siskovci	Sept. 22–Oct. 5	4	2	
Tovarnik	Sept. 14–28	3	2	
Vinkovci	Sept. 8–14	1	1	
Vojka	Sept. 14–22	1		
Vukovar Argoviste	do	1	1	
Zupinge	Sept. 22–25			Present.
Crownland—				
Bohemia—				
Marienbad	Sept. 13	1		
Weinberge	Sept. 27	1	1	
Dalmatia—				
Cattaro	Aug. 6	1	1	
Galicia—				
Skole—				
Oporzec	Sept. 10–Oct. 6	15	9	
Slawsko	do	1		
Tuchla	Sept. 18–Oct. 6	2		
Tucholka	Sept. 10–Oct. 6	2	1	
Wyzlow	do	1	1	
Lower Austria—				
Vienna	Aug. 4	1		

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Hungary				Total Sept. 1–Oct. 11: Cases, 426; deaths, 7. Deaths not fully reported.
Bacs-Bodrog—				
Ada	Sept. 7–13	2		
Apatin	Sept. 29–Oct. 4	3		
Bacs	Sept. 14–27	3		
Csurog	Sept. 2–Oct. 4	20	2	
Kolpeny	Sept. 14–Oct. 4	2		
Petroz	Sept. 7–20	2	1	
Obecse	Sept. 7–Oct. 4			
Szenttamas	Sept. 14–Oct. 4	31		
Temerin	do	2		
Bereg—				
Alsolvereczke	Sept. 21–27	1		
Borhalom	do	2		
Csetfalva	Oct. 4	1		
Felsovereczke	Sept. 7–27	7		
Harsfalva	do	2		
Kanora	Sept. 14–20	4		
Kissana	Sept. 21–27	7		
Kissolyva	Sept. 7–13	2		
Munkacs	do	1		
Nagylucska	Sept. 21–28	1		
Odavidhaza	Sept. 7–13	3		
Orosztelek	Sept. 7–28	4		
Proszueg	Sept. 14–20	3		
Rakocziszallas	Sept. 14–28	9		
Szarvoskut	Sept. 21–28	4		
Szentomiklos	Sept. 14–28	13		
Szolyva	Sept. 21–28	6		
Tarpa	Sept. 21–Oct. 4	4		
Ujdavidhaza	Sept. 14–28	5		
Varkulesa	Sept. 7–Oct. 11	5		
Varpalanka	Sept. 21–28	3		
Vezerszallas	do	1		
Voloscz	Sept. 7–Oct. 4	2		
Zajago	Sept. 7–13	1		
Zsllip	Sept. 21–Oct. 11	6		
Zugo	Sept. 7–Oct. 11	6		
Borsod—				
Sajolad	Sept. 28–Oct. 11	22		
Budapest—				
Budapest	Sept. 13–Oct. 4			
Fejer—				
Adony	Oct. 4	1		
Pazmand	Sept. 21–28	1		
Heves—				
Ludas	Oct. 5–11	1		
Poroszlo	do	1		
Jasz - Nagykun - Szolnok—				
Tiszaroff	do	2		
Kolozs—				
Kolozsvar, Klausenburg.	Sept. 21–Oct. 11	17		
Komarom, Komorn	Sept. 29–Oct. 4	1		
Mezoszopor	Oct. 4	2		
Pancsova	Sept. 29–Oct. 4	1		
Krasso-Soreny—				
Bozovics	Sept. 14–Oct. 11	6		
Dalbosfalva	Oct. 5–11	5		
Illyed	Sept. 21–Oct. 4	7		
Jam	do	7		
Nagylaposnok	Sept. 14–Oct. 4	23		
Neramezo	Sept. 21–Oct. 11	4		
Neramogyoros	Sept. 7–14	18		
Stajerlak-anina	Sept. 21–28	1		
Szakalar	Sept. 14–Oct. 4	21		
Pest-Pilis—				
Erzsebetfalva	Sept. 21–28	1		
Faljsz	Oct. 5–11	1		
Hidegkut	Sept. 21–28	2		
Raczkeve	do	2		
Do	do	1		
Tokol	do	1		
Pozanoy, Pressburg—				
Kismagyar	Oct. 5–11	1		

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Hungary—Continued.				
Bestmar—				
Tiszabecs	Oct. 4	3		
Temes—				
Deliblat	Sept. 1–Oct. 4	31		
Homokos	Oct. 4	3		
Kevevera	Aug. 16–Sept. 20	8	3	
Palank	Aug. 10–Oct. 4	16	1	
Temesvalaiza	Oct. 5–11	7		
Torontal—				
Csenta	Oct. 11	6		
Melenze	Sept. 14–20	2		
Nagybecskerek	Sept. 21–28	1		
Kuman	Sept. 14–28	8		
Ung—				
Csap	Sept. 14–Oct. 4	6		
Kisteglas	Sept. 21–28	1		
Lehocz	do	1		
Nagyrat	do	3		
Palocz Ujvaros	Oct. 5–11	1		
Titel	Sept. 17–27	1		
Unglovasad	Oct. 5–11	2		
Zala—				
Nagykanizsa	Oct. 11	6		
Radvanc	Sept. 14–20	1		
Zemplen—				
Satoraljanjhely	Sept. 21–28	1		
Bulgaria				Sept. 10, present in the districts of Pleven, Sivistov, Vratza, and Widin.
Rustschuk	Sept. 8	18	8	
Sistovo	do	60		
Tirnovo	do	14	14	
Varna	Sept. 11	3		Aug. 25, 3 deaths among returning soldiers.
Ceylon:				
Colombo	Sept. 30–Oct. 21	41	30	Aug. 17, 1 fatal case.
China:				
Amoy	Aug. 23			Present in vicinity; Oct. 4, present.
Canton	July 13–26	132	6	
Chuan Chow	Sept. 6			Present.
Foochow	Sept. 13			Do.
Hongkong	Aug. 3–Oct. 4	78	41	
Swatow	Aug. 1–31	31	30	
Dutch East Indies:				
Borneo				Total, May 19–June 7: Cases, 131; deaths, 105.
Sesajap, district	May 12–June 7	57	40	
Java—				
Batavia and Tanjong-Priok	May 18–Oct. 4	544	439	May 25–Oct. 4: 19 cases and 1 death among Europeans.
Madioen, Province	Apr. 22–28	1	4	
Pekalongan	Aug. 10–Sept. 20	110	76	
Preanger	Aug. 9–15	41	23	
Samarang	July 12–Aug. 16	18	11	
Surabaya	Aug. 2–23	2		
Sibiru	Mar. 24–Apr. 27	117	104	
Sumatra—				
Djambi, Province	June 1–Sept. 20	289	141	July 15–Aug. 17 not received.
Palembang	June 22–Aug. 4	252	157	
Greece:				
Athens	Sept. 15–29	1	1	
Piræus	Sept. 13–Oct. 13	9	5	Among troops at quarantine.
India:				
Bassein	May 4–July 19	31	28	Sept. 27, 1 case.
Bombay	May 25–Oct. 11	48	38	
Calcutta	Apr. 27–Sept. 27		523	
Madras	June 15–Oct. 4	16	16	
Moulmine	May 4–June 14	6	6	
Negapatam	Sept. 14–27		29	
Rangoon	May 1–Aug. 31	7	3	
Indo-China				Total, Jan. 1–Sept. 20: Cases, 213. Deaths, Jan. 1–July 10: 145.
Saigon	June 17–23	2	2	
Japan:				
Kobe	Sept. 5–8	7		From s. s. Canada Maru. Crew quarantined at Wada.
Nagasaki	Aug. 25–31	2		From s. s. Canada Maru.

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Manila	Aug. 25–Oct. 11	32	17	
Cavite	Oct. 5	1	.....	Sept. 28–Oct. 4: 1 fatal case on s. s. Cebu.
Mecauayan	Oct. 5–11	1	.....	In Bulacan.
Polo	Sept. 28–Oct. 4	1	.....	
Roumania	.....	.....	.....	Aug. 1–Oct. 29: Total, cases, 5,656; deaths, 2,908. Oct. 16–22: Cases, 169; deaths, 140.
Bucharest	Aug. 5–14	1	1	
Braila	To Sept. 2	43	.....	Among the military.
Do	Sept. 3–8	4	3	Civilians.
Galatz	Aug. 22–Sept. 2	34	6	
Kustenje	Sept. 3–12	8	1	
Silistria	To Aug. 25	26	.....	
Stephanesti	Aug. 1–14	18	7	
Sulina	To Aug. 24	56	.....	Including previous reports.
Turnu-Magureie	Aug. 5	.....	1	Cases present.
Vilsoara-Teleorman	do	3	.....	
Russia:				
Governments—				
Bessarabia—				
Akkerman	Sept. 16–18	11	4	
Ishmail	Sept. 16–Oct. 11	26	11	
Kishinef	Sept. 22	3	1	
Reni	Oct. 5–18	1	.....	
Wolfkanechty	Sept. 18–21	1	1	
Ekaterinislav—				
Ekaterinislav district.	Oct. 5–18	5	.....	
Nicopol	Sept. 22–Oct. 11	6	.....	
Kherson—				
Elizabethgrade	Sept. 28–Oct. 4	1	1	
Kherson, district	Aug. 26–Oct. 18	49	28	Total, Aug. 24–Oct. 18: Cases, 148; deaths, 66; including previous reports.
Kherson	do	52	14	
Odessa, district	Sept. 7–Oct. 4	39	17	
Odessa	do	7	5	
Varvaroka	Sept. 22	.....	.....	Present.
Kief—				
Zvenigorode	Sept. 8	2	2	
Minsk	Sept. 14–22	1	1	
Poltava	Sept. 18–Oct. 4	25	5	
Taurida—				
Alechki	Sept. 8–Oct. 4	5	1	
Dneiper district	Sept. 21–Oct. 18	3	2	
Dneprovski	Sept. 8–14	8	2	
Servia	.....	.....	.....	Total, July 4–Oct. 18: Cases, 4,710; deaths, 1,896.
Districts—				
Belgrade	July 4–Sept. 27	100	49	Sept. 22, 1 case.
Belgrade	July 4–Aug. 30	262	98	
Kraina	Aug. 3–Sept. 27	257	95	
Kragujevatz	July 4–Sept. 27	281	94	
Kroushevatz	do	235	82	
Lajkovac	Aug. 1–7	1	.....	
Morava	July 4–Sept. 27	584	241	
Niche	do	327	114	
Oujitze	July 22–Sept. 27	30	20	
Palanka	Aug. 1–7	1	.....	
Pirot	July 4–Sept. 27	625	250	
Podrigne	do	106	48	
Pojarevatz	Aug. 3–Sept. 27	441	237	
Pozenga	July 25–31	1	.....	
Roudnik	Aug. 3–Sept. 27	34	16	
Shabatz	Aug. 1–7	1	.....	
Smederevo	July 4–Sept. 27	200	78	
Tchatchak	July 22–Aug. 30	45	7	
Timok	July 19–Sept. 27	251	129	
Toplitza	July 22–Sept. 27	45	20	
Ueskub	July 19–Aug. 2	37	19	
Visnjica and Mirjevo	July 4–21	.....	1	
Waljevo	July 22–Sept. 27	264	194	
Wragne	do	377	194	

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Siam:				
Bangkok	Mar. 23–Oct. 4		20	
Straits Settlements:				
Singapore	July 6–Sept. 27	18	17	
Turkey in Asia:				
Smyrna	July 29–Oct. 12	293	179	Aug. 9, 1 case on s. s. Carlsbad.
Trebizond	Oct. 29			Present among troops.
Turkey in Europe:				
Constantinople	Aug. 2–Oct. 26	51	27	
Dardanelles—				
Boulair				Oct. 28, present.
Gallipoli	Sept. 17–Oct. 28			Present.
Maidos	Sept. 8		3	
Kalemi	Oct. 12	2		Isle of Marmora.
Kavak	Aug. 8–22	98	50	Sept. 30, still present.
Rodosto	Sept. 17–Oct. 5	12	8	
Saloniki (Macedonia)				July 19–Aug. 8, epidemic.
Saloniki	July 7–Oct. 12	511	458	Among civilians. July 10, present in Kavala, Drama, Oriana, Serres, and Stroumitza.
Silviri	Oct. 15–27	4	4	

YELLOW FEVER.

Brazil:				
Bahia	May 11–Oct. 4	42	22	
Manaos	June 30–July 5	6	6	
Pernambuco	May 1–June 30		3	
Rio de Janeiro	May 25–Sept. 20	4	4	Sept. 13—1 fatal case on s. s. Canova from Bahia. Oct. 30, 1 death.
Colombia:				
Cartagena	Aug. 23	1		Contracted in the interior.
Cuba:				
Habana	July 16			1 case on s. s. Hydra, which left Manaos June 17, Para June 21. Four deaths occurred in voyage; 2 at Manaos, 1 at Guantanamo, and 1 at Cienfuegos.
Do	Aug. 8–14	1		From steamship Morro Castle, passenger from Campeche.
Ecuador:				
Babahoyo	June 1–July 31	2	2	
Bucay	June 1–Aug. 31	3	2	
Duran	May 1–31	1		
Guayaquil	May 1–Sept. 30	33	21	Nov. 6, increasing.
Milagro	May 1–Aug. 31	21	11	
Naranjito	....do	12	9	
Mexico				Total May 25–Sept. 20: Cases, 27; deaths, 15.
Campeche	Oct. 18	26	11	
Carmen	Oct. 11			Present.
Maxcanu	Aug. 23–Sept. 6	2	2	Case, Aug. 23, from Campeche.
Puerto Mexico, V. C.	Nov. 17	2		
Southern Nigeria:				
Forcados	Oct. 31	1		
Lagos	May 12	1		July 23–Aug. 22: Epidemic; Oct. 15, still present.
Worri	June 1–30			Present.
Venezuela:				
Caracas	Feb. 1–28	1		
Do	May 1–31	1		From Valencia.
Do	July 1–31	1	1	
Do	Oct. 1–31	1		Do.

PLAGUE.

Arabia:				
Aden	June 3–25	8	4	Total Apr. 9–June 25: Cases, 81; deaths, 59.
Debai				Aug. 31, free; reported, p. 656, Pt. I.
Argentina				Nov. 6, outbreak, with 25 deaths in 4 localities west from Rosario.

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia	May 11–Oct. 18	131	67	
Rio de Janeiro	July 27–Sept. 20	2	2	
British East Africa	May 15–June 12			1 death.
Kisumu	May 15–Sept. 1	6	1	
Mombasa	May 1–Sept. 11	89	73	Apr. 25–30, 15 deaths.
Nairobi	May 15–Sept. 11	9	5	
Cephalonia Island	Oct. 4			Present.
Chile:				
Iquique	May 11–Oct. 4	45	19	
China				May 18–June 14; still present in Ampo, Chaoyand, Fungshun, Kityang, Puning, Ta-bu, and other points along the railway.
Amoy	Apr. 1–Aug. 25		409	May 25–June 7, 10 to 20 deaths daily; Sept. 22, free.
Kulangsu	Jan. 1–May 24		29	June 7, 1 or 2 deaths daily.
Canton				Apr. 1–June 30: Cases, 229. Apr. 10–May 22, 300 fatal cases in the Sunninger district.
Hongkong	May 18–Oct. 4	288	242	
Kaochow	Apr. 10–May 22			10 deaths daily.
Macao	July 3			Present Aug. 7, 1913.
Shanghai	June 1–15	8	7	Among natives.
Swatow	July 12			Decreasing along the Swatow Chaochowfu Railway.
Dutch East Indies:				
Java—				
Districts—				
Kediri	Apr. 1–Aug. 31	1,102	932	
Madioen	do	402	371	
Malang	do	2,833	2,724	
Surabaya	do	122	115	
Madura—				
Bangkalan	July 13–Aug. 9	34	27	And district, Nov. 6, 112 cases.
Ecuador:				
Guayaquil	May 1–Sept. 30	94	28	
Mflagro	May 1–July 31	1	1	
Egypt				Total, Jan. 1–Oct. 30: Cases, 639; deaths, 299.
Alexandria	May 28–Oct. 28	32	15	
Port Said	June 2–Sept. 9	19	6	
Provinces—				
Behera	June 13–Oct. 2	11	4	
Fayoum	May 30–Oct. 11	46	17	
Galioubeh	May 21–Sept. 12	7	2	
Garbieh	May 27–Oct. 28	63	22	Jan. 1–May 26: Cases, 12; deaths, 5.
Girgeh	Oct. 1	1	1	
Gizeh	May 29–July 1	6	1	
Menouf	May 28–Aug. 27	3	3	Jan. 1–May 26: Cases, 51; deaths, 24.
Minieh	May 30–Sept. 7	29	10	
German East Africa:				
Districts—				
Usmawo—				
Misungi	Mar. 15–May 10			Present.
Nora	do			Do.
Urima	do			Do.
Muanza	Mar. 15–June 11	503	459	Aug. 24, fatal case from s. s. Sybil.
Greece:				
Athens	Aug. 29	1		
Piræus	Aug. 21–Sept. 3	8	2	
India:				
Bombay	May 18–Oct. 11	694	593	
Calcutta	Apr. 27–Sept. 27		302	
Karachi	May 18–Oct. 11	180	160	
Rangoon	May 1–Aug. 31	305	288	
Provinces				Total, May 4–Sept. 13: Cases, 28,963; deaths, 23,482.
Delhi	May 4–Aug. 2	24	18	
Bombay	May 4–Sept. 13	6,681	4,701	
Madras	do	555	516	
Bengal	do	308	316	
Bihar and Orissa	do	1,690	1,372	
United Provinces	do	9,495	8,156	
Punjab	do	6,685	5,580	
Burma	do	1,289	1,213	

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
India—Continued.				
Provinces—Continued.				
Coorg	June 22–Aug. 30	10	8	
Central Provinces	May 4–17	2	1	
Mysore	May 4–Sept. 13	1,542	1,056	
Hyderabad	do	347	265	
Central India	May 4–31	9	9	
Rajputana	May 4–Sept. 13	206	179	
Kashmir	May 4–Aug. 2	65	44	
North West Province	May 4–Sept. 13	55	48	
Indo-China				Total, Jan 1–Sept. 10: Cases, 2,745; Jan. 1–July 10: Deaths, 2,547.
Saigon	June 17–Aug. 25	63	40	
Japan:				
Taiwan—				
Kagi	June 1–July 19	81	63	
Yokohama	Sept. 19–Oct. 29	12	1	
Mauritius	Apr. 18–Sept. 18	68	46	Total, Jan. 1–Aug. 28: Cases, 126; deaths, 70.
Morocco:				
Casablanca	Oct. 2	1		
Rabat	Oct. 19–25	3		
Persia				June 5, in Kermanchah Province, 150 cases, at Caravadeh, Harounabad, and Loud. June 11, present in vicinity of Abassabad.
Djame-Chouran	May 31–Sept. 13	37	21	
Faizabad	June 11		3	
Gommi	do		11	
Harounabad	May 20–June 25	71	51	
Larzangueneh	May 27–June 15	30	28	
Mahi-Dacht	June 4	2	2	
Taybat	June 11		3	
Zebyri	May 31–June 25	14	10	
Peru:				
Departments—				
Ancachs—				
Chimbote	July 28–Sept. 7	2		
Arequipa—				
Mollendo	Apr. 28–Oct. 12	16	2	
Callao	June 30–Sept. 21	6		
Caxamarca—				
Cutervo	June 9–Aug. 17	5		
Chota	June 30–July 27			Present.
Libertad—				
Chiclayo	Apr. 28–June 8	1	1	
Salaverry	June 4–Aug. 17	3	1	
San Pedro	June 4–Oct. 12	9	2	
Trujillo	May 19–Oct. 12	13		
Lima	do	24		
Monsefu	Oct. 6–12	12		
Piura	June 30–July 27			Present.
Catacaos	Sept. 2–Oct. 6	2		
Piura	do	1		
Philippine Islands:				
Manila	May 11–24	3		Fourth quarter 1912: Cases, 39; deaths, 33. First quarter 1913: Cases, 8; deaths, 7. Second quarter: Cases, 9; deaths, 7.
Do	Sept. 21–27	1	1	
Russia:				
Astrakhan				Aug. 2, 2 fatal cases.
Tsarev	June 3–10		9	Pneumonic form.
Acheozek	Aug. 22	1	1	
Diamantai-Toubek	July 15–Aug. 17	6	6	
West Turkestan—				
Semiretchji territory—				
Prjevalsk district	Sept. 25	26	26	Among the Tourguen.
Siam:				
Bangkok	Mar. 23–Oct. 4		20	
Korat	Mar. 21–31			Epidemic.
Straits Settlements:				
Singapore	June 15–21	1	1	
Tripoli:				
Derma	July 15			Present.
Tripoli	July 1–Sept. 30	56	19	

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Turkey in Asia:				
Adalia	Aug. 30	1		
Basra	July 14–21	1	1	To June 3, 32 cases.
Trebizond	Sept. 29–Oct. 4	11	2	In the prison.
Uruguay:				
Montevideo				July 28, present.

SMALLPOX.

Algeria:				
Departments—				
Algiers	May 1–July 31	11		
Constantine	Apr. 1–July 31	27		
Oran	May 1–July 31	59		
Arabia:				
Aden	June 3–9	1		
Do	Oct. 6–20	2	1	
Argentina:				
Buenos Aires	Apr. 1–July 31		11	
Australia:				
New South Wales				Total July 1–Sept. 28: Cases, 829.
Albury	Sept. 12–26	1		Sydney district, 810 cases.
Coolah	do	1		
Cootamundra	Aug. 7–Sept. 26	1		
Goulburn	July 1–31	1		
Illabo	Aug. 7–Sept. 11	1		
Hardon	do	1		
Lithgow	July 1–31	1		
Liverpool	Aug. 7–Sept. 11	2		
Newcastle	July 1–31	1		
Nyngan	do	1		
Parkes	do	5		
Penrith	do	2		
Sydney	July 1–Sept. 11	721		
Taree	July 1–31	2		
Ulmsarra	do	2		
Wellington	Sept. 12–26	1		
Queensland—				
Brisbane	Aug. 7–Sept. 11	1		
Ipswich	July 1–Sept. 11	4		
Toowoomba	July 1–31	1		
South Australia	July 17–Aug. 2	1		
Victoria—				
Melbourne	July 14			1 case on s. s. Karoola from Sydney.
Austria-Hungary:				
Capodistria	Oct. 5–11	2		
Coastland	July 6–12	1		
Decani	Oct. 5–11	2		
Fiume	May 27–July 7	19	1	
Galicia	July 6–Aug. 12	1		
Gorz and Gradinska	Aug. 7–14	1		
Krain	do	1		
Trieste	June 1–Oct. 11	43	1	Cases June 14 from Patras.
Tyrol and Vorarlberg	Aug. 10–Oct. 18	14		
Belgium:				
Antwerp	July 1–7	1		
Brazil:				
Bahia	May 11–Oct. 18	14	1	
Manaos	June 15–21	1		
Para	June 15–Nov. 1	75	39	
Pernambuco	May 1–Sept. 30		250	
Rio de Janeiro	May 4–Oct. 4	179	27	
British East Africa:				
Mombasa	Mar. 1–June 30	29	9	
Canada:				
Provinces—				
British Columbia—				
Vancouver	June 8–Sept. 13	2		
Manitoba—				
Winnipeg	June 15–Oct. 18	20		
Nova Scotia—				
Sydney	July 14–Aug. 2	2		Case July 14 from s. s. Hartlepool from Marseille.

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Provinces—Continued.				
Ontario—				
Hamilton	Oct. 1–31	3		
Fort William	June 10–30	4		
Ottawa	June 8–Oct. 4	12		
Toronto	June 16–Aug. 2	9		
Quebec—				
Grosse Isle Quarantine.	June 20	1	1	In steerage.
Quebec	June 8–Sept. 20	6		
Montreal	July 6–Nov. 15	83	2	
St. Johns	May 25–July 5	4		
Chile:				
Iquique	June 1–21	2		
Santiago	June 15–29			Present. Aug. 16–Sept. 13, epidemic.
Valparaiso	July 12			Present.
China:				
Amoy	May 25–June 7			Do.
Kulangsu	May 25–31			Do.
Chungking	Aug. 2			Do.
Dalny	July 27–Oct. 20	2	1	
Holhow				Aug. 22, free.
Hongkong	May 18–June 14	9	7	
Nanking	May 11–Sept. 27			Do.
Shanghai	May 19–Oct. 19	8	49	Deaths among natives.
Tientsin	June 8–14		1	
Dutch East Indies				Sept. 8–15, present in Iatzittan, Klatten, and Soerakarta.
Java—				
Batavia	June 22–Sept. 13	17	6	
Surabaya	May 11–Aug. 29	11	5	
Egypt:				
Alexandria	May 28–Oct. 7	25	17	
Cairo	May 14–Oct. 21	46	14	
Port Said	Oct. 15–28	10	3	
France:				
Limoges	Sept. 1–30		21	
Lyon	June 23–29		1	
Marseille	May 1–Sept. 30		97	
Nantes	Aug. 3–9	1		
Paris	May 25–Sept. 27	25		
St. Etienne	Sept. 21–Oct. 15	1	1	
Toulon	Aug. 18	1		
Germany				Total June 8–Oct. 4: Cases, 7.
Berlin	Aug. 24–30	1		
Kehl	June 1–July 31	2	1	
Strassburg	Aug. 1–31	1		
Great Britain:				
Hull	Sept. 14–20	1		
Liverpool	May 25–Oct. 18	6	1	
Manchester	July 20–26	1		
Greece:				
Patras	June 9–Aug. 31		9	
India:				
Bombay	May 26–Oct. 11	75	67	
Calcutta	Sept. 13–27		2	
Karachi	May 25–Aug. 16	13	4	
Madras	May 24–Oct. 4	31	13	
Moulmine	Mar. 30–June 28	5	5	
Do	Aug. 3–9	1	1	
Rangoon	May 1–Aug. 31	50	20	
Indo-China:				
Saigon	July 8–14	1	1	
Italy:				
Naples	Aug. 2–15	3		
Rome	Jan. 5–11	1	1	
Japan				Total Jan. 1–July 31: Cases, 87; deaths, 29.
Hokkaido	Apr. 1–30	1		
Kanagawa ken	May 1–31	1		
Kobe	June 23–29	1		
Nagasaki ken	May 1–July 31	54	14	
Oita ken	May 1–June 30	11	4	
Tokyo	June 18–July 31	11	7	Aug. 18, epidemic.
Yokohama	Aug. 19–25	1	1	
Luxemburg:				
Esch	May 17–31	2		

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

Reports Received from June 28 to Nov. 28, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Mauritius	Apr. 13–July 5	1,019	106	
Mexico:				
Acapulco	May 25–Aug. 16	.....	5	
Aguascalientes	June 9–Nov. 2	.....	34	
Chihuahua	June 23–Nov. 2	.....	13	
Guadalajara	June 8–Oct. 18	80	.....	
Hermosillo	June 7–Sept. 13	126	85	Among troops.
Manzanillo	July 18	.....	.....	Present.
Mexico	Apr. 20–Sept. 20	235	130	
Monterey	June 9–Aug. 31	.....	7	
Oaxaca	Oct. 12–18	.....	1	
Panuco	Sept. 12	30	.....	
Puerto Mexico	July 1–31	.....	3	
San Luis Potosi	Apr. 27–Sept. 20	24	13	
Saltillo	Aug. 1–June 30	.....	25	
Veracruz	June 16–Nov. 9	15	4	
Tampico	Sept. 16–Oct. 20	3	2	
Newfoundland:				
St. Johns	June 15–Oct. 18	39	.....	
Peru		.....	.....	Sept. 30, epidemic in Ancon, Callao, Chancay, Huaco, and Lima. Sept. 27, still present in Ancon and Huaco. In Lima Jan. 1–June 30, 235 cases were admitted to the lazaretto.
Philippine Islands		.....	.....	First quarter, 1913: Cases, 57; second quarter, cases, 63.
Portugal:				
Lisbon	May 25–Oct. 18	72	.....	
Russia:				
Batoum	Apr. 1–May 31	4	.....	
Liban	June 2–July 20	3	1	
Moscow	May 18–Oct. 4	90	22	
Odessa	June 8–Aug. 23	58	15	
Riga	June 22–28	6	.....	
St. Petersburg	May 18–Oct. 18	30	2	
Siberia—				
Vladivostok	May 7–June 20	3	.....	
Warsaw	Feb. 23–Aug. 30	70	31	
Samoa:				
Apia		.....	.....	May 18, 1 death on transport Michael Jepson, from Hongkong, and to June 4, 4 cases transferred from this vessel to a lighter 3 miles east.
Servia:				
Belgrade	June 1–Sept. 27	16	3	July 16, present in Dubotzi, Neresnitza, and Volui.
Siam:				
Bangkok	Mar. 23–Aug. 9	.....	11	
Spain:				
Almeira	June 1–Aug. 31	.....	6	
Barcelona	June 8–Oct. 11	.....	87	
Cadiz	May 1–Sept. 30	.....	5	
Madrid	June 1–Sept. 30	.....	160	
Malaga	Aug. 1–31	.....	1	
Seville	July 1–31	.....	1	
Valencia	June 1–Oct. 4	5	.....	
Straits Settlements:				
Singapore	May 4–10	1	1	
Switzerland:				
Cantons—				
Basel	June 1–Sept. 20	37	.....	
Zurich	May 18–24	1	.....	From Paris.
Turkey in Asia:				
Beirut	May 25–Oct. 25	94	51	
Damascus	June 1–7	.....	.....	Present
Mersina	May 25–July 12	.....	3	
Smyrna	Apr. 26–Aug. 2	.....	67	
Turkey in Europe:				
Constantinople	June 1–Nov. 1	.....	83	
Saloniki	June 2–Oct. 26	.....	55	
Union of South Africa:				
Johannesburg	May 10–June 7	23	.....	
Uruguay:				
Montevideo	Sept. 16–30	.....	1	
West Indies:				
Trinidad	Aug. 19	2	.....	On s. s. Danube and placed in quarantine 5 miles distant.

SANITARY LEGISLATION.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

WISCONSIN.

Common Towels—Prohibited in Hotels and Other Places. (Chap. 44, Act Apr. 5, 1913.)

SECTION 1. Subsection 1 of section 1727*m* of the statutes is amended to read:

"SEC. 1727*m*. 1. All towels for the use of guests in any hotel, whether in their private rooms or the public wash room, and all towels in such places or buildings, whether publicly or privately owned, as the State board of public health may find the use of the common towel therein to be inimical to the public health, shall be individual towels and when used and discarded by the individual shall not be again used until thoroughly washed and dried."

Common Drinking Cups—Prohibited in Public Places. (Chap. 158, Act May 3, 1913.)

SECTION 1. There is added to the statutes a new section to read:

"SEC. 1418*t*. 1. It shall be unlawful for any person, firm, or corporation to furnish, or to permit the use of, the common drinking cup on railroad trains, in railroad stations, in any State or other public building, on the streets or in public parks, in the public, parochial, or private schools, or in other educational institutions, in hotels and lodging houses, theaters, department stores, barber shops, or in such other places or buildings in the State as the State board of health may find the use therein of the common drinking cup to be inimical to the public health.

"2. Any person, firm, or corporation, owning or having the management or control of such railroads, buildings, schools or educational institutions, or of such places or buildings in which the State board of health may find the use of the common drinking cup to be inimical to the public health, as provided in this section, 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 of not less than $10 nor more than $50."

Individual Drinking Cups—Required on Railroad Trains. (Chap. 750, Act Aug. 4, 1913.)

SECTION 1. There is added to the statutes a new section to read:

"SEC. 1416–13*m*. 1. No railroad car in which any passenger is permitted to ride for more than 10 miles of continuous passage in one general direction shall be operated unless there is provided for every passenger therein, at all times

during such operation, opportunity to obtain a paper drinking cup not theretofore used by any person, free of charge.

"2. Every day or part of a day within which any such car is operated without affording such opportunity shall constitute a separate offense.

"3. Any person, copartnership, or corporation owning, operating, superintending, or managing any such car, or any person in charge of any such car, who shall be found guilty of failure to comply with the provisions of this section shall forfeit not less than $25 nor more than $100.

"4. Nothing herein contained shall interfere with the validity or enforcement of any rules or requirements of the State board of health."

SEC. 2. This act shall take effect and be in force from and after January 1, 1914.

State Board of Health—Powers and Duties of—Health Officers. (Chap. 674, Act July 29, 1913.)

SECTION 1. There are added to the statutes six new sections and two new subsections to read:

"SEC. 1407*a*–1. 1. The State board of health shall establish the following bureaus, together with such other bureaus as said board may from time to time determine:

"(1) Bureau of vital statistics.

"(2) Bureau of sanitary inspection and sanitary engineering.

"(3) Bureau of tuberculosis and contagious diseases.

"(4) Bureau of public information and education.

"SEC. 1407*a*–2. 1. The secretary and executive officer of the State board of health shall hereafter be designated and known as the State health officer. All duties, liabilities, authority, powers, and privileges heretofore or hereafter imposed or conferred by law upon the secretary or the executive officer of the State board of health are hereby imposed and conferred upon the State health officer, and all laws relating or referring to the secretary or the executive officer of the State board of health shall apply, relate, or refer to the State health officer so far as such laws are applicable.

"SEC. 1407*a*–3. 1. The State board of health shall from time to time divide the State into five sanitary districts. They shall appoint for each such district a deputy State health officer. Such deputy State health officers shall possess the same qualifications required of the State health officer. Each deputy State health officer shall hold his office during efficiency and good behavior and may be removed for cause by the State board of health after having been given an opportunity to be heard in his own defense. No deputy State health officer shall during his term of office engage in any occupation which would conflict with the performance of his official duties. Each deputy State health officer shall receive an annual salary to be fixed by the State board of health, but which shall not exceed $3,000, and shall receive his expenses actually and necessarily incurred in the performance of his official duties.

"2. The deputy State health officer shall have jurisdiction throughout his district; and he shall have the right of entry into any workshop, factory, dairy, creamery, slaughterhouse, or other place of business or employment, when in pursuit of his official duties. The deputy State health officer shall carry out the instructions of the State board of health and shall make such investigations and reports as said State board of health may require. He shall, when required by the State board of health, with the help of local health officers, inspect and report upon the sanitary conditions of streams and sources of public water supplies, schools and schoolhouses, dairies, creameries, slaughterhouses, work-

shops, and factories, and all places where offensive trade or industries are conducted in his district.

"3. Such deputy State health officer shall also make careful inquiry, when required by the State board of health, as to the effects of the different kinds of employment upon the health of employees and operators, with special reference to tuberculosis and to lead and phosphorous poisoning and other industrial diseases, and in all such investigations and inquiries he shall have the power to administer oaths in regard to all matters pertaining thereto. He shall respond promptly when called upon for advice or assistance by any board of health or health officer within his jurisdiction, and it shall be his duty, and he is hereby authorized to enforce any public-health statute, or rule or regulation of the State board of health or of any local board of health or health officer within his district, when such local board of health or health officer neglects or refuses to enforce such statute, rule, or regulation, after due notice by him or by the State board of health.

"4. Each deputy State health officer, under the direction of the State board of health and subject to laws, rules, and regulations relating to the public health, shall, in addition to such other duties as are or may be imposed upon him, perform the following duties:

"(1) Keep himself informed as to the work of each local health officer within his district;

"(2) Aid each local health officer within his district in the performance of his duties, and particularly on the appearance of any contagious disease;

"(3) Assist each local health officer within his district in making an annual sanitary survey of the territory within his jurisdiction and in maintaining therein a continuous sanitary supervision;

"(4) Call together the local health officers within his district or any portion of it from time to time for conference upon the authority of the State board of health;

"(5) Adjust questions of jurisdiction arising between local health officers within his district;

"(6) Study the causes of excessive mortality from any disease in any portion of his district;

"(7) Promote efficient registration of marriages, births, deaths, and accidents;

"(8) Inspect from time to time all labor camps within his district, and enforce the regulations of the State board of health in relation thereto;

"(9) Endeavor to enlist the cooperation of all the organizations of physicians within his district in the improvement of the public health therein.

"SEC. 1407*a*–4. 1. The State board of health shall cooperate with the several educational institutions and the school system of this State in disseminating information to the general public in all matters pertaining to health, and shall use the research facilities of the university for the preservation and improvement of the public health under such rules and regulations as may be agreed upon with the regents of the university, and facilitate the special instruction of students in sanitation, hygiene, and vital statistics in any school or department of the University of Wisconsin in such manner which is not inconsistent with and which does not interfere with the orderly and efficient administration of the public-health work.

"SEC. 1407*a*–5. 1. Health officers of towns, villages, and cities, in addition to such other duties as are or may be lawfully imposed upon them and subject to the provisions of the public-health laws and the rules and regulations of the State board of health and under the direction of the deputy State health officer of their respective districts, shall perform the following duties:

"2. Make an annual sanitary survey and maintain a continuous sanitary supervision over the territory within their jurisdiction.

"3. Make a sanitary inspection periodically of all school buildings and places of public assemblage, and report thereon to those responsible for the maintenance of such school buildings and places of public assemblage;

"4. Promote the spread of information as to the causes, nature, and prevention of prevalent diseases, and the preservation and improvement of health;

"5. Take such steps as may be necessary to secure prompt and full reports by physicians of communicable diseases, and prompt and full registration of births and deaths;

"6. Enforce within their jurisdiction the provisions of the public-health law and the rules and regulations of the State board of health;

"7. Attend the annual conferences of sanitary officers called by the State board of health, and local conferences within his sanitary district to which he may be summoned by the deputy State health officer or upon the approval of the State board of health.

"SEC. 1407*a*–6. 1. The State board of health shall have supervision of the health and life of the citizens of the State and possess all powers necessary to fulfill the duties prescribed in the statutes and to bring action in the courts for the enforcement of health laws and health rules. They shall have power to make sanitary inspections and surveys in all parts of the State and, after due notice, to enter upon and inspect private property in regard to the presence of cases of infectious and contagious diseases and to determine the cause and source of disease.

"2. The State board of health shall have power to establish quarantine and to order and execute what is reasonable and necessary for the prevention and suppression of disease; to close schools and churches; forbid public gatherings when deemed necessary to control epidemics; to condemn and abate conditions causative of disease; to regulate and prescribe, by means of rules and regulations, the character and location of plumbing, drainage, water supply, disposal of sewage, garbage, or other waste material; the sanitary condition of streets, alleys, outhouses, cesspools, and all sanitary features connected therewith.

"3. The board shall have power to adopt and enforce rules and regulations governing the duties of all health officers and health boards and any violation of said rules shall be punished by a fine of not less than $10 nor more than $100 for each offense. All rules adopted and published in conformity with this section shall bear the seal of the State board of health and be attested by the State health officer. Such rules and regulations shall be published in the official State paper and distributed in pamphlet or leaf form to all health officers and any citizen asking for the same. Such rules and regulations shall not be effective until 30 days after their publication.

"4. All rules and regulations adopted and published by the State board of health, and all orders issued by said board in conformity with law shall be in force and shall be prima facie lawful; and all such orders, rules, and regulations shall be valid and in force, and prima facie reasonable and lawful until they are found otherwise in an action brought for that purpose or until altered or revoked by the State board of health. Any member of the State board of health shall have power to administer oaths, certify to official acts, issue subpœnas, compel the attendance of witnesses and production of papers, books, documents, and testimony. In case of the failure of any person to comply with any order of the board, or any subpœna lawfully issued, or on the refusal of any witness to testify to any matter regarding which he may be lawfully interrogated, it shall be the duty of the circuit court of any county, or the judge thereof, on application of any member of the State board of health, to compel obedience by attachment

proceedings for contempt, as in the case of disobedience of the requirements of a subpœna issued from such court or a refusal to testify therein.

"5. Every witness who shall appear before the board by its order shall receive for his attendance the fees and mileage now provided for witnesses in civil cases in courts of record, which shall be audited and paid by the State in the same manner as other expenses are audited and paid, upon the presentation of properly verified vouchers. But no witness subpœnaed at the issuance of parties other than the board shall be entitled to compensation from the State for attendance or travel unless the board shall certify that his testimony was material to the matter investigated. Fees and mileage paid under this section shall be charged to the general appropriation for the State board of health.

"6. The State board of health may, in any investigation, cause the depositions of witnesses residing within or without the State to be taken in the manner prescribed by law for like depositions in civil actions in circuit courts.

"7. A full and complete record shall be kept of all proceedings had before the board on any investigation, and all testimony shall be taken down by the stenographer appointed by the board.

"8. The State board of health may employ such clerical and other assistants as are necessary for the proper performance of the work of the board, and they may distribute appropriate powers and duties to the employees of the board not inconsistent with the constitution or the laws of this State.

"9. The board may from time to time employ competent persons to render sanitary service and make or supervise practical and scientific investigations and examinations requiring expert skill and prepare plans and reports relative thereto.

"10. The State health officer may issue warrants to any sheriff, constable, or policeman to apprehend and arrest such persons who disobey the quarantine orders or other rules and regulations of the board. Each warrant shall be forthwith executed by the officer to whom directed, who shall make due return of the execution thereof to the State health officer.

"11. If the owner or occupant of any premises whereon any nuisance detrimental to the public health exists fails to comply with any order of the board for the abatement or removal thereof, any member of the board, their agents or employees, may enter upon the premises to which such order relates and abate or remove such nuisance. The expense of such abatement or removal shall be paid by the owner or occupant of such premises or by the person who caused or maintained such nuisance and such expense shall be a lien upon the lands upon which the nuisance was maintained.

"12. Nothing in sections 1407*a*–1 to 1407*a*–6, inclusive, shall be construed to empower or authorize the board of health or its representative to interfere in any manner with the individual's right to select the physician or mode of treatment of his choice.

"SEC. 172–27. 5. There is annually appropriated on July 1, $40,000, payable from any moneys in the general fund not otherwise appropriated, to the State board of health to carry into effect the powers, duties, and functions provided by law for said board. The appropriation shall be in addition to other appropriations provided in this section for said board.

"6. All moneys collected or received by each and every person for or in behalf of the State board of health and vital statistics shall be paid within one week of receipt into the general fund of the State treasury. All such deposits shall be for State account generally, except where by law such deposits are expressly appropriated for said board."

Local Boards of Health—Organization, Powers, and Duties. (Chap. 354, Act May 31, 1913.)

SECTION 1. Section 1411 of the statutes is amended to read:

"SEC. 1411. 1. The town board, village board, and common council of every town, village, and city, except in cities of the first class, shall, within 30 days after each annual election, organize as a board of health or appoint wholly or partially from its own members a suitable number of competent persons who shall organize as a board of health for such town, village, or city. The health officer when appointed shall hold office for two years and until his successor has been elected and qualifies.

"2. In case the town board, village board, or common council fails or neglects to appoint a board of health as provided by this section, the State board of health may appoint persons to serve on such board until a board of health has been regularly appointed as hereinbefore provided, and the necessary expense so incurred shall be charged to and paid out of the treasury of such town, incorporated village or city.

"3. Whenever any health officer appointed under the provisions of this section, or elected as provided for by the general charter law or special charter laws, shall neglect or refuse to perform the duties of his office and assist the State board of health in the enforcement of the public health laws of the State, it shall be the duty of the town board, village board, or common council, either upon its own initiative or upon the recommendation of the State board of health, to discharge such official and immediately appoint a new health officer.

"4. The officers of such board shall include a chairman, a clerk, and a health officer, who shall be ex officio a member of such board and its executive officer; all such officers shall be elected by the board immediately after its organization. Every board of health as thus constituted shall exercise all the powers and perform all the duties prescribed in this chapter within the limits of the town, village, or city of which they are such officers. Every health officer so appointed shall be, whenever practicable, a reputable physician; he shall hold office during the pleasure of such board and until the qualification of his successor; if a vacancy occurs in his office, the board of health shall immediately fill the same by an election. The foregoing provisions shall not apply to any city or village in which a board of health and a health officer are provided for by the charter thereof; but every such board, whether organized under the provisions of this section or otherwise, shall immediately after each annual or other organization report to the secretary of the State board of health the names, post-office addresses, and occupations of the officers thereof, and make such report whenever a new health officer is chosen. Every board of health shall take such measures and make such rules and regulations as they may deem most effectual for the preservation of the public health. To provide for the control of diphtheria and other contagious diseases, the local board of health shall furnish antitoxin free to all indigent persons suffering from such diseases, in such manner as the State board of health may direct. They may appoint as many persons to aid them in the execution of their powers and duties as they think proper, regulate the fees and charges of every person so employed by them, and fix the salary of the health officer, examine into all nuisances, sources of filth, and causes of sickness, and make such rules and regulations respecting the same as they may judge necessary for the public health and safety of the inhabitants."

Health Officers—State Conference of. (Chap. 193, Act May 9, 1913.)

SECTION 1. Section 1416–19 of the statutes is amended to read:

"SEC. 1416–19. It shall be the duty of the health officer or a representative of any local board of health to attend a local conference called by the secretary of the State board of health, when required to do so by the latter, for consultation or conference concerning the restriction and prevention of contagious and infectious diseases or for the consideration of any other important sanitary matters affecting their respective districts; and the expenses of the health officer or representative shall be certified by the board appointing him and paid out of the general funds of the city, incorporated village, or town where such board is established: *Provided*, That no board of health shall be required or authorized to send a health officer or representative to more than one conference in any one year. No local conference shall be authorized under the provisions of sections 1416–15 to 1416–19, inclusive, except in cases where dangerous, contagious, or infectious diseases are present in the district or when other conditions dangerous to the life and health of the people are found to exist. The secretary of the State board of health may provide biennially for a State conference of health officers and health commissioners of cities, incorporated villages, and townships to be held at such time and place as the State board of health may determine, the expense of the health officer or health commissioner in attending such conference to be paid by the town, incorporated village, or city, upon the certification of the secretary of the State board of health."

Communicable Diseases—Notification of Cases of. (Chap. 516, Act June 21, 1913.)

SECTION 1. Section 1416–1 of the statutes is amended to read:

"SEC. 1416–1. It shall be the duty of every physician to report to the department of health in every town, incorporated village, or city, in writing, the full name, age, and address of every person suffering from any one of the infectious or contagious diseases following, to wit: Measles, smallpox, diphtheria (membranous croup), scarlet fever (scarlatina), typhoid fever, tuberculosis (of any organ), rubella (rotheln), chicken pox, typhus fever, plague, erysipelas, Asiatic cholera, whooping cough, cerebrospinal meningitis, yellow fever, acute anterior poliomyelitis, and ophthalmia neonatorum; and it shall be the duty of every person, owner, agent, manager, principal, or superintendent of any public or private institution or dispensary, hotel, boarding or lodging house, in any such town, incorporated village, or city, to make a report, in like manner and form, of any inmate, occupant, or boarder suffering from any of the said infectious or contagious diseases. It shall also be the duty of every physician to report by number all cases of syphilis and gonorrhea occurring in his practice to the State board of health at such time and in such manner as the State board of health may direct."

Communicable Diseases—Notification of Cases of and Fatalities from. (Chap. 226, Act May 13, 1913.)

SEC. 2. Section 1416–2 of the statutes is amended to read:

"SEC. 1416–2. It shall be the duty of every physician to report forthwith in writing to the said department of health the death of any person who dies from, or while suffering with or from any infectious or contagious disease, and to state in such report the specific name and type of such disease, and in the absence of an attending physician it shall be the duty of every keeper of any boarding

house or lodging house and the proprietor of every lodging house or hotel to report forthwith to the department of health all known facts in regard to any person who died in any such house or hotel under his charge suffering from any of the following infectious or contagious diseases: Measles, diphtheria (membranous croup), scarlet fever (scarlatina), typhoid fever, tuberculosis, smallpox, chickenpox, Asiatic cholera, typhus fever, rubella (rotheln), plague, whooping cough, erysipelas, cerebrospinal meningitis, acute anterior poliomyelitis, and ophthalmia neonatorum, within 24 hours after the death of such person."

SEC. 3. Section 1416–3 of the statutes is amended to read:

"SEC. 1416–3. It shall be the duty of every person having knowledge of the existence of any person afflicted with any one of the following infectious or contagious diseases, to wit, measles, diphtheria (membranous croup), scarlet fever (scarlatina), typhoid fever, tuberculosis, smallpox, Asiatic cholera, typhus fever, rubella (rotheln), plague, whooping cough, yellow fever, cerebrospinal meningitis, chickenpox, erysipelas, acute anterior poliomyelitis, and ophthalmia neonatorum, or has reason to believe that any person is so afflicted, to at once report to the health department of such town, incorporated village, or city all facts in regard to the case, and no person shall interfere with or obstruct the entrance, inspection, or examination of any building or house, or the occupants thereof, by the health officer, commissioner of health, or his assistants, of such town, incorporated village, or city, or any officers of such department, when investigating a reported case of one of the infectious or contagious diseases above specified, as existing in such house or dwelling, nor shall any person interfere with or obstruct, mutilate, or tear down any notices of such department posted in or on any premises within such municipality."

Quarantine of Communicable Diseases. (Chap. 444, Act June 9, 1913.)

SECTION 1. Sections 1416–15 and 1416–17 of the statutes are amended to read:

"SEC. 1416–15. Whenever a health officer shall know, suspect, or be informed of the existence of any communicable disease, dangerous to the public health, it shall be the duty of such health officer, or deputy, to at once examine such case, or cases of alleged communicable disease, dangerous to the public health. The health officer having jurisdiction, upon being notified or having knowledge of the existence of any disease which has been designated by the State board of health in its rules and regulations to be quarantinable, shall immediately in person or by deputy quarantine the infected house, rooms, or premises so as effectually to quarantine the case or cases and the family, if necessary, in such manner and for such time as the State board of health in its rules shall determine necessary to prevent transmission of the disease. Whenever a house, tenement room, or other building is placed in quarantine, a placard shall be posted in a conspicuous position on such building, giving the name of the disease for which quarantine is established, or the word 'quarantine' in letters not less than 2 inches long. Such placard shall contain the following quarantine notice: 'All persons are forbidden to enter or leave these premises without a special written permit from the health officer having jurisdiction and all persons are forbidden to remove, obscure, or mutilate this card or to interfere in any way with this quarantine without written orders from said health officer, under penalty of a fine or imprisonment as provided in section 4608 of the statutes.' The local board of health shall employ as many persons as are necessary to execute its orders; properly guard any house or place containing any person or persons affected with a quarantinable disease, or who have been exposed thereto, if quarantine is violated or intent to violate quarantine is manifested. Such persons

shall be sworn in as quarantine guards, shall have police powers, and may use all necessary means to enforce the State laws for the prevention and control of contagious or infectious diseases or the orders, rules, and regulations of any board of health made in pursuance thereof.

"SEC. 1416–17. The expenses for necessary nurses, medical attention, food, and other articles needed for the comfort of the afflicted person or persons shall be a charge to the person so taken care of, or against any other person who may be liable for his support. Indigent cases shall be cared for at public expense upon the order of the local board of health. The expense of maintaining quarantine and disinfection of persons and premises after death or recovery shall be paid by the city, incorporated village, or town upon the order of the local board of health. When a person with a contagious disease, quarantined in any township, incorporated village, or city is a legal resident of another township, incorporated village, or city of this State the expense for necessary nurses, medical attention, food, and other articles needed for the health and comfort of the afflicted person, if such person is indigent, shall be paid by the township, incorporated village, or city where such person is a legal resident, or by the county where the county system for the care of the poor has been adopted: *Provided*, That a sworn statement of such expense is sent to the proper town or county officers within 30 days after the quarantine in such case is removed. In all cases the disinfecting and cleansing, so as to effectually destroy the contagion, shall be done before quarantine is removed. The disinfecting and cleansing shall be carried out according to methods indorsed and recommended by the State board of health."

Tuberculosis and Other Diseases—Disposal of Sputum. (Chap. 308, Act May 28, 1913.)

SECTION 1. Section 1416–6 of the statutes is amended to read:

"SEC. 1416–6. 1. It shall be the duty of every person afflicted with tuberculosis of the lungs or larynx, or any other disease whose virus or infecting agent is contained in the sputum, saliva, or other infectious secretions, to provide himself with a sputum flask or receptacle in which to deposit his sputum, saliva, or other infectious secretion, and the contents of said flask or receptacle shall be burned or otherwise thoroughly disinfected.

"2. If any person afflicted with tuberculosis, as shown by the examinations made in the State laboratory of hygiene, fails or neglects to obey or comply with any of the provisions of this section, or of the rules adopted and published by the State board of health for the suppression and control of tuberculosis, such person may be committed to any county hospital for the care of persons suffering from tuberculosis or to any other place or institution where proper care will be provided and where the necessary precautions will be taken to prevent any unnecessary spread of tuberculosis, by any judge of a court of record upon due proof that such person has violated said law or said rules and regulations of said board of health. Complaint that said laws or the rules and regulations of said State board of health have been violated may be made by any health officer or any resident of any city, town, or village in which any such person shall have violated said law or said rules and regulations, and when such complaint shall have been so made, it shall be the duty of the judge of said court to notify the person who, it is alleged, has so violated said law or said rules and regulations, that such complaint has been made. If, upon the hearing, it has been found that such person has so violated said law or said rules and regulations, the court may then make the order for commitment of such person in the manner

provided in this section. The court may also make such order for the payment for care and treatment as may be proper.

"3. After commitment, such person may be discharged by said court at any time when the court thinks it proper to do so. Any person so committed to such hospital or institution who fails to remain there, or who neglects or refuses to obey the rules and regulations of that institution, may, in the judgment of the superintendent, be isolated or separated from other persons and restrained from leaving the hospital or other institution."

Tuberculosis—County Institutions for Care of Tuberculous Patients Authorized. (Chap. 328, Act May 29, 1913.)

SECTION 1. Subsection 1 of section 1421–9, subsection 2 of section 1421–11, and subsection 2 of section 1421–14 of the statutes are amended to read:

"SEC. 1421–9. 1. The county board of supervisors of any county may, with the consent of the State board of control, purchase a site and establish or provide a building or shack for the treatment of persons suffering from tuberculosis in the advanced or secondary stages. No building or shack shall be so constructed until after the site has been approved by the State board of control.

"SEC. 1421–11. 2. Such trustees shall serve without compensation, except that they shall receive their actual expenses in the performance of their duties. The trustees shall appoint in all counties, except those counties having a population of over 300,000, as superintendent of such institution a graduate trained nurse and also a visiting physician for such institution and fix their compensation. In counties having a population of more than 300,000 the trustees shall appoint a medical superintendent and fix his compensation. The trustees shall designate the number of employees of such institution and fix the compensation of such employees. The employees shall be selected by the superintendent, subject to the confirmation of the board of trustees.

"SEC. 1421–14. 2. Whenever any such institution is completed, according to the plans and specifications approved by the State board of control, such board shall cause a certificate of that fact, signed by the president and secretary thereof, to be filed with the secretary of state, and thereafter any county which shall create such an institution shall receive from the State for each person cared for at public expense such amounts as are provided for by law."

SEC. 2. Subsection 4 of section 1421–14 of the statutes is repealed.

SEC. 3. There is added to the statutes a new section to read:

"SEC. 172–120. The amount contributed as State aid for tuberculosis in the advanced or secondary stages in county institutions to carry into effect the provisions of section 1421–14 shall not exceed $50,000 annually, and such aid shall be apportioned among the various county institutions in proportion to the number of patients in each institution during the year ending on the 30th day of June: *Provided*, That there shall not be allowed more than $5 a week per patient for the number of weeks such patients shall be a resident of such institution."

Tuberculosis—Care of Insane Patients. (Chap. 227, Act May 13, 1913.)

SECTION 1. There is added to the statutes a new section to read:

"SEC. 587*d*. The State board of control of Wisconsin is hereby authorized to make provision for the segregation, care, and treatment of tubercular-insane patients in the State and northern hospitals for the insane, and for that purpose said board is authorized to set apart one ward for male patients and one ward for female patients, in the hospitals for the insane, and to properly equip

said wards for the care and treatment of such patients. Said board is authorized to transfer from any other parts of the said institutions any tubercular patients who are liable to spread the disease or whose association with other patients is dangerous to them."

Tuberculosis—State Camp and Farm for Treatment of Convalescents. (Chap. 679, Act July 31, 1913.)

SECTION 1. There is added to the statutes a new section and a new subsection to read:

"SEC. 1421–30. 1. The State board of control of Wisconsin is hereby authorized to establish and operate a camp and farm in the forest reserves in which persons who are threatened with or who are recovering from tuberculosis may be received and cared for, and the State board of forestry is authorized to cooperate with and aid said State board of control of Wisconsin in the erection of a camp or camps on any State forest reserve lands appropriate therefor which may be designated by said board.

"2. Any tuberculosis camp established on any State lands under this section shall, under necessary and proper regulations made as hereafter provided, be open to any person threatened with or who is recovering from tuberculosis, the charge for the care and maintenance of any such person not to exceed $3.50 per week.

"3. The State board of forestry shall cooperate with the State board of control of Wisconsin in the employment of persons received into said camp and shall, so far as practicable, engage any such persons to do necessary work within the State forest reserve, and the college of agriculture is authorized to instruct and aid the patients in said camp in farming and gardening.

"4. The State board of control of Wisconsin shall formulate rules and regulations for admission to and for the administration of such camp not inconsistent with this section.

"SEC. 172–67. 52. There is annually appropriated on July 1 $10,000, payable from any moneys in the general fund not otherwise appropriated, to the board of control for the establishment and maintenance of the camp and farm for tuberculosis patients as provided in section 1421–30."

Ophthalmia Neonatorum—Prevention of and Notification of Cases. (Chap. 344, Act May 29, 1913.)

SECTION 1. Sections 1409*a*–1 and 1409*a*–2 of the statutes are repealed.

SEC. 2. There are added to the statutes three new sections, to read:

"SEC. 1409*a*–1. For the prevention of ophthalmia neonatorum, or blindness in the new-born babe, the State board of health and vital statistics shall, annually, cause to be prepared and put up in proper containers a 1 per cent solution of nitrate of silver, and shall also prepare instructions for its use. Said containers and instructions shall be distributed by said board, free of all charges, to all local health officers within the State in quantities sufficient to enable them to, and they shall, deliver to each physician and midwife one container and one copy of the instructions. It shall be the duty of the attending physician or midwife in each confinement case to use the said solution as directed in said instructions.

"SEC. 1409*a*–2. 1. In any confinement case not attended by a physician or midwife, if one or both eyes of an infant become inflamed, swollen, and red, and show an unnatural discharge at any time within two weeks after its birth, the nurse, parents, or other attendant having charge of such infant shall

report in writing, within six hours thereafter, to the health officer of the city, village, or town in which the parents of the infant reside the fact that such inflammation, swelling, redness, or unnatural discharge exists.

"2. On receipt of such report the health officer shall immediately give to the parents or person having charge of said infant a warning of the dangers to the eye, or eyes, of said infant and a copy of the instructions prepared pursuant to section 1409*a*–1 of the statutes; and shall employ at the expense of the said city, village, or town a competent physician to examine the case reported and to provide such treatment as may be prescribed by the State board of health and vital statistics in its instructions.

"SEC. 172–27. 1. There is annually appropriated on July 1, $1,500, payable from any moneys in the general fund not otherwise appropriated, for the State board of health and vital statistics to carry out the provisions of section 1409*a*–1."

Ophthalmia Neonatorum—Prevention of. (Reg. Bd. of H., Jan. 29, 1913.)

RULE 16. *Infantile blindness.*—Any physician, midwife, nurse, or other person in attendance on a confinement case shall, within two hours after the birth of the child, use one of the following prophylactic treatments for the prevention of infantile blindness or ophthalmia neonatorum:

1. Two drops of a 1 per cent fresh solution of nitrate of silver, to be dropped in each eye after the eyelids have been opened.

2. Two drops of a 25 per cent solution of argyrol or two drops of a 5 per cent solution of protargol should be dropped in each eye in the same manner as when silver nitrate is used.

Schools—Control of Communicable Diseases in—Sanitation of. (Reg. Bd. of H. Jan. 29, 1913.)

Under the authority granted by section 1408 of the statutes, authorizing the State board of health to adopt and enforce rules for the proper sanitary care of schoolhouses and the premises connected therewith, the State board of health hereby publishes and declares the following rules to be of general application throughout the State.

RULE 17. All teachers, school authorities, and health officers having jurisdiction shall not permit the attendance in any private, parochial, or public school of any pupil afflicted with a severe cough, a severe cold, itch, lice or other vermin, or any contagious skin disease, or who is filthy in body or clothing, or who has any of the following dangerous contagious or infectious diseases, to wit: Diphtheria, smallpox, scarlet fever, measles, whooping cough, chicken pox, mumps, pulmonary tuberculosis, Asiatic cholera (cholerine), yellow fever, typhus fever, bubonic plague, cerebrospinal meningitis, or acute anterior poliomyelitis. The teachers in all schools shall, without delay, send home any pupil who is obviously sick, even if the ailment is unknown, and said teacher shall inform the parents or guardians of said pupil, and also the local health officer, as speedily as possible, and said health officer shall examine into the case and take such action as is reasonable and necessary for the benefit of the pupils and to prevent the spread of infection.

RULE 18. Parents, guardians, or other persons having control of any child who is sick in any way or who is afflicted with any disease listed in rule 17 shall not permit said child to attend any public, private, or parochial school or to be present in any public place.

RULE 19. School teachers, pupils, or other persons shall not be admitted to any public, private, or parochial school who have come from or who reside in any house or building which harbors or is infested with any disease listed in rule 17, or who have recently been afflicted with such diseases, unless they have the written permission of the local health officer having jurisdiction.

RULE 20. Schoolhouses shall have in each classroom at least 15 square feet of floor space, and not less than 200 cubic feet of air space per pupil, and shall provide for an approved system of indirect heating and ventilation by means of which each classroom shall be supplied with fresh air at the rate of not less than 30 cubic feet per minute for each pupil and warmed to maintain an average temperature of 70° F. during the coldest weather.

RULE 21. Local health officers having jurisdiction shall dismiss forthwith any schoolroom in which at least 200 cubic feet of air space is not supplied to each pupil. The school authorities shall, without delay, make provisions for the pupils in accordance with the requirements stated in rule 20.

RULE 22. Proper ventilation must be provided in all schoolrooms, and when ventilation ducts do not exist, or are inadequate, it shall be the duty of the teacher to flood the schoolroom with fresh air by opening windows and doors at recess and noontime and also whenever the air becomes close and foul. Pupils should be given gymnastic exercises during the time the windows are open in cold weather. When windows are the only means of ventilation they should be so constructed as to admit of ready adjustment both at the top and bottom, and some device shall be provided to protect the pupils from currents of cold air. The top of the windows shall be as near the ceiling as the mechanical construction of the building will allow.

RULE 23. It shall be unlawful for any school board, board of school directors, board of education, or other school officials in Wisconsin to use a common heating stove for the purpose of heating any schoolroom unless each such stove shall be in part inclosed within a shield or jacket made of galvanized iron or other suitable material, and of such height and so placed as to protect all pupils while seated at their desks from direct rays of heat.

RULE 24. Light shall be admitted from the left or from the left and rear of classrooms. The glass area of windows shall equal at least one-fifth of the floor area of the schoolroom, and no pupil shall be farther removed from the principal source of light than 25 feet.

RULE 25. All floors must be thoroughly swept or cleaned by a vacuum cleaner each day, either after the close of school or in the afternoon, or one hour before the opening of school in the morning. Before sweeping is started the floors must be sprinkled with water, moist sawdust, or other substance so as to prevent the raising of dust.

RULE 26. All schoolhouses must be supplied with pure drinking water. If the drinking water is obtained from wells, satisfactory troughs and drains must be provided so as to carry away the waste water and prevent the creation of mudholes near the opening of the well. When water is not supplied at the pump, from water faucets, or from sanitary flowing drinking fountains, covered tanks or covered coolers, with free-flowing faucets, must be supplied. All drinking fountains should be constructed of smooth glass or pressed metal.

RULE 27. Water-closets, dry closets, and outhouses shall be kept clean and sanitary at all times. Water-closets and dry closets, when provided, shall be efficient in every particular, and when said closets are not provided, then good fly-tight, well-ventilated outhouses for both sexes, separated by closely built fences, shall be provided. Good dry walks shall lead to all outhouses, and closely built screens or shields shall be built in front of them. Outhouses for males shall have urinals arranged with stalls and with conduits of galvanized

iron or other impervious material draining into a sewer, vault, or other suitable place.

RULE 28. Health officers shall enforce these rules and promptly enter prosecution for any violation thereof.

Visiting Nurses—Counties Authorized to Employ. (Chap. 93, Act Apr. 24, 1913.)

SECTION 1. There is added to the statutes a new section, to read:

"SEC. 697–10*m*. The board of supervisors of any county is authorized and empowered to employ a graduate trained nurse, whose duties shall be as follows: To act as a consulting expert on hygiene for all schools not already having medical inspection, either by physician or visiting nurse, to assist the superintendents of the poor in their care of the poor in the county who are in need of her services; to give instruction to tuberculosis patients and others relative to hygienic measures to be observed in preventing the spread of tuberculosis; to aid in making a report of existing cases of tuberculosis; to act as visiting nurse throughout the county and to perform such other duties as a nurse and hygienic expert as may be assigned to her by the county board. Such visiting nurse shall at the end of each month make a report in writing to the county clerk, which report shall show the visits made during the month then ending and the requests made to her for services, and such other information as the county board may from time to time require."

Visiting Nurses—Cities Authorized to Employ. (Chap. 194, Act May 9, 1913.)

SECTION 1. There is added to the statutes a new section, to read:

"SEC. 1416–13*a*. The common council of any city, whether incorporated under general or special charter, shall have power to employ obstetrical and visiting nurses."

Embalmers—Examination and Licensing of. (Chap. 51, Act Apr. 7, 1913.)

SECTION 1. Section 1409–1 of the statutes is amended to read:

"SEC. 1409–1. The State board of health is hereby authorized and empowered to determine the qualifications necessary to enable any person to properly embalm dead human bodies and disinfect the premises. The said board, or some member thereof, shall examine all applicants for an embalmer's license and shall issue an embalmer's license to all persons who successfully pass such examination. No person shall embalm any dead human body unless he or she shall hold a valid, unrevoked, and unexpired license from the Wisconsin State Board of Health authorizing him to practice the art of embalming. It shall be unlawful for any person not a licensed embalmer as herein provided to advertise, practice, or pretend to practice the art of embalming by either arterial or cavity treatment."

Pharmaceutical Experiment Station—Establishment of. (Chap. 404, Act June 5, 1913.)

SECTION 1. There is added to the statutes a new section, and to section 172–53, a new subsection of the statutes, to read:

"SEC. 3923*m*–12. The board of regents of the State university are authorized and directed to establish, equip, and maintain in the department of pharmacy of the State university a pharmaceutical experiment station. The duties of the said station shall be:

"(1) To cooperate with the bureau of plant industry of the department of agriculture in the maintenance of the northern station for the cultivation of medicinal plants and to disseminate such information as may lead to the proper

cultivation of medicinal plants and the production of high-grade vegetable drugs in this State; and

"(2) To serve the public at large by cooperation with both pharmacists and physicians in securing for the sick the best medicines that pharmaceutical science and art can provide, and further by cooperation with the State board of pharmacy, the State board of health, and the dairy and food commission to bring about these results.

"SEC. 172-53. 2. There is annually appropriated, on July 1, $2,500, payable from any moneys in the general fund, not otherwise appropriated, to the regents of the university for the department of pharmacy to carry out the provisions of section 3923*m*-12."

Marriage—Certificate of Health Required. (Chap. 738, Act Aug. 2, 1913.)

SECTION 1. There is added to the statutes a new section to read:

"SEC. 2339*m*. 1. All male persons making application for license to marry shall, at any time within 15 days prior to such application, be examined as to the existence or nonexistence in such person of any venereal disease, and it shall be unlawful for the county clerk of any county to issue a license to marry to any person who fails to present and file with such county clerk a certificate setting forth that such person is free from acquired venereal diseases so nearly as can be determined by physical examination and by the application of the recognized clinical and laboratory tests of scientific search. Such certificate shall be made by a licensed physician, shall be filed with the application for license to marry, and shall read as follows, to wit:

"'I (name of physician), being a legally licensed physician, do certify that I have this ____ day of _____, 19__, carefully and thoroughly examined (name of person), having applied the recognized clinical and laboratory tests of scientific search, and find him to be free from all venereal diseases so nearly as can be determined.

"'_____,

"'(Signature of physician)'

"2. Such examiners shall be physicians duly licensed to practice in this State, shall be persons of good moral character and of scientific attainments and at least 30 years of age. The fee for such examination, to be paid by the applicant for examination before the certificate shall be granted, shall not exceed $3. The county physician of any county shall, upon request, make the necessary examination and issue such certificate, if the same can properly be issued, without charge to the applicant, if said applicant be indigent.

"3. Whenever there is a dispute or disagreement regarding the findings of any medical examiner, laboratory tests shall be made in the State laboratory of hygiene from material submitted by such examiner, and the findings of the said laboratory shall be accepted as evidence of the presence or absence in the person examined of any venereal disease.

"4. In any case wherein the certificate of health required by subsection 1 of this section shall be refused and the applicant shall make and file with the county clerk of the proper county an affidavit setting forth the fact that such applicant has not had a fair and impartial examination and that he is entitled to such certificate of health, it shall be the duty of such county clerk to certify such proceedings at once to the county court of such county without formality or expense to such applicant. Such application shall be heard by a judge of said court at the earliest time practicable, without a jury in court or in chambers, during the term or in vacation, as the case may be. Notice of the time

and place of such hearing shall be given to such applicant by mail. A certified copy of an order of such judge upon his findings in such matter determining that such applicant is entitled to such certificate of health presented and filed with such county clerk, shall have the same force and effect as such certificate, and such county clerk shall thereupon issue a license to marry to such applicant.

"5. Any person, a resident of this State, who, with intent to evade the provisions of this act, shall go into another State and there have a marriage solemnized, and who within one year from date of such marriage shall return and reside in this State, shall, upon information or knowledge to the district attorney of any county, be required by him to file with the county clerk of any county in which such person may be then a resident a certificate of examination from such physician, as set forth in this section. Any person violating the provisions of this subsection shall be punished by imprisonment in the county jail not less than 30 days nor more than 1 year.

"6. Any county clerk who shall unlawfully issue a license to marry to any person who fails to present and file the certificate provided by subsection 1 of this section, or any party or parties having knowledge of any matter relating or pertaining to the examination of any applicant for license to marry, who shall disclose the same, or any portion thereof, except as may be required by law, shall, upon proof thereof, be guilty of a felony, and shall be punished by imprisonment in the State prison not less than one year nor more than five years.

"7. Any physician who shall knowingly and willfully make any false statement in the certificate provided for in subsection 1 of this section shall be guilty of perjury and upon conviction shall be punished as for perjury, and a conviction under this subsection shall revoke the license of such physician to practice in this State."

SEC. 2. All acts or parts of acts inconsistent with the provisions of this act are repealed.

SEC. 3. This act shall take effect on and after January 1, 1914.

Marriage—Degree of Consanguinity—Idiots and Insane Persons. (Chap. 709, Act Aug. 1, 1913.)

SECTION 1. Subsection 1 of section 2330 of the statutes is amended to read:

"SEC. 2330. 1. No marriage shall be contracted while either of the parties has a husband or wife living, nor between persons who are nearer of kin than second cousins, computing by the rule of the civil law, whether of the half or of the whole blood; and no insane person or idiot shall be capable of contracting marriage."

SEC. 2. This act shall take effect and be in force from and after the 1st day January, 1914.

Asexualization of Certain Inmates of State Institutions Authorized. (Chap. 693, Act July 31, 1913.)

SECTION 1. There is added to the statutes a new section to read:

"SEC. 561*jm*. The State board of control is hereby authorized to appoint, from time to time, one surgeon and one alienist of recognized ability, whose duty it shall be, in conjunction with the superintendents of the State and county institutions who have charge of criminal, insane, feeble-minded, and epileptic persons, to examine into the mental and physical condition of such persons legally confined in such institutions.

"2. Said board of control shall, at such times as it deems advisable, submit to such experts and to the superintendent of any of said institutions the names

of such inmates of said institution whose mental and physical condition they desire examined, and said experts and the superintendent of said institution shall meet, take evidence, and examine into the mental and physical condition of such inmates and report said mental and physical condition to the said State board of control.

"3. If such experts and superintendent unanimously find that procreation is inadvisable, it shall be lawful to perform such operation for the prevention of procreation as shall be decided safest and most effective: *Provided, however,* That the operation shall not be performed except in such cases as are authorized by the said board of control.

"4. Before such operation shall be performed, it shall be the duty of the State board of control to give at least 30 days' notice in writing to the husband or wife, parent or guardian, if the same shall be known, and if unknown, to the person with whom such inmate last resided.

"5. The said experts shall receive as compensation a sum to be fixed by the State board of control, which shall not exceed $10 per day and expenses, and such experts shall only be paid for the actual number of days consumed in the performance of their duties.

"6. The record taken upon the examination of every such inmate shall be preserved and shall be filed in the office of said board of control at Madison, Wis., and semiannually after the performing of the operation the superintendent of the institution wherein such inmate is legally confined shall report to said board of control the condition of such inmate and the effect of such operation upon such inmate.

"7. The State board of control shall report biennially in its regular biennial report the number of operations performed under the authority of this section and the result of such operations.

"8. There is hereby appropriated out of the State treasury, not otherwise appropriated, a sufficient amount of money to carry into effect the purposes of this section not to exceed $2,000."

Water Supplies—Investigation Authorized. (Chap. 568, Act June 27, 1913.)

SECTION 1. The State board of health is authorized to act with the United States Geological Survey in determining the sanitary and other conditions and nature of the natural water supplies of the State of Wisconsin, such water survey to have for its objects:

(*a*) To determine the nature and condition of the unpolluted natural water supplies of the State;

(*b*) To determine to what extent the natural waters are being contaminated by sewage from cities;

(*c*) To determine to what extent the natural waters are being polluted by industrial wastes, such as come from glucose factories, creameries, and such other sources which produce pollution, and in what way these wastes might be utilized for beneficial purposes;

(*d*) To investigate water-borne diseases and assist in determining the best source of water supplies.

SEC. 2. The State board of health is hereby empowered and instructed to make such rules and regulations in conjunction with the United States Geological Department as may be necessary to carry into effect the provisions of this act.

SEC. 3. There is added to the statutes a new subsection to read:

"SEC. 172–27. 3. There is appropriated on July 1, 1913, $3,000, payable from any moneys in the general fund, not otherwise appropriated, for the State board of health for the purpose of making a water survey as required by this

act, provided that an equal sum can be obtained by and through the department of the United States Geological Survey for this work."

Sweeping of Public Places—Regulations for. (Chap. 274, Act May 20, 1913.)

SECTION 1. There is added to the statutes a new section to read:

"SEC. 1418*w*. 1. It shall be unlawful for any person, firm, or corporation to sweep, or permit the sweeping, except when vacuum cleaners or properly filled reservoir dustless brushes are used, of floors in railroad stations, in passenger cars, in any State or public building, in the public, parochial, or private schools, or in other educational institutions, in hotels, department stores, where the public are invited, unless the floor is first sprinkled with water, moist sawdust, or other substance so as to prevent the raising of dust.

"2. Any person, firm, or corporation owning, or having the management or control of such railroad stations, State or public buildings, public, parochial, or private schools, hotels, department stores, where the public are invited, who violates any of the provisions of this section, shall be deemed guilty of a misdemeanor and shall be punished by a fine of not less than $10 nor more than $50."

Slaughterhouses—Location of and Disposal of Refuse from. (Chap. 455, Act June 9, 1913.)

SECTION 1. Section 1418 of the statutes is amended to read:

"SEC. 1418. No person shall erect, maintain, or keep any slaughterhouse upon the bank of any river, running stream, or creek; or throw, or deposit therein, any dead animal, or any part thereof, or any of the carcass or offal therefrom; nor throw or deposit the same into or upon the banks of any river, stream, or creek, which shall flow through any city, village, or organized town, containing 200 or more inhabitants; or erect, maintain, or use any building for a slaughterhouse, except such buildings as are or shall be placed under Federal inspection, at any place within one-eighth of a mile of any public highway, dwelling house, or a building occupied as a place of business; and every person who shall violate any of the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished for each such violation by a fine of not less than $10 nor more than $100, or by imprisonment in the county jail not exceeding six months; and the mayor of the city, president of the village, and the chairman of the town in which any such slaughterhouse is located shall have power to and shall cause the same to be immediately removed; and every such officer who shall knowingly permit any slaughterhouse to be used or maintained contrary to the provisions of this section shall forfeit not less than $15 nor more than $50. In any county containing a population of 100,000 or over, all the provisions of this section relating to slaughterhouses shall apply to all establishments and manufactories in which dead animals, or any part thereof, or of the carcass or offal therefrom, are collected and converted into marketable products."

Slaughterhouses—Inspection and Supervision of. (Chap. 583, Act June 27, 1913.)

SECTION 1. There is added to the statutes a new section, to read:

"SEC. 1492*ea*. 1. All slaughterhouses in this State not subject to inspection and supervision by the United States Government and by officers and persons in its employ shall be inspected and supervised by the State board of health, and it shall be the duty of said board to inspect or to cause each such slaughterhouse in the State to be inspected at least once each year. The health officer

of any township, incorporated village, or city in which a slaughterhouse is located shall, upon complaint or upon the request of the State board of health, make such inspection of slaughterhouses as may be required to keep them in a sanitary condition. Any violations of the rules and regulations adopted by the State board of health for the sanitary care and construction of slaughterhouses shall be promptly reported by the local health officer to the State board of health in such manner as the State board of health may determine in its rules and regulations.

"2. The State board of health shall have authority and it shall be its duty to enforce all laws of the State relating to slaughterhouses, and the board shall have power to make and enforce necessary rules and regulations relating to construction and operation so as to prevent insanitary or other conditions inimical to the public health in or about slaughterhouses subject to such inspection and supervision, and the board may, upon its own motion or upon written complaint, inspect and examine any such slaughterhouse, and if it shall find that the same is being operated in an insanitary manner or that the same is so located, constructed, drained, ventilated, or maintained as to be dangerous or inimical to the public health the State board of health shall make such order or orders as may be necessary to properly rectify and remedy any such method or manner of operation or any such condition so as to protect the public health. Such order shall specify the time within which the same shall be complied with, and shall be delivered in person or by registered mail to the person to whom the same is directed. The rules and regulations adopted by the State board of health in conformity with this section shall be published in the official State paper, and when so published they shall have the force of law.

"3. The State board of health or its duly authorized representative or agent has the right to at any time enter any slaughterhouse and to go upon any premises connected therewith for the purpose of inspecting the same.

"4. It shall be the duty of any person, firm, or corporation owning any building which is used or operated as a slaughterhouse in this State at the time this section goes into effect, and which is not subject to Federal inspection, or if such owner is a nonresident of the State, then of the person, firm, or corporation operating any such slaughterhouse, to report to the State board of health in writing, on or before August 1, 1913, describing the location and construction of such building so used or operated; and the location and construction of all buildings hereafter used or operated as a slaughterhouse, which have not already been reported to the State board of health and which are not subject to Federal inspection, shall be reported to said board of health within ten days after the same is first used or operated as a slaughterhouse. Such report shall be made by the owner of such building, if a resident of this State, and if not, then by the person, firm, or corporation operating the same as a slaughterhouse.

"5. The owner, operator, or person in charge of any slaughterhouse in the State of Wisconsin, upon whom an order shall have been served by the State board of health as herein provided, may appeal from such order and shall be granted a hearing before such board at its next regular meeting, provided such appeal is made in writing and is filed with one of the members of such board or with its secretary. The State board of health shall have power to affirm, repeal, or alter such orders, and each member thereof or the secretary may for the purposes of any such hearing administer oaths and take testimony and subpœna and compel the attendance of witnesses in the manner provided in section 2394–61 of the statutes, and all witnesses shall be paid as provided in section 2394–62 and shall be subject to said section of the statutes.

"6. Any person who shall prevent or attempt to prevent the State board of health, their duly authorized representative or agent, or the local health officer

from entering any slaughterhouse or from going upon any premises connected therewith for the purpose of inspecting the same; or any person who shall fail to comply with any order or the rules of the State board of health, made and served as provided in this section, and within the time specified in such order; or any person who shall violate any of the provisions of this section shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than $10 nor more than $500, or by imprisonment in the county jail for not less than five days nor more than six months.

"7. It shall be the duty of the district attorney of each coutny in the State to prosecute any and all persons for violation of this section or of any order or the rules of the State board of health, and to fully cooperate with the State board of health in the enforcement of all laws relating to slaughterhouses."

Hotels and Restaurants—Regulation of, by State Board of Health. (Chap. 648, Act July 24, 1913.)

SECTION 1. There is added to the statutes a new section and a new subsection to read:

"SEC. 1408*m*–10. 1. The following terms as used in this section shall be construed as follows:

"(*a*) The term 'hotel' shall mean and embrace all buildings or other structures kept, used, and maintained as places wherein sleeping accommodations are offered for pay to transient guests with or without meals in which five or more rooms are used for the accommodation of such transient guests, and shall also mean and embrace all buildings or places used in connection therewith.

"(*b*) The term 'restaurant' as used herein shall mean and embrace all buildings or other structures kept, used, and maintained as places wherein meals and lunches are served without sleeping accommodations for transient guests, together with all buildings or places used in connection therewith.

"(*c*) The term 'public health and safety' as used herein shall be construed to mean the highest degree of protection against infection, contagion, and disease that a hotel or restaurant will reasonably permit.

"2. On or before January 1, 1914, and each year thereafter, every person, firm, or corporation now engaged in the business of conducting a hotel or restaurant, or both, and every person, firm, or corporation who shall hereafter engage in conducting such business, shall procure a permit from the State board of health for each hotel or restaurant so conducted or proposed to be conducted; provided that one permit shall be sufficient for each combined hotel and restaurant where both are conducted in the same building and under the same management. Each permit shall expire on the 31st day of December next following the issuance. No hotel or restaurant shall be advertised or held out to the public as such or be maintained and conducted in this State, after the taking effect of this act, without a permit therefor; and no permit shall be transferable.

"3. The annual fee for a permit to conduct a hotel or restaurant in this State shall be $2; provided, that for hotels containing more than 30 sleeping rooms used for transient guests, the fee shall be $3. All such fees shall be paid to the secretary of the State board of health before said permit is issued, and the secretary of the said board shall, weekly, pay into the State treasury all fees collected for permits issued during the preceding week.

"4. The board of health shall, upon request therefor, furnish to any person, firm, or corporation desiring to conduct a hotel or restaurant, the necessary application blank for a permit which the applicant shall fill in, stating the full name and address of the owner or lessee of the building, or both, the lessee and

manager of such hotel or restaurant, together with a full description of the building and property to be used or proposed to be used for such business and stating the location of the same and such other information as the State board of health may require. Such application, upon its return to the State board of health, shall be accompanied by the permit fee herein required.

"5. It shall be the duty of every person, firm, or corporation owning, managing, controlling, or maintaining any hotel or restaurant in this State to conduct and maintain the same with a strict regard to the public health and safety, and it shall be unlawful for any person, firm, or corporation owning, managing, or maintaining any such hotel or restaurant to conduct or maintain the same in violation of the provisions of this section or in violation of any rule, regulation, or order made or adopted by the State board of health, as herein provided.

"6. It shall be the duty of the State board of health, and it shall have power, jurisdiction, and authority, in addition to other powers and duties conferred upon it by law:

"(*a*) To engage or appoint such assistants or inspectors as may be needed in carrying out the provisions of this section, and such inspectors or appointees shall possess such qualifications as the State board of health may determine are necessary to successfully carry on the work, to fix their compensation, and to assign to them their duties;

"(*b*) To administer and enforce the laws relating to the public health and safety and sanitation in hotels and restaurants;

"(*c*) To investigate, ascertain, declare, and prescribe what alterations, improvements, or other means or methods are reasonably necessary for the protection of the public health and safety in hotels and restaurants;

"(*d*) To ascertain and fix such reasonable standards and to prescribe, modify, and enfore such reasonable orders for the adoption of improvements and other means or methods, to be as nearly uniform as possible, as may be necessary to carry out all laws and lawful orders relative to the protection of the public health and safety in hotels and restaurants;

"(*e*). To adopt reasonable and proper rules and regulations relative to the exercise of its powers and authorities to carry out the provisions of this section and proper rules to govern its proceedings and to regulate the mode and manner of all investigations, inspections, and hearings; such rules and regulations shall not be effective until 10 days after their publication. A copy of such rules and regulations shall be delivered to every citizen making application therefor.

"7. Any person, firm, or corporation in interest, being dissatisfied with any order of the State board of health, may commence an action in the circuit court for Dane County against the commission, as defendant, to vacate and set aside any such order on the ground that the order is unlawful or that any such order is unreasonable, in which action the complaint shall be served with the summons. The procedure to review orders of the board and for the reconsideration of matters not fully heard by the board, as provided and prescribed in sections 2394–68 and 2394–69, shall, so far as applicable, govern in such action or proceedings.

"8. All orders of the State board of health in carrying out the provisions of this section in conformity with law shall be in force and shall be prima facie lawful; and all such orders shall be valid and in force and prima facie reasonable and lawful until they are found otherwise in an action brought for that purpose, pursuant to the provisions of subsection 7 of this section, or until altered or revoked by the board.

"9. Any person, firm, or corporation owning, leasing, managing, or conducting any hotel or restaurant in violation of any of the provisions of this section or in violation of any rule or regulation of the State board of health shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than $25 nor more than $200; and any person, firm, or corporation conducting a hotel or restaurant in violation of any order of the State board of health, after such order shall have been served upon or directed to such person, firm, or corporation, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall forfeit $5 for each and every day of such noncompliance with such order: *Provided*, That if any action to modify or set aside such order shall have been commenced pursuant to subsection 7 of this section, such forfeiture shall not be exacted or commence to run until after the lapse of a reasonable time after the termination of said proceeding.

"10. All fees paid to the State board of health as herein provided shall be paid into the general fund, and shall be credited to the appropriation account provided by law for the State board of health.

"11. Nothing contained in this section shall be construed to affect the authority of the industrial commission relative to places of employment or the adoption and enforcement of rules relative to elevators, boilers, fire escapes, fire protection, or the construction of public buildings. The State board of health and the industrial commission may employ jointly experts, inspectors, or other assistants.

"SEC. 172-27. 4. All fees received by the State board of health under section 1408*m*-10 shall be paid into the general fund of the State treasury within one week of receipt, and all such deposits are appropriated for the State board of health to carry into effect the provisions of section 1408*m*-10."

Plumbers, Licensing and Supervision of, by State Board of Health. (Chap. 731, Act Aug. 2, 1913.)

SECTION 1. Sections 959-53, 959-54, 959-55, 959-56, 959-59, and 959-59*m* of the statutes are repealed.

SEC. 2. There are added to the statutes six new sections and a new subsection, to read:

"SEC. 959-53. 1. (*a*) A journeyman plumber is hereby defined to be any person other than a master plumber who, as his principal occupation, is engaged in the practical installation of plumbing.

"(*b*) A master plumber is hereby defined to be any person skilled in the planning, superintending, and the practical installation of plumbing, and familiar with the laws, rules, and regulations governing the same.

"(*c*) A plumbing contractor is hereby defined to be any person, firm, or corporation engaged in the business of installing plumbing in connection with the dealing in and selling of plumbing materials and supplies.

"2. In any city of this State, except cities of the fourth class having a population of 5,000 or less, no person shall engage in or work at the business of a master plumber or journeyman plumber, and no person, firm, or corporation shall engage in or work at the business of a plumbing contractor, unless licensed so to do by the State board of health in the manner herein provided.

"3. The State board of health is hereby authorized and empowered to grant and issue licenses and permits to master plumbers, journeyman plumbers, and plumbing contractors as hereinafter provided for.

"SEC. 959-54. Any person desiring to engage in or work at the business of a journeyman plumber or master plumber in this State shall apply to the State board of health for a license and be by said board examined as to his fitness

for such work either as a journeyman plumber or as a master plumber as the case may be. Any person, firm, or corporation desiring to engage in or work at the business of a plumbing contractor in this State shall apply to the State board of health and be by said board first duly licensed to engage in such work. Every plumbing contractor shall be required at all times to have a licensed master plumber in charge of installing plumbing as a condition for the continuance of his or its license as such.

"SEC. 959–55. 1. The State board of health shall, within 60 days after the passage and publication of this act, appoint, and shall have power to remove, three plumbing examiners, of whom one shall be a master plumber, one shall be a journeyman plumber, and one shall be a member or an employee of the State board of health, to be known as the committee of examiners for the examining of journeyman and master plumbers as to their qualifications and fitness to be entitled to licenses to engage in the work of master plumbers and journeyman plumbers herein provided for. Such examiners shall be exempt from the provisions of sections 990–1 to 990–32 of the statutes. The State board of health shall have power and authority and it shall be its duty to prescribe, amend, and enforce rules and regulations for the examination and licensing of journeyman and master plumbers and the licensing of plumbing contractors consistent with this act.

"2. Each member of said committee of examiners, except a regular employee or the secretary of the State board of health, shall receive a compensation of $10 per day and expenses for each day in which such member is actually engaged in attendance upon the meetings of the committee, to be audited and paid out of the general fund of the State treasury and charged against the appropriation account of the State board of health to carry into effect the provisions of sections 959–53 to 959–58, inclusive, of the statutes.

"3. The licenses of journeyman and master plumbers provided for in section 959–53 of the statutes shall be issued by the State board of health upon evidences, as shown by the examination, of the fitness of the applicant for the business or practice of a master plumber or a journeyman plumber as the case may be. Plumbing contractors shall be licensed without examination as to qualifications and fitness to engage in the practical installation of plumbing.

"4. The State board of health shall have power to revoke any journeyman or master plumber's license if same was obtained through error or fraud, or if the recipient thereof is shown to be grossly incompetent, and for a second willful violation of any rules and regulations prescribed by the State board of health. The State board of health shall also have power to revoke any plumbing contractor's license if the owner thereof shall be guilty of a second willful violation of any rule or regulation prescribed by the State board of health: *Provided*, That before any license shall be revoked the holder thereof shall have notice in writing enumerating the charges, and at a specified date named therein, not less than five days after the service of such notice, be given a hearing by said board and have an opportunity to produce testimony in his behalf. The State board of health shall have power to appoint, by an order in writing, its secretary or any competent person to take testimony, who shall have power to administer oaths, issue subpœnas, and compel the attendance of witnesses, and the decision of the State board of health shall be based on its examination of all testimony and records. Any person whose license has been revoked may, after the expiration of one year from the date of such revocation, apply for a new license.

"SEC. 959–55*a*. 1. All persons at the time of the passage and publication of this act engaged in the plumbing business in this State, either as master plumbers or journeymen plumbers or plumbing contractors, shall be, respectively,

licensed as such by the State board of health without examination, upon the payment to the State board of health of the license fee hereinafter provided. No person who desires to engage in the business or practice of plumbing, either as a master plumber or a journeyman plumber, after the passage and publication of this act, shall be granted a license until he has passed a satisfactory examination. Before any applicant shall be permitted to take such examination he shall pay to the State board of health the examination fee as herein provided for.

"2. The State board of health shall prescribe and shall have power to amend the rules and regulations governing plumbing, drainage, sewerage, and plumbing ventilation in connection with all buildings in this State, and may prescribe minimum standards, which shall be uniform throughout the State. This act shall not be construed to deny the right to any local governing body having jurisdiction to adopt and enforce additional rules and regulations relating to plumbing, drainage, sewerage, and plumbing ventilation not inconsistent with the provisions of this act or the rules and regulations prescribed by the State board of health. Nothing contained in sections 959–53 to 959–58, inclusive, of the statutes shall be construed to affect the authority of the industrial commission relative to places of employment or public buildings other than hotels, restaurants, rooming houses, and school buildings.

"3. The State board of health is empowered to employ, promote, and remove plumbing inspectors and other assistants as needed, to fix their compensation and assign their duties. Such salaries, compensations, and expenes shall be paid out of the general fund of the State treasury and charged against the appropriation account of the State board of health for carrying out the provisions of sections 959–53 to 959–58, inclusive, of the statutes.

"SEC. 959–55*b*. 1. All master plumbers engaged in business as such in the State, desiring to continue as such, are hereby required to procure a master plumber's license from the State board of health within 60 days after the passage and publication of this act, the fee for which license is hereby fixed at $10; such license, unless sooner revoked, to expire on December 31, next after the issuance thereof; but no examination shall be required of such master plumbers making such application for license within the time hereby limited. Commencing January 1, 1914, and annually thereafter on January 1 of each year, a renewal fee of $5 shall be paid to the State board of health for a renewal of such license by all master plumbers, theretofore licensed, continuing in business as such within this State.

"2. All journeyman plumbers engaged in business as such in this State, desiring to continue in business as such are hereby required to procure a journeyman plumber's license from the State board of health within 60 days after the passage and publication of this act, the fee for which license is hereby fixed at $2, such license, unless sooner revoked, to expire on December 31, next after the issuance thereof, but no examination shall be required of such journeyman plumbers making such application for license within the time hereby limited. Commencing January 1, 1914, and annually thereafter on January 1 of each year, a renewal fee of $1 shall be paid to the State board of health for a renewal of such license by all journeyman plumbers, theretofore licensed, continuing in business as such within this State.

"3. All plumbing contractors engaged in business as such in this State, desiring to continue as such, are hereby required to procure a plumbing contractor's license from the State board of health within 60 days after the passage and publication of this act, the fee for which license is hereby fixed at $40, such license, unless sooner revoked, to expire on December 31, next after the issuance thereof. Commencing January 1, 1914, and annually thereafter

on January 1 of each year, a renewal fee of $20 shall be paid to the State board of health for a renewal of such license by all plumbing contractors, theretofore licensed, continuing in business as such within this State.

"4. All licenses issued during any year, unless sooner revoked, shall expire on December 31 of such year.

"5. A master plumber's license shall entitle the owner thereof to all the rights and privileges of a journeyman plumber.

"6. The fees for any person hereafter desiring to engage in the business of a journeyman plumber or a master plumber in this State, and not licensed within 60 days after the passage and publication of this act, shall be, respectively, $2 and $10, and the fee for any person, firm, or corporation hereafter desiring to engage in the business of a plumbing contractor in this State and not licensed within 60 days after the passage and publication of this act shall be $40.

"7. The State board of health may issue temporary permits to engage in the work of a master plumber or a journeyman plumber on payment of the fees prescribed in this act; such permits may be revoked by the State board of health at any time, and if on examination a license is granted, the fee paid for the permit shall run for the same period as though paid for a license. For the purpose of assisting in its work of issuing such temporary permits, the State board of health may appoint agents without compensation.

"8. Any person working as an apprentice at the business or practice of plumbing, for a reasonable time, desiring to take an examination for a license as a journeyman plumber, may file his application for such examination with the State board of health herein provided, and, upon giving due notice of the filing of such application with said board, may be granted a permit by the State board of health to pursue said work in the capacity of journeyman plumber until such time as said examining board shall have an opportunity to examine him. No journeyman plumber shall engage in business as a master plumber without first having been granted a temporary permit, and may not continue in such business unless thereafter licensed as such by the State board of health as herein provided, the fee for which permit or license is hereby fixed at $50; and shall thereafter expire and be renewed from year to year in the manner hereinafter provided.

"9. The State board of health may license without examination, upon the payment of the required fee, applicants licensed under the laws of other States having requirements for licensing and regulating plumbing which are determined by the State board of health to be equivalent to the requirements of this State.

"SEC. 959–56. 1. Any person who shall engage in the work of a master or a journeyman plumber for compensation without a permit or a license as provided in sections 959–53 to 959–56, inclusive, of the statutes, shall be deemed guilty of a misdemeanor and shall be subject to a fine of not less than $10 nor exceeding $50 or imprisonment in the county jail not exceeding 30 days for each and every violation thereof. Each day of such violation shall constitute a separate offense.

"2. Any person who shall violate any of the provisions of sections 959–53 to 959–56 of the statutes, inclusive, or shall do any act prohibited in sections 959–53 to 959–56, inclusive, or shall fail or refuse to perform any duty lawfully enjoined within the time prescribed by the State board of health, or shall fail, neglect, or refuse to obey any lawful order given or made by the State board of health, or any judgment or decree made by any court in connection with the provisions of sections 959–53 to 959–56, inclusive, for such violation

or refusal, shall be guilty of a misdemeanor and shall be punished by imprisonment in the county jail not more than three months or by a fine not exceeding $100.

"SEC. 172–27. 2. All moneys received by the State board of health for the licensing of plumbers shall be paid within one week of their receipt into the general fund of the State treasury, and all such moneys are appropriated to the State board of health to carry into effect the provisions of sections 959–53 to 959–58, inclusive, of the statutes."

SEC. 3. Sections 959–57 and 959–58 of the statutes are amended to read:

"SEC. 959–57. In each city of the first, second, and third class having a system of waterworks or sewerage the board of public work, where such board exists, or the board of health of each such city shall, and cities of the fourth class may, appoint one or more inspectors of plumbing who shall be practical plumbers, and who shall hold office until removed by said board for cause. The compensation of such inspector or inspectors shall be determined by the board appointing them and be paid from the city treasury; they shall inspect all plumbing work in the city for which appointed, whether such work be new or consist of alterations or repairs, and shall report to said board all violations of any law, ordinance, or by-law relating to such work and perform such other appropriate duties as may be required.

"SEC. 959–58. Each city of the first, second, and third class having a system of waterworks or sewerage shall, and cities of the fourth class may, by ordinance or by-law, prescribe rules and regulations for the materials, construction, alteration, and inspection of all pipes, faucets, tanks, valves, and other fixtures by and through which supply or waste water or sewerage is used or carried, and provide that they shall not be placed in any building therein except in accordance with plans which shall be approved by the board of public works, where such board exists, or the board of health of such city, or such person or persons as either of said boards may designate; and shall further provide that no plumbing shall be done, except in case of repairing leaks, without a permit being first issued therefor upon such terms and conditions as such city shall prescribe: *Provided*, That no such ordinance, by-law, rule, or regulation prescribed by any such city shall be inconsistent with this act or any rule or regulation adopted or prescribed by the State board of health: *And provided further*, That no city shall be authorized to or require the licensing of journeyman or master plumbers or plumbing contractors, or prevent any such plumbers or plumbing contractors who are licensed under the provisions of this act from engaging in or working at the business for which they are respectively licensed in any place in this State."

SEC. 4. All acts or parts of acts in conflict herewith are hereby repealed.

SEC. 5. This act shall take effect and be in force 60 days from and after its passage and publication.

School Buildings—Condemnation of, When Insanitary or Unsafe. (Chap. 30, Act Mar. 28, 1913.)

SECTION 1. A new section is added to the statutes to read:

"SEC. 517. 1. The inspector of rural schools, the inspectors of State graded schools, and the inspector of high schools of the State, in addition to their other duties, are hereby made inspectors of public-school buildings. Said inspectors shall act under the direction of the State superintendent, and under such regulations as may be established by him.

"2. Whenever any county or district superintendent, city superintendent, member of a school board or board of education, or any voter of a school district,

or a member of a board of health, shall make a complaint in writing to the State superintendent that any building used for or in connection with any public school in his county, district, city, village, or town, as the case may be, is in an insanitary condition, or that the conditions are such as to endanger the life and health of the children attending school, or that the schoolhouse is unfit for school purposes, one of said inspectors designated by the State superintendent shall personally investigate and examine the premises and buildings concerning which said complaint is made.

"3. Upon such investigation and examination said inspector shall, if conditions warrant it, make an order directing the school board, the board of education, or other officer or officers having control of the school district or school corporation, to repair and improve such building or buildings as may be necessary, and to place said buildings in a safe and sanitary condition; or if said inspector shall deem the schoolhouse unfit for school purposes and not worth repairing he shall state said fact and recite the reason therefor.

"4. The said inspector shall file said order in the State superintendent's office, and cause true copies thereof to be delivered, by mail or otherwise, to the clerk of the district board, the clerk of the board of education of the district or school corporation where such schoolhouse and premises are located, and shall deliver as provided herein copies of said order to the proper county, district, or city superintendent, and also the clerk of the town, city, or village in which the schoolhouse is located.

"5. The said order shall state the time in which it shall be complied with, and shall take effect from its date, and shall continue in force and full effect until reversed. The decision of the inspector may be appealed from to the State superintendent in the time and manner now provided for taking appeals to said superintendent, and the decision appealed from shall be stayed pending such appeal.

"6. Whenever any school district, school corporation, school board, or board of education shall refuse to comply with the order of said inspector within the time herein specified, such school district or school corporation shall forfeit absolutely its apportionment of the fund derived from the seven-tenths mill tax, provided for in section 1072*a* of the statutes, and amendments thereto, and shall continue to so forfeit its regular apportionment of such fund until there is full compliance with the requirements of said order, unless the electors of said school district shall vote to instruct the school board to close the district school and provide transportation and tuition for all children of school age in the district desiring to attend school at some neighboring school or schools, as provided for in section 496*q* of the statutes.

"7. Nothing in this section shall be deemed to interfere with the operation of the provision of subsection 3 of section 461 of the statutes, relating to the duties of county superintendents of schools, or with the provisions of section 1418*b* of the statutes, relating to the inspection and regulation of the sanitary conditions of schoolhouses by boards of health."

SEC. 2. All acts, orders, and decisions rendered under the provisions of and made since the passage and publication of sections 524*m*–1, 524*m*–2, 524*m*–3, 524*m*–4, 524*m*–5, 524*m*–6, and 524*m*–7 of chapter 550, laws of 1909, are legalized and validated.

Cemeteries—Location of. (Chap. 120, Act Apr. 28, 1913.)

SECTION 1. Subsection 1 of section 1454 of the statutes is amended to read:

"SEC. 1454. 1. No person, association, or corporation shall lay out or establish any cemetery grounds or use any lot or grounds for burial purposes (except such as are now in use for such purposes) within the limits of any recorded plat of any city or village, or of any recorded addition thereto, when such cemetery, lot, or grounds shall be within 1 mile of any lot or block therein on which any building may then be erected; and no person, association, or corporation shall lay out or establish any cemetery grounds or use any grounds for burial purposes except such as are now in use for such purposes without the limits of such plat or addition thereto and within 200 rods of any inhabited dwelling standing on any lot or block in such city or village or addition thereto, without first obtaining the consent of the municipal authorities thereof; nor within 15 rods of any habitable dwelling, public building, watering place, or schoolhouse, nor within 200 rods of the institutions for the deaf and dumb, for the blind, the hospitals for the insane, the industrial school for boys, the home for the feeble-minded, the State public school, or the State reformatory, without the consent of the State board of control: *Provided*, That an existing cemetery in a village may be extended toward or beyond either of the two nearest village limits upon first obtaining the consent of the village board and of the owners of any dwelling or other building within 15 rods of such addition."

Habit-Forming Drugs—Sale and Care of. (Chap. 234, Act May 15, 1913.)

SECTION 1. Subsections 1 and 10 of section 1419 of the statutes are amended to read:

"SEC. 1419. 1. No person, copartnership, or corporation shall sell, furnish, or deliver to another person any opium, morphine, heroin, alpha or beta eucaine, chloral hydrate or any salt or combination of the same, or any mixture, preparation, or compound containing more than 2 grains of opium, one-fourth grain of morphine or heroin, one-eighth grain of alpha or beta eucaine, or 10 grains of chloral hydrate in 1 fluid ounce, or if a dry preparation, in 1 avoirdupois ounce, or any cocaine, or any combination or mixture, preparation, or compound containing cocaine, except upon the original order or prescription of a lawfully authorized practitioner of medicine, dentistry, or veterinary medicine, for a person or animal under his care or treatment. Such prescription shall contain the signature of the prescriber and the name of the person for whom prescribed, and if a veterinary prescription, it shall also state the kind of animal for which it is ordered. It shall be dated and kept on file by the person, copartnership, or corporation dispensing the articles ordered or prescribed, and shall not be again compounded or dispensed, except upon an order from the prescriber.

"SEC. 1419. 10. Except as may be otherwise authorized by law, no person shall throw, cast, deposit, drop, scatter, or leave, or cause to be thrown, cast, deposited, dropped, scattered, or left, any drug, medicine, or chemical, or any compound or combination thereof, upon any public highway or place, or, without the consent of the owner or occupant thereof, upon any premises in the State of Wisconsin.

"11. Any person who shall violate any of the provisions of this section shall, except as provided in subsection 12 hereof, be deemed guilty of a misdemeanor, and upon conviction for the first offense shall be fined not less than $5 nor

more than $50, and upon conviction for a second offense shall be fined not less than $50 nor more than $100, and upon conviction for a third offense shall be fined not less than $100 nor more than $200, and shall be imprisoned in the county jail for not more than six months; and if a licensed pharmacist, physician, dentist, or veterinary practitioner, his license shall be revoked. It shall be the duty of the board of pharmacy to cause the prosecution of all persons violating the provisions of this section."

SEC. 2. There are added to section 1419 of the statutes two new subsections to read:

"SEC. 1419. 1*a*. It shall be unlawful for any person, firm, or corporation to have or keep in his, their, or its store or possession more than 2 ounces of cocaine at any one time.

"SEC. 1419. 12. Any person who shall violate any of the provisions of subsections 1, 1*a*, and 3 of this section relating to cocaine, or any mixture, combination, or solution containing cocaine, shall be punished by a fine of not less than $200 nor more than $1,000, or by imprisonment at hard labor in the State prison not less than one year nor more than five years."

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