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QUININE PROPHYLAXIS FOR MALARIA.

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Among the methods of preventing malarial fevers (chills and fevers, bilious fever) the use of quinine ranks high. It is not so good a method as getting rid of malaria-bearing mosquitoes where this can be done economically, but in many communities this is impracticable, at least for the present. It is not so good as good screening carefully watched, but this, too, will not be used generally in rural communities. Frequently it can not be.

The use of quinine to prevent malaria is practicable now everywhere and by almost everyone, and it is efficacious. A farmer may not be able to drain and clear his land so as to get rid of mosquitoes. He may not be able to screen his house and keep his screens in order, but he will always be able to buy the amount of quinine which will protect his family from fever, especially as it may take no more to prevent fever than it would to cure it; maybe less.

The use of quinine to cure malarial fevers has been known for a long time and its use for this purpose is very general. It has been used to prevent them also for quite a while (the first notice that I have of it is in 1847) and of late years has been extensively so used, but nothing like so generally as its use to cure. It has been used systematically since 1902 by the Italian Government to prevent malaria, not much at first, but increasing its use as its good effects were seen. What the results were we shall see later. So good were they in Italy that its use as a preventive extended to other countries similarly situated; i. e., highly malarious farming countries. Greece, Algeria, and a number of other countries have tried this method and with good results.

It is nowise unknown in our Southern States. Dr. McMullan, of Elizabeth City, N. C., told me that when a young man—when malaria was far more severe in North Carolina than it is now—he had four attacks of what is known there as hemorrhagic malarial fever (the “blackwater fever” of the British writers) and that he had felt pretty sure that if he had another it would kill him. As he suffered every year from malarial fevers he had thought his chance of

another attack (of blackwater fever) good the next season. He began then and for a number of years took 5 grains of quinine a day, from the beginning of summer until November. He had no more chills or fevers. He took these small doses of quinine to prevent another attack of blackwater fever and escaped both it and the chills and fever which he had been accustomed to having. Capt. Laughinghouse, of Greenville, N. C., tells me that when he took charge of the convicts of the State malarial fevers had been very prevalent and very severe among them every year and that before the sickly season began he had a number of pills made containing, among other things, $2\frac{1}{2}$ grains of quinine each. One pill was taken twice a day by each man. The convicts were, for the years he had them, the freest from fever of any body of people of the same number in the community. Miss Margaret Brown, of George, N. C., by the systematic use of quinine as a preventive has greatly lessened the malaria among the school children at that place. Her results are reported as excellent. She is, I think, the first in North Carolina who has systematically tried to follow the Italian method of quinine prophylaxis and deserves the credit of a pioneer.

This method can probably be used in any community anywhere in the United States. It has been used successfully to a small extent. Let us see, then, whether it should be used generally and, if so, what its use promises.

First, we must see if it is efficient and whether it can generally be depended on to prevent malaria. If it is only occasionally successful it isn't worth trying.

Second, we must see if taking it in the doses and for the long time necessary for success does harm to those taking it. If so, it may not be advisable to take it—depending on how much harm it does.

Third, we must see whether it causes much discomfort.

(1) *Is quinine efficient to prevent malaria?*—Giving a small number of instances like those I have cited is not convincing because we know that with some people chills stop of their own accord; that in some years fevers are less prevalent than in others, and my instances may have been of such people or have fallen in such years. Fortunately there is an experiment on a scale so large and continued for so long a time that errors from chances of this kind are eliminated.

Italy is a country which has been malarious—much of it highly malarious—for some centuries. In Italy quinine has been used systematically as a preventive, at first on a small scale and then on a large one, for the past 10 years, and this was the only measure to prevent malaria which was used for the people we would consider, the farming people of Italy. Also a fairly accurate account was kept of the amount of malaria before and after the use of this preventive measure. The record of deaths especially runs back many

years and was very accurately kept. It seems, then, if the results in 10 years' trial, over a large country with as bad or worse malaria than the United States, show a large diminution of the disease then this method should be efficient in the United States also.

The Government of Italy, in 1902, began the sale of quinine at cost price to communes and towns, which agreed to distribute it gratuitously to those unable to purchase it. In 1903 these political units, towns, etc., were obligated to issue it gratuitously to poor people for prophylactic use. In 1904 it was ordered to be given to all working people for use in this way.

Now as to the results. Dr. Celli's statistics, from which all that follows is taken, give the average number of deaths per year for the 10 years preceding 1902 in all Italy as 14,048. For the nine years following 1902—i. e., 1903 to 1911, inclusive—the average number of deaths was 5,435—between one-half and one-third of the other. If we take the average of the last five years, we have only 3,853 deaths—not much over one-fourth of the former number. This comparison of the death rate ought to indicate some of the change that has taken place in the malarial conditions in Italy since quinine prophylaxis has been used. Let us look at statistics showing the change in the prevalence of the disease—that is, the number of cases. The number of patients from the Agro Romano, a very malarious district outside of Rome, treated in 1900 was (Celli again) 11,653. Some quinine was used in this district in 1901 and the number fell to about 8,000, but for the nine years ending in 1911, during which it was systematically given, the average number of cases was 3,603; for the last five years, 2,974.

Now compare these figures: The deaths from malaria in Italy reduced from 14,048 per year to 5,435 per year and then to 3,853 per year for the last five years. The cases of fever from one section reduced from 11,653 per year to 3,603 per year and then to 2,974 per year for the last 5 years.

There is no question that there has been a very great diminution in the amount of malaria among the farming people of Italy since the introduction of quinine prophylaxis. As no other means have been taken to prevent malaria among these people this reduction must be ascribed to the quinine taken as a preventive. Note, too, that it is a progressive reduction—increasing as the people learn its value.

The Italians living in malarial districts do not all take the quinine. To do so is not compulsory. It is simply offered them free, and if one may judge by our experience on the Isthmus it is taken rather freely where malaria is bad and very little where it is mild. If the quinine taken made the diminution shown, that diminution would have been greater had the quinine been taken by everyone.

This is shown in the penal agricultural colony at Castiadas, where the quinine was given under orders. The cases of malaria in 1904, 1905, and 1908, when no quinine was given for prophylaxis, were 76 per cent of the force. In 1911—after four years use—there were 5 per cent—less than one-fifteenth as many. So in the Army—where men are under discipline and quinine is taken under orders. In 1902 the attack rate of malarial fever in the Army was 27.5 per cent; in 1911 it was 4.9 per cent of which over 3 per cent were relapses of old cases.¹ These last two show what can be done by quinine in the prevention of malaria.

Similar results are reported from Greece and Algeria, but figures would simply repeat more or less what is given for Italy. The use of quinine has been successful at Lagos (McGregor), Brazil (Chagas), and Demarara (Ozzard), and other places. In Formosa and German East Africa as good results have been obtained by the Japanese and Germans, respectively, although using a different method of administration. I think, then, we may claim that quinine used as a preventive will greatly lessen the number of cases of malaria.

(2) *Used as a preventive, is quinine injurious to those taking it?*—No such effects are reported from Italy or Greece, or any other place where it has been used extensively and for a long time. In Panama, before the reduction of the malarial mosquitoes or the screening of the houses, many, I think most, of the Americans took three 2-grain tablets of quinine daily for the first two or two and one-half years. This was done the whole year, for the malarial season there is 12 months, and there was no report or complaint of injury caused by the practice. It was not done universally—but it was very generally done by the higher officials. The quinine was passed around at the mess tables at Ancon Hospital as regularly as the biscuits, and there practically everyone took it.

It was claimed on theoretical grounds that when those who had been taking quinine in small doses did develop malarial fever they would be much harder to cure because the malarial parasite would have become accustomed to quinine. However this may be in theory, I can find no evidence for it in practice. Indeed, Celli states that "such fevers as occur are milder and more readily curable by simply increasing the dose of quinine to the usual curative dose." They certainly are milder.

Will it induce blackwater fever? That the Italian death rate falls from 14,000 to less than 4,000 seems rather to negative that. With few exceptions all the men who have reported the diminution of malaria from the prophylactic use of quinine also report the diminution or disappearance of blackwater fever. None report any

¹ In spite of the implication that quinine prophylaxis was the only antimalarial measure used, it seems improbable that such adjuvants as were available were not also used for the Army.

increase of it. And this, although they recognize the effect of quinine in precipitating an attack of this disease. Even those who do not regard blackwater fever as of malarial origin assert "the prophylaxis of malaria prevents the development of blackwater fever." (Leishman et al.)

(3) *How much discomfort does the taking of quinine cause?*—Here one can not be so positive. Some people bear quinine less well than others. A few can not take even a very small dose. In general, however, the dose proposed by the Italians—equivalent to from 5 to 7 grains of the sulphate per day—can be taken without discomfort. Some can not take this amount without discomfort, yet my own observation is that one frequently becomes accustomed to these doses of quinine, and, after persevering for say a week, can take them without trouble even when they were annoying at first. The salts that are least soluble seem to be the best borne—thus the sulphate is better borne than the bisulphate and the tannate best of all. This last, however, is weaker in quinine than either of the others. One grain of sulphate has about the same quinine content as $2\frac{1}{2}$ grains of the tannate. The writer is unusually susceptible to quinine, yet he found little difficulty in accustoming himself to the doses taken on the Isthmus and no discomfort after he was so accustomed. The tannate he has never tried.

We have seen that the use of quinine as a prophylactic lowers the malarial sick rate and death rate. That is proven. Does it prevent the infection of the individual or simply the development of the infection into a malarial attack? If the former, one need take it only when exposed to malaria; that is, in a malarial country and during the malarial season. If the latter, one may be infected with malaria, although the attack is prevented from developing by the quinine. If he stops the quinine then, even when no longer exposed to malaria, he may develop an attack from the infection present. The latter has been the case often enough to show that in many cases the quinine is able to prevent the development of an attack from an infection which itself it did not prevent. On this account it is advisable not to stop the use of quinine immediately on the advent of cool weather or on leaving the malarial district, even if one has not had any malarial fever while taking it. To continue the quinine for awhile—a month or several months—until it and one's natural resistance can overcome the infection is good practice.

From the last paragraph the question at once arises: Are those free from malarial attacks on account of taking quinine infective to mosquitoes? Some of them certainly are. Malcolm Watson, as quoted by Ross, Ozzard and others have found a number of "carriers" among such people—in one place 20 per cent of those examined—only a small number examined, however. Observations on

a large scale are needed on this subject, and Italy would seem a peculiarly favorable place to make them. Yet, since the way quinine prevents the development of malarial fever is almost certainly by keeping the number of malarial parasites below the number necessary to produce an attack, the chance of any such (quinine-protected) person being a source of infection to mosquitoes would be lessened by *approximately* the proportion in which the number of parasites is lessened. Some, too, doubtless, would not become infected. The result would be then that those protected from attack by quinine prophylaxis would be less apt to be a source of infection to mosquitoes than if they had not taken it; some would not be infected at all and others would harbor far fewer parasites. This also lessens the amount of malaria in the country. As malaria lessens, prosperity increases from the increase of strength and energy of the people, and with increased prosperity comes land better cleared and better drained, screened houses and better hygiene generally; an endless chain of betterment.

It is only in this way—by quinine prophylaxis leading to anti-mosquito work—that permanent results can be obtained from it. In spite of it there will always be persons infective to mosquitoes, some among those who take and are protected by quinine, but a much larger proportion among those who do not. So when these measures are discontinued the original conditions of malaria will prevail.

One word should be said as to the administration and dose of quinine as a preventive of malaria. There are two principal methods of administration; the one canonized by Koch—large doses at considerable intervals; the other, smaller daily doses as used in Italy. In the first method 16 grains are given daily every ninth and tenth day, or eighth and ninth day, or even seventh and eighth day if malaria be very prevalent. There are various modifications of this—smaller doses at less intervals, as 8 grains every five days or twice per week. This method and its modifications have been eminently successful in the very malarious districts of German West Africa and also in the hands of the Japanese in Formosa. The dose regarded as proper by the Italian sanitarians is equivalent (in quinine content) to about 5 to 7 grains of quinine sulphate for adults given daily and half that amount for children under 10. For the latter they especially recommend the tannate of quinine in 5-grain doses—(2 grains of sulphate about)—made up into chocolates. This is said to be pleasant. It is not especially objectionable. The tannate in proportional doses is also recommended for grown people who bear the other salts of quinine badly. The writer has had no experience with it. The German plan requires less quinine. It is more uncomfortable for those taking it—at least if they bear it badly. The writer speaks from experience with himself. Plehn's

modification, 8 grains every five days, should not be ill borne, however.

All agree that where malaria is intense a larger dose is required than where it is mild. The crew of an American vessel were not protected at Tampico by 5 grains daily with an extra 5 grains Sunday, and failures have occurred even when larger doses have been given. Yet the consensus of observation is that the development of malarial fever can be prevented in the great majority of people by a dose of quinine which they can take without undue discomfort. Some people, indeed, can not take quinine at all, but they are very few. In North Carolina and probably in other Southern States the writer considers about the same malarial conditions to prevail as in Italy, and from 5 to 7 grains per day as sufficient for adults according to the intensity of the malaria in the district. Were we only considering prevention of malaria in people who were not infected it would not be necessary to begin taking quinine until the "malarial season" begins—June 1 or June 15 would probably be early enough, possibly even July 1. A considerable number of our people, however, are already infected, the malaria keeping over (latent) from the last season or maybe longer, and it would be an advantage to them to begin quinine, in as full doses as can be borne without discomfort, before the first warm weather begins—in April generally. This will quite frequently prevent the relapses which are so apt to come on in the early summer.

The use of quinine to cure malarial infections, that is, given until the blood is freed from malarial parasites, is also truly a means of malarial prophylaxis, and one of no small value. Thus used it prevents the people to whom it is administered from infecting mosquitoes and thus communicating the disease to others. This, however, is not what is usually meant by the term "quinine prophylaxis" and will not be gone into here, except to say (1) that for success it usually takes a rather long course of quinine and in fairly full doses, especially at first; (2) that the sooner treatment is begun after the beginning of the infection the better is the chance of success; and (3) that in old recurrent attacks it is much more difficult to get rid of the parasites permanently.

Summary.

(1) The use of quinine in small doses is an efficient method for preventing malarial fever.

(2) This method is especially adapted for use in a farming community where it is not practicable economically to get rid of malarial mosquitoes or to properly screen against them. This is practicable everywhere, at all times, and by almost every person.

(3) In malarious States it should be taken in doses of from 5 to 7 grains per day by grown people, 2 to 3 grains by children—less if

small—during the malarial season, say, June to November. Somewhat smaller doses will be efficient in places where the malaria is not bad. If begun in March or April, it would prevent a certain number of relapses.

(4) In these doses thus given it does no injury of any kind to those taking it and does not produce blackwater fever (hemorrhagic malarial fever) or cause such attacks of malaria as do develop to be more difficult to cure by quinine.

(5) It can be taken in these doses by almost all people without discomfort, or with discomfort for only the first 7 or 8 days. In cases where it does produce discomfort a smaller dose should be tried and, if possible, increased later. If not possible to increase the dose, even the smaller dose will lessen the chance of development of malarial fever. Craig found $2\frac{1}{2}$ grains per day efficient against tertian and quartan infections. The nature of the infections in any locality can be found from the physicians.

(6) The insoluble salts of quinine are better borne—i. e., cause less discomfort—than the soluble. The tannate is the most insoluble and is said to be the best borne. Made up with chocolate and sugar into tabloids it is best suited for administration to children. As the tannate contains a smaller proportion of quinine than the sulphate, from 2 to $2\frac{1}{2}$ times as much must be taken to get the same effect.

(7) When insoluble salts of quinine are recommended, it is not meant that pills or tablets which do not disintegrate when taken will do. They of course are worthless. The sulphate of quinine, which is the salt ordinarily used, is probably best taken in 2 or 3 grain tablets. Drop one of them in a glass of water and if within, say, 5 or 10 minutes it crumbles, or begins to crumble considerably, it is suitable to take. If it does not, it is not. The same test applies for pills. In general only soft pills are of any value. Quinine in capsules of course is efficient, but is rather costly if bought and troublesome if filled at home.

(8) *Cost.*—It is more economical for a community to purchase its quinine in whatever form used, by wholesale than to get it at retail. It might be handled as in Italy. Quinine sulphate is quoted wholesale in 100-ounce lots at 25 cents per ounce in bulk or 33 cents per ounce in ounce bottles. It is about 45 to 50 cents per ounce retail. Quinine 2 grain and 3 grain tablets should cost very little more than the price of the contained quinine. Quinine tannate in tablets with chocolate and sugar is offered by one American firm, the 5-grain tannate quinine tablets at \$4.10 per 1,000 tablets, and the 2-grain tablets at \$1.80 per 1,000 tablets in 100,000 lots.

(9) In addition to the use of quinine, whenever it is practicable to do so, the house should be screened, brush and high weeds near it cut away and pools and wet places drained or filled. If this last

is not practicable. wet places and pools should be oiled. The drainage and filling up of wet places is a *permanent* antimalarial work, done once for all. Where they can be done they are far better than quinine prophylaxis, which must be continued year after year.

In a community using quinine prophylaxis there will still be a certain number of cases of malarial fever. Some of these will be failures of the method, but others, and the majority if it be used properly, will be relapses of previous malarial infections from the last season. In the Italian army in 1911 we have seen that there were 304 relapses and 186 new cases to 10,000 men. A certain number of these relapses are indeed prevented by quinine prophylaxis, but not all.

NOTE.—It would appear that in those sections of the United States where malaria is present and the people are as intelligent as those in the malarious districts of Italy equally good results can be obtained by the use of quinine in the prevention of malaria.—EDITOR.

CAR SANITATION.

CLEANSING AND DISINFECTION OF RAILROAD COACHES—A REPORT OF METHODS USED AT ASHEVILLE, N. C.

By A. D. FOSTER, Passed Assistant Surgeon, United States Public Health Service.

I have the honor to transmit the following report regarding the methods in use at Asheville, N. C., for the sanitation and disinfection of railroad cars as carried out by the Pullman and the Southern Railroad Cos.

In the State of North Carolina there is no State law regulating the sanitation of railroad coaches, and the measures now being carried out were instituted by the railroad companies of their own volition for the protection of the traveling public.

Disinfection of Sleeping Cars.

Upon arrival in Asheville, as soon as the passengers have disembarked, the car is shunted to a side track in the railroad yards. This track is used exclusively by cars undergoing cleaning and disinfection. On each side of the track is a platform several hundred feet long and built on a level with the floor of the car itself.

The ventilators and windows of the car are tightly closed, the berths are taken down, and blankets, pillows, and mattresses are spread out so that the formaldehyd gas may have access to the contents of the car. When this has been done, three galvanized iron pails are placed on the floor of the car, one at each end and one in the center of each car. In each pail are placed 500 c. c. of commercial formalin and 250 grams of potassium permanganate, and the doors of the car are tightly closed. The car remains closed for about 12 hours; the windows and

doors are then opened to air the car and to free it from the gas. All carpets, upholstered seats and backs, blankets, and pillows are removed from the car and placed on the platform in the air outside.

Dust is removed from the removable seats, backs, and carpets by means of compressed air, the force of which is so great that it removes practically every particle of dust. The carpets, seats, blankets, etc., are left out in the platform in the sun and air until the interior of the car is cleaned. The hose furnishing compressed air is then taken into the interior of the car and dust is removed from every part of the interior by this means. A force of car cleaners is then put to work with buckets of hot water, and by means of soap and scrubbing brushes the floor of the interior of the car is cleaned, the woodwork being wiped off with damp cloths.

Drinking-water tanks and spittoons are taken out on the platform where they are cleaned. The water tanks are scrubbed inside and out with hot water and Sapolio, rinsed with clean water, and then placed over a steam pipe and sterilized with live steam. Spittoons are first cleaned and then sterilized with steam. A small quantity of formalin solution is also placed in each spittoon.

Once a month the tanks used for storing water which is used for washing purposes in toilet rooms are flushed out and cleansed.

After the interior of the car has been thoroughly cleaned, the water tanks are replaced, and carpets, upholstered seats, pillows, and blankets are put back into the car, after having had a thorough airing in the sun. Owing to the care which necessarily must be used in washing woolen blankets, they are periodically shipped to special laundries experienced in this work, where they are washed and combed.

Besides the fumigation with formaldehyd gas, the toilet rooms are cleansed mechanically by scrubbing the floors with hot water and soap, and an acid solution is used to remove stains from the hoppers in the closets.

Cleaning and Disinfection of Day Coaches.

If carpets are used in the car, they are removed from the car and carried out on the platform, where the dust is removed by means of compressed air. The upholstered seats are also cleaned by the same means.

One of the places in a railroad car where dirt is frequently lodged is behind the steam pipes which run along both sides of the car. It is found that compressed air under a pressure of from 80 to 100 pounds is the best means of removing the dust which lodges in these places. On and behind these pipes is the place where passengers are apt to expectorate, and in order to clean these parts of the car thoroughly a hose delivering live steam is carried into the car and the pipes and the



FIG. 1.—CARS ON SIDE TRACK READY FOR DISINFECTION.



FIG. 2.—REMOVING MATTRESSES THROUGH CAR WINDOWS FOR AIRING AFTER FORMALIN DISINFECTION.



FIG. 3.—MATTRESSES, PILLOWS, AND BLANKETS REMOVED TO PLATFORM AFTER FORMALDEHYD DISINFECTION.



FIG. 4.—REMOVABLE UPHOLSTERY OF SEATS REMOVED AFTER FORMALIN DISINFECTION, PLACED ON PLATFORM READY FOR CLEANING BY COMPRESSED AIR.

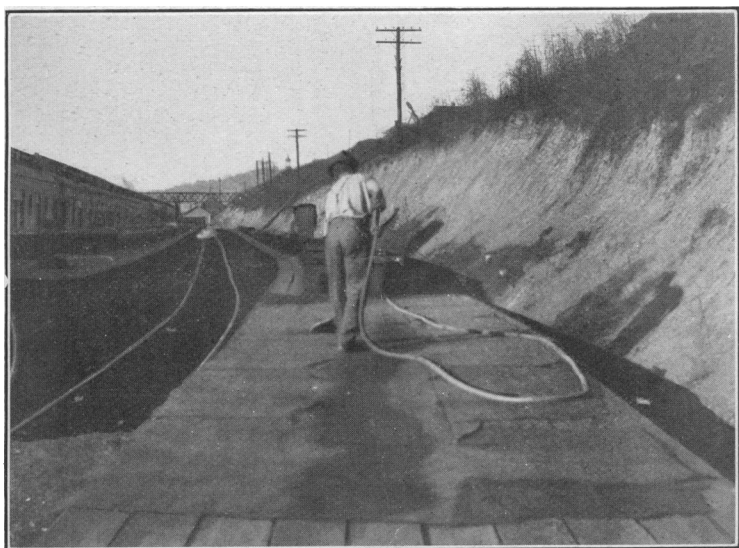


FIG. 5.—CLEANING CARPETS BY COMPRESSED AIR.

space between the pipes and sides of the car are thoroughly steamed. After this has been done the floor of the car and toilet rooms are scrubbed with soap and hot water. The hoppers in the closets are steamed and stains removed with a weak acid solution.

The drinking-water tanks are removed and scrubbed with hot water and Sapolio, both inside and outside, and are then steamed, care being taken that the steam hose does not come in contact with the interior of the tank.

Cleaning of Mail and Baggage Cars.

Dust is removed from the interior of the car by means of compressed air after opening all doors and windows. The floors are scrubbed with soap and hot water, and the walls are washed down in the same way.

Since this section of North Carolina is a region much frequented by tuberculous persons who come to Asheville and neighboring points, the sanitation of railroad coaches is a matter of great importance. Asheville is the terminus of four divisions of the Southern Railroad Co., and consequently sleeping cars lie over usually about 12 hours, which time affords ample opportunity for their thorough disinfection.

BLINDNESS IN CEBU.

A REPORT OF AN INVESTIGATION REGARDING ITS PREVALENCE AND CAUSES.

By LOUIS SCHWARTZ, Assistant Surgeon, United States Public Health Service.

An investigation of blindness in Cebu was undertaken for the following reasons: To ascertain the extent to which blindness exists and its chief causes; to select suitable cases for surgical treatment at the new Southern Islands Hospital; to let those suffering with eye disease know that they can obtain special treatment at the hospital; and to give those unable or unwilling to come to the hospital remedies which they could use themselves.

Letters were written by the district health officer of this Province to the local health officers, or to the "presidentes" of towns having no health officers, asking them to assemble as many of the blind of the town as possible on a certain date and hour for examination by the author with the view of determining which of them could have sight restored by surgical procedure. Those selected would be treated by me at the Southern Islands Hospital, and the transportation to and from the hospital of those who were poor would be paid by the Province.

The fear of the natives of being arrested as lepers or of being compelled to undergo an operation made it very difficult to induce the blind to come for examination, and as a consequence all the blind in

the towns were not seen. In some cases where the authorities reported many cases of blindness, none were seen, because as soon as they were told to come to be examined, they ran away and hid, thinking it was only a subterfuge to arrest them and ship them to Cullion.

The history of each case seen was taken, including length of time of blindness and the onset of the disease of the eyes. The eyes were examined and the condition of the lids, the cornea, the pupil reactions, light perception, the tension, and the condition of the lense noted. Cases of suspected disease of the fundus were referred to the hospital for ophthalmoscopic examination. The prognosis of his or her case was told to each person examined, and suitable treatment recommended.

The treatment advised was often disregarded because of distrust of the Americans, fear of surgical procedure, to which many would not submit, even though vision was promised them as a result, and because many of them implicitly believe in cures of their own, such as the application of certain leaves to the eyes to cure inflammation; the wearing of certain charms when affected with eye disease to ward off blindness; and the carrying of a smooth pebble buried in an incision in the arm or leg to cure blindness. There were three patients having cases of simple senile cataract with good light perception and pupil reactions, who said that they had seen enough of life, and did not care to see any more.

In making diagnoses the condition of the eyes when examined was given more weight than the history obtained, because in many cases the patients could give no accurate history of the onset and progress of the disease which caused their blindness. Some said they had had "cabuhi," or stomach ache, and became blind as a result of it; others, that they had fever, and had suddenly become blind; still others, that they had been bewitched, when examination showed that the eyes had been the seat of a violent and prolonged inflammatory process.

There were visited in all 23 towns, of which 12 reported blindness totaling 136 cases. There were examined in all 145 cases, of which 50 were found to be suitable for surgical treatment, with an almost certain restoration of vision. These 50 cases included cataracts with good light perception and pupil reaction; leukomas, the result of keratitis, ophthalmia, etc., in which there was clear cornea around the periphery and in which iridectomy would give vision; pterygia covering the pupil; cases of old iritis, with occlusion of the pupil, but with light perception, in which iridectomy or iridectomy with lens extraction could be done. In the 12 towns reporting 136 cases, only 60 cases, or less than 45 per cent, were seen, for reasons stated above. As 145 cases were examined in 23 towns, and estimating that only 45 per cent of the blind in these towns were seen, there are in these 23 towns about 322 cases of blindness. As the population of these 23

towns is 451,751, or a little more than half the population of Cebu Province, there are in all Cebu probably over 600 persons with cases of total blindness, of whom perhaps 200 might be made to see and become wage earners instead of public charges.

The chief cause of blindness was found to be smallpox in 48 cases, or more than one-third of the total number examined. Most of these smallpox cases have been blind for many years, only three occurring in the last five years. Since the Americans have begun the systematic and compulsory vaccination of all the people, smallpox is no longer a cause of blindness. Cataract, with 18 cases comes next, closely followed by trachoma with 17 cases. Excluding the cases of blindness due to smallpox, which is no longer a causative factor, about 18 per cent of the blindness in Cebu is due to trachoma. This condition compares favorably with the percentage of blindness due to trachoma in other countries, especially when it is considered that these cases have had no treatment whatever, and it bears out the statement that while trachoma is prevalent all over the islands it is mostly of the benign, chronic type. Keratitis, mostly of the trophic type, comes next with 16 cases, and is due to neglected trophic ulcers. Ophthalmia neonatorum with 13 cases or, excluding smallpox, about 13 per cent, comes next as a cause of blindness. Of the 145 cases examined, only 22 cases or 15 per cent were due to causes not preventable. Such were cases of glaucoma, optic atrophy, iritis, amaurosis, day blindness, traumatism.

As a result of this investigation, sight is being restored to many people who have been blind hopelessly, as they thought, for years. As they return to their different homes, others learning of the good results obtained will lose their fear of surgical treatment, and also come to benefit by it.

Conclusions.

Blindness in Cebu is due mostly to preventable diseases.

Smallpox, the cause of almost one-third of all the blindness, has been eliminated as such by the systematic vaccination enforced by the American régime.

More than one-third of the blind can be relieved by surgical treatment.

Recommendations.

A tour of the towns should be made periodically by a competent oculist for the purpose of advising treatment of diseases of the eyes and selecting those who require hospital treatment for transportation to the Southern Islands hospital.

Persons having trachoma should be told the nature of their disease and the dangers of contagion, and if possible, isolated and treated until they are no longer contagious.

The hospital train idea, as used by Dr. Stiles, could be applied here in the form of a hospital automobile, which should periodically make the rounds of the towns of the island for treatment of the sick and advice in hygienic matters.

Native midwives should be required to carry silver nitrate solution and be shown how to use it in the eyes of new-born infants. They should also be required to report all cases of sore eyes to the local health officer.

The method of investigation described here, if carried out in the other islands of the Philippines, would yield valuable information concerning the causes and prevalence of blindness, and would suggest also additional measures for its control.

Dr. Arlington Pond, district health officer of Cebu, by his assistance in arranging the trips, made this investigation possible. Dr. August Villalon gave invaluable aid in interpreting for me.

Causes of blindness in Cebu.

	Cases.		Cases.
Smallpox.....	48	Pterygium.....	3
Cataract.....	18	Day blindness.....	2
Trachoma.....	17	Cataract and optic atrophy.....	1
Keratitis.....	16	Optic atrophy.....	1
Ophthalmia neonatorum.....	13	Measles.....	1
Iritis.....	9	Gonorrhea.....	1
Glaucoma.....	5	Trauma.....	1
Iritis and keratitis.....	3		
Cataract and keratitis.....	3	Total.....	145
Amaurosis (congenital).....	3		

Number of cases by localities.

Towns visited.	Population. ¹	Number blind reported.	Number blind examined.	Number curable.
Cebu.....	58,785	0	19	8
Poro.....	(²)	4	3	1
Sibonga.....	33,456	0	24	5
Opón.....	23,795	7	1	0
Cordoba.....	(²)	15	6	1
Catmon.....	16,455	0	3	2
Carmen.....	8,986	6	7	5
Danao.....	21,000	28	15	8
Liloan.....	19,516	0	7	3
Mundaoe.....	22,006	6	12	3
Ronda.....	(²)	0	4	0
Dumanjug.....	36,710	0	5	2
Barili.....	39,801	0	7	1
Carcar.....	41,044	41	3	0
Naga.....	20,122	2	1	1
Talisay.....	17,280	12	1	0
Bantayan.....	20,617	0	7	3
Bogo.....	22,232	5	4	3
Santa Fe.....	4,488	5	4	1
San Francisco.....	12,585	5	3	0
Toledo.....	16,513	0	2	6
Balamban.....	(²)	0	4	1
Asturias.....	16,350	0	3	2
Total.....	451,751	136	145	50

¹ Population that of January, 1913. ² Population not given, but included in that of neighboring towns.

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.

RECIPROCAL NOTIFICATION.

Minnesota.

Cases of communicable diseases referred during February, 1914, to other State health departments by the division of epidemiology of the Minnesota State Board of Health.

Disease.	Notified at--	Referred to health authority of--	Why referred.
Smallpox.....	Vernon Center, Blue Earth County. Rochester, Olmsted County.	Omaha, Douglas County, Nebr. Ackworth, Rolette County, N. Dak.	Infected by roommate at Omaha. Infected at Ackworth.
Typhoid fever.	Rochester, Olmsted County.. Duluth, St. Louis County...	Elk Point, Union County, S. Dak. Ashland, Ashland County, Wis.	Infected at Elk Point. Infected while working on scow at Ashland.
Tuberculosis...	Rochester, Olmsted County.. St. Paul, Ramsey County.... Rochester, Olmsted County. Pokegama Sanatorium, Pokegama, Pine County. Rochester, Olmsted County..	Loyal, Clark County, Wis.. Maunie, White County, Ill.. Hampton, Franklin County, Iowa. Somerset, St. Croix County, Wis. Forsyth, Rosebud County, Mont.	Resident of Loyal. Left Minnesota for Maunie. Resident of Hampton. Left for home, Somerset. Resident of Forsyth.

SMALLPOX.

Arkansas—Springdale—Virulent Smallpox.

With reference to the outbreak of virulent smallpox at Springdale, noted in the Public Health Reports of February 13, 1914, page 411, the State health officer of Arkansas reported March 16 that there had been to that date 23 cases of the virulent type of smallpox with nine deaths, and on March 20 he reported that in the same county (Washington) there had been 20 cases of the mild type of smallpox. The source of the infection of the mild type was traced to Oklahoma. The virulent infection had come from Mexico.

Indiana—Evansville.

Surg. Oakley, of the Public Health Service, reported by telegraph that during the week ended March 21, 1914, 13 cases of smallpox had been notified in Evansville, Ind.

SMALLPOX—Continued.**Indiana—Indianapolis.**

Surg. White, of the Public Health Service, reported that smallpox had been notified in Indianapolis, Ind., as follows: During December, 1913, 97 cases; during January, 1914, 84 cases; during February, 1914, 100 cases; and during the period from March 1 to 21, 1914, 128 cases.

Maryland—Baltimore.

Senior Surg. Carter, of the Public Health Service, reported by telegraph that during the period from March 16 to 20, 1914, 23 cases of smallpox had been notified at Baltimore, Md., making a total of 172 cases reported since January 11, 1914.

Maryland—Hillsdale.

The State Department of Health of Maryland reported by telegraph March 20, 1914, that seven cases of smallpox had been notified at Hillsdale, Baltimore County, Md.

Minnesota—Duluth.

Acting Asst. Surg. Cheney, of the Public Health Service, reported by telegraph that during the week ended March 21, 1914, 13 cases of smallpox had been notified in Duluth, Minn.

Ohio—Cincinnati.

Acting Asst. Surg. Maddox, of the Public Health Service, reported that during the two weeks ended March 21, 1914, 5 cases of smallpox had been notified in Cincinnati, Ohio, making a total of 34 cases reported since January 1, 1914. In these 34 cases 2 deaths have occurred.

Texas—Galveston.

Surg. Bahrenburg, of the Public Health Service, reported by telegraph that during the week ended March 20, 1914, 4 cases of smallpox had been notified in Galveston, Tex.

State Reports for February, 1914.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Maryland, exclusive of Baltimore City:						
Baltimore County—						
Warren.....	29	.....	.....	.....	29	.....
Lutherville R. F. D.....	3	.....	.....	.....	3	.....
Phoenix.....	4	.....	.....	.....	4	.....
Sparks.....	1	.....	.....	.....	1	.....
Texas.....	3	.....	.....	.....	3	.....
Howard County—						
Ellicott City.....	1	.....	.....	.....	1	.....

SMALLPOX—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Maryland, exclusive of Baltimore City—Continued.						
Montgomery County—						
Poolesville R. F. D.	4				4	
Poolesville	1				1	
Colesville	2				2	
Prince Georges County—						
Upper Marlboro.	1				1	
Somerset County—						
Crisfield	1				1	
Talbot County—						
Wittman	1				1	
Total	51				51	
Michigan:						
Allegan County—						
Otsego	7				7	
Barry County—						
Assyria Township	2				2	
Berrien County—						
Benton Township	1				1	
Lake Township	1				1	
Benton Harbor	3				3	
Branch County—						
Gilead Township	1					1
Calhoun County—						
Athens Township	1				1	
Emmet Township	1				1	
Fredonia Township	1				1	
Battle Creek	10				7	3
Marshall	1				1	
Cass County—						
Volinia Township	1					1
Chippewa County—						
Sault Ste. Marie	5					5
Clinton County—						
Bath Township	1				1	
Dallas Township	1					1
Dickinson County—						
Iron Mountain	5					5
Eaton County—						
Bellevue	4				4	
Grand Traverse County—						
Whitewater Township ..	4				4	
Hillsdale County—						
Camden Township	1				1	
Woodbridge Township ..	1				1	
Camden	1				1	
Houghton County—						
Duncan Township	1			1		
Huron County—						
Dwight Township	5				5	
Ingham County—						
Lansing	12				10	2
Ionia County—						
Belding	2				2	
Kalamazoo County—						
Kalamazoo	1				1	
Kent County—						
Byron Township	1					1
Grand Rapids	1					1
Lapeer County—						
Attica Township	1			1		
Mackinaw County—						
St. Ignace	2				2	

SMALLPOX—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Michigan—Continued.						
Macomb County—						
Clinton Township.....	1			1	3	
Harrison Township.....	5				3	2
Lake Township.....	18				18	
Mt. Clemens.....	3					3
Monroe County—						
Erie.....	1				1	
Oceana County—						
Ferry Township.....	1				1	
Oscola County—						
Richmond Township.....	1				1	
Ottawa County—						
Jamestown Township...	1				1	
St. Clair County—						
Casco Township.....	1					1
Kenockoo Township....	3				1	2
Marine City.....	2				2	
St. Joseph County—						
Colon.....	1				1	
Sanilac County—						
Sanilac Township.....	1				1	
Schoolcraft County—						
Manistique.....	1					1
Wayne County—						
Huron Township.....	1				1	
Hamtramck.....	2				1	1
Highland Park.....	1				1	
Detroit.....	29				29	
Wyandotte.....	3				3	
Total.....	155			3	122	30
Minnesota:						
Aitkin County—						
McGregor.....	2					2
Salo Township.....	3				1	2
Beltrami County—						
Baudette.....	1					1
Red Lake Indian Res- ervation.....	1				1	
Blue Earth County—						
Mankato.....	5			1	4	
Vernon Center.....	1				1	
Carlton County—						
Cloquet.....	5				5	
Cass County—						
Birchdale Township...	1					1
Cass Lake.....	1					1
Slater Township.....	1					1
Township 142.....	1					1
Chippewa County—						
Montevideo.....	1				1	
Clay County—						
Moland Township.....	1					1
Moorhead.....	8				6	2
Clearwater County—						
Pine Lake Township...	1				1	
Cottonwood County—						
Amo Township.....	1					1
Rose Hill Township....	1					1
Storden Township.....	1				1	
Dodge County—						
Vernon Township.....	1					1
Douglas County—						
Alexandria.....	1			1		
Fillmore County—						
Bloomfield Township...	1				1	
Chatfield.....	1					1
Freeborn County—						
Oakland Township.....	1					1

SMALLPOX—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Minnesota—Continued.						
Hennepin County—						
Minneapolis.....	17	.....	.....	1	16	.....
Plymouth Township.....	3	.....	.....	1	1	1
Jackson County—						
Round Lake Township.....	2	.....	.....	.....	.....	2
Kandiyohi County—						
Mamre Township.....	4	.....	.....	.....	4	.....
Lac Qui Parle County—						
Madison.....	2	.....	.....	.....	2	.....
Marshall County—						
Argyle.....	1	.....	.....	.....	.....	1
Comstock Township.....	1	.....	.....	.....	1	.....
Martin County—						
Ceylon.....	1	.....	.....	.....	1	.....
Galena Township.....	1	.....	.....	.....	1	.....
Truman.....	1	.....	.....	.....	1	.....
Nicollet County—						
St. Peter.....	1	.....	.....	.....	.....	1
Nobles County—						
Bigelow.....	1	.....	.....	.....	.....	1
Grand Prairie Township.....	8	.....	.....	.....	2	6
Olmsted County—						
Kalmars Township.....	3	.....	.....	.....	3	1
Rochester.....	15	.....	.....	.....	14	1
Rock Dell Township.....	1	.....	.....	.....	1	.....
Salem Township.....	5	.....	.....	1	4	.....
Otter Tail County—						
Fergus Falls.....	2	.....	.....	.....	.....	2
Pennington County—						
Thief River Falls.....	1	.....	.....	.....	1	.....
Polk County—						
Badger Township.....	1	.....	.....	.....	.....	1
Eden Township.....	4	.....	.....	.....	3	1
Ramsey County—						
St. Paul.....	6	.....	.....	1	5	.....
Redwood County—						
Walnut Grove Town- ship.....	2	.....	.....	.....	2	.....
St. Louis County—						
Buhl.....	1	.....	.....	.....	1	.....
Costin.....	1	.....	.....	.....	1	.....
Duluth.....	26	.....	.....	.....	26	.....
Eveleth.....	1	.....	.....	.....	1	.....
Fayal Township.....	1	.....	.....	.....	1	.....
Hibbing.....	1	.....	.....	.....	.....	1
Missabe Mountain Township.....	2	.....	.....	.....	1	1
Mountain Iron Town- ship.....	1	.....	.....	.....	1	.....
Virginia.....	7	.....	.....	.....	7	.....
Sherburne County—						
Becker Township.....	15	.....	.....	.....	12	3
Swift County—						
Appleton.....	1	.....	.....	.....	.....	1
Wadena County—						
Wadena.....	1	.....	.....	1	.....	.....
Watsonwan County—						
Antrim Township.....	1	.....	.....	.....	1	.....
Lewisville.....	10	.....	.....	.....	10	.....
Wilkin County—						
Breckenridge.....	8	.....	.....	.....	4	4
Wright County—						
Howard Lake.....	5	.....	.....	1	4	.....
Rockford.....	11	.....	.....	3	8	.....
Rockford Township.....	2	.....	.....	.....	2	.....
Yellow Medicine County—						
Swede Prairie Town- ship.....	1	.....	.....	.....	1	.....
Total.....	220	.....	.....	11	165	44

SMALLPOX—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Ohio:						
Allen County.....	59				26	43
Athens County.....	7				4	3
Clark County— Springfield.....	3				2	1
Crawford County— Bucyrus.....	1					1
Cuyahoga County— Cleveland.....	1					1
Defiance County.....	1					1
Delaware County.....	20				3	17
Franklin County.....	45				40	5
Fulton County.....	2				1	1
Gallia County.....	18				1	17
Greene County.....	2					2
Hamilton County.....	19				16	3
Hancock County.....	9				1	8
Hardin County.....	4					4
Henry County.....	34			2	28	4
Hocking County.....	2				2	
Holmes County.....	1					1
Jackson County.....	84			1	5	78
Lucas County.....	110			2	83	15
Madison County.....	2					2
Marion County.....	31				2	29
Meigs County.....	2					2
Mercer County.....	1					1
Montgomery County— Dayton.....	9				4	5
Muskingum County.....	13			3	7	3
Ottawa County.....	27				7	20
Paulding County.....	2				2	
Perry County.....	4					4
Pickaway County— Circleville.....	3				3	
Pike County.....	29					29
Preble County.....	3				2	1
Putnam County.....	22				5	17
Ross County.....	18					18
Sandusky County.....	38					38
Scioto County.....	19					19
Seneca County.....	26				4	22
Stark County.....	14	1				14
Summit County.....	17				1	16
Van Wert County.....	19				7	12
Vinton County.....	1					1
Washington County.....	9					9
Wood County.....	11				8	6
Wyandot County.....	1					1
Total.....	746	1		8	274	474

SMALLPOX—Continued.

Miscellaneous State Reports.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Indiana (Feb. 1-28):			Montana (Feb. 1-28):		
Counties—			Counties—		
Benton.....	6		Beaverhead.....	1	
Blackford.....	11		Big Horn.....	1	
Boone.....	4		Blaine.....	1	
Carroll.....	4		Cascade.....	11	
Cass.....	3		Carbon.....	11	
Clark.....	13		Custer.....	3	
Clinton.....	2		Dawson.....	5	
Crawford.....	10		Deer Lodge.....	1	
Decatur.....	1		Fergus.....	31	
De Kalb.....	1		Gallatin.....	2	
Delaware.....	12		Hill.....	8	
Floyd.....	69		Lewis and Clark.....	7	
Gibson.....	17		Meagher.....	1	
Grant.....	5		Missoula.....	3	
Greene.....	1		Musselshell.....	3	
Hancock.....	2		Park.....	4	
Huntington.....	10		Powell.....	1	
Jennings.....	1		Saunders.....	2	
Johnson.....	3		Sheridan.....	2	
Knox.....	3		Silver Bow.....	68	
Lake.....	5		Yellowstone.....	12	
Lawrence.....	13				
Madison.....	3		Total.....	178	
Marion.....	110				
Martin.....	40		South Carolina (Feb. 1-28):		
Montgomery.....	1		Counties—		
Morgan.....	1		Abbeville.....	3	
Orange.....	3		Charleston.....	1	
Owen.....	7		Cherokee.....	2	
Posey.....	64		Chester.....	3	
Shelby.....	9		Chesterfield.....	3	
Spencer.....	1		Clarendon.....	26	
Steuben.....	8		Darlington.....	3	
Sullivan.....	1		Georgetown.....	1	
Vanderburgh.....	2		Greenville.....	22	
Vigo.....	6		Laurens.....	2	
Warrick.....	2		Lexington.....	4	
White.....	4		Marion.....	1	
Total.....	458		Marlboro.....	2	
			Newberry.....	7	
Kansas (Feb. 1-28):			Orangeburg.....	15	
Counties—			Richland.....	6	
Allen.....	19		York.....	1	
Anderson.....	11		Total.....	102	
Atchison.....	2				
Barton.....	8		Texas (Dec. 1-31) ¹		
Brown.....	2		Washington (Feb. 1-28):		
Clay.....	22		Counties—		
Cloud.....	9		Clarke.....	5	
Cowley.....	2		Ferry.....	1	
Crawford.....	12		Franklin.....	1	
Douglas.....	1		King.....	15	
Ellsworth.....	2		Killekitat.....	4	
Ford.....	2		Lewis.....	1	
Graham.....	8		Spokane.....	17	
Labette.....	6		Thurston.....	1	
Linn.....	1		Walla Walla.....	11	
Marion.....	4		Whatcom.....	11	
Miami.....	1		Whitman.....	5	
Mitchell.....	3		Yakima.....	3	
Montgomery.....	15		Total.....	75	
Neosho.....	3				
Ness.....	3		Wyoming (Feb. 1-28):		
Ottawa.....	17		Counties—		
Reno.....	2		Albany.....	2	
Republic.....	11		Campbell.....	3	
Sedgwick.....	7		Carbon.....	2	
Sherman.....	14		Converse.....	2	
Stafford.....	1		Goshen.....	9	
Sumner.....	13		Laramie.....	1	
Thomas.....	14		Natrona.....	2	
Washington.....	2		Sweetwater.....	2	
Wyandotte.....	2		Total.....	23	
Total.....	219				

SMALLPOX—Continued.

City Reports for Week Ended Mar. 7, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Altoona, Pa.	7		Milwaukee, Wis.	35	
Aurora, Ill.	1		Muscatine, Iowa.	134	
Austin, Tex.	3		Nashville, Tenn.	21	
Baltimore, Md.	45		Niagara Falls, N. Y.	4	
Butte, Mont.	6		Oakland, Cal.	2	
Chicago, Ill.	15		Philadelphia, Pa.	1	
Cincinnati, Ohio.	9		Pittsburgh, Pa.	3	
Coffeyville, Kans.	3		Portsmouth, Va.	3	1
Columbus, Ohio.	14		Richmond, Va.	1	
Cumberland, Md.	1		Roanoke, Va.	3	
Dayton, Ohio.	1		Rockford, Ill.	1	
Detroit, Mich.	7		St. Joseph, Mo.	3	
Duluth, Minn.	12		St. Louis, Mo.	6	
Hartford, Conn.	1		San Diego, Cal.	1	
Kalamazoo, Mich.	1		San Francisco, Cal.	3	
Kansas City, Kans.	16		Seattle, Wash.	2	
Kansas City, Mo.	24		South Bend, Ind.	1	
La Crosse, Wis.	4		Spokane, Wash.	5	
Lexington, Ky.	5		Superior, Wis.	1	
Little Rock, Ark.	1		Toledo, Ohio.	16	
Los Angeles, Cal.	1		Washington, D. C.	2	
Lynchburg, Va.	3		Wilmington, N. C.	2	
Massillon, Ohio.	1				

¹ In immediate vicinity, 11 cases.

TYPHOID FEVER.

State Reports for February, 1914.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Indiana:		Kansas:	
Adams County	1	Bourbon County—	
Bartholomew County	1	Fort Scott	1
Carroll County	3	Brown County	2
Cass County	30	Butler County	2
Clark County	3	Cheyenne County	9
Clay County	1	Crawford County	1
Daviess County	1	Decatur County	1
Delaware County	3	Elk County	1
Elkhart County	3	Ford County	1
Floyd County	3	Greenwood County	1
Harrison County	1	Labette County	1
Huntington County	3	Leavenworth County	2
Jackson County	2	Marshall County	1
Jefferson County	4	Reno County	
Knox County	1	Hutchinson	1
Kosciusko County	1	Republic County	1
Lake County	33	Stafford County	2
Madison County	2	Sumner County	2
Marion County	7	Wilson County	1
Montgomery County	2	Wyandotte County	1
Morgan County	1		
Perry County	1	Total	31
Pulaski County	3		
Putnam County	5		
Randolph County	4	Maryland, exclusive of Baltimore City:	
Ripley County	1	Allegany County—	
Scott County	1	Cumberland	4
St. Joseph County	1	Allegany Hospital	2
Tippecanoe County	1	Barton	1
Vanderburg County	2	Lake	1
Vermillion County	1	Westernport	24
Wells County	1	Eckhart Mines	1
		Mount Savage	1
Total	127	Midland	1
		Lonaconing	2

TYPHOID FEVER—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Maryland—Continued.		Massachusetts—Continued.	
Anne Arundel County—		Hampden County—	
Nutwell.....	1	Chicopee.....	1
Churchton.....	1	Holyoke.....	1
Edgewater.....	1	Middlesex County—	
Annapolis.....	1	Cambridge.....	2
Baltimore County—		Everett.....	2
Catonsville.....	1	Lowell.....	4
Lutherville.....	1	Malden.....	3
Mount Washington.....	1	Medford.....	1
Halethorpe.....	1	Nantucket County—	
Roland Park.....	2	Nantucket.....	1
Gwyn Oak Uplands.....	1	Norfolk County—	
Carroll County—		Quincy.....	1
Unlontown.....	1	Weymouth.....	2
Mount Airy.....	1	Plymouth County—	
Charles County—		Brockton.....	1
Berry.....	1	Carver.....	1
Grayton.....	2	Suffolk County—	
Nanjemoy.....	1	Boston.....	35
Bryantown.....	3	Chelsea.....	1
Marbury.....	1	Revere.....	3
Dorchester County—		Worcester County—	
Hills Point.....	1	Fitchburg.....	3
Hoopersville.....	7	Leominster.....	1
Fishing Creek.....	1	Westminster.....	2
Vienna.....	1	Winchendon.....	1
Cambridge R. F. D.....	1	Worcester.....	3
Crocheron.....	1		
Frederick County—		Total.....	82
Mount St. Marys.....	1		
Garrett County—		Michigan:	
Bloomington.....	2	Alpena County—	
Howard County—		Alpena.....	42
Laurel R. F. D.....	1	Antrim County—	
Kent County—		Milton Township.....	1
Kennedyville.....	1	Barry County—	
Rock Hall.....	1	Assyria Township.....	1
Montgomery County—		Bay County—	
Olney.....	2	Fraser Township.....	1
Rockville.....	23	Berrien County—	
Barnesville.....	1	Lincoln Township.....	1
Silver Spring.....	1	Calhoun County—	
Prince Georges County—		Tekonsha.....	1
Brentwood.....	1	Charlevoix County—	
Somerset County—		Melrose Township.....	1
Crisfield R. F. D.....	1	Chippewa County—	
Ewell.....	1	Sault Ste. Marie.....	2
Washington County—		Genesee County—	
Smithsburg.....	1	Flint.....	4
Gapland.....	1	Gratiot County—	
State Line R. F. D.....	1	Lafayette Township.....	1
Wicomico County—		Ithaca.....	1
Salisbury.....	2	Hillsdale County—	
Fruitland.....	2	Hillsdale.....	2
Salisbury R. F. D.....	1	Houghton County—	
Worcester County—		Adams Township.....	1
Bishop.....	1	Huron County—	
Total.....	116	Dwight Township.....	2
		Pt. Austin Township.....	1
Massachusetts:		Ingham County—	
Barnstable County—		Lansing.....	1
Provincetown.....	2	Ionia County—	
Bristol County—		Belding.....	1
Fall River.....	3	Kent County—	
Essex County—		Byron Township.....	1
Beverly.....	1	Sparta Township.....	1
Haverhill.....	3	Grand Rapids.....	31
Lawrence.....	1	Livingston County—	
Lynn.....	1	Conway Township.....	1
Methuen.....	1	Fowlerville.....	1
Peabody.....	1	Marquette County—	
		Marquette.....	1

TYPHOID FEVER—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Michigan—Continued.		Minnesota—Continued.	
Mason County—		St. Louis County—	
Ludington.....	1	Duluth.....	1
Menominee County—		Fall Lake.....	2
Menominee.....	2	Hibbing.....	1
Monroe County—		Tower.....	2
LaSalle Township.....	2	Virginia.....	1
Oakland County—		Stearns County—	
Pontiac.....	1	St. Cloud.....	1
Ontonagon County—		Wabasha County—	
Ontonagon.....	1	Minneapolis.....	1
Ottawa County—		Waseca County—	
Holland.....	1	Byron Township.....	1
Saginaw County—		Winona County—	
Richland Township.....	1	Rollingstone Township.....	1
St. Charles.....	1	Total.....	63
Saginaw.....	3		
St. Clair County—		Ohio:	
St. Clair Township.....	1	Adams County.....	4
Van Buren County—		Allen County.....	4
South Haven.....	1	Astabula County.....	1
Washtenaw County—		Auglaize County.....	1
Ann Arbor.....	2	Belmont County.....	16
Wayne County—		Carroll County.....	7
Detroit.....	11	Clark County—	
Wyandotte.....	9	Springfield.....	1
Total.....	119	Columbiana County.....	11
Minnesota:		Cuyahoga County.....	25
Aitkin County—		Defiance County—	
Aitkin.....	2	Defiance.....	1
Beltrami County—		Erle County.....	3
Baudette.....	1	Fairfield County—	
Brown County—		Lancaster.....	1
Cottonwood Township.....	1	Franklin County—	
New Ulm.....	9	Columbus.....	7
Carlton County—		Gallia County.....	2
Cloquet.....	4	Geauga County.....	6
Moose Lake Township.....	1	Guernsey County.....	3
Crow Wing County—		Hamilton County.....	10
Brainerd.....	3	Hancock County.....	4
Crosby.....	1	Harrison County.....	2
Hennepin County—		Henry County.....	2
Minneapolis.....	2	Highland County.....	1
Robbinsdale.....	1	Huron County—	
Jackson County—		Norwalk.....	1
Heron Lake.....	2	Jackson County—	
Kandiyohi County—		Jackson.....	1
Willmar.....	1	Jefferson County.....	1
Koochiching County—		Lake County.....	1
International Falls.....	9	Painesville.....	1
Marshall County—		Lawrence County.....	25
Viking Township.....	1	Licking County.....	8
Morrison County—		Logan County.....	15
Little Falls.....	1	Lorain County.....	8
Olmsted County—		Mahoning County.....	22
Eyota.....	1	Miami County—	
Rochester.....	2	Piqua.....	1
Otter Tail County—		Monroe County.....	1
Inman Township.....	1	Montgomery County.....	1
Polk County—		Muskingum County.....	4
Crookston.....	3	Paulding County.....	1
Ramsey County—		Perry County.....	1
St. Paul.....	1	Pickaway County—	
Redwood County—		Circleville.....	21
Redwood Falls.....	1	Portage County.....	1
Renville County—		Putnam County.....	1
Bird Island.....	2	Richland County.....	2
Rice County—		Ross County.....	6
Faribault.....	2	Sandusky County.....	4
		Scioto County.....	12

TYPHOID FEVER—Continued.

State Reports for February, 1914—Continued.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Ohio—Continued:		South Carolina—Continued:	
Seneca County—		Greenville County.....	1
Fostoria.....	2	Marion County.....	1
Tiffin.....	1	Orangeburg County.....	8
Shelby County.....	1	Richland County.....	2
Stark County—		Total.....	30
Alliance.....	2		
Canton.....	1	Washington:	
Trumbull County.....	1	Challam County.....	1
Tuscarawas County.....	1	Clark County.....	2
Union County.....	1	Columbia County.....	3
Van Wert County.....	1	King County.....	1
Vinton County.....	1	Seattle.....	5
Williams County.....	2	Lewis County.....	3
Wood County.....	5	Lincoln County.....	1
Total.....	275	Pierce County.....	1
		Spokane County—	
South Carolina:		Spokane.....	3
Abbeville County.....	3	Thurston County.....	3
Aiken County.....	2	Whatcom County.....	4
Barnwell County.....	2	Whitman County.....	1
Beaufort County.....	1	Yakima County.....	1
Charleston County.....	3	Total.....	29
Chester County.....	1		
Darlington County.....	4		
Dorchester County.....	2		

City Reports for Week Ended Mar. 7, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.....	3		Morristown, N. J.....		1
Auburn, N. Y.....	1		Muscatine, Iowa.....		1
Austin, Tex.....		1	New Orleans, La.....	1	
Baltimore, Md.....	5		Newton, Mass.....		1
Binghamton, N. Y.....	1		Niagara Falls, N. Y.....		1
Buffalo, N. Y.....	11	1	Philadelphia, Pa.....	6	1
Cambridge, Ohio.....	3		Pittsburgh, Pa.....	7	2
Chicago, Ill.....	12	1	Providence, R. I.....	6	
Cincinnati, Ohio.....	2	1	Reading, Pa.....	2	1
Cleveland, Ohio.....	7		Richmond, Va.....	1	
Dayton, Ohio.....	1		Rockford, Ill.....	1	
Duluth, Minn.....	2	1	Sacramento, Cal.....	1	
Dunkirk, N. Y.....	4		St. Louis, Mo.....	4	1
Elmira, N. Y.....	1		San Francisco, Cal.....	2	2
Fall River, Mass.....	2	1	Seattle, Wash.....		1
Fitchburg, Mass.....	1		South Bethlehem, Pa.....	1	
Haverhill, Mass.....	1		Spokane, Wash.....		
Jersey City, N. J.....		1	Springfield, Ill.....	1	
Lawrence, Mass.....		1	Springfield, Mass.....	1	
La Crosse, Wis.....	1		Toledo, Ohio.....		2
Los Angeles, Cal.....	9	2	Waltham, Mass.....	2	
Lowell, Mass.....	1		Washington, D. C.....	5	1
Lynn, Mass.....	3		Wheeling, W. Va.....	1	
Manchester, N. H.....	1	1			

CEREBROSPINAL MENINGITIS.

State Reports for February, 1914.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Indiana:		Massachusetts—Continued.	
Orange County.....	1	Suffolk County—	
Owen County.....	2	Boston.....	3
Pike County.....	1	Worcester County—	
Pulaski County.....	1	Worcester.....	1
Switzerland County.....	1	Total.....	16
Total.....	6		
Kansas:		Minnesota:	
Republic County.....	1	Hubbard County—	
Washington County.....	2	Akeley.....	1
Total.....	3	Ohio:	
Maryland, exclusive of Baltimore City:		Belmont County.....	1
Allegany County—		Clinton County.....	1
Cumberland.....	1	Cuyahoga County—	
Lonaconing.....	1	Cleveland.....	5
Total.....	2	Hamilton County—	
Massachusetts:		Cincinnati.....	2
Berkshire County—		Knox County.....	1
Pittsfield.....	1	Putnam County.....	1
Bristol County—		Ross County.....	1
New Bedford.....	2	Summit County.....	1
Essex County—		Total.....	16
Lawrence.....	2	South Carolina:	
Franklin County—		Saluda County.....	1
Greenfield.....	3	Washington:	
Middlesex County—		King County.....	1
Lowell.....	2	Seattle.....	1
Somerville.....	1	Thurston County.....	1
Norfolk County—		Total.....	3
Norwood.....	1		

City Reports for Week Ended Mar. 7, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Butte, Mont.....		2	Kansas City, Kans.....	1	
Chicago, Ill.....		1	Manchester, N. H.....	2	2
Cincinnati, Ohio.....	1		Nashville, Tenn.....	1	
Cleveland, Ohio.....	1	2	New Orleans, La.....	1	2
Harrisburg, Pa.....		1	Pittsfield, Mass.....	1	1
Jersey City.....	1	1	San Francisco, Cal.....		1

POLIOMYELITIS (INFANTILE PARALYSIS).**City Reports for Week Ended Mar. 7, 1914.**

During the week ended March 7, 1914, 1 case of poliomyelitis was notified at Dayton, Ohio, and 1 at Malden, Mass.

State Reports for February, 1914.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Indiana:		Michigan—Continued.	
Kosciusko County.....	1	Kent County—	
Vermilion County.....	1	Grand Rapids City.....	1
Total.....	2	Total.....	2
Massachusetts:		Minnesota:	
Bristol County—		Wabasha County—	
Fall River.....	2	Lake City.....	1
Essex County—		Ohio:	
Lawrence.....	1	Coshocton County.....	1
Hampshire County—		South Carolina:	
Easthampton.....	1	Laurens County.....	1
Suffolk County—		Washington:	
Boston.....	1	Clarke County.....	1
Worcester County—		Whatcom County.....	1
Worcester.....	1	Total.....	2
Total.....	6		
Michigan:			
Kalamazoo County—			
Kalamazoo.....	1		

ERYSIPELAS.**City Reports for Week Ended Mar. 7, 1914.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.....	1		Massillon, Ohio.....	1	
Baltimore, Md.....		2	Milwaukee, Wis.....	2	
Binghamton, N. Y.....	2		Nanticoke, Pa.....	1	
Buffalo, N. Y.....	6	1	Passaic, N. J.....	2	
Chicago, Ill.....	27	3	Philadelphia, Pa.....	37	4
Cincinnati, Ohio.....	4		Pittsburgh, Pa.....	3	1
Cleveland, Ohio.....	14		Providence, R. I.....		1
Concord, N. H.....		1	Reading, Pa.....	3	
Cumberland, Md.....	1		St. Joseph, Mo.....	1	
Dayton, Ohio.....	1		St. Louis, Mo.....	7	
Detroit, Mich.....		1	San Francisco, Cal.....	4	
Harrisburg, Pa.....	3		Seattle, Wash.....	1	
Hartford, Conn.....	3		South Bethlehem, Pa.....	1	
Kalamazoo, Mich.....	4		Steeltown, Pa.....	1	
La Crosse, Wis.....	1		West Hoboken, N. J.....	2	
Lancaster, Pa.....	1		Yonkers, N. Y.....	1	
Los Angeles, Cal.....	2	1	Zanesville, Ohio.....	1	1

PLAGUE.**California—Squirrels Collected and Examined.**

During the week ended March 7, 1914, 10 ground squirrels from Alameda County were examined for plague infection. No plague-infected squirrel was found.

PLAGUE—Continued**Maintenance of a Squirrel-Free Zone.**

During the week ended March 7, 1914, 35 acres of land in Alameda County and 139 in Stanislaus County were treated with squirrel destructors. In Alameda County 20 acres of land were covered with poisoned grain.

Rats Collected and Examined.

Places.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
California:					
Cities—					
Oakland.....	Mar. 7, 1914	28	520	395	
Berkeley.....	do.	4	193	94	
San Francisco.....	do.	10	1,522	1,194	
Washington:					
City—					
Seattle.....	Feb. 28, 1914		1,191	977	
Do.....	Mar. 7, 1914		1,394	1,160	

¹ Public Health Reports, Mar. 13, 1914, p. 634.

PNEUMONIA.**City Reports for Week Ended Mar. 7, 1914.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Auburn, N. Y.....	2	2	Newport, Ky.....	1	1
Binghamton, N. Y.....	5	1	Norristown, Pa.....	2	
Braddock, Pa.....	1		Philadelphia, Pa.....	57	11
Chicago, Ill.....	216	140	Pittsburgh, Pa.....	37	1
Cleveland, Ohio.....	47	12	Reading, Pa.....	1	
Elmira, N. Y.....	2	3	Sacramento, Cal.....	3	1
Grand Rapids, Mich.....	4	4	Schenectady, N. Y.....	9	2
Harrisburg, Pa.....	3	2	South Bethlehem, Pa.....	2	2
Kalamazoo, Mich.....	1	2	South Omaha, Nebr.....	2	
Kansas City, Kans.....	9	10	Spokane, Wash.....	2	
Lancaster, Pa.....	1		Steelton, Pa.....	1	
Los Angeles, Cal.....	16	9	Wilkinsburg, Pa.....	6	4
Manchester, N. H.....	4	4	Wilmington, N. C.....	2	
New Castle, Pa.....	1				

RABIES.**California—Oakland and San Francisco—Rabies in Animals.**

Surg. Long, of the Public Health Service, reported by telegraph that during the week ended March 21, 1914, rabies in dogs had been reported as follows: Two cases at Oakland and one case at San Francisco, Cal.

TETANUS.

During the week ended March 7, 1914, 1 death from tetanus was notified at Boston, Mass., and 1 at La Crosse, Wis.

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.**Indianapolis, Ind.—Measles.**

Surg. White, of the Public Health Service, reported that during the period from March 1 to 21, 1914, 600 cases of measles had been notified in Indianapolis, Ind., making a total of 1,046 cases reported since January 1, 1914.

Philadelphia, Pa.—Scarlet Fever, Measles, and Diphtheria.

Senior Surg. Irwin, of the Public Health Service, reported that during the week ended March 21, 1914, 89 cases of scarlet fever, 432 cases of measles, and 52 cases of diphtheria had been notified in Philadelphia, Pa.

Pittsburgh, Pa.—Scarlet Fever.

Surg. Stoner, of the Public Health Service, reported by telegraph that during the week ended March 21, 1914, 110 cases of scarlet fever, with 5 deaths, had been notified in Pittsburgh, Pa., making a total of 2,718 cases, with 132 deaths, reported since August 1, 1913.

State Reports for February, 1914.

	Scarlet fever.	Measles.	Diphtheria.
Indiana.....	593	1,289	312
Kansas.....	113	201	49
Maryland, exclusive of Baltimore city.....	188	414	77
Massachusetts.....	1,432	834	623
Michigan.....	280	1,392	380
Minnesota.....	821	235	370
Ohio.....	676	2,376	836
South Carolina.....	10	1,404	75
Washington.....	111	750	43

City Reports for Week Ended Mar. 7, 1914.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	558,485	248	23	1	17	1	32	1	19	32
Boston, Mass.	670,585	272	59	5	52	1	127	2	54	21
Chicago, Ill.	2,185,283	800	141	19	86	3	125	11	198	87
Cleveland, Ohio.	560,663	195	21	3	17	1	13	1	37	29
Philadelphia, Pa.	1,549,008	732	58	13	269	4	81	5	95	66
Pittsburgh, Pa.	533,905	244	25	4	21	1	128	4	43	15
St. Louis, Mo.	687,029	276	49	10	130	4	49	5	46	31
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y.	423,715	136	18	2	23	1	21	1	12	12
Cincinnati, Ohio.	364,463	161	21	1	2	1	14	1	29	21
Detroit, Mich.	465,766	190	36	6	1	1	27	1	10	10
Los Angeles, Cal.	319,198	117	7	1	8	1	12	1	36	15
Milwaukee, Wis.	373,857	115	18	3	68	1	41	2	17	10
New Orleans, La.	339,075	159	27	2	29	1	5	1	14	24
San Francisco, Cal.	416,912	134	9	3	50	1	20	1	20	19
Washington, D. C.	331,060	138	12	1	71	1	5	1	19	13

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

City Reports for Week Ended Mar. 7, 1914—Continued.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 200,000 to 300,000 inhabit- ants:										
Jersey City, N. J.	267,779	112	10	1	8		13		13	13
Kansas City, Mo.	248,381	80	4	1	8		8		5	7
Providence, R. I.	224,326	65	13		14		6		7	3
Seattle, Wash.	237,194	57	7		3	1	6		11	5
From 100,000 to 200,000 inhabit- ants:										
Bridgeport, Conn.	102,054	46	5	2	26		5		5	8
Cambridge, Mass.	104,839	34	4	1	44		15		10	3
Columbus, Ohio.	181,548	81	6		35		4		8	8
Dayton, Ohio.	116,577	33	4	1	44		13		1	4
Fall River, Mass.	119,295	38	4	1	1		12		13	6
Grand Rapids, Mich.	112,571	33	4	2	63		11		5	1
Lowell, Mass.	106,294	43	6	2	30		1		4	1
Nashville, Tenn.	110,364	39			1				4	6
Oakland, Cal.	150,174	53	1	2					2	2
Richmond, Va.	127,628	60	2		11		6		5	9
Spokane, Wash.	104,402		2	1	52		2	1		
Toledo, Ohio.	168,497	63	5		3		7		4	6
Worcester, Mass.	145,986	56	10		14		2		11	5
From 50,000 to 100,000 inhabit- ants:										
Altoona, Pa.	52,127	15	1		3		6			1
Bayonne, N. J.	55,545	20	1	1	5		7		5	1
Brockton, Mass.	56,878	15	6	1	19		13		1	
Camden, N. J.	94,538		7		3		2		9	
Duluth, Minn.	78,466		3		4		12		4	1
Erie, Pa.	66,525	41	3		3		1		9	
Harrisburg, Pa.	64,186	22	5	1	13		2		3	
Hartford, Conn.	98,915	58	10		4		5		3	3
Hoboken, N. J.	70,324		6		11		3		11	2
Johnstown, Pa.	55,482	21	9	2	14		3		3	1
Kansas City, Kans.	82,331		2		2		6		4	
Lawrence, Mass.	85,892		6						3	1
Lynn, Mass.	89,336	36	4	1			9		2	2
Manchester, N. H.	70,063	38	3		1		16		4	4
New Bedford, Mass.	96,652	41	1	1	1		7	1	11	2
Passaic, N. J.	54,773	19	3		13				3	
Pawtucket, R. I.	51,622		1	2			3			2
Reading, Pa.	96,071	29	7	1	2		16		1	1
Saginaw, Mich.	50,510	15	1				2	1	2	
St. Joseph, Mo.	77,403	30	4	1			1		3	2
Schenectady, N. Y.	72,826	25		1	3		12		2	3
South Bend, Ind.	53,684	15	2						3	1
Springfield, Ill.	51,678	15								1
Springfield, Mass.	88,926	27	3		2		1		3	1
Trenton, N. J.	96,815									
Wilkes-Barre, Pa.	67,105	19	5		86		12		3	1
Yonkers, N. Y.	79,803	28	8		22		13		3	2
From 25,000 to 50,000 inhabitants:										
Atlantic City, N. J.	46,150	8	4		1		4		2	
Auburn, N. Y.	34,668	12			8		4		3	1
Aurora, Ill.	29,807	10	3				2			
Austin, Tex.	29,860	10					1			2
Binghamton, N. Y.	48,443	18			49	2	2		1	
Brookline, Mass.	27,792	12			2		2		2	
Butte, Mont.	39,165	14			3		1			4
Chelsea, Mass.	32,452	17	1		13		8	1	2	1
Chicopee, Mass.	25,401	8	1				2	1	3	
Danville, Ill.	27,871	9			1					
East Orange, N. J.	34,371		2		37		4		1	
Elmira, N. Y.	37,176	22			2		2			
Everett, Mass.	33,484	11			3		4			
Fitchburg, Mass.	37,826	9			1		1		1	1
Haverhill, Mass.	44,115	12	1				4		4	
Kalamazoo, Mich.	39,437	14	3		21				1	1
La Crosse, Wis.	30,417	4	1							
Lancaster, Pa.	47,227		1		1		1		2	
Lexington, Ky.	35,099	9	2		5		4			2
Little Rock, Ark.	45,941	1			55				3	
Lynchburg, Va.	29,494	10					2			1
Malden, Mass.	44,404	19	1		10		6	1		1

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

City Reports for Week Ended Mar. 7, 1914—Continued.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabit- ants—Continued.										
Newcastle, Pa.	36,280						1			
Newport, Ky.	30,309	13					3		2	2
Newport, R. I.	27,149	5	2							
Newton, Mass.	39,806	11	2		12		2		6	1
Niagara Falls, N. Y.	30,445	10								
Norristown, Pa.	27,875	7			11		5		1	2
Orange, N. J.	29,630	11			27		1		3	2
Pasadena, Cal.	30,291	11							2	2
Pittsfield, Mass.	32,121	18			1		1			1
Portsmouth, Va.	33,190	8	2							
Racine, Wis.	38,002	20	2				3			
Roanoke, Va.	34,874	15	4		38	1	3		2	2
Rockford, Ill.	45,401	15	4							
Sacramento, Cal.	44,696	20					12			1
San Diego, Cal.	39,578	3			1				2	1
South Omaha, Nebr.	26,259	5					1			3
Superior, Wis.	40,384	15							1	1
Taunton, Mass.	34,259	20			1		11		1	2
Waltham, Mass.	27,834	6					7			1
West Hoboken, N. J.	35,403	2	3		4		1		1	2
Wheeling, W. Va.	41,641	18								
Wilmington, N. C.	25,748	12	1		43				1	
Zanesville, Ohio.	28,026		2				1	1		2
Less than 25,000 inhabitants:										
Alameda, Cal.	23,383	6					1			1
Ann Arbor, Mich.	14,817	9	1				2		6	
Beaver Falls, Pa.	12,191						3			
Braddock, Pa.	19,357		2		2		3			
Cambridge, Ohio.	11,327	2					1			
Clinton, Mass.	13,075	1			1		2			
Coffeyville, Kans.	12,687				61					
Columbus, Ind.	8,813				10					
Concord, N. H.	21,497	15					1			
Cumberland, Md.	21,839	7	2	1	8		8			
Dunkirk, N. Y.	17,221	4								1
Galesburg, Ill.	22,089	14	1							
Harrison, N. J.	14,498	6			1		1			
Kearny, N. J.	18,659	4	3		9		3			
Massillon, Ohio.	13,879	1								
Medford, Mass.	23,150	4			4		1			1
Melrose, Mass.	15,715	5	1				7	1	1	
Moline, Ill.	24,199	8	1				1			
Mountclair, N. J.	21,550	8			35		1			1
Morristown, N. J.	12,507	10			2				1	
Muncie, Ind.	24,005						4			
Muscatine, Iowa	16,178	5								
Nanticoke, Pa.	18,877	10	3		1					
Newburyport, Mass.	14,949	8	1							
North Adams, Mass.	22,019	7	1						1	
Northampton, Mass.	19,431	4			2					1
Palmer, Mass.	8,610	3								
Plainfield, N. J.	20,550	7			1		1		1	3
Pottstown, Pa.	15,999	10								2
Rutland, Vt.	13,546	1								
Saratoga Springs, N. Y.	12,693	3								
South Bethlehem, Pa.	19,973	9	3		14					
Steelton, Pa.	14,246	5								
Wilkinsburg, Pa.	18,924		1				26	1		
Woburn, Mass.	15,308	8								

1 Five of these were nonresidents.

IN INSULAR POSSESSIONS.

HAWAII.

Examination of Rats and Mongoose.

Rats and mongoose have been examined in Hawaii as follows: Honolulu, week ended February 28, 1914, 305; Hilo, week ended February 21, 1914, 2,514. No plague-infected animal was found.

PORTO RICO.

Examination of Rats and Mongoose.

During the week ended March 6, 1914, 584 rats, 276 mice, and 5 mongoose were examined in Porto Rico for plague infection. No plague-infected animal was found.

FOREIGN REPORTS.

CHINA.

Plague—Plague-Infected Rats—Hongkong.

During the two weeks ended February 7, 1914, 31 cases of plague, with 28 deaths, were notified at Hongkong.

During the same period 3,776 rats were examined at Hongkong for plague infection. Four plague-infected rats were found.

CUBA.

Plague—Habana.

Dr. Juan Guiteras, director of sanitation, reported, March 26, the occurrence of three new cases of plague in Habana, making a total of five cases in all since March 2, 1914.

JAPAN.

Typhus Fever—Tokyo.

March 26, 1914, 1,087 cases of typhus fever were reported present at Tokyo, with a daily average of 50 new cases.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Mar. 27, 1914.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies: Sumatra— Padang.....	Dec. 14-Jan. 3.....	68	39	
India: Madras.....	Feb. 8-14.....	1		

PLAGUE.

Places.	Date.	Cases.	Deaths.	Remarks.
Ceylon: Colombo.....	Feb. 1-7.....	4	4	
Cuba: Habana.....	Mar. 26.....	3	1	Total Mar. 5-26: cases, 5.
India: Bassein.....	Jan. 25-31.....	14	14	
Bombay.....	Feb. 8-14.....	27	24	
Madras.....	do.....	1	1	
Turkey in Asia: Jiddah.....	Feb. 25-28.....	1	1	

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received During Week Ended Mar. 27, 1914—Continued.****SMALLPOX.**

Places.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Departments—				
Algiers.....	Dec. 1-31.....	2		
Constantine.....	do.....	1		
Oran.....	do.....	45		
Arabia:				
Matarah.....	Feb. 14.....			Present.
Austria-Hungary:				
Moravia.....	Feb. 1-7.....	1		
Upper Austria.....	do.....	1		
Brazil:				
Rio de Janeiro.....	do.....	50	12	
Canada:				
Montreal.....	Mar. 8-14.....	8		
Ottawa.....	Mar. 1-7.....	1		
Toronto.....	Feb. 15-Mar. 7.....	2		
Winnipeg.....	Feb. 22-Mar. 7.....	9		
China:				
Antung.....	Feb. 3-15.....	2		
Hankow.....	Jan. 18-24.....	1		
Tsing Tau.....	Jan. 15-31.....	2		
Dutch East Indies.				Jan. 25-Feb. 7: Cases, 114; deaths 36 in the western part. In the interior: Cases 40; deaths 28.
Surabaya.....	Jan. 18-31.....	3		
Germany:				Total, Mar. 1-7: 2 cases.
Breslau.....	Mar. 7.....			
Kehl.....	Feb. 8-14.....	1		
Jan. 1-31.....			1	
Grenada:				
Mar. 18.....		3		
Japan:				Feb. 8-22, 9 cases.
Nagasaki.....				
Mexico:				
Aguascalientes.....	Mar. 2-8.....		12	
San Luis Potosi.....	Jan. 11-24.....	1	3	
Vera Cruz.....	Mar. 1-1.....	9	3	
Norway:				
Trondhjem.....	Feb. 1-28.....	5		
Portugal:				
Lisbon.....	Feb. 8-28.....	5		
Russia:				
Moscow.....	Feb. 1-14.....	10	2	
St. Petersburg.....	do.....	8	5	
Vladivostok.....	Dec. 22-Jan. 28.....	5		
Warsaw.....	Dec. 1-15.....	8	5	
Servia—				
Belgrade.....	Feb. 8-21.....	22	13	
Spain:				
Barcelona.....	Feb. 22-28.....		12	
Valencia.....	do.....	1		
Turkey in Asia				
Jaffa.....	do.....		3	
Mersina.....	Feb. 9-15.....	1		
Turkey in Europe:				
Constantinople.....	Feb. 21-27.....		1	
Saloniki.....	Feb. 22-28.....		4	

Reports Received from Dec. 27, 1913, to Mar. 20, 1914.**CHOLERA.**

Austria-Hungary:				
Bosnia-Herzegovina—				
Brod.....	Nov. 13-18.....	2		
Kostjica.....	do.....	1		
Novigrad.....	Oct. 26-Nov. 5.....	1		
Sjekovac.....	Nov. 6.....	1		
Travnik, district.....	Dec. 10-16.....	6		
Vranduk.....	Nov. 29.....	1		
Zenica.....	Oct. 23-Nov. 19.....	9	2	
Croatia-Slavonia—				
Pozenga.....	Nov. 18-Dec. 1.....	2		
Syrmien—				
Adasevci.....	do.....	6	2	
Semlin.....	do.....	1	1	
Vitrovia—				
Dobrovic.....	do.....	2	2	

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Hungary.....				Total, Sept. 1-Dec. 29: Cases, 729; deaths, 372; Dec. 29, free.
Bacs-Bodrog, district..	Nov. 9-Dec. 29....	52	31	
Jasz-Nagy-Kun-Szolnok—				
Szolnok.....	Nov. 9-15.....	2	2	
Maramaros.....	Nov. 30-Dec. 6....	1	1	
Pest Pilis—				
Soroksar.....	Nov. 9-22.....	2	1	
Szabolcs—				
Nyiregyhaza.....	Nov. 9-15.....	1	1	
Temes—				
Varasliget.....	.....do.....		1	
Torontal.....	Nov. 9-Dec. 13....	27	19	
Ung—				
Jasza.....	Nov. 9-15.....	1	1	
Ceylon:				
Colombo.....	Nov. 9-Jan. 17....	33	19	
China:				
Hongkong.....	Nov. 9-Dec. 20....	4		
Dutch East Indies:				
Java—				
Batavia and Tanjong Priok.....	Nov. 9-Dec. 27....	45	34	
Do.....	Jan. 18-24.....	1	1	
Samarang.....	Nov. 30-Dec. 27....	47	25	
Sumatra—				
Padang.....	Dec. 1-13.....	11	11	
India:				
Bombay.....	Nov. 10-Feb. 1....	18	9	
Calcutta.....	Nov. 9-Jan. 24....		455	
Madras.....	Nov. 16-Jan. 24....	6	4	
Negapatam.....	Jan. 4-24.....		21	
Rangoon.....	Nov. 1-Dec. 31....	5	1	
Do.....	Jan. 1-31.....	2	1	
Indo-China:				
Laos (Shan States).....	Jan. 1-10.....	10		Along the upper Mekong River.
Saigon.....	Jan. 13-26.....	2		
Philippine Islands:				
Manila.....	Nov. 9-Feb. 14....	81	52	Total, Aug. 23-Jan. 24: Cases, 186; deaths, 124. Third quarter, 1913: Cases, 14; deaths, 6. Jan. 3, 1 fatal case on s. s. Sigismund from Rabal, New Guinea. At the necropsy pathological lesions of cholera and beriberi were found.
Provinces.....				Total, Aug. 23-Dec. 27: Cases, 148; deaths, 94.
Bulacan—				
Bulacan.....	Dec. 14-20.....			Present in vicinity.
Meycauayan.....	.....do.....			Present.
Capiz.....				Total, Dec. 17-23: Cases, 26 deaths, 18.
Banga.....	Dec. 17-20.....			Present.
Capiz.....	Jan. 28.....			Do.
Calivo.....	Dec. 17-Jan. 24....			1 death daily.
New Washington.....	.....do.....			Present.
Cavite—				
Santa Cruz.....	Nov. 13-19.....			Do.
Cebu—				
Cebu.....	.....do.....			Do.
Opon.....	Nov. 19.....	1		On Mactan Island.
Pampanga.....	Dec. 7-Jan. 28....			Present in Guagua, Macabebe, San Fernando, and other places.
Pangasinan.....	Dec. 19-29.....			Present in Dagupan, Lingayen, San Carlos, and Urdaneta.
Rizal—				
Las Pinas.....	.....do.....	1		
Pasig.....	Nov. 19.....			Present.
Pateros.....	Jan. 28.....			Do.
Rizal.....	.....do.....			Do.
Roumania.....				Total, Nov. 14 to Dec. 7: Cases, 18; deaths, 15.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Russia:				
Bessarabia—				
Ismail.....	Oct. 26-Nov. 8....	6	1	
Ekaterinoslav.....	.....do.....	1	.....
Kherson.....	.....do.....	6	9	
Taurida—				
Dniaper district.....	.....do.....	1	2	
Servia.....	.....do.....	.....	.....	Nov. 10-24: 8 cases with 2 deaths in the districts Podrigne and Pojarevatz.
Siam:				
Bangkok.....	Nov. 2-Jan. 24.....	.....	99	
Straits Settlements:				
Singapore.....	Nov. 2-Jan. 17....	19	17	
Turkey in Asia:				
Aivali.....	Jan. 10-23.....	9	6	
Beirut.....	Dec. 23.....	2	1	From among troops on the s. s. Bahr Amer from Rodosto.
Smyrna.....	Dec. 16-Jan. 8....	11	4	
Trebizond.....	Dec. 9-Jan. 24....	22	16	Dec. 9-16: 6 cases among troops from s. s. Guldjemal. Jan. 17, 1 case in the city.
Turkey in Europe:				
Constantinople.....	Nov. 25-Feb. 15...	141	56	Total, Aug. 2-Feb. 15: Cases, 216; deaths, 96.
Dardanelles.....	Jan. 9-20.....	10	9	
Gallipoli.....	Jan. 1-3.....	.....	2	
Pera.....	Jan. 3-10.....	5	.....
Rodosto.....	Dec. 21-Jan. 9....	22	.....

YELLOW FEVER.

Brazil:				
Bahia.....	Nov. 23-Feb. 21...	8	10	
Ceara.....	Nov. 1-30.....	.....	2	
Ecuador:				
Guayaquil.....	Nov. 1-Dec. 31....	9	6	
Do.....	Jan. 1-31.....	7	2	
Milagro.....	.....do.....	2	1	
Naranjito.....	.....do.....	3	2	
Mexico:				
Merida.....	Dec. 10-11.....	1	1	From Campeche.
Do.....	Jan. 4-10.....	1	1	Do.
Southern Nigeria:				
Lagos.....	Oct. 20-Dec. 28...	5	1	Among Europeans from a vessel. Feb. 26, present.
Togo:				
Lome.....	Sept. 12.....	1	.....
Trinidad:				
Brighton.....	Dec. 30.....	1	.....	Total, Nov. 22-Dec. 30: Cases, 10; deaths, 3, including previous reports.
Venezuela:				
Caracas.....	.....do.....	.....	.....	Feb. 28, 1 case.

PLAGUE.

Australia:				
Thursday Island Quarantine station.	May 21.....	5	.....	Pestis minor from s. s. Taynan from Hongkong to Townville.
Azores:				
Terceira—				
Angra-Heróismo.....	Dec. 21.....	.....	1	
Brazil:				
Bahia.....	Nov. 23-Feb. 21...	25	10	
Pernambuco.....	Dec. 16-31.....	.....	1	
Do.....	Jan. 1-15.....	.....	1	
Rio de Janeiro.....	Nov. 16-22.....	1	1	

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

Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
British East Africa:				
Kisumu.....	Sept. 12-Oct. 13...	2	.....	Jan. 14-Nov. 15, 1913: Cases, 29; deaths, 22.
Mombasa.....	Sept. 12-Dec. 15...	31	16	Feb. 6-Dec. 15: Cases, 200; deaths, 173. Including previous reports.
Nairobi.....	Sept. 12-Nov. 15...	3	3	
Ceylon:				
Colombo.....	Jan. 25-31.....	3	3	Septicemic. Jan. 25-Feb. 12: 11 deaths.
Kandy.....	.....do.....	1	.....	From Colombo. Also septicemic.
Chile:				
Iquique.....	Nov. 9-Jan. 31....	18	9	
Do.....	Jan. 11-31.....	3	3	
China:				
Hongkong.....	Nov. 2-Feb. 7.....	81	74	Mar. 3-17: 67 cases.
Shanghai.....	Oct. 1-7.....	1	.....
Cuba:				
Habana.....	Mar. 5-9.....	2	.....
Dutch East Indies:				
Java.....				Total in East Java, year 1913: Cases, 11,218; deaths, 10,556.
Provinces—				
Kebtri.....	Nov. 1-Dec. 31....	547	481	
Madioen.....	do.....	151	140	
Malang.....	do.....	1,550	1,463	
Surabaya.....	do.....	93	95	
Ecuador:				
Babahoyo.....	Nov. 1-Dec. 31....	1	.....
Duran.....	Dec. 1-31.....	1	.....
Do.....	Jan. 1-31.....	1	1	
Guayaquil.....	Nov. 1-Dec. 31....	349	157	
Do.....	Jan. 1-31.....	55	21	
Manta.....	Dec. 1-31.....	8	.....
Milagro.....	Nov. 1-Dec. 31....	2	1	
Naranjito.....	do.....	3	1	
Yaguachi.....	Nov. 1-30.....	2	2	
Do.....	Jan. 1-31.....	1	1	
Egypt.....				Jan. 1-Dec. 24, 1913: Cases, 654; deaths, 304. Jan. 1-Feb. 18: Cases, 15; deaths, 7.
Alexandria.....	Feb. 18.....	1	.....
Cairo.....	Feb. 13.....	1	.....
Port Said.....	Feb. 10.....	2	2	
Provinces—				
Assiout.....	Jan. 5.....	1	1	
Assouan.....	Dec. 10.....	1	.....
Do.....	Jan. 5.....	1	1	
Fayoum.....	Feb. 10.....	1	.....
Garbieh.....	Dec. 11.....	1	.....
Do.....	Jan. 15-17.....	7	2	
Minieh.....	Dec. 9-24.....	3	1	
Do.....	Jan. 8-29.....	2	2	
India.....				Total Jan. 1, 1913-Jan. 3, 1914: Cases, 238,198; deaths, 198,875. Jan. 4-31: Cases, 34,714; deaths, 28,061.
Bassein.....	Jan. 4-24.....	38	33	Total, Jan. 1, 1913-Jan. 3, 1914: Cases, 304; deaths, 283.
Bombay.....	Nov. 9-Feb. 7.....	121	98	
Calcutta.....	Nov. 2-Feb. 7.....	.....	20	
Karachi.....	Nov. 9-Feb. 14....	237	225	
Madras.....	Nov. 16-Dec. 20....	4	2	
Moulmain.....	Jan. 4-24.....	.....	18	Jan. 1, 1913-Jan. 3, 1914: Cases, 574; deaths, 576.
Rangoon.....	Oct. 26-Dec. 31....	74	68	
Do.....	Jan. 1-31.....	81	79	
Indo-China.....				Total Jan. 1-Dec. 31: Cases, 3,961; deaths, 3,742.
Saigon.....	Nov. 11-Jan. 26....	14	.....
Japan.....				Total Jan. 1-Dec. 31: Cases, 27; deaths, 20; exclusive of Taiwan.
Kobe.....	Dec. 1-7.....	1	.....
Yokohama.....	Jan. 4-10.....	1	.....	Total Sept. 19-Jan. 10: Cases, 22; deaths, 17.
Mauritius.....	Oct. 26-Jan. 8.....	82	54	Total Jan. 1-Nov. 27: Cases, 273; deaths, 163.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.****PLAGUE—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Morocco:				
Casablanca.....	Jan. 7.....	1	1	
El-Araish (Larache).....	Sept. 17.....	1		Among the military.
New Caledonia:				
Bourail.....	Sept. 1-Oct. 14....	8	2	In a school of the tribe of the Azaren.
Peru.....				Deaths not reported.
Ancachs—				
Casma.....	Feb. 9-15.....	2		Dec. 1-Feb. 8, present.
Nepena.....	Nov. 1-Jan. 18.....			Do.
Arequipa—				
Mollendo.....	Dec. 1-Feb. 15.....	12		
Cajamarca—				
Contumaza.....	Jan. 19-24.....	12		Feb. 8, present.
Callao—				
Callao.....	Jan. 19-Feb. 15....	5		
Lambayeque—				
Chiclayo.....	Dec. 1-Feb. 15.....	72		
Ferranaje.....	Dec. 1-Feb. 8.....	18		
Guadalupe.....	Dec. 1-Feb. 15.....	15		Dec. 1-Feb. 8, present.
Pacasmayo.....	Jan. 25-Feb. 15.....	5		
Libertad—				
San Pedro.....	Dec. 1-Feb. 8.....	34		
Trujillo.....	Dec. 1-Feb. 15.....	61		
Lima.....	Dec. 1-Jan. 18.....	6		
Lima.....	Dec. 1-Feb. 15.....	45		
Pisco.....	Dec. 1-Jan. 18.....	2		
Monsefu.....	do.....	2		
Piura—				
Catacaos.....	Dec. 1-Feb. 15.....	13		
Piura.....	Dec. 1-Jan. 24.....	10		Feb. 8, present.
Philippine Islands:				
Manila.....	Nov. 23-Feb. 14....	10	9	Third quarter, 1913: Cases, 2; deaths, 1.
Russia:				
Saratov.....	Feb. 11.....	1		
Ural, territory.....				Total Oct. 20-Nov. 10: Cases, 212; deaths, 170; and 2 fatal cases from Issum Tube.
Djakisabevsk district—				
Djumarta.....	Nov. 9-10.....	5	1	
Djantayu.....	Nov. 8-10.....	2	2	
Kizilu.....	Nov. 8.....	1	1	
Fourteenth village.....	Nov. 7-9.....	6		
Sarbas.....	Nov. 8-10.....	13	7	
Kaziljar district.....	Nov. 5-10.....	39	24	In Assaukurt, Baitechurek, Bis-kuduk, and Djamankuduk.
Lbistchensky district—				
Issum Tube.....	Oct. 20-Nov. 10....	138	127	
Kaimikov.....	Nov. 4-10.....	6	6	
Siam:				
Bangkok.....	Nov. 2-Jan. 24....		7	
Tripoli:				
Bengazi.....	Jan. 31.....			Present.
Turkey in Asia:				
Beirut.....	Dec. 10-23.....	2	2	
Jiddah.....	Feb. 2.....	1		
Zanzibar.....	Dec. 31-Jan. 21....	5	3	On s. s. President from Dar-es-Salaam.

SMALLPOX.

Algeria:				
Departments—				
Algiers.....	Sept. 1-Nov. 30....	8		
Constantine.....	Oct. 1-Nov. 30....	14		
Oran.....	Sept. 1-Nov. 30....	171		
Arabia:				
Aden.....	Nov. 25-Feb. 2.....	5	5	
Maskat.....	Nov. 30-Dec. 8.....	10		Dec. 20, present.
Matarah.....	Dec. 23-Jan. 10....	9		Nov. 30, present
Argentina:				
Buenos Aires.....	Nov. 1-30.....		1	
Rosario.....	Dec. 1-31.....	1		

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Australia:				
New South Wales.....				July 1, 1913-Jan. 31, 1914: Cases, 1,078.
Sydney, metropolitan area.....				July 1, 1913-Jan. 8, 1914: Cases, 1,032.
Western Australia— Freemantle.....				Dec. 2, 1 fatal case on R. M. S. Malwa, from London via Port Said, Aden, and Colombo.
Austria-Hungary:				
Coastland— Trieste.....	Jan. 25-31.....	3		
Lower Austria— Vienna.....	Jan. 4-24.....	6		
Moravia.....	Jan. 18-31.....	2		
Tyrol and Vorarlberg.....	Nov. 23-Jan. 10.....	5		
Upper Austria.....	Dec. 14-Jan. 3.....	18		
Brazil:				
Bahia.....	Nov. 23-Feb. 21.....	26		
Para.....	Dec. 1-Feb. 21.....	25	42	
Pernambuco.....	Nov. 1-Jan. 15.....		70	
Rio de Janeiro.....	Nov. 9-Jan. 31.....	352	61	
Canada:				
Manitoba— Winnipeg.....	Feb. 14-21.....	1		
Ontario— Fort William.....	Feb. 24-Mar. 2.....	1		
Hamilton.....	Jan. 1-Feb. 28.....	23		
Ottawa.....	Dec. 7-Feb. 28.....	21		
Toronto.....	Dec. 7-Feb. 14.....	4	1	
Quebec— Montreal.....	Dec. 7-Mar. 7.....	52		
Quebec.....	Jan. 24-31.....	1		
Canal Zone:				
Panama.....				Nov. 1-30, Santo Tomas hospital, 1 case from a vessel from Callao.
Ceylon:				
Colombo.....	Nov. 30-Dec. 6.....	1		
China:				
Amoy.....	Dec. 14-Jan. 10.....			Present.
Antung.....	Jan. 4-11.....	1		
Dairen.....	Dec. 7-17.....	6	1	
Hankow.....	Nov. 2-Jan. 17.....	11	1	
Hongkong.....	Dec. 14-Feb. 7.....	6	4	
Nanking.....	Jan. 24.....			Do.
Shanghai.....	Dec. 8-Feb. 19.....	8	5	Deaths among natives.
Tientsin.....	Nov. 9-15.....		1	
Ting Chow.....	Jan. 5.....			Epidemic, 130 miles from Amoy.
Tong An.....	Dec. 27.....			Present, 20 miles from Amoy.
Dutch East Indies:				
Java.....				Dec. 13-Jan. 24, 60 cases with 20 deaths in the western part, and 60 cases with 35 deaths in the interior.
Batavia.....	Nov. 27-Jan. 11.....	66	69	
Besoeki.....	Oct. 19-29.....	227	47	
Madjoen.....	Oct. 19-28.....	36	12	
Surabaya.....	Oct. 28-Nov. 8.....	3		
Surakarta.....	Oct. 19-Dec. 6.....	481	91	
Egypt:				
Alexandria.....	Nov. 26-Feb. 11.....	21	9	
Cairo.....	Nov. 19-Feb. 4.....	114	69	
Port Said.....	Dec. 3-Jan. 28.....	2	1	
France:				
Marseille.....	Nov. 1-Jan. 31.....		98	
Nantes.....	Feb. 1-14.....	2		
Nice.....	Nov. 1-Dec. 31.....	2		
Paris.....	Nov. 23-Feb. 14.....	19		
St. Etienne.....	Nov. 16-Feb. 15.....	11	4	
Germany:				
Berlin.....	Feb. 8-14.....	2		Dec. 7-Feb. 28: Cases, 17.
Bremen.....	do.....	1		
Hamburg.....	Dec. 11-25.....	4		
Lubec.....	Feb. 15-21.....	1		
Gibraltar.....	Dec. 1-Mar. 1.....	5		

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

Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Great Britain:				
Aberdeen.....	Feb. 22-28.....	4	.....
Cardiff.....	Feb. 16-21.....	1	.....
London.....	Jan. 18-Feb. 28....	3	.....
Nottingham.....	Dec. 21-27.....	28	.....
Southampton.....	Feb. 2-28.....	1	.....
Greece.....				Jan. 28-Feb. 12, present in the barracks at Athens and in the surrounding country.
Achaia and Elis, Province..	Jan. 29.....	.....	.....	Present.
Piræus.....	Jan. 18-Feb. 12....	19	11	
Guadeloupe:				
Pointe à Pitre quarantine station, Islet à Cosson.	Feb. 16-23.....	10	1	From among returned troops from s. s. Perou from Havre, via Bordeaux and Santander.
India:				
Bombay.....	Nov. 23-Feb. 1....	49	23	
Calcutta.....	Nov. 2-Feb. 7.....	.....	63	
Karschi.....	Nov. 2-Jan. 31.....	7	1	
Madras.....	do.....	21	5	
Indo-China:				
Saigon.....	Nov. 11-24.....	1	1	
Italy:				
Leghorn.....	Dec. 21-27.....	1	.....
Naples.....	Jan. 3.....	1	.....
Turin.....	Dec. 22-28.....	1	.....
Japan.....				Total Jan. 1-Dec. 31: Cases, 108; deaths, 39, exclusive of Taiwan.
Fukuoka ken.....	Dec. 1-31.....	2	.....	Jan. 27-Feb. 8, 1 fatal case.
Nagasaki.....				
Tokyo.....	Nov. 1-30.....	1	.....
Yokohama.....	Jan. 6-12.....	1	1	
Mauritius.....	Oct. 2-25.....	60	4	
Mexico:				
Acapulco.....	Dec. 6-Feb. 7.....	.....	2	
Aguascalientes.....	Dec. 1-Mar. 1.....	.....	71	
Chihuahua.....	Dec. 29-Feb. 1.....	.....	10	
Durango.....	Apr. 1-May 31.....	.....	77	
Guadalajara.....	Jan. 11-Feb. 14.....	89	46	
Imuris.....	Dec. 29-Jan. 4.....	5	.....
Juarez.....	Feb. 15-28.....	.....	4	
Llano.....	Jan. 17.....	8	.....
La Paz.....	Jan. 16-22.....	3	1	
Mexico.....	Oct. 26-Nov. 29....	31	15	
Monterey.....	Nov. 17-Mar. 1.....	2	4	
Salina Cruz.....	Jan. 18-24.....	1	1	
San Luis Potosi.....	Nov. 2-Jan. 10.....	3	4	
Tampico.....	Dec. 24-Jan. 30.....	100	31	
Vera Cruz.....	Dec. 6-Feb. 28.....	22	5	
Netherlands, The.....	Feb. 8-14.....	1	1	
New Zealand.....				Apr. 8, 1913, to Jan. 7, 1914: Cases, 2,000, including report, p. 2563, vol. 28.
Norway:				
Trondhjem.....	Nov. 1-Jan. 31....	14	.....
Peru:				
Callao.....	Jan. 26.....	.....	.....	Still epidemic.
Lima.....	do.....	.....	.....	Do.
Philippine Islands:				
Manila.....				Third quarter 1913: Cases, 15.
Portugal:				
Lisbon.....	Nov. 16-Feb. 7....	14	.....
Russia:				
Moscow.....	Dec. 14-Jan. 7....	9	2	
Odessa.....	Nov. 16-Jan. 10....	11	2	
St. Petersburg.....	Nov. 23-Jan. 31....	42	9	
Warsaw.....	Oct. 5-Nov. 29....	44	29	
Servia:				
Belgrade.....	Nov. 7-Feb. 8....	99	35	
Spain:				
Almeria.....	Nov. 1-Jan. 31....	.....	9	
Barcelona.....	Nov. 30-Feb. 21....	.....	74	
Madrid.....	Nov. 1-Jan. 31....	.....	87	
Seville.....	Nov. 1-30.....	.....	1	
Valencia.....	Dec. 1-Feb. 18....	11	.....

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 27, 1913, to Mar. 20, 1914—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Straits Settlements:				
Penang.....	Nov. 2-Dec. 6.....	13	1	
Singapore.....	Nov. 2-22.....	2	.....
Switzerland:				
Canton—				
Basel.....	Nov. 23-Feb. 27...	74	.....
Genoa.....	Nov. 23-29.....	3	1	
Turkey in Asia:				
Adana.....	Jan. 10-24.....	2	.....	Dec. 28, epidemic.
Beirut.....	Nov. 23-Feb. 21...	262	117	
Jaffa.....	Dec. 6-Feb. 21....	25	3	
Mersina.....	Jan. 4-24.....	2	.....
Smyrna.....	Nov. 16-Feb. 14...	.....	164	
Tarsus.....	Dec. 28-Feb. 8....	.....	.....	Still present.
Trebizond.....	Jan. 11-24.....	.....	.....	Present.
Tripoli.....	Jan. 25-Feb. 21....	23	.....
Turkey in Europe:				
Constantinople.....	Nov. 20-Feb. 14...	.....	14	
Saloniki.....	Dec. 1-Feb. 7.....	.....	80	

SANITARY LEGISLATION.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

PENNSYLVANIA.

Morbidity Reports—Scabies—Impetigo Contagiosa. (Reg. Bd. of H., Jan. 3, 1913.)

Fifth. All physicians practicing within the limits of the State shall make an immediate report of each and every case of scabies and impetigo contagiosa.

Common Drinking Cups—Common Towels—Barber's Brushes—Eating Utensils. (Reg. Bd. of H., Jan. 3, 1913.)

First. Those responsible for establishing or conducting any public drinking place in the Commonwealth of Pennsylvania are hereby forbidden to furnish or permit others to furnish or keep any common drinking vessel for common use at any such drinking place provided this rule and regulation shall not preclude the use of vessels which are cleansed by washing in boiling water or are disinfected or destroyed after individual use. Public places within the meaning of this regulation shall include common carriers, private, public, parochial or Sunday schools, industries, factories, theaters, shops, offices, hotels, etc.

Second. No person, persons or corporation within the Commonwealth of Pennsylvania shall furnish for public use any towel unless such towel be laundered or discarded after each individual use.

Third. Barbers are hereby forbidden to use a common brush for brushing the eyes of their patrons unless such brush be disinfected after each individual use.

Fourth. Proprietors or persons in charge of public eating places are hereby forbidden to use drinking vessels, dishes, spoons, knives, forks, finger bowls and other eating utensils which have not been thoroughly cleansed after each individual use.

Statistics of Diseases, Births, Marriages, and Deaths—To be Compiled by the Central Bureau of Vital Statistics. (Act 404, July 16, 1913.)

SECTION 1. *Be it enacted, etc.,* That all statistics of births, marriages, deaths, diseases; of practitioners of medicine and surgery; midwives, nurses, and undertakers; and all persons whose occupations is deemed to be of importance in obtaining complete registration of births, deaths, marriages, and diseases, or other vital statistics, now compiled by the department of health, or required by any subsequent law or laws to be so obtained, collected, compiled, and preserved, shall be obtained, collected, compiled, and preserved by and in the central bureau of vital statistics, created by the said act, approved May 1, A. D. 1905 (Pamphlet Laws, 330), to be maintained as a bureau of the department of health, under the general supervision of the commissioner of health and the immediate direction of the State registrar of vital statistics appointed by the said commissioner of health, under existing laws.

SEC. 2. The State registrar of vital statistics shall receive an annual salary at the rate of \$4,000.

[NOTE.—In drafting legislation relating to the collection of morbidity reports State boards of health should remember that the most important function served by the notification of cases is the giving of prompt and current information to the epidemiologic branch of the health department for guidance in the control of disease. There can be no objection to having the Bureau of Vital Statistics or other statistical office take the case reports after they have served their purpose in the Epidemiologic Bureau and compile and tabulate them by the statistical method for further use. Having the Bureau of Vital Statistics perform this statistical compilation would be an economy; in fact, there would seem to be no reason why it would not be an economy for a State government to have but one statistical office to perform all its statistical work, in the same way that one printing establishment would do all its printing. A statistical office is simply a common servant doing work for others, the same as a printing establishment. It does not use the statistics it prepares. That is left to others. Making the collection of morbidity reports the duty of a statistical office is fraught with the possible danger that the morbidity reports may be treated merely as so much statistical data for compilation and tabulation, to be available only in printed form annually and then probably at times to relate to data several years old. Morbidity reports should finally serve as the data for morbidity statistics, but their greatest usefulness and their most important function to the health department are the information they give the epidemiologist as to where his activities are needed.—EDITOR.]

Appropriations. (Act 407, July 16, 1913.)

The appropriations are for two fiscal years, June 1, 1913, to May 31, 1915.

Quarantine physician, Philadelphia.

For the payment of the salary of the quarantine physician.....	\$10, 00
For the payment of the salaries of 2 deputy maritime physicians.....	8, 000
For the payment of the salary of the quarantine messenger, two years.....	2, 000
For the payment of the salaries of 8 shore employees, including nurse (\$12,770), approved by the governor for.....	10, 770
For the payment of the salaries of 9 employees on the boat (\$14,750), approved by the governor for.....	12, 750
For the payment of insurance on the boat and launch.....	900
For maintenance of the boat, including fuel (\$10,000), approved by the governor for.....	5, 000
For maintenance of all employees, including uniforms and caps.....	8, 000
For the purchase of drugs.....	600
For the purchase of coal for heating shore buildings.....	2, 500
For maintenance of the office, including \$1,000 for service of maritime exchange in reporting all incoming and outgoing vessels, rent and care of office, stationery, telephone and telegraph service, and for like expenses at the office at Marcus Hook.....	4, 500
For maintenance of the quarantine station, including all supplies, repairs, water and gas supply, labor, painting, plumbing, carpenter work, feed for horses, necessary improvements and additions to buildings, new buildings, and any and all expenses incident to maintaining the grounds and buildings and the furnishing the equipping of the same, as well as repairs to wharf and tramway (\$20,980), approved by the governor for.....	15, 980
	<hr/> 81, 000 <hr/>

Health officer, Philadelphia.

For the payment of the salary of the health officer.....	10, 000
For the payment of the salary of the clerk to the health officer.....	2, 400
For the payment of the rent and care of the office of the health officer, telephone and messenger and stationery (\$2,640), approved by the governor for.....	1, 640
	<hr/> 14, 040 <hr/>

Department of health.

For the payment of the salary of the commissioner of health	\$20,000
For the payment of the salaries of the assistant to the commissioner, secretary, general inspector, auditor, stenographers, clerks, and other general employees	31,800
	<u>51,800</u>

MEDICAL DIVISION.

For the payment of the salary of the chief medical inspector	8,000
For the payment of the salary of the associate chief medical inspector	7,000
For the payment of the salary of the assistant chief medical inspector	5,000
For the payment of the salary of a chief clerk of medical school inspection	3,000
For the payment of the salary of 5 stenographers	8,640
For the payment of the salary of 12 clerks	17,280
	<u>48,920</u>

LABORATORIES AND EXPERIMENTAL STATION.

For the payment of the salary of the chief of the laboratories	6,000
For the payment of the salary of the bacteriologist	4,560
For the payment of the salary of 2 technical assistants	5,040
For the payment of the salary of 2 stenographers	3,120
For the payment of the salary of 3 clerks	3,840
For the payment of the salary of 4 laboratory helpers	5,520
	<u>28,080</u>

DIVISION OF DISTRIBUTION OF BIOLOGICAL PRODUCTS.

For the payment of the salary of the chief of the division	6,000
For the payment of the salary of a bookkeeper	1,920
For the payment of the salary of 2 stenographers	3,360
For the payment of the salary of 1 clerk	1,440
	<u>12,720</u>

BUREAU OF VITAL STATISTICS.

For the payment of the salary of the State registrar of the bureau of vital statistics	5,000
For the payment of the additional salary of the State registrar of the bureau of vital statistics, conditioned upon the approval by the governor of Senate bill No. 737	1,000
For the payment of the salary of the chief clerk of the bureau of vital statistics	4,000
For the payment of the salary of the classification clerk	3,600
For the payment of the salary of the returns clerk	3,000
For the payment of the salary of the search clerk	2,400
For the payment of the salary of 8 stenographers	12,480
For the payment of the salary of 5 clerks	7,200
	<u>38,680</u>

MARRIAGE AND MORBIDITY STATISTICS.

For the payment of the salary of the supervisor of morbidity and marriage statistics	2,000
For the payment of the salary of 9 clerks on morbidity and marriage statistics	12,960
	<u>14,960</u>

SANITARY ENGINEERING DIVISION.

For the payment of the salary of the chief engineer of the sanitary engineering division	12,000
For the payment of the salary of the assistant engineer in charge of general office work	5,000
For the payment of the salary of the first assistant engineer on waterworks and sewerage	5,000
For the payment of the salary of the assistant engineer on tests of water and sewerage treatment plants	5,000
For the payment of the salary of the assistant engineer in charge of design and construction	7,000
For the payment of the salary of the assistant engineer on waterworks and sewerage	3,600
For the payment of the salary of 4 assistant engineers	14,200
For the payment of the salary of the chief field inspector	5,000
For the payment of the salary of 10 stenographers	16,800
For the payment of the salary of 9 clerks	16,200
For the payment of the salary of 12 draftsmen and map tracers	25,400
	<u>115,200</u>

DIVISION OF ACCOUNTING AND PURCHASING.

For the payment of the salary of the chief of the division of accounting and purchasing.....	\$8,000
For the payment of the salary of 4 bookkeepers.....	8,960
For the payment of the salary of 16 clerks.....	23,400
For the payment of the salary of 4 stenographers.....	6,720
	<u>47,080</u>

DIVISION OF SUPPLIES.

For the payment of the salary of the superintendent of division of supplies.....	4,500
For the payment of the salary of a stenographer.....	1,800
For the payment of the salary of 3 clerks.....	4,320
For the payment of the salary of a janitor.....	1,560
	<u>12,180</u>

DISPENSARIES.

For the payment of the salary of the chief of the division of dispensaries.....	7,500
For the payment of the salary of the lecturer and manager of the tuberculosis exhibit.....	6,000
For the payment of the salary of a deputy medical inspector.....	4,000
For the payment of the salary of a visiting nurse.....	3,000
For the payment of the salary of an assistant visiting nurse.....	2,400
For the payment of the salary of a statistician.....	2,400
For the payment of the salary of 3 stenographers.....	5,040
For the payment of the salary of three clerks.....	4,320
For the payment of the cost of diphtheria antitoxin and other products for free distribution for the poor; for the employment of such special and assistant engineers, stream and sanitary inspectors, and such other employees as may be necessary; for the fees and necessary traveling expenses of the county medical inspectors and rural health officers; for the necessary traveling expenses of the commissioner of health, his assistants, and other employees; for the maintenance of the bureau of vital and morbidity statistics; for the maintenance of laboratories and experimental station; and for the payment of all other necessary expenses of the department of health in supervising epidemics of diseases and in protecting the public health.....	950,000
	<u>984,660</u>

TUBERCULOSIS.

For the constructing, equipping, and maintaining sanatoria, infirmaries, and dispensaries for the free treatment of indigent persons affected with tuberculosis; and for the maintenance of laboratories for sanitary supervision, isolation, and treatment of indigent persons affected with tuberculosis; and for the preventive education of the public; for the payment of salaries, and for all other necessary expenses which may be incurred in this tuberculosis work.....	2,625,000
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MEDICAL INSPECTION OF SCHOOLS.

For the medical inspection of the pupils of the public schools, in accordance with the provisions of the School Code (\$225,000), approved by the governor for.....	200,000
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TOTALS—DEPARTMENT OF HEALTH.

Department of health.....	51,800
Medical division.....	48,920
Laboratories and experimental station.....	28,080
Division of distribution of biological products.....	12,720
Bureau of vital statistics.....	38,680
Marriage and morbidity statistics.....	14,960
Sanitary engineering division.....	115,200
Division of accounting and purchasing.....	47,080
Division of supplies.....	12,180
Dispensaries.....	984,660
Tuberculosis.....	2,625,000
Medical inspection of schools.....	200,000
	<u>4,179,280</u>

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

ASHEVILLE, N. C.

Communicable Diseases—Control of—Quarantine. (Ord. Nov. 14, 1913.)

SECTION 1. *Exposure to infection.*—That no person shall knowingly expose himself, herself, or any other person, or if he or she has power and authority to prevent, permit any other persons to be exposed to infection by scarlet fever, diphtheria, measles, whooping cough, chicken pox, epidemic cerebrospinal meningitis, smallpox or typhoid fever unless such exposure is necessary for the proper care and treatment of a patient suffering with such disease.

SEC. 2. *Precaution to be taken by nurses.*—That no person who is nursing a patient suffering from smallpox, scarlet fever, diphtheria, measles, or epidemic cerebrospinal meningitis, shall mingle with other persons who are not so engaged and who are not suffering from the disease from which the patient is suffering, until after said person has removed such outer garments as have been worn in the sick room and has properly disinfected the face and the hair, if the hair has not been covered while in the sick room; nor in case of the diseases named and of typhoid fever until such person has properly disinfected the hands.

SEC. 3. *Restrictions upon persons on infected premises.*—That no person residing in any dwelling house or in any apartments where there is in said dwelling house or apartments a person suffering from smallpox, diphtheria, scarlet fever, measles, or epidemic cerebrospinal meningitis, shall, while so residing and during the continuance of such disease, attend public or private school or Sunday school, or if the patient is suffering from diphtheria, scarlet fever or typhoid fever, engage in the manufacture, preparation, storage, or sale of food or beverage.

SEC. 4. That no person who has resided in any dwelling house or in any apartments while there was therein a person suffering from scarlet fever, diphtheria, measles, or epidemic cerebrospinal meningitis shall, after the removal, death, or recovery of such person, or after the removal of such person from such dwelling house or apartments, attend public or private school, or Sunday school, or, if the person was suffering from scarlet fever, typhoid fever, or diphtheria, engage in the manufacture, preparation, sale, or storage of food or beverage, without the written permission of the health officer of the city of Asheville, for a period following the first proper isolation of the patient, when no disinfection is to be made, and when disinfection is necessary immediately following the completion of such disinfection, as may be directed by the health officer.

SEC. 5. *Who may attend funerals.*—When death has been due to diphtheria, scarlet fever, smallpox, or epidemic cerebrospinal meningitis, no person other than the adult members of the immediate family of the deceased, and such other adult persons as may be necessary, shall attend the funeral services or any other gathering about the remains of the deceased unless specially authorized in writing by the health officer so to do. No person having power or authority to prevent, shall permit such attendance at said funeral service or gathering when such attendance is unlawful.

SEC. 6. *Funerals not to be held in church.*—That no person or persons shall carry the remains of any person who has died from diphtheria, scarlet fever, smallpox, measles,

or epidemic cerebrospinal meningitis, into any church or other place of public assembly, nor, if he has the power and authority, permit it to be done.

SEC. 7. *Care and disposal of body.*—Every person having power and authority so to do shall cause the dead body of any person who has died from diphtheria, scarlet fever, smallpox, measles, or epidemic cerebrospinal meningitis, as soon after death as possible, to be placed in a proper casket, and shall cause such casket to be closed and to be kept closed thereafter; and every person aforesaid shall cause any such body to be disposed of by burial or cremation within the city of Asheville or by transportation beyond the limits of the city of Asheville for burial or cremation, not later than the second day following the day of death.

SEC. 8. *Transportation of dead body.*—That no person or corporation shall convey or transport a body dead from diphtheria, scarlet fever, smallpox, measles, epidemic cerebrospinal meningitis, or typhoid fever, beyond the limits of the city of Asheville by means of any common carrier unless said body has been embalmed arterially and by cavities, and is wrapped in a sheet saturated with a solution of formaldehyde gas of approximately 40 per cent strength, or with a 5 per cent aqueous solution of carbolic acid, or a 3 per cent aqueous mixture of compound cresol solution, or an aqueous solution of bichloride of mercury, 1 part to 500; and the casket or case in which the body is placed must be metal lined and made air-tight by means of solder or by means of proper rubber gaskets; the preparation of the body in accordance with these regulations to be evidenced by an affidavit of the undertaker who prepares the body for transportation, duly filed with the health officer. Bodies when so prepared may be conveyed outside the city of Asheville.

SEC. 9. *Posting of warning signs.*—Whenever it comes to the knowledge of the health officer of the city of Asheville, either by a certificate sent to him as provided by law or otherwise, that any person in said city is suffering from scarlet fever, smallpox, diphtheria, measles, acute anterior poliomyelitis, epidemic cerebrospinal meningitis, or typhoid fever, said health officer shall cause one or more suitable warning signs to be placed in a conspicuous position or positions upon, at, or near the principal entrance or entrances to the building in which such person is, so that the same can be distinctly seen by persons about to enter such building excepting in case of typhoid fever when the placard may be posted on the back door: *Provided, however,* That if such building be a hospital, asylum, hotel, apartment house, or school, and in any case where two or more bedrooms and a bath room, including a water-closet, are reserved for the exclusive use of the patient and of those in attendance upon such patient, said warning signs may, in the discretion of the said health officer, be placed in a conspicuous position or positions within said building, at such place or places as said health officer may designate: *And provided further,* That in addition to or in lieu of the warning signs provided for above, said health officer may station a watchman or watchmen at or in such building for the purpose of enforcing compliance with the provisions of law and these regulations.

SEC. 10. *Interference with warning signs.*—That no person shall, without the written consent of the health officer, handle, deface, obliterate, remove, or cancel any warning sign displayed in accordance with these regulations.

SEC. 11. *Duties of health officer.*—The health officer shall make such investigations into the nature and origin of cases of diphtheria, scarlet fever, measles, whooping cough, chickenpox, smallpox, acute anterior poliomyelitis, epidemic cerebrospinal meningitis, and typhoid fever occurring in the city of Asheville as in his judgment may be necessary to prevent the spread of any of said diseases, and shall cooperate with persons having charge of patients suffering from such diseases as he deems needful for the prevention of the spread thereof. And in the discharge of each and every one of the duties herein imposed, the health officer may act not only in person but also through employees in the service of the health department of the city of Asheville duly designated by him for that purpose.

SEC. 12. *Interference with health officer.*—That no person shall interfere with the health officer, or with any officer, employee, or agent of the health department in the enforcement of these regulations.

SEC. 13. *Management of suspected cases.*—That any person who is suffering from symptoms that so resemble those of diphtheria, scarlet fever, measles, whooping cough, chickenpox, smallpox, acute anterior poliomyelitis, epidemic cerebrospinal meningitis, or typhoid fever that they can not be distinguished therefrom with reasonable certainty shall be regarded for the purpose of these regulations as suffering from the disease the symptoms of which appear to represent: *Provided, however,* That no warning signs shall be displayed except in cases definitely diagnosed as one of the above acute infectious diseases.

SEC. 14. *Duration of quarantine.*—The duration of quarantine for measles shall be 14 days from the appearance of the rash or longer, in the discretion of the health officer, if a discharge from the nose or ears, or the catarrhal conditions of the throat continues.

(a) *Diphtheria.*—A person suffering from diphtheria shall not be released from quarantine until two successive swabs from the throat, 48 hours intervening, shall be found free from the diphtheria bacilli. Such swabs to have been incubated for 24 hours, the incubation and the bacteriological examination to have been done in the laboratory of the health department. Swabs presented for examination for release must be taken by a physician or by some one especially authorized by the health officer.

(b) *Scarlet fever.*—The duration of quarantine for scarlet fever shall be six weeks from the appearance of the rash and longer, in the discretion of the health officer, if there continues to be a discharge from the nose or ears, or until desquamation is complete.

(c) *Smallpox.*—The duration of quarantine for smallpox shall be until desquamation is completed, to the satisfaction of the health officer.

(d) *Epidemic cerebrospinal meningitis.*—The duration of quarantine for epidemic cerebrospinal meningitis shall be six weeks from the appearance of the disease.

(e) *Acute anterior poliomyelitis or infantile paralysis.*—The duration of quarantine for acute anterior poliomyelitis shall be six weeks from the beginning of the disease.

SEC. 15. *Isolation or quarantine.*—Isolation or quarantine is defined to be the complete separation of the persons sick with a communicable disease as prescribed herein and by law, and those attendant upon such person, from all other persons whomsoever.

SEC. 16. *Room quarantine.*—Room quarantine shall consist of complete isolation of the sick person and nurse or attendant in one room of a house or in a suite of rooms in a house and when room quarantine is established no person shall be allowed to go in or out of the room or suite quarantined except the physician in attendance or the health officer except on written permission of the health officer. When such room has more than one door, one only shall be used and all other doors shall be closed and sealed, except such as may lead into a closet. The door to be used shall have a sheet curtain on the outside, which curtain shall at all times be kept moist with a disinfectant solution. All dishes or vessels of any kind used in the sick room shall be submerged in a disinfectant solution for not less than 30 minutes before removal from the room. All clothing and bed clothing shall be treated in like manner before removal. Also all slops and discharges shall be treated with a disinfectant solution before removal from room. No piece of furniture or other article whatsoever, except as above specified, shall be removed from the room until quarantine is raised. No person who may be in the room at the time the case is quarantined or who may thereafter enter the room shall be allowed to leave such room before quarantine is raised except upon the express permission of the health officer. No occupant of the house in which a case is quarantined shall enter or visit other houses or attend public meeting or assemblies, and no cat, dog, or other pet animal shall be allowed to enter a quarantined room.

SEC. 17. *House quarantine.*—House quarantine shall consist of complete isolation of the entire house and every person therein, and no one shall be allowed to go into or come out of a house so quarantined, except the attending physician or health officer, except as hereinafter provided.

SEC. 18. The following diseases shall be isolated according to room quarantine as herein provided, measles, diphtheria, scarlet fever, epidemic cerebrospinal meningitis, acute anterior poliomyelitis.

SEC. 19. *Diphtheria.*—All school children living or resident in the house at the time the case is discovered, may, after two cultures from the throat shows negative, 48 hours intervening, after incubation for 12 hours, and examination by the city bacteriologist, and after proper disinfection of the entire surface of the body and clothing, be allowed to remove to some other house, and conduct themselves in regard to attendance upon school, assemblies and other ways as if they had not been exposed to diphtheria, provided that children under 15 years so exposed shall have been immunized against diphtheria by a proper dose of diphtheria antitoxin, provided that in case no immunizing dose of antitoxin is given, the child shall not return to school until two weeks after the last exposure and the throat shows two negative cultures, 48 hours intervening. The child who has been sick with diphtheria may return to school immediately after the quarantine is raised.

SEC. 20. *Diphtheria carriers.*—If any person is found by proper laboratory examination to harbor in his or her throat or nose or ears the diphtheria bacillus and who has had no sore throat and has not been clinically ill with diphtheria, he or she shall be considered a carrier of diphtheria, and the house shall be placarded with the warning sign of diphtheria, except that the warning sign shall have just below the word "Diphtheria" the word "Carrier" in small letters, and the said diphtheria carrier shall be required to stay on and not leave the premises, and not go within 25 feet of any other person, save members of his or her own family. And the other members of such family and other persons resident upon the premises at the time shall govern themselves and be subject to the rules laid down in cases of diphtheria.

SEC. 21. *Withdrawal of children from school.*—In case a physician suspects a sore throat to be diphtheria it shall be his duty to advise the parents of the child of his suspicions, and he shall notify the parents to isolate the child, and such child shall be isolated as provided in cases of diphtheria, and all other children resident on the premises shall remain thereupon as required in cases of diphtheria, pending a bacteriological diagnosis of the disease by the city bacteriologist, and it shall be the duty of the attending physician in such cases to submit a swab of the suspected throat for such purposes, and if, upon examination, such swab shows positive for diphtheria bacilli the case shall be considered diphtheria, if such examination shows negative for diphtheria bacilli and the case is clinically diphtheria, it shall be regarded as diphtheria.

SEC. 22. *Scarlet fever.*—That a person with a rash reasonably suspected to be scarlet fever shall be isolated from the other members of the family, and other children of the household or resident in the house shall be required to remain on the premises, and all other rules and regulations in regard to room quarantine shall be in full force and effect until such time as the attending physician shall become satisfied that the case is not scarlet fever. Should the case prove to be scarlet fever, the attending physician shall immediately notify the health officer, as required by law, and room quarantine shall be established.

SEC. 23. *When children may return to school.*—The child who has been ill with scarlet fever and the other children of the household or resident therein will be allowed to return to school as soon as the quarantine is raised, provided the attending physician will furnish a written statement to the health officer that, to the best of his knowledge and belief, a strict room quarantine, according to the rules of this ordinance, has been kept during the entire period the quarantine has been in force. Otherwise the quarantine shall remain in full force and effect for two weeks longer.

SEC. 24. *Measles*.—When a person is ill with measles in a house, room quarantine shall be established, and all persons resident upon the premises who are not immune—i. e., who have not had the disease—shall observe the rules of room quarantine; but those who are immune shall not be subject to quarantine for measles in any way. While the quarantine for measles shall be raised 14 days after the eruption appears, those in the household not immune to measles shall continue to remain on the premises for yet 7 other days and shall not be allowed to return to school until the expiration thereof.

SEC. 25. *Smallpox*.—In case smallpox is discovered in a house, house quarantine shall be established, and the house shall be guarded night and day by a guard or guards appointed by the health officer, the expense of same to be borne by the resident of the house at the time: *Provided*, That in case the householder or patient prefers, he or she may be transferred to the contagious-disease hospital and cared for at the expense of the city and county, and provided the householder or patient is unable or unwilling or neglects or refuses to pay the expenses incident thereto, then it shall be the duty of the health officer to have such person or persons so infected transferred to the contagious-disease hospital: *Provided further*, That any resident in a house where a case of smallpox is who has a good vaccination scar upon being revaccinated, and upon proper disinfection of the person and clothing, will be allowed to leave the house and remain away as if he or she had never been exposed to smallpox: *Provided*, That it shall be the duty of the health officer in case smallpox occurs in a house to vaccinate all persons resident in said house and all persons who may have been exposed to the disease, and after the vaccination takes on such persons as could not show a good scar, then such persons, after a satisfactory disinfection of their person and clothing, may be released from quarantine by order of the health officer and may be allowed to leave the house not to return again until quarantine is raised. It shall be the duty of the health officer to revaccinate any such person who could not show a good scar and upon whom the vaccination does not take at the expiration of 7 days; and if upon revaccination the same does not take, then such person shall remain upon the premises 14 days after quarantine is raised. When the patient is removed to the hospital for contagious diseases, the house or room shall be fumigated by the official fumigator, under the direction of the health officer, and the quarantine shall be raised as if the patient had recovered.

SEC. 26. *Smallpox suspects*.—Any person who is found in the house where a case of smallpox is discovered or any person whom the health officer has reason to believe has been exposed to a case of smallpox, and who can not show a good scar, shall be considered a suspect and shall be quarantined according to the rules for house quarantine or removed to the hospital for contagious diseases, but shall not be allowed to further expose himself to those affected with smallpox, and the health officer is hereby required to vaccinate such suspects unless they have been vaccinated by some other physician, and at the end of 7 days to revaccinate such person if the former vaccination has not taken, and the suspect shall be kept in quarantine or in the hospital for contagious diseases for a period of 14 days from the date of last exposure to smallpox, and after the expiration of said 14 days if the said suspect has not developed smallpox he or she shall be released.

SEC. 27. *Epidemic cerebrospinal meningitis*.—Quarantine for epidemic cerebrospinal meningitis shall be the same period and in the same manner as provided for scarlet fever.

SEC. 28. *Acute anterior poliomyelitis*.—Quarantine for acute anterior poliomyelitis or infantile paralysis shall be for the same period and in the same manner as provided for scarlet fever.

SEC. 29. *Typhoid fever*.—In case of typhoid fever the placard or warning may be placed on the back door or the front door or the back and front doors or near thereto, and no other quarantine shall be established. But the other members of the house—

hold are warned not to touch the person or excretions of the patient and if necessary so to do they are hereby required to immediately wash the hands thoroughly in a disinfectant solution. The nurse or attendant is also hereby required to thoroughly disinfect the excretions from the body of the patient ill with typhoid fever before pouring them into the water-closet, or making other disposition thereof, and in case there is no water-closet they must be buried where they are not likely to be disturbed. The rules in regard to the disinfection of dishes, linen, clothing, etc., in room quarantine herein provided for shall be observed in cases of typhoid fever.

Sec. 30. *Typhoid carriers*.—That no typhoid carrier shall be allowed to handle any food products that are to be eaten raw or beverages or to work in any dairy or milk depot handling milk or butter to be sold in the city of Asheville, and no person who has ever had typhoid shall work in any milk depot that distributes milk or milk products in the city of Asheville until he shall have satisfied the health officer that he is not a typhoid carrier.

Sec. 31. *Mumps*.—That no person who has mumps shall attend school or leave the house premises for two weeks from the first symptoms of the disease.

Sec. 32. *Whooping cough*.—That no child who has whooping cough shall attend school, or be allowed to come in contact with other children who have not had the disease, until six weeks from the onset of the disease, or if the spasmodic stage shall last longer, until such child shall have recovered from the spasmodic stage of the disease. And it shall be the duty of the health officer when it shall come to his knowledge of the existence of whooping cough in a house to placard or place a warning sign in a conspicuous place near the entrance to such house, which shall remain for six weeks from the onset of the disease and as much longer as such child shall remain ill with the disease. And during said period it shall be the duty of the parents or guardian or other person in authority, not to allow such child to go off of the premises or come within 25 feet of any other person who is not immune to the disease.

Sec. 33. Immediately upon receipt of information of the existence of any of the foregoing diseases, the health officer shall personally or through some officers of the health department visit the house where such disease is reported, and ascertain possible source of infection, milk supply, water supply, general sanitary condition of house and premises, and the number and names of children of school age and school attended by such children, and file a record of such with the clerk of the health department, and upon receipt of this information the clerk of the health department shall transmit the same to the superintendent of all schools attended by such children, who shall cause such information to be brought to the attention of the teacher of such children. The clerk shall also keep a card index of all dairies furnishing milk to residents of the city of Asheville, and shall note each disease mentioned in this ordinance and immediately notify such dairyman who may be furnishing milk upon the premises, giving the name of the householder and street number. Upon the raising of quarantine said clerk shall notify such dairyman thereof and the superintendent of schools aforesaid.

Sec. 34. That no person resident in a house where any of the diseases herein mentioned exists shall sell any food, beverage, or milk, or work where the same is manufactured or handled, except upon written permission of the health officer.

Sec. 35. It shall be the duty of the health officer or other officer of the health department at the time he makes his first inspection of the premises where any disease mentioned in this ordinance exists, and when he tacks up the placard or warning sign, to hand the householder a printed copy of the laws, rules, and regulations governing such disease and those connected therewith, and such other instructions or information as may be prepared or secured from time to time by the board of health.

Sec. 36. It shall be the duty of the health officer or such other officer of the health department as may be instructed so to do by the health officer, to make such additional visits to houses under quarantine as may seem desirable, to ascertain whether the quarantine regulations are being observed.

SEC. 37. When the health officer has reason to suspect that any disease mentioned in this ordinance, or any disease dangerous to the public health, may exist in any house or place within the city of Asheville, it shall be his duty to make such examination thereof as he may deem necessary to determine whether or not such disease exists, and no person shall interfere with any officer making such examination.

SEC. 38. *Disinfection and fumigation.*—When a person shall have recovered from smallpox, diphtheria, scarlet fever, or epidemic cerebrospinal meningitis, or after a person suffering with any of these diseases shall have been removed from a room, the room or rooms occupied by such person shall be fumigated with formaldehyde gas by the official fumigator of the health department according to the directions of the board of health or health officer and a charge therefor of \$1.25 per room if only one room, or \$1 per room if more than one room, shall be made against the householder and collected by the official fumigator at the time of fumigation, and turned over to the sanitary inspector. When a person suffering with typhoid fever, measles, whooping cough, or acute anterior poliomyelitis has recovered or removed from a room or house, the wood-work in such house or room, shall be thoroughly scrubbed or washed with a 3 per cent solution of compound cresol or other antiseptic solution satisfactory to the board of health or health officer.

SEC. 39. *Dairymen.*—That it shall be the duty of every dairyman or other person furnishing milk or milk products to the residents of the city of Asheville, or any milk depot, or creamery, after conferring with every employee, to make a report to the health officer once weekly, giving the name and address of every employee connected in any way with the handling of milk or milk products for use, sale, or distribution in the city of Asheville, and stating whether or not any employee or any member of any employee's family is sick or has been sick since last report with any of the diseases mentioned in this ordinance; and such employee having any member of his family sick with either of such diseases shall not work therein until he satisfies the board of health or health officer that he is conducting and will conduct himself so that he will not become a menace to the health of the people of Asheville and until he receives a certificate in writing from the health officer allowing him to return to work.

SEC. 39a. In all cases in which the health officer shall exercise his discretion as provided in this ordinance any person interested in such decision may appeal therefrom to the board of health, which board shall hear and determine said appeal within 24 hours from the receipt of notice thereof to the mayor.

SEC. 40. That any person violating any of the provisions of the foregoing ordinance shall, upon conviction, be subject to a penalty of \$50 for each and every such offense.

BALTIMORE, MD.

Appropriations for Municipal Health Work. (Ord. 371, Dec. 15, 1913.)

The appropriations are for the calendar year 1914.

* * * * *

Commissioner of health.

LIST NO. 1.

Salaries:

Commissioner of health.....	\$3,500
Assistant commissioner of health.....	3,000
Secretary.....	1,750
24 health wardens, at \$900.....	21,600
Clerk for vital statistics.....	1,200
Statistician.....	1,180
2 burial permit clerks, at \$1,000.....	2,000
Clerk to assistant commissioner.....	900
Registrar's clerk.....	900
Complaint clerk.....	900

Salaries—Continued.

Index clerk	\$900
Medical examiner	1,500
Assistant medical examiner	500
2 throat inspectors, at \$500	1,000
Bacteriologist	1,800
First assistant bacteriologist	1,200
Second assistant bacteriologist	1,000
Clerk to bacteriological laboratory	950
Collector for bacteriological laboratory	900
Assistant bacteriologist (for special work)	1,500
Assistant for bacteriological laboratory (water analyses)	480
Bacteriological laboratory assistant, to make and deliver culture material	900
2 bacteriological laboratory assistants (boys), at \$240	480
Bacteriological laboratory assistant (boy)	300
Chemist and chief of bureau of food and dairy inspection	2,000
First assistant chemist	1,200
Second assistant chemist	800
Third assistant chemist	720
Chemical laboratory assistant	400
Chemical laboratory clerk	900
12 food inspectors, at \$900	10,800
Chief food inspector	1,200
Inspector of cow stables	900
Inspector of bakeries	900
2 tenement-house inspectors, at \$900	1,800
Chief tenement-house inspector	1,200
Stenographer	720
Stenographer and clerk for chemical laboratory	720
Telephone operator	480
Chief inspector of plumbing	1,600
15 assistant inspectors of plumbing, at \$900	13,500
Chief clerk to plumbing division	1,000
5 clerks to plumbing division, at \$900	4,500
Inspector of drains	900
Nuisance clerk	900
Superintendent of fumigation and city burials	1,200
Superintendent of morgue and engineer of incinerating and disinfecting plants	1,200
5 disinfectors, at \$800	4,000
3 drivers of funeral wagons, at \$720	1,440
2 drivers of disinfecting wagons, at \$720	1,440
5 medical examiners of public schools, at \$600	3,000
5 nurses connected with medical examination of public schools, at \$600	3,000
Chief tuberculosis nurse	1,200
14 tuberculosis nurses, at \$900	12,600
Statistical clerk	600
2 nurses for playground work (July and August, at \$75 per month)	300
4 dairy farm inspectors, at \$1,080	6,480
Supervisor of pasteurizing plants	1,200
Assistant bacteriologist	1,000
Bacteriological laboratory assistant	480
2 bacteriological laboratory dieners, at \$240	480
Chauffeur	720
Laboratory boy	360
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	138,180

Expenses:

Diphtheria antitoxin	2,500
Fumigation, formaldehyde, etc	3,000
Car fare	2,400
Advertising	200
Subscriptions to journals	50
Sundry bills	1,000
Coffins for poor	500
Annual report, printing, etc	1,000
Bacteriological laboratory	4,500
Chemical laboratory	2,200
Disinfectants	1,000

Expenses—Continued.

Vaccine virus	\$1,000
Digging graves for pauper dead	300
Care of city patients, medicine, etc	200
Postage, postal cards, etc	2,000
Hire of horses, livery, repairs to wagons, etc	4,500
Prevention of infectious diseases and care of patients	3,000
Culture tube boxes	300
Morgue, incinerating and disinfecting plants	1,000
Tuberculosis nurses' division	1,000
Dairy farm inspection of milk	7,200
Automobile expenses	500
	<hr/>
	89,350
	<hr/>
Abatement of nuisances	2,000
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Tuberculosis dispensary—	
Superintendent	1,200
2 nurses, at \$900	1,800
Clerk	720
Yearly rental of dispensary, 1418 Light Street	360
Yearly rental of dispensary, 1020 McCulloh	360
Sundry expenses	1,560
	<hr/>
	6,000
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SYDENHAM HOSPITAL.

Salaries:

Resident physician and superintendent	2,000
Assistant resident physician	600
Superintendent of nurses	900
Supervisor	600
2 nurses, at \$480	960
3 nurses, at \$420	1,260
Orderly	480
Orderly	360
Messenger	360
Chauffeur	600
Clerk	600
Laundress	300
Cook	300
2 maids, at \$240	480
Laborer	360
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	10,160
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Expenses:

Library and miscellaneous	250
Stationery, postage, etc	200
Car fare, telephone, and telegraph	100
Apparatus and instruments	100
Medical and surgical supplies	750
Pharmacy	300
Equipment for nurses	100
Stables	200
Housekeeping	400
Laundry	800
Laboratory	100
Dairy and eggs, provisions, meats, fruits, vegetables, etc	5,000
Maintenance machinery, piping, etc	150
General expenses	1,500
For special nursing, emergencies, etc	1,000
Vacuum cleaning system (portable)	150
Automobile ambulance, maintenance	550
Sundry equipment	2,000
Ford automobile	500
	<hr/>
	14,150

QUARANTINE.

Salaries:

Resident physician.....	\$3,000
Assistant resident physician, at \$5 per day.....	1,825
Captain No. 1.....	840
Captain No. 2.....	780
Engineer No. 1.....	840
Engineer No. 2.....	780
Fireman No. 1.....	660
Fireman No. 2.....	660
2 deckhands, at \$660.....	1,320
Messenger.....	660
Gardener.....	660
Nurse.....	660
Extra nurse.....	300
Cook.....	300
Laundress.....	240
	<u>13,525</u>

Expenses:

Market supplies.....	1,500
Groceries.....	1,200
General supplies for boats.....	600
Feed for horses.....	300
Coal for buildings.....	500
Coal for tugboat.....	800
Coal for detention house.....	150
Ice.....	250
Disinfectants and apparatus.....	300
Hospital supplies.....	150
Bedding and dry goods.....	150
Farm supplies.....	75
Repairs to boats.....	600
Gasoline and coal.....	400
Supplies for gas plant.....	250
Hire of extra boats.....	800
Subscription to Maritime Exchange.....	300
Sundry expenses.....	500
	<u>8,825</u>

LIST NO. 2.

New improvements:

For equipping new quarters in old Polytechnic Institute building.....	10,000
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TOTALS.

List No. 1:

Health department—

Salaries.....	\$138,180
Expenses.....	39,350
Abatement of nuisances.....	2,000
Tuberculosis dispensary.....	6,000

185,530

Sydenham hospital—

Salaries.....	10,160
Expenses.....	14,150

24,310

Quarantine—

Salaries.....	13,525
Expenses.....	8,825

22,350

232,190

Total appropriation, commissioner of health:

List No. 1.....	232,190
List No. 2.....	10,000
	<u>242,190</u>

DUNKIRK, N. Y.**Milk and Milk Products—Production, Care, and Sale. (Ord. Feb. 4, 1913.)**

SECTION 1. No person, copartnership, firm, or corporation shall engage in the sale, delivery, or distribution of milk, cream, buttermilk, sour milk, skimmed milk, or separated milk within the corporate limits of the city of Dunkirk without first having obtained a license therefor from the city clerk of the city of Dunkirk, as hereinafter more particularly provided, and for the purposes of this ordinance the word "person" shall hereafter mean individual, copartnership, firm, or corporation.

SEC. 2. Every person desiring to engage in the sale, delivery, or distribution of milk, cream, buttermilk, sour milk, skimmed milk, or separated milk within the corporate limits of the city of Dunkirk, before doing so shall make application in writing upon blanks provided by the board of health to the common council of the city of Dunkirk for a license for that purpose, and in such application he shall state the number or location of the place where he proposes to conduct such business, the names of the person or persons from whom he proposes to obtain milk or cream, their location, the number of cows in such herds, the average quantity of milk which he expects to obtain from each herd; and such written application shall also contain an agreement on the part of such applicant that he will accept a license, if granted to him, upon the condition that it may be revoked at the will of the board of health.

Said applicant shall also at the time he makes application for a license as herein mentioned present a written consent from each person from whom he obtains milk, granting permission to the health officer of the city of Dunkirk, his representative, or any member of the board of health of said city, free and open access to his or her dairy or premises for the purpose of making an inspection of the premises or herd; and upon the consent of the owner of said herd to apply the tuberculin test as hereinafter provided, said producer's permit shall be in the following form:

PRODUCER'S PERMIT.

DUNKIRK, N. Y., ———, 1913.

I, ———, a producer of milk sold in the city of Dunkirk, N. Y., grant permission to the health officer of said city, his representative, or any member of the board of health of the city of Dunkirk, N. Y., free and open access to my dairy, premises, utensils, wagons, and conveyances for the purpose of making inspection of the same so long or while milk of my production shall be sold in said city.

(Signed) ———

And such applicant shall, before receiving his license, pay to the city clerk the sum of \$1 as an annual license fee. Such license, if issued, shall state the number or location of the applicant's place of business, shall not be transferable, and shall not extend beyond the 1st day of May next after the date of issue of the same.

SEC. 3. In the event that a license is granted and he thereafter changes the source from which he obtains milk or cream, he shall immediately notify the board of health of the names of the parties from whom he proposes to obtain milk or cream, their location, the number of cows in the herd, and when each cow was last tested for tuberculosis.

SEC. 4. When any person makes application for a license under the provisions of this ordinance, it shall be the duty of the board of health, or milk inspector, or such other person as may be duly authorized by the board of health, to investigate and report promptly upon the cows and the premises from which the applicant proposes to take and supply milk and to report upon the methods which the applicant proposes to use and employ in handling, storing, and distributing milk, cream, buttermilk or sour milk, skimmed milk or separated milk. A record of this examination and investigation shall be kept by said board and said inspector on the score card used by the dairy division of the United States Government, the board of health to furnish such score cards and all other written records or blanks used by the applicant.

SEC. 5. No applicant shall be granted a license whose total scores do not reach 40 marks or more. The score card properly filled out and extended shall be attached by the city clerk to the application for license and filed by the clerk.

SEC. 6. It shall be the duty of the board of health or the milk inspector to ascertain that the cows from which the applicant proposes to obtain milk for sale or distribution are free from tuberculosis and other infection or contagious diseases. No cow shall be considered free from tuberculosis except after showing no response to the tuberculin test, as applied by a duly licensed veterinary. The cows from which the applicant proposes to obtain milk for sale and distribution shall be examined by a licensed veterinary before the board of health shall grant the application for a license, and an examination of each of the cows in the herd from which milk is obtained for sale and distribution shall be made at least once a year thereafter, and each animal tagged in a manner to afford a permanent record of the examination, and no license shall be granted to any applicant until the cows from which he proposes to obtain milk for sale or distribution are shown to be free from tuberculosis and other infection and contagious diseases.

No milk or cream shall be sold or offered for sale within the corporate limits of the city of Dunkirk from any cow added to a herd until such cow has been examined by a licensed veterinary and upon such examination found free from tuberculosis and other infection or contagious disease, and such examination shall have taken place within six months from the time it is proposed to add said cow to the herd from which any milk dealer or vendor obtains milk sold or offered for sale within the corporate limits of the city of Dunkirk.

SEC. 7. For the purpose of instructing dairymen, the board of health shall publish in April and September of each year, and at such other times as they deem advisable, in the official newspaper of the city, instructions concerning the source from which the milk is obtained, straining, cooling, storage, keeping, handling, conveying, temperature, and other treatment and condition of milk, and the sanitary condition of dairymen, of cows, dairies, ice, stables, wagons, pasture, buildings, rooms, utensils, and other apparatus, appliances, and methods used in handling milk and cows.

The city clerk shall within 30 days after publication mail copies of said instructions to each and every person holding a license to sell milk in Dunkirk and to those furnishing milk to such licensees; and shall forthwith make a report to the board of health of having complied with this provision.

SEC. 8. Each licensee shall have his name, place of business, and number of license placed in plain, large letters on the outside of each vehicle used in distribution of milk, and in a conspicuous place in the room where it is sold; provided that in case the licensee distributes milk, etc., in any manner without the use of a vehicle then said licensee making such delivery shall carry upon his person a card showing the name of said licensee, place of business, and the number of his license.

SEC. 9. No milk or cream shall be offered for sale in the city of Dunkirk which—

- (a) Contains any preservative whatever.
- (b) Has had any part of the cream removed;
- (c) Has had any water or foreign substance added;
- (d) Has not been maintained at a temperature of 55° F., or less, since one hour after time of milking;
- (e) Has (if milk) less than 3 per cent butter fat;
- (f) Has (if cream) less than 18 per cent fat;
- (g) Contains more than 100,000 bacteria to the cubic centimeter.

SEC. 10. "Skimmed milk," "sour milk," "buttermilk," and separated milk may be sold if plainly labeled pure and unadulterated and without drugs or other deleterious substances and obtained from cows that have stood the tuberculin test.

SEC. 11. No milk or cream shall be offered for sale except in suitably capped bottles or sealed cans that may be of any standard size. Bottles and cans may be filled only at the dairies and such other places as have been approved by the board of health.

The board of health shall devise the method of cleaning and sterilizing of all bottles and see that the same is carried into effect by the properly designated official.

SEC. 12. Only detachable tickets that can be used but once shall be permitted.

SEC. 13. No milk shall be sold or used coming from any place where there has been contagious or infectious disease until after disinfection by the health officer and written permission from the board of health.

SEC. 14. Any person receiving from any milk dealer, milk or cream in bottles, cans, or other receptacles, upon emptying the bottles, cans, or receptacles, and before returning them to the dealer, shall thoroughly wash, scald, and clean the same. No person shall use any bottle, can, or other receptacle which is the property of any milk dealer for any other purpose than the holding of milk or cream under a penalty as hereinafter provided.

SEC. 15. Any person holding a milk license from the city of Dunkirk shall furnish samples of milk and cream to the milk inspector or the board of health for expert analysis, when requested by said board of health or inspector.

SEC. 16. It shall be the duty of the board of health and milk inspector to see that all the provisions of this ordinance are fully complied with, and at their discretion to have samples of milk and cream subjected to expert bacteriological test. The expense of such test shall be borne by the city.

SEC. 17. In order to carry out the provisions and purposes of this ordinance the board of health and milk inspector shall have the right at all times to enter the premises of any person licensed under this ordinance; to examine and inspect the dairy and herd, and to appropriate a reasonable amount of milk and feed or any milk product for samples, inspection, or test. And they shall have equal rights upon the premises of anyone from whom a licensee procures, or had given notice of his intention to procure milk, cream, skimmed milk, sour milk, buttermilk, or separated milk; and said milk inspector shall enforce the provisions of this ordinance and perform such other duties as may be required of him by the board of health, and shall make monthly reports to the board of health of his work pertaining to the enforcement of this ordinance, and upon such other matters as may be requested by said board.

SEC. 18. No person, firm, or corporation keeping cows for the sale of milk in the city of Dunkirk shall feed the same upon any distillery waste, refuse, or any decomposing animal or vegetable food, or any food unless the same is nutritious, healthy, and incapable of exerting any pernicious influence upon the milk, nor be given water that is impure or contaminated.

SEC. 19. No person shall sell or deliver to a member, agent, or employee of any family in which there is a child under 3 years of age, or to any person having the care or custody of such a child, any milk drawn from cows fed, in whole or in part, on green corn or ensilage, unless the person so selling and delivering first informs the person to whom it is sold or delivered of the nature of the milk so sold or delivered.

SEC. 20. No person, firm, or corporation shall produce, sell, offer for sale, or designate any milk as "certified milk" without first obtaining a permit in writing from the board of health to engage in doing so, and for which no charge shall be made. In the meaning of this section such "certified milk" is only that which is produced in accordance with all the requirements of the milk inspector regulating and relating to such production.

SEC. 21. No person, firm, or corporation shall produce, sell, offer for sale, or designate milk as "pasteurized milk" without, in addition to a permit and a license for selling milk, obtaining a permit in writing from the board of health to engage in doing so, and for which no charge shall be made, but which shall only be given after inspection by

the board of health or its authorized inspector of the equipment, sanitation, methods, and procedure, and that the same are approved by the board. Any milk house or building not constructed or arranged to maintain sanitation to the satisfaction of the board of health, in the interest of the public health shall be changed to conform thereto when in the judgment of the board of health the public interests are concerned thereby; and no buildings shall be constructed or altered for a milk house without the plans for the same are first approved in writing by the board of health.

SEC. 22. All milk houses, rooms, and apartments, their appurtenances and fixtures, must be maintained in a state of cleanliness, but no disinfectants shall be used in or about any room or place where milk or cream, or both, are stored, handled, or prepared. No dogs, cats, or other animals or pets shall be allowed in any such room or apartment, and from April to November of each year all doors and windows of rooms and apartments where milk or cream, or both, is contained must be provided with wire screens to exclude flies and insects.

No cellar under any room or apartment where milk is stored, handled, prepared, or distributed shall contain any water-closet, urinal, or be used for any purpose capable of exercising any detrimental effect upon milk contained in the rooms above, nor rendering such apartment or room insanitary or offensive.

No room or apartment where milk is stored, handled, or prepared shall communicate directly with any stable, water-closet, or sleeping room, nor with any place, door, or opening capable in the judgment of the board of health of having an insanitary or detrimental influence upon milk.

SEC. 23. All milk coolers used for the storage and cooling of milk must hereafter be substantially constructed of cement or other noncorrosive material, and the internal surface of the same shall be made smooth and impervious to prevent absorption and permit proper cleansing. They shall be constructed, arranged, and placed so as to give ready access to all parts to permit thorough cleaning, and all such boxes shall be cleaned, flushed as often as may be directed by the board of health and in such manner as to maintain them in a sanitary condition. All such milk boxes shall be properly drained over and into a drain, but they shall not be connected directly with any such drain or sewer.

All plumbing connected with boxes for the storing and cooling of milk and with milk houses, rooms, and apartments where milk is kept shall be designed and constructed in accordance with the rules and regulations respecting plumbers and plumbing in the city of Dunkirk.

SEC. 24. No person, firm, or corporation dealing in milk or cream shall remove his dairy within the city from the place where he is licensed to conduct it to any other place in the city without first notifying the board of health in writing of such intended removal, and no such person shall remove such dairy to any place, without the said place has first been inspected in all its details and received the approval of the board of health, and any such removal other than herein stated shall be unlawful.

SEC. 25. No person, firm, or corporation dealing in milk shall change the country dairy supplying him with milk or cream or both either by addition or changing from one dairy to another without first notifying the board of health in writing of such change, giving the correct address and location of such dairies and all the facts required in making application for a permit.

SEC. 26. No person, firm, or corporation dealing in milk or cream or both and receiving his supply from without the city limits by railroad or other transportation, shall permit any cans of milk or cream or both to remain on any platform or other place, unprotected from the sun and rain, but shall suitably and efficiently protect the same by causing such cans to be placed under cover, or efficiently covering them with canvas or other similar protection, and no such milk dealer shall hereafter permit any cans containing milk or cream to remain at any railroad terminal or other

place after arrival for a longer period than one hour from the time of such arrival, but shall remove the same with expedition.

Any milk can in which milk or cream is shipped or brought into the city of Dunkirk for any milk dealer must have securely attached to it by the shipper, a tag of not less than 2 inches by 3 inches in size, on which shall be printed in letters of legible size and in black ink the firm name and post-office address of the shipper of said can and the station or place from which shipped.

SEC. 27. No person suffering from tuberculosis, ophthalmia or other contagious diseases, or any skin disease, shall be employed in any part of a milk house, or in the handling or preparation of milk or cream.

SEC. 27b. Any person, copartnership, firm, or corporation engaged in the sale, delivery, or distribution of milk, cream, buttermilk, sour milk, skimmed milk, or separated milk having a case of contagious or infectious disease within his or her family, an employe's family, or in the person of any occupant or occupants of the premises wherein the same is produced or handled, shall report said disease to the board of health, under penalty of having his license revoked for such failure.

(*Explanatory note.*—It is the expressed intention of the board of health to protect anyone reporting a case of contagious or infectious disease, and likewise punish them for failure to report the same.)

SEC. 27c. No person shall be employed in preparing or handling milk or cream at whose home or residence there may be a case of tuberculosis of the lungs without such person first obtain permission to be so employed from the board of health and in writing, but said board of health shall not grant such permission unless it is satisfied that all precautions are taken that no infection therefrom can be spread, and that the public health is not jeopardized in any manner thereby.

SEC. 27d. No person shall expectorate upon floor, wall, or equipment in or about any meaning [sic] of this section.

SEC. 27e. Pasteurized milk is natural, clean milk heated in containers to a temperature of 145° F. for 20 minutes, 148° F. for 15 minutes, 152° F. for 10 minutes, 155° F. for 5 minutes, and 158° F. for 3 minutes, and not to exceed it, and that has been immediately cooled to not less than 50° F. and kept thereat, and that the bacterial count of which, taken within 24 hours, shall not exceed 50,000 from the first of October to the first of April, nor 100,000 from the first of April to the first of October. All pasteurized milk must be delivered to consumers in sealed containers plainly labeled "Pasteurized" and must bear the degree of heat and length of time exposed to it and number of pasteurization permit. No milk shall be pasteurized a second time and must be delivered to customers within 24 hours.

SEC. 28. All milk houses, rooms, and apartments used in the handling, preparing, and storing of milk within the city of Dunkirk must be substantially constructed and in repair, of sufficient size, properly drained, and be light and well ventilated and be used for no other purpose than the storing, handling, and preparing of milk.

The floors of such milk houses, rooms, and apartments must be water-tight and be constructed of hardwood, cement, brick, or other impervious material to permit flushing and insure cleanliness. The side walls must be of impervious material to a height of six feet, and constructed so as to exclude rats, mice, and vermin, and the walls above unless painted or of finished natural wood, enameled brick, or other sanitary material, must be whitewashed at least once a year and oftener if so directed by the board of health.

Every dealer who uses in his business a wagon, cart, or other vehicle shall from the month of May to September inclusive have and keep upon said wagon, car, or vehicle a covering of canvas or other material so as to securely protect the same and contents from the sun and weather; and every such dealer during the months of June, July, and August shall maintain the milk on his wagon or wagons at a temperature

not to exceed 55° F., and all milk found under such circumstances to be above this temperature shall be condemned.

SEC. 31. No retail grocer or shopkeeper shall hereafter engage in the business of keeping and selling milk or cream, or both, in addition to his other business, without first making application in writing to the board of health to do so. Such application shall state the source of his milk supply by name and address, the amount dealt in daily, and whether in bottles or from cans, and what facilities or provision he has for storing and keeping such milk in a sanitary manner. The board of health thereafter when satisfied that the requirements of this section relating to retail grocers and storekeepers dealing in milk or cream, or both, are complied with, shall issue a permit in writing to such retail grocer or storekeeper to engage in keeping and selling milk or cream, or both, and for which no charge shall be made. Such permit shall expire on the first day of May of each year, and be revoked by the board of health whenever in its judgment it is in the interest of the public health to do so.

SEC. 32. No person, firm, or corporation engaged in the retail grocery business, or other storekeeper, shall offer for sale, sell, or deal in any milk or cream, or both, at retail, unless the same is contained in milk bottles, jars, or other individual containers used in the business of distributing milk or cream, or both. All such milk bottles or other individual containers must be filled with milk and prepared by a duly licensed milk or cream dealer, and all retail grocers and other storekeepers must obtain milk or cream to be sold only from a duly licensed milk or cream dealer in the city of Dunkirk. All bottles or containers of milk while in the possession of such retail grocer or other storekeeper must be kept in a sanitary compartment to be used for no other purpose, and the milk or cream therein kept at a temperature not to exceed 55° F., and at all times to be kept free from dirt and insanitary influences.

SEC. 33. It is hereby declared unlawful for any retail grocer or storekeeper to dispense milk or cream other than in bottles as herein specified or to prepare or fill any milk bottles, jars, or containers with milk or cream for the purpose of sale, or to sell any milk or cream so prepared or to peddle or dispose of milk or cream other than upon the premises wherein such retail grocer or other storekeeper conducts his business.

All retail grocers or other storekeepers selling milk or cream or both must display in a conspicuous place in their stores the name and address of the licensed milk or cream dealer from whom they obtain such milk or cream and the board of health shall furnish cards to each person obtaining a permit.

No licensed milk or cream dealer shall furnish milk or cream to be sold by any retail grocer or storekeeper, unless the same complies with all the provisions of this section governing the sale and sanitary protection of milk and cream and such sale may be forbidden at any time by the board of health for any reason in the interest of the public health.

SEC. 34. All bakers, restaurant keepers, saloon keepers, and all persons having or offering for sale milk or cream which is intended to be drunk, consumed, or used upon the premises, and any person, firm, or corporation using milk or cream for commercial purposes in the manufacture of candies, ice cream, or baked goods or other food products, shall at all times keep the name or names of the licensed person or persons from whom the milk or cream is obtained, and the number of their permit, contained on a card posted in a conspicuous place where such milk or cream is sold or used. The board of health shall furnish a sufficient number of such cards for each person receiving a permit.

The persons mentioned in this section do not require a permit to sell milk or cream provided such milk or cream is obtained from a duly licensed milk or cream dealer. Milk and cream kept upon such premises must be stored, handled, and sold in conformity with all the provisions of this section governing the same and sanitary protection of milk and cream.

SEC. 35. All dairies, milk houses, rooms, and apartments used in the milk or cream business in the city of Dunkirk, and all milk cans, bottles and containers, and all coolers, boxes, and other equipment and utensils the owner or owners of which sell or offer for sale milk or cream or both within the city of Dunkirk shall be subject to an inspection by the board of health. Any official or authorized inspector of the department of health may enter any place where milk or cream is sold or kept, or any wagon, carriage, or vehicle used to convey milk or cream within the city. Any refusal to allow such entrance for inspection shall cause a revocation of the permit, or if the refusal be on the part of the person producing milk or cream sold under a permit, the holder thereof shall discontinue the same under like forfeiture. Whenever the milk or cream found therein is impure or adulterated, specimens thereof shall be taken and subjected to chemical analysis by the board of health, the result of which shall be preserved as evidence.

SEC. 36. No person, firm, or corporation furnishing milk, cream, skimmed milk, or buttermilk to any dwelling or house that has in it any infectious or contagious diseases, or that is placarded by the board of health for infectious or contagious disease, shall remove or cause to be removed from said dwelling or house any milk bottle or other receptacle in which said milk, cream, skimmed milk, or buttermilk was contained until said receptacles have been properly sterilized and permission given by health officer for their removal.

SEC. 37. Nor shall any dealer in milk or cream or both, nor his agents, bottle, cause to be bottled, or prepare for delivery, or deliver into any empty milk bottle any part of his milk or cream supply while upon the delivery wagon, nor at any place other than at the milk house.

SEC. 38. No person or persons receiving any milk or cream from any dealer in bottles, jars, or other receptacles, shall retain such bottles, jars, or other receptacles in their possession for a longer period than 24 hours, providing such milk dealer, owner of such property, calls for the same. Nor shall any person or persons having in their possession temporarily or otherwise any bottles, jars, or receptacles used for the delivery of milk or cream use the same while in their possession in any manner for any purpose other than the storing and keeping of the milk and cream originally delivered in such bottle, jar, or container, and on emptying the same of milk or cream the person or persons temporarily in possession of such jar, bottle, or container shall immediately rinse it, and no dealer in milk or cream shall receive any returned bottles that may be unriused or contaminated, or deliver milk or cream to any person or place that does not comply with the requirements of this section.

Any person or persons using bottles, jars, or other receptacles or containers delivered for the use of milk or cream for storing coal oil, kerosene, turpentine, fecal matter, urine, or any deleterious matter whatever shall be punishable by a fine not to exceed \$50 and costs.

SEC. 39. No grocer, storekeeper, or other person shall utilize or permit to be utilized any milk or cream bottle, jar, or other receptacle for the purpose of delivering any article other than milk or cream, or for any purpose whatever except the storing, keeping, and delivering of milk or cream.

No milk dealer shall use any bottles, jars, or receptacles for the distribution of milk or cream without the same are first efficiently cleaned and sterilized by being placed in boiling water for not less than three minutes, and in the meaning of this section, this is to be done in addition to the ordinary washing and cleansing with hot water, soap, or other cleaning agents.

No milk dealer shall sell bottled milk or cream unless the same is bottled at a licensed milk house or dairy and unless the bottle or container is efficiently sealed by a paper cap or cover, which must be placed within the lip of said container, and at the place of bottling, and in such manner as to be held securely in place without the aid of

adhesive material. All such paper covers or caps must be clean and devoid of coloring material and of any deleterious substances upon or incorporated within them, and upon the upper surface of said covers there must be printed, in fullfaced letters not less than one-sixteenth of an inch in size, and in black ink, the name and address of the person, firm, or corporation filling the same.

Any person failing to bottle milk or cream as herein specified and failing to use such caps or covers, or failing to place the name upon the exposed surface of such cap or cover, and in the manner herein prescribed, shall pay a fine of \$25 for the first offense and \$50 for the second and each subsequent offense.

SEC. 40. Any person selling milk, cream, buttermilk, sour milk, skim milk, or separated milk without a license or violating any provision of this ordinance shall be guilty of a misdemeanor, and each such act shall constitute a separate offense, which, upon conviction, may be punished by a fine not exceeding \$100 and costs. In the imposition of such fine and costs the court may make a further order, that in default of payment thereof such offender be imprisoned for a period not exceeding 90 days in the city prison of said city or county jail of the county of Chautauqua. Also, the license of said person may be revoked temporarily or permanently by the board of health on recommendation of the milk inspector.