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MALARIA IN NORTH CAROLINA.

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The following is a report on the work done under orders directing me to make a survey of the prevalence of malaria in certain districts in North Carolina and to advise with the health authorities of that State regarding the means to be taken for its control.

It was my intention to begin the work by going to Raleigh and consulting with the secretary of the State board of health both as to the itinerary I should follow and the general scope and nature of the work to be done, thus getting the benefit of his knowledge of the local conditions and needs of the State and how best to proceed. As the secretary of the board was absent on business connected with his office, this was impossible, and I was forced to proceed without him until August 23, when I was able to see him in Raleigh. Here the remainder of my itinerary was rearranged in accordance with his suggestion. He went with me to Greenville and we together investigated the malarial conditions at that place.

Acting Asst. Surg. John C. Rodman, United States Public Health Service, joined me at Elizabeth City, the first place visited, and remained with me during the entire trip. His services were invaluable, as he knew and was on friendly terms with physicians in every town we visited—in some towns, all of them. Next to Dr. Rankin himself, I know no one in North Carolina who would have added more to the success of the trip.

I visited Elizabeth City, Hertford, Edenton, Plymouth, Washington, Greenville, Newbern, Goldsboro, Fayetteville, Smithfield, Tarboro, and Roanoke Rapids.

The general plan of work at each of these places was to see the health officials, the superintendent of health of the county and the health officer of the town, if there was one, and with them to make a general rough malaria survey of the town and its immediate environment. This survey was made in a vehicle, with occasional trips on foot, the more carefully to examine probable breeding places for Anopheles and to demonstrate their larvæ in situ to the local health

officials, showing them (1) in what kind of places such larvæ were and were not to be found, (2) how to distinguish them from the larvæ of other mosquitoes, (3) how to secure them. This survey was made fairly complete and all places likely to breed Anopheles were taken cognizance of. It was, however, open to a considerable source of error, depending on the rainfall and weather, for I could show the larvæ only in places that were breeding them at the time. For instance, Goldsboro was examined after an extremely dry spell, and numbers of low places were absolutely dry, which almost certainly were breedi g places in ordinary weather. Tarboro was first seen 72 hours after a very severe storm, and the ditches and pools which had doubtless contained larvæ were washed out clean. Washington was visited during a period of very high tides, which had let the top minnows into many ditches and pools generally free from them, and so filled the marshes and diluted, so to speak, the Anopheles larvæ that they were not found, or were found in only small numbers, in many places where I am sure they were breeding freely at ordinary seasons. The tides here were fresh water. However, I was always able, except at Selma, to find the larvæ in situ and to show the health officer in what kind of places they were to be found.

Before, in the intervals of, and after this survey I saw the physicians of the town, generally all of them, and got their statements as to the prevalence of malarial fever and its character, both at present and in former years. Their views on the general problems of malarial fever were obtained and discussed. During the survey, if the health officer was with me, as was the case in all but one town, I pointed out the appropriate remedy for each place breeding Anopheles: Draining, tile or open ditch, as appeared applicable, filling, oiling, and poisoning with waste of mills. I also made recommendations for cleaning off brush and weeds where needed.

After the completion of all this work, the night before leaving the town, an exposition of the condition of the town as regards malarial fevers with recommendations for the remedying of such conditions as required remedy was made. This was in the form of a public lecture, beginning with such an exposition of the general subject of malarial fevers, especially their etiology, conveyance, and natural history, as would enable the audience to understand what was said about the problem of their own town. It ended with stereopticon pictures of a few different kinds of mosquitoes and methods of anti-Anopheles work. Anopheles larvæ, home-grown, were also shown at this time and contrasted with Culex larvæ in the same receptacles, so that the difference could be readily seen. I will say that I found no physician, or indeed anyone else, in any place I visited who had seen, or seeing had recognized, the Anopheles larvæ. This knowledge at

least is now widespread in the eastern part of the State. The larvæ were generally left with the health officer, so that he might see that they developed into Anopheles mosquitoes. These lectures were, with one exception, well attended, and from the number and character of the questions asked I think the audience was generally interested in and understood them.

The object was not only to acquire information of the condition of the town by this survey but to show the health officer everything I could, so as to increase his efficiency and above all to incite and direct public opinion so that the health officer might be able to institute and carry out successful antimalarial measures for his town.

Properly speaking, no survey of malarial conditions in the towns visited was made either as to number of cases or variety of parasites. It was rather a survey, and a fairly careful one, of the causes of the malarial conditions that did exist, and especially an attempt to remedy such conditions.

The scope of the lectures varied naturally at different places, and according as my audience was entirely townfolks, or partly from the country, did I lay stress on different measures of prophylaxis suitable to their different environment.

At no place was I able to obtain any definite statistics as to the prevalence of malarial fever there, not even as to its comparative prevalence or its virulence. Each physician had an impression that it was "much" or "little," "less than" or "more than," or "about the same as" the last 5 or 10 years. It was "not very malignant" or "showed many bad cases" in the opinion of different men. I could not determine the number of cases, even approximately, in any community. Last year is agreed to have been an unusually bad year in nearly every place, and the worst season to be from September 1 to October 15.

On one thing, however, all the older practitioners of the tidewater towns are agreed, viz: That malarial fever is far less prevalent and less severe than it was 20 to 30 years ago. This is undoubtedly true. I know it both from the instances cited by them and from what I learned during a trip I took through this section in 1896, when malaria was certainly much worse than it is now. Nor are the reasons far to seek:

(1) *The increased prosperity of the country people.*—The rise in price of cotton, diversified farming, and other changes have greatly added to the prosperity of this part of the State. The farmers (North Carolina is essentially a farming country) live much better than they did; have better food, better houses, and better environment generally. They have cleaned up and drained more land, and it is kept for economic reasons freer from standing water and brush, hence of breeding places and shelter for mosquitoes. Surface wells

have been replaced very generally by driven wells and pumps. Much stress is laid on this latter change by the physicians of this section. That these wells would furnish shelters for mosquitoes is certain. I did not think that Anopheles would breed in them until I found Anopheles larvæ in a well in ordinary use in Tarboro. If Anopheles did breed in such wells, I think it must have been rather exceptional and in small numbers and that the closure of the wells did good, if it was so great a factor in the improvement as is generally believed, in removing a shelter for the adult mosquitoes.

(2) *The lowered price of quinine.*—At the time when malaria was so prevalent that drug sold for $4 to $4.50 per ounce wholesale and was, by poor people, used sparingly. Many "wore their chills out," and it was rarely taken save on a physician's prescription. Now it is from about 25 to 28 cents per ounce and is purchased by the ounce by farmers and administered without waiting for a physician as soon as one has a chill, sometimes doubtless unnecessarily, is taken in larger doses, and is longer continued.

These two factors obtain and are sufficient to account for the diminution of malaria observed within the past 20 to 30 years.

In the absence of statistics I can only say that there is much malaria in eastern North Carolina, mainly of a rather mild type, tertian, but there is some estivo-autumnal. There is some in every town I visited, generally in proportion inversely to its size, but varying, of course, with its environment. There is much more in the country, and of severer type, than in the towns. Indeed a severe type, including much blackwater fever, is reported in several counties and small towns, none of which, however, did I visit. These reports are from practitioners in Plymouth, Washington, Newbern, Goldsboro, and Fayetteville, who practice in the places where the severe type prevails.

As compared with the places in which I have worked in the Tropics this country, in spite of much malaria, has three decided advantages: (1) The flight of Anopheles, namely, the season during which malaria can be contracted, is much shorter; (2) there is, judging from reports of physicians, a less proportion of a severe type, estivo-autumnal; (3) those most exposed to it are indigenous, not newcomers, and hence, especially in the country where it is worst, have acquired a high degree of immunity by previous attacks when adult life is reached.

The first makes a marked difference. The flight of the Anopheles is, I should think, not more than 4 to 4½ months, as compared with 9 on the highlands and 12 on the lowlands on the Isthmus of Panama. Thus there is not only a much shorter time for infection, and hence less infection, but there is a considerable time, 7½ months at least, probably 8½ in most sections, for the people to recover from the effects of this infection.

The second is more especially true of places not in the tidewater region. In days not long gone by there was a large amoun of extremely severe malaria in this section, not less than there was in the Canal Zone, and there is from report not a little now, especially blackwater fever and malaria of the cerebral type, in some rural districts and villages.

For the third, I would say that in most districts in the tidewater region but few people living in the country can attain the age of, say, 30 years, without malarial attacks enough to acquire a high degree of immunity, like the natives on the Isthmus and other malarial localities. Those who did not attain a fair degree of immunity would probably not attain adult age. The prevalence of malaria, then, is most injurious to children, who are, of course, newcomers, during the time they should be getting their growth and education, and it gives them a permanent handicap in life. In many districts at present there is not sufficient protection until immunity is acquired.

No estimate based on deaths reported from malarial fever seems worth making because (1) the rates of death to morbidity vary so widely in different locations, from 1 to 1,000 to 1 to 50, I quote practitioners in different places; (2) in children the death is quite frequently from an intercurrent affection and is reported under that head; and (3) the prevalence of a "continued fever not affected by quinine" which is by some practitioners considered typhoid and by others malarial, and the deaths therefrom would be reported by the latter as malarial fever. It is not the direct mortality caused by malarial fever which is so important. This, except where the severer types prevail, is not great. It is an indirect cause of death much more often. But its morbidity is out of all proportion, compared with most diseases, to its direct mortality, and it is as a cause of inefficiency that it does most harm. As a producer of anemia it ranks below, decidedly below, but next to hookworm. A considerable number, nearly all under 20 or 25 years in some sections, lose some time on account of malarial fever each year and are more or less debilitated after each attack. It is especially severe on children during the time they should be growing and getting their education. At one place I examined the spleens of 10 colored boys, and all were enlarged. At another where malaria was very prevalent, but very mild, looking rather closely over a number of people, on the street Saturday afternoon, in church Sunday, and at school the next day, fully 75 per cent of the young people, girls especially, showed decided anemia. I was told by the health officer that only a small amount of hookworm had been found here, and, as sanitary closets were universal, I would have judged so anyway. Adults in the more malarious sections have doubtless acquired a certain degree of immunity, although in the town last mentioned there was considerable malarial fever among the adults.

Some general remarks may be in place here.

(1) The towns visited in tidewater North Carolina were all on fresh water and all, except Plymouth and Fayetteville, fronted on a large body of water, from one to several miles across with generally clean banks which could not breed mosquitoes. Plymouth lies on the Roanoke River, and I suspect that its banks do breed Anopheles, as they were sloping and covered with growth. In only one place, Newbern where it borders on the Trent, is the land across the water close enough for Anopheles bred there to be a menace to health. Fayetteville is some distance from the Cape Fear River.

(2) All lie on soil the surface of which is porous, some, as Hertford, extremely so, and are quite flat. Unless the rainfall is very heavy the lack of slope seems an advantage, as the soil is so porous that the water is absorbed as it falls. If there be slope enough for it to run, it washes off the top soil and forms rivulets, and then pools, on the subsoil which is less porous.

(3) They are built on fairly dry land, as high as the location allows, with marshes or creeks on, or close to, their outskirts. Those that are large have drainage canals running through them, with sometimes marshes of greater or less extent at the ends of the canals to which they are effluents. These marshes may be within or outside of the corporate limits, but are close enough to residences to infect them. Alien Anopheles are as bad as those denizens of the town.

(4) The canals, and indeed all of the large feeding ditches, are cut with perpendicular sides and wide bottoms, 4 feet or more. The result is that the small stream of water which they usually carry does not cover the bottom, but trickles from side to side among grass and other obstructions and forms pools not connected with the stream. Especially is this true where the banks have caved in. Here the top minnows, one of our most efficient antimosquito agencies in this country, can not get at the larvæ and we have breeding places.

The earth from these ditches and the cleanings for years are thrown out on their banks and have made ridges behind which surface water sometimes collects, forming a double line of small marshes. The banks of these ditches are also usually covered with brush and briars, at once furnishing a shelter for mosquitoes and rendering oiling impossible until the bank is cleared.

(5) Outside of tide water, Greenville, Tarboro and Roanoke Rapids are examples. The soil is much less porous and the rain will not soak in so readily. There is, however, sufficient slope for good drainage into rivulets in ravines which border or intersect the towns. These rivulets, however, are sources of danger, as when they go down after a sharp rain they leave pools standing outside of the small low-water stream left, which pools breed Anopheles. Also, where they run slowly and through grass or brush Anopheles are found. I have

found no top minnows in these rapid little streams, not even in still pools in them. It requires as much work of a different kind to protect some towns in this section as in tidewater regions and some have as much or more malaria. Sometimes there is a large flat area adjacent to such a town, as at Goldsboro, where the drains are sluggish and contain minnows.

(6) Something must be said about the top minnows, which in my opinion are most valuable allies to the sanitarian in his antimalarial campaign. They are found all over tidewater North Carolina, and in myriads. They are not only in every stream of running water, no matter how slowly it runs, but in a large number of pools—big and little—which have no effluent. There are no larvæ found where they can get at them. Unfortunately they do not penetrate thick grass, and the edges of streams harboring this fish will sometimes show larvæ. As illustrating how larvæ may escape these fish, I found at Plymouth two Anopheles nearly full grown above a leaf floating attached to its branch just under the surface of water, the pool being full of minnows. Also pools on the edges of ditches are formed without catching any minnows in them. These breed larvæ. They are not found in very foul water, neither are Anopheles larvæ.

Outside of tidewater these fish are found abundantly in still water, as at Goldsboro in slow-running drainage canals and as at Tarboro in a pond and two collections of water where clay was dug for bricks, which I judge had never had an outlet. How they got in the latter places I can not conceive. In two other such "clay holes" I found none. I have not found them in any rapid stream, as in the "branch," a small stream at Greenville. I found only one at Roanoke Rapids, in the canal; none in any of the little streams running through the town, although there was an abundance of still water at the lower parts of them. These streams carry much water, a flood in time of rains, and empty into the river below the paper mill and one cotton mill, which discharge their refuse into it. Possibly this is the explanation. I have not found them in ponds which contained large fish. It is an error to put fish that grow large, I mean such as will eat the minnows, in ponds and streams as a protection against mosquitoes.

(7) All the towns I visited in the tidewater section, except Plymouth, have a rather wide fringe, from 150 to 300 yards and more, of negro houses between the residences of the whites and the marshes which lie on their outskirts, and I am inclined to think, in spite of the number of carriers among the negroes and the opportunity this gives for infecting the Anopheles, that they, the negroes, are a protection to their white neighbors more distant from the breeding places; that very many Anopheles stop at the nearest blood food

available. This question, of course, has not been worked out, but the mill tenements rarely have such a fringe of negro houses and are reported to have decidedly more malarial fever than other whites in towns so protected, even when about the same distance from the marshes. This disposition of the houses of the races comes from the lower rents of houses next to outskirts, due probably to their being more unhealthful to whites.

This fringe is especially marked in Elizabeth City, Washington, and Newbern, and Edenton on one side, the worst.

(8) In spite of various conditions of rainfall, extreme dryness, heavy rains and a flood, Anopheles were found breeding in every place visited except Selma. Selma was visited within eight hours of the storm of September 3, and I stayed only a few hours. Anopheles were found in considerable or large numbers in every place except Smithfield, where they were scarce for the same reason as at Selma. In general, as many could be collected as one cared to give the time for. They were found in the usual kind of breeding places, too well known to describe. In addition they were found in artificial containers, in one at Hertford and two at Smithfield and in two wells at Tarboro. Also in pools in the open sun and in pools red with iron rust at Roanoke Rapids. In one of the collections at Smithfield I found no algæ; the larvæ were small; one of the wells at Tarboro the same. The latter, however, was hard to examine and may have had some. Those found in unsuitable breeding places at Roanoke Rapids were very small and the eggs may have been washed there or deposited there because there was not other water convenient. There was no other water convenient and there must have been any number of female Anopheles about. I doubt if these larvæ would have developed into imagines.

A number of larvæ were allowed to develop and showed *A. maculapennis* Crucians, and in two places, Newbern and Plymouth, argyritarsis. Culex, of course, were plentiful, and, except tæniorynchus and pungens, not differentiated. Stegomyia were found only at Edenton and Newbern, and in small number. I am informed that there is a striped day-biting mosquito at Raleigh, which from this description should be Stegomyia, but I saw none the one day I stayed there. It seems improbable.

The recommendations made for antimosquito (Anopheles) work in all sections were along these general lines, varying, of course, in detail for each community according to local conditions:

First remove the brush, weeds, and high grass from all places which may possibly be breeding places for mosquitoes, e. g., marshes, ditch banks, etc. This is to enable us to see the condition underside—i. e., whether they conceal breeding places or no. It

is a necessary preparation for all antimosquito work. The same thing should be done all over town, especially near houses, as this cover forms shelters for mosquitoes, which die in the hot sun. Our object is, then, primarily to get rid of the breeding places. To do this we must (*a*) remove water, (*b*) render it unfit for breeding.

(*a*) The first by drainage or filling. If by drainage, use underground drains where possible. Where this is impracticable, on account of the amount of water and expense involved, use open ditches, but cut them with sloping banks, so as not to cave in. Make the bottom as narrow as possible, so as to allow for the stream of water covering all of it to utilize top minnows to the best advantage. Let the upper end be as shallow as will drain efficiently, so as to allow as much slope as possible as the ditch deepens toward the effluent end. In any case, the earth taken out of the ditch must not be allowed to form a ridge on its banks, else surface water will accumulate and make pools and marshes behind it, especially the case at Elizabeth City and Edenton. This earth is, in general, needed for filling in tidewater towns, either close by the ditch or elsewhere. Also in cleaning out the ditch it must be kept at its original grade and not deepened. I have seen many ditches deepened below the grade of the crocks or culverts through which they pass under streets, thus forming water holes and breeding places. Filling is scarce in most tidewater towns unless they can avail themselves of a suction dredge. In some, as Edenton and Elizabeth City, it is fairly abundant. In others, sawdust can be used to advantage, and is so used. It is fairly abundant and light for its bulk. Street sweepings and city trash are available, and even kitchen garbage will do. Indeed, the fouler the marsh and its effluent are made the safer it is from Anopheles. Of course, there are other diseases besides malaria to be guarded against. Filling is a particularly hard problem in towns like Washington and Newbern, and, indeed, for the latter drainage not less so.

(*b*) To render the water which can not be removed unfit for breeding, one naturally turns to coal oil. For this to be used efficiently, however, the water must be fairly free of grass and other growths and should be so collected in ditches or a reasonable number of small or moderate sized pools that all of its surface can be oiled. This is to be done once a week. This interval is fixed for administrative not biological reasons.

Where available, waste from the dye plants of cotton mills was recommended to be turned into ditches and streams. If turned into a marsh it does little good unless the marsh has been drained into an effluent ditch. Even the wash water from negro laundresses, living as they do thickly on the outskirts of towns, is of value in the adjacent ditches. At Edenton and Fayetteville two otherwise difficult ditches

have been rendered safe by dye waste and at Washington one by the discharge of gas tar into it. There is a gas plant at Newbern, but the tar is not available. It would be invaluable here.

Under conditions where antimosquito work was impracticable, as in small towns and rural communities, as much was recommended as seemed practicable and individual prophylaxis was advised to supplement or substitute it. This was the use of methods to prevent access of mosquitoes to human beings and to render those to whom they do have access insusceptible or less susceptible to infection. The first was the use of screenings and mosquito bars. There is not much screening done in the farmhouses of North Carolina. Even in towns the screening was not efficient, the mesh was too large, No. 12 and a little No. 14, and the frames were not fitted so as to exclude mosquitoes. The use of mosquito bars in the country, I am told, has greatly increased of late years.

The bars in hotels were not well arranged to keep out mosquitoes. Those I saw in private houses were much better because less elaborate.

To describe the proper method of screening in detail was impossible; a few of its principles should be given. Mosquito bars were simpler.

The second was the use of prophylactic quinine. This was under the above conditions, when efficient antimosquito work is impracticable or will not be practiced or gone into in much detail. Its advantages and the methods and form of administration were described and illustrative instances and statistics given. For rural communities that will not screen efficiently—and this is true of nearly all of these communities in eastern North Carolina—quinine thus used seems to me the only efficient method of antimalarial work available. Thus used rightly, it will be increasingly efficient. Those who are thus protected are much less apt to infect mosquitoes than before; most of them are probably incapable of doing so, and this again lessens the number of cases of malaria in their homes and forms an endless chain of progress, so to speak. Also as malaria lessens prosperity increases from the increase of energy and strength of the people, and with increased prosperity come land better cleared and better drained, better living, and better hygiene generally, especially that against malaria, another endless chain for betterment in antimalarial work.

It is only in this way—by personal prophylaxis leading to antimosquito work—that permanent results can be obtained from it. In spite of it there will always be persons infective to mosquitoes, some even 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. In farming communities of isolated families this would occur more slowly than in villages.

Although the elimination of the mosquito is the method of election in an antimalarial campaign where practicable, yet I believe the prophylactic use of quinine is capable of much good. The relation between them is like the difference between having a pure water supply, so made by municipal waterworks, and filtering or boiling one's own water when one has not access to a municipal supply.

To give a brief résumé of this survey in detail:[1]

Elizabeth City.

Elizabeth City, 11,000 or 12,000 people, fronts on a broad tidal river, the Pasquetank, with clean banks to the water's edge, allowing no places for breeding here. The soil is very porous and the surface is flat, although there are three lines of depressions, occupied by drainage canals running through the city—two branches of Poindexter's Creek and the Tiber. Everything was very dry on my arrival, there having been no rain for a long time.

There was no water standing in pools or gutters in the city. Indeed, owing to the flatness and porosity of the surface, no water ever stands in the residence part of the city or anywhere except in and about the drainage canals mentioned and their branches and the small marshes at their heads, and some barrow pits for the railroad near the box factory and electric light plant. Some pools along these canals and one of the barrow pits were breeding Anopheles; the pits close to the station were not. At that time I did not know why. One of these drains was especially called to my attention by the health officer as being very insanitary on account of the discharge into it of the refuse of the dye plant of a hosiery mill. This was unsightly and smelled badly, but I was able to report it absolutely free from larvæ or indeed animal life of any kind and that it was the only drainage canal which was not breeding Anopheles.

The marshes at the upper parts of the other three canals, one of which was close to a mill village, as well as to many houses of negroes and some whites, were breeding Anopheles plentifully, as were some small marshes on their banks which should have drained with them, but did not. For years the dirt from the cleaning out of these drains had been piled on their banks, until a series of small marshes had been formed just outside of these ridges along their edges. Also the banks and many of the small marshes were thickets of brush and briars. The open parts of these drains were full of top minnows and even pools left in them which had no outlet or inlet were breeding no Anopheles that I could find. Some doubtless were in the grass, where the fish could not get them. The small marshes outside of the drains were breeding Anopheles in numbers.

[1] The populations of towns here given are in accordance with the statements of the health officer and include all in such juxtaposition as to form one sanitary unit even if some be outside of the corporate limits.

The problem of this town is easy: Cut the brush and weeds so as to see where the small marshes lie and to remove shelter for the mosquitoes. Fill up the side marshes by leveling the banks of the drains; drain such as can not be filled up. This drainage can all be done by small tile. Clean out the drains and make underground drainage where possible. Where impossible, on account of expense—I think but few will be so found—cut a ditch with sloping banks and a narrow bottom, so that no pools would form and no banks cave and the top minnows can have access to every part. The barrow pits near the box factory to be drained. This can be easily and cheaply done.

All of the front of the town, the longest side, is on a broad and deep river with clean steep banks. The houses of the employees of the cotton mills are almost the only white residences which are much exposed to malarial infection—no negroes between them and the woods.

Hertford.

Two thousand six hundred people. Flatter than Elizabeth City and ground more porous, shell and sand. Long side of town on broad, deep river, with clean banks. No water standing in town 12 hours after a heavy rain. Anopheles found breeding in abundance in a swamp—Gum Pond—just out of town, and on water front near sawmills. Two small ditches near the outskirts, among negro houses, were also breeding places. A small number of Anopheles were found in a stone basin, with green algæ, in the courthouse square. Many culex were breeding in the catch basins of the gutters. No Anopheles in the catch basins. Very little malaria is in Hertford, and that is mainly near the sawmill breeding place. I went into the country near by. It is not intensely malarious, but a great deal more so than the town. The same character of soil and surface, and the marshy places are far enough apart to build well away from them—say, one-third to one-half a mile—but this has not been done in many cases.

A considerable part of the audience here were country people, and the lecture was especially adapted to their needs. Quinine as a preventive was especially urged and its use for this purpose described in detail. These farmers being unusually prosperous, the principles of house screening were gone into at some length. All breeding places here can be easily and cheaply handled, except the Gum Pond. This is beyond the means of the city at present, but it can be gradually attacked and made less a danger than it is now. It is not very close to the residences of the whites—400 yards, I should say—with a broad fringe of negro houses between.

Edenton.

Five thousand five hundred inhabitants, counting those outside corporate limits. One side of town resting on water about 8 miles across, with steep, clean banks, hence no breeding on that side. Soil porous. Not so flat as at Hertford. A beautiful town, beautifully located.

No breeding places in or very near the main residence part of town. Breeding places on two sides of town on the west in a marsh—very many larvæ; to the north fewer in ditches. To the east, next to the water (which is on the south) is a small place where larvæ were found. A ditch runs through the town diagonally. This was partly open and partly covered; where open it was absolutely free from Anopheles, except in one small pool off to one side. This was due to top minnows, which were innumerable. No grass grew in this ditch. Where it was covered—in the lower part of its course in town—the bank had been raised until there was a considerable morass by the side of the ditch, breeding Anopheles freely; also other places in the east end of the town, near Jail Street and elsewhere.

The cotton-mill village outside corporate limits was exposed to a bad breeding place on one side.

I was informed that malaria was most prevalent in parts of the town adjacent to which I found the breeding places.

The breeding places, except the marsh beyond the west end of town, are easily handled by tile drainage. That near the cotton mills can be treated permanently only by filling and by cleaning off brush and oiling until that is done. The filling is being done by the mill owner as rapidly, I judge, as it can be economically done. At neither Elizabeth City nor Edenton did the superintendent of health go with me on the careful search for breeding places, although at both places they went with me on the preliminary survey. At Edenton I took the city health officer the next day and showed him all of the breeding places in the corporate limits.

Plymouth.

About 2,400 inhabitants. This place has a bad reputation for mosquitoes, but, as is usual, the mosquitoes complained of are not malaria carriers. From description they are *Culex tæniorynchus*. The town lies on the Roanoke River, but is in tidewater North Carolina. It is scattered over a large area and the marshlands jut into it in many spurs. Large drains are common with perpendicular sides and wide at the bottom, in which grass grows and along some of which water trickles, forming eddies and pools. Most of them were completely dry, however. The banks of the river, above the normal river banks, are flat and sloping and covered with a heavy

growth of reeds and with lotus—the only place save Washington, N. C., where I ever saw this flower wild—growing down in the river in deeper water.

This place is reported by its health officer as fairly malarious, but congratulates itself as being far less so than the county across the river, Berne, where the health officer reports malaria of a severe type.

Accompanied by the superintendent of health, I demonstrated Anopheles larvæ in various places and made a complete survey of the town. I found here a number of collections of brown water, with a slight taste of tannin, in which I found no larvæ of either Culex or Anopheles. There were many breeding places, however, elsewhere, especially in the pools in the ditches. In one place about 50 Anopheles larvæ, full grown, and some as pupæ, were found in what was really thin mud, the water having evaporated to the consistency of sirup.

It is not possible for this town to do efficient antimosquito work. The area to be attended to is so large and so difficult that the expense of cleaning up breeding places would be absolutely prohibitive. A number of breeding places in the town can be removed, mainly in the broad ditches, and these and the method of remedying them were pointed out to the health officer. It was recommended to do what was possible with the means at their disposal and to rely on screening, mosquito bars, and prophylactic quinine. Screening is more practicable here than in most places, because the Culex mosquitoes are so bad in the early part of the summer that many houses are screened to protect from their bites. Unfortunately, the screening here—as elsewhere in North Carolina—is mainly No. 12, with No. 14 in a few places. No. 14 painted, is about equal to No. 16 and will exclude Anopheles. Much more stress was laid on the use of quinine as a preventive than on screening or bars. It is of more general applicability in Plymouth and its environs. Almost the only antimosquito work recommended was to cut their ditches with sloping sides and narrow bottoms. There are many top minnows here, but the ditches are so wide at the bottom—4 feet and over—that the water forms pools and stagnates and the fish have not a fair chance. Especially is this true when the bank caves in, as it often does, and grass grows in a part of the ditch bottom.

Washington.

Eight thousand to ten thousand people. A town in good sanitary condition and for this section with little malaria. It is low, the highest point 12 feet above mean tide. Two sides are on Pamlico River. On one side the bank is clean and steep to deep water,

allowing no breeding places; on the other the bank for a little way near the railroad station is flat and wet and covered with water plants. Surface soil porous. Jacks Creek forms its lower boundary. One of the branches also bounds it. The other runs through the town and branches into several smaller drains within it. There are marshes and small effluents to Jacks Creek out of the corporate limits, but close enough to houses to infect their inmates. The tar from the gas plant is led into one—the largest—branch of this creek and runs through town and into the main fork and thence into Jacks Creek. No drain carrying this tar showed larvæ of any kind. This was by location a very dangerous drain and difficult to handle otherwise.

On my arrival the marshes were so full of water, owing to a series of high tides, and the water carried so many top minnows that many places which should have been breeding Anopheles showed no larvæ. I found numbers of these minnows in stagnant holes and up in a marsh cut off by grass and a bank from the main ditches, which must have been left there since the spring. This was also true of other places in tidewater North Carolina. A number of Anopheles were found, however, in small pools, just at the corporate limits, unconnected with the ditches, in a hole in town recently dug to get sand and in two places in the street gutters. There were many, too, in isolated pools in the marshes toward the cemetery outside city limits, but close to dwellings.

There is the usual fringe of negro houses for, say, 300 yards next to the marsh side of Washington. This is opposite to the Pamlico River side of town where the bank is clean and free from breeding places. Most of the white residences there are well protected and at some distance from breeding places. There are a number of new houses being built outside of the city limits, toward the cemetery, which are convenient to bad breeding places. These could, however, be readily remedied by tile drainage, as the marshes and their effluent ditches are small. There were the same wide-bottom ditches here as elsewhere in North Carolina. Owing to the high tides the bottoms were all covered.

The mayor and superintendent of health and the people generally seemed much interested in antimosquito work, and a fairly complete system of drainage and filling was advised for this city, but owing to the loss caused by the recent storm I doubt if it can be carried out. Very little filling is required except on one short place along the river front near the railroad station, and this can be easily done. A survey was also made here of a suburb that is in process of building, and advice was given of the work necessary to free it and its environment from Anopheles breeding places.

Greenville.

Six thousand people. The first town I visited not on tidewater. It is an upland town on the Tar River, with good slope and elevation, draining into a "branch" which rises in town and runs around it on one side at some distance therefrom. Soil is not porous, hence water that does not run off stands until it evaporates. Dr. Rankin accompanied me to this town. It was only 18 hours after a heavy rain and the ditches were well washed out; indeed "the branch" into which they empty was still running muddy water and the marshes were overfull. I was able, however, to show him Anopheles larvae, and as the marshes went down we found them in numbers and full grown, from a marsh convenient to the residence portion of town. As an index to the number of female Anopheles there must have been about "the branch" bounding the town, I would say: The branch was out of its usual banks in the morning; that afternoon late and next morning it had gone down and left many pools inside its high banks but outside of its water course. Every one of these pools we examined, and we examined many, showed minute Anopheles larvæ, some a few hours old only. Either the surface of the creek in flood was pretty thickly strewn with Anopheles eggs or else there were females ready to deposit eggs in each of the pools as they formed. The latter is doubtless the explanation. This part of the creek was too distant from habitations to be much of a danger to them. There were no top minnows in the "branch;" hence the multitude of larvæ in the pools. An abundance was found in still water, without effluent, in another part of town, in several places indeed.

The problem of this town is, in the main, very simple. There is plenty of slope and the town is rich and progressive. Drainage underground is practicable for every place except "the branch" and that can be bushed and its pools oiled once a week during the mosquito season—say from June 1 to October 1.

As a number of physicians practicing in the country were present and many farmers as well, it being court week, stress was laid in the lecture on measures applicable to rural conditions, especially on the use of prophylactic quinine.

Newbern.

Sixteen thousand people. This was the largest city visited. When I was here in 1895 it had a bad reputation for malaria. It is on tide water with a maximum elevation, I think, of about 12 feet above the water. Sanitary work has been done here in the way of cleaning and oiling street gutters and ditches, etc., and the surface soil is very porous. There was then no water breeding in the white residence part of town. There were, however, two ugly marshes,

Duffy's field and Richardson's marsh, in town. Both of these and a part of the low edge of the town next to the Trent River at Long Dock were breeding Anopheles, the marshes very freely. The water of the Trent River was brown and like that at Plymouth in which no larvæ of any kind were found, only lighter in color. The edges of this river were from other reasons not likely to breed Anopheles, but at any rate none were found in this water. This same water, very dark, was found in a bog of peat in the town and with no larvæ of any kind. The two marshes and the swampy place above the Trent water, at Long Dock, were the only places found breeding Anopheles.

A ditch suitable for breeding them if clean was found close to Duffy's field, but it was so foul from garbage and fecal matter that, although full of Culex, no Anopheles were found. I was glad to show this to the health officer who accompanied me, as showing the effect of foul water.

The statement of the solution of the Newbern problem is easy. Drain or fill the two marshes. The execution is difficult. The marshes are about sea level, or at least river level. They can not be drained. There is no filling available, except garbage and street trash; possibly sawdust can be secured. I recommended that both of them be (1) cleared of bushes, weeds, and tall grass and kept clear of them; (2) ditched with a system of broad, narrow-bottomed ditches and cross ditches, as shallow as possible at the ends and sloping down to a kind of sump at the deepest part of the swamp, so as to drain the marsh into ditches and to collect the water in the ditches into one body; (3) oil the ditches. At the same time to begin filling the marshes, starting at the edges, using everything available for this purpose, including the earth removed from the ditches dug to drain them. It will take some years, I judge, to complete the filling if sawdust is unavailable, unless earth is brought from outside, or mud pumped in from the river. This last, of course, would be easy and not costly if a suction dredge were available, i. e., working in the neighborhood. The officials do not think the town would go to the expense necessary to get such a dredge to come there. There is no other quick way to get permanent results, although sawdust would do if available. The breeding place on the river bank can only be filled. This is a small place, however, and easily handled. It can be filled by getting material from the bank itself, slightly broadening the river.

Goldsboro.

Eight thousand people, a highland town, soil fairly porous, good elevation, very thriving and progressive.

The first day, or half day, I went around with the health officer and found one Anopheles larva. Here I learned to appreciate what

I had observed at several places before—that collections of water close to railroad stations where much switching is done rarely show Anopheles. The sparks that are thrown out of locomotives when they puff fall in such waters in great numbers and each one partially burnt brings a small drop of oil. Whether it is from the frequent agitation of the water or from the oil, certain it is that in this water covered with small pieces of coke I have not found Anopheles larvæ. One finds a few Culex. The water here showed a good film of oil. The next day—Sunday—I went out by myself, walking, and found Anopheles in abundance. I got the health officer that afternoon and showed him the breeding places and caught the larvæ from them in his presence. There were a fair number of breeding places here, but not many close to the white residences. It was exceedingly dry, however, a severe drought, I was told, and I saw a number of places in which water had stood long enough to leave a green deposit on the ground when it evaporated; and long enough to develop Anopheles. A number of new houses for whites are building or are just built in close proximity to bad breeding places across the railroad from the main town.

The solution of the problem here is drainage. Underground drainage is practicable for nearly all of the breeding places, although filling is advisable about the Veneer mill. For this, sawdust is readily available.

Fayetteville.

About 10,000 people. This is on the Cape Fear River. The soil only fairly porous. It has good elevation for the most part and very flat for the remainder. It is more spread out—occupies the largest area—of any town of its size that I know. A great deal of oiling had been done during the summer and fall; more done and more efficiently done than in any place I visited and many promising ditches and pools were bare of Anopheles. As was natural, however, they had oiled only the large places and full ditches, so I had no difficulty in collecting a large number of Anopheles larvæ from a dozen different places. The same condition existed here as at Elizabeth City. There was much complaint of the dye from a silk mill being turned into a drainage canal, fouling it and rendering it a menace to health. This canal and other places contaminated by the dye were absolutely free from mosquito larvæ of any kind. I found top minnows in large number in a marsh which I am reasonably sure had had no outlet for some years. It was probably fed by springs. Where the fish were there were no larvæ; near the edges where there were no fish, larvæ were abundant.

The problem in Fayetteville is difficult from its extent; there is so much ground to cover. I am informed that there are 75 miles of city

ditches and canals. It can mainly be met by (1) cutting brush to see what we have under it and to remove mosquito shelters, (2) draining the small ditches and small marshes with tile, and (3) digging the larger ditches into which the small ones open, with sloping sides and narrow bottoms, keeping them free from growth and, unless filled with minnows, oiling them. It is this last that will be the difficulty, because it is work that must be continuously done. We were treated extremely nicely at Fayetteville. The night of the lecture was the night of the great storm, September 3, and yet a very respectable audience of city officials, physicians, and other prominent men were present.

Selma and Smithville.

Selma and Smithville are small towns in Johnston County, about 4 miles apart. These places were reached the morning after the great storm.

Selma is a scattered village of, I judge, 600 or 700 people, close enough to ditches and marshes to be infected from them. No Anopheles were found here; the place was almost flooded, and we remained only a few hours. We went then to Smithfield, a much larger place, with the superintendent of health of Johnston County. This county, which, I am informed by Dr. Rankin, is one of the most progressive in the State, has what is known as a "whole-time" health officer. He devotes all of his time to his official duties.

At Smithfield, getting there quite late and the same conditions of flood existing as at Selma, no search was made for Anopheles. A supply had been brought from Fayetteville to show the health officer, as I anticipated that they could not be found on account of the rain. However, the next day two collections were found, both in artificial containers, by Dr. Rose, of Smithville, to whom I had shown my specimen larvæ and who recognized and brought them to me. One collection was in a wooden tub, sitting under a bush with green algæ growing in it. The other was in a granite-ware pan. It had been oiled before I saw it but I could see no algæ. These larvæ were small, not half grown, some of the others were full grown. Whether the first lot would have come to maturity I do not know. I doubt it.

All probable breeding places were pointed out to the health officer as usual, although there would probably be some on the river banks as the water went down not now visible. This place can be made quite free from Anopheles at very little expense, mainly by covered drains. The lecture here was especially addressed to the farmers from the surrounding country and recommendations were on the same general lines as at Greenville for personal, as distinguished from municipal, prophylaxis, house screening, mosquito bars, and especially prophylactic quinine, which subject was rather fully gone into.

Tarboro.

This is a thriving town and rich, about 6,000 or 7,000 people I should judge. I did not record the population. It is on the Tar River and is the county seat of Edgecombe County, which is one of the best agricultural counties in the State—mainly of large farms. It is in the high land with plenty of elevation. Surface soil not very porous.

This place was reached September 6, three days after the storm. As the weather had been quite cold, I felt doubtful of finding larvæ from eggs deposited since that time and felt sure that the pools and ditches had been swept clean by the flood. The main ditches were running freely and very muddy when I first examined them. The river was out of banks and rising, backed well up into a ravine running from the town.

However, some half-grown Anopheles larvæ were found in the grass on the edge of a ditch and a large number in a disused well in the heart of the town. The water of this well was about 12 feet deep and about 2½ feet below the surface of the ground, its sides covered with green algæ and shaded by bush and a well curb. The larvæ were of all sizes, many full grown, and very abundant. A stroke made at random with a small saucer brought up seven Anopheles larvæ. Anopheles larvæ were found more sparingly in a deeper well 4½ feet below the surface of the ground, which was in daily use. I could make out no algæ on this well, which was simply a terra-cotta pipe about 2 feet in diameter. Seven larvæ were taken from this well, but it was very hard to dip from, and there were doubtless more. None were over half grown and it seemed an unlikely breeding place. Two days later, Monday, in the afternoon, we found any number of very small Anopheles larvæ in every pool or ditch where one could reasonably expect to find them, mainly on or beyond the outskirts of the town. The weather had been very warm these three days. Five or six were taken per stroke where none had been found Saturday morning. Top minnows were found in very large numbers in a pond in the upper part of a ravine running through the town and in two "clay holes"—ponds from which clay had been dug years ago—unconnected with any stream; also in some of the larger ditches. None were found in the ditches scrubbed out, so to speak, by the muddy storm water.

A very careful survey was made of this place and its environments because (1) there were several points in dispute between the health officer and individuals; (2) there were some inherent difficulties of an engineering nature; and (3) the temper of the people was such that I was assured that reasonable recommendations for sanitary improvements would be carried out and I wished to recommend all that was necessary and nothing unnecessary. Unfortunately, although I re-

mained here six days, the river remained too high for me to investigate the condition of the lower part of the ravine it filled or its overflowed banks. I think, however, that the health officer is thoroughly familiar with the principles which should guide him in determining breeding places and the methods of removing them. Also he knows Anopheles larvæ and how to find them, and I am sure he has the support of the town authorities and of the community. Tarboro has not much malaria, except in certain sections of town, and the better class houses are mainly screened and with finer wire—No. 14—than usual in North Carolina.

On Wednesday I met and addressed a meeting of farmers at the experiment station about nine miles distant and on Thursday a convention of women's clubs. From what I heard and from what I saw of the people, the children especially, I judge that Edgecombe County is not specially malarious. As the country people are mainly large farmers, planters in fact, a fairly full exposition was given at these meetings of the advantages of screening in addition to those of mosquito bars and quinine prevention as was usual to rural communities. Many houses in the country in this county are screened.

Roanoke Rapids.

This was the last place visited. It is a small town, I judge of 1,500 people, on the Roanoke River. Close adjacent is Patterson village, with, I presume, 500 or 600 more.

The town is on a series of ridges with water courses in the ravines between. The surface is not very porous. There are no or very few top minnows. It is essentially a mill town, nearly all of the inhabitants being employees of the cotton or paper mills, or their families. The houses are well built, with screens in doors and windows, unfortunately of No. 12 mesh, and not well fitting. Garden and yard to each house. It covers a large territory for its population, and although on ridges but few of the mill tenements are far enough from the small rivulets in the ravines to be beyond the flight of the Anopheles there breeding.

The malaria here is not of bad character; almost exclusively tertian. There is, however, much of it. The physicians so report, and the young people, especially the children in school and on the street, confirm them. It was nine days after the storm, but only three of them had been warm, and I expected to find only young larvæ in the pools and water courses, as they should have been thoroughly washed out at that time. This was true of the upper part of them, and young Anopheles were found in abundance. Lower down, where the stream was sluggish and broadened out in the grass and brush, there were many, very many, large larvæ, full grown, and pupæ. All or nearly all Anopheles. I think larvæ, and possibly eggs, had

washed down to the lower part of one ravine and accumulated there, for they were in greater number than I ever saw before. One stroke of a small saucer made at random in a grassy cove showed 24 larvæ and 3 pupæ, all Anopheles, many large but the majority small, and some minute. No top minnows in this reach of water, although it seemed eminently suitable for them. Anopheles larvæ in some stage were found in almost every part of every rivulet and pool examined. Many small ones only, in places in which one would not have expected to find them. The same was true of a small morass and stream in Patterson village and close enough to infect both ridges on which it is built. This marsh had been burnt over some weeks previously by the use of coal oil, and no full-grown larvæ were found in it. None were found in wells, although search was made for them. Culex was found in wells.

The problem of ridding this town of malaria is a difficult one on account of its cost, due to the large area and small number of people. Each ridge of houses has a breeding place close enough to infect—sometimes one on each side. Fortunately the personality of the principal people here promises much. They are energetic and in earnest, and are good business men. I believe that they will rid the place of malaria or reduce it to a minimum. It is proposed (1) to drain and clean the marsh and its effluent next to Patterson village, and then to turn the dye from that mill into its head. This will eliminate this long and dangerous drain. (2) An effort will be made to use the waste from the paper mill to destroy breeding places in its vicinity. The dye from the Roanoke Rapids Cotton Mill may also be thus utilized. (3) Such drains as can not be so treated, it is proposed to put underground in terra cotta or galvanized iron pipes. This will be costly, but the mayor, a young man and an engineer, believes it will be feasible and will pay in increased good health and efficiency of the people. (4) If it be impracticable to cover all of the drains, an effort will be made to stock the lower reaches, where the water lies in still pools, with top minnows, where I think they will thrive, and cover the remainder. The health officer is going to take this matter up this fall with the United States Fish Commission.

I remained over four and one-half days in all at this place, to talk over the plans for its sanitation with the mayor, health officer, and the different mill owners and help them formulate plans for cooperation in this work. They all agreed, and it is unquestionably true, that the lessened loss from sickness and the increased efficiency which will result from eliminating or nearly eliminating malaria here will justify a considerable expense. That the mayor is an engineer, and that the mill owners are business men, used to investing money for the sake of getting returns, makes the prospects good for results here.

TYPHOID FEVER AND GASTROENTERITIS.

A REPORT OF AN OUTBREAK AMONG PASSENGERS OF THE STEAMSHIP ROCHESTER, SEPTEMBER-OCTOBER, 1913.

By HUGH DE VALIN, Passed Assistant Surgeon, United States Public Health Service.

The *Rochester*, of the Richelieu & Ontario Steamship Co., was chartered by the Perry Centennial Commission to take a party, 300 in number, of citizens and members of various military organizations of the State of Rhode Island to attend the Perry Centennial Celebration at Put-in-Bay, Ohio, and other points. The itinerary of the trip was as follows:

The party left Providence, R. I., at 8.30 a. m. September 8, 1913, and proceeded by train to Buffalo, N. Y., arriving at that point at 11.30 p. m. the same date. Two meals were served en route by the railroad company, a basket lunch put on at Springfield, Mass., and later a dinner in the dining car attached to the train. Upon arrival at Buffalo the party boarded the *Rochester* and spent the night on board, the ship remaining at Buffalo. On the morning of September 9 a trip was made by rail to Niagara Falls, the party returning to the ship at Buffalo in the afternoon. The *Rochester* sailed from Buffalo at 3 p. m. September 9 and arrived at Put-in-Bay on the morning of September 10. At this place the party was ashore attending the centennial exercises. At 5 p. m. the *Rochester* left for Cedar Point, Ohio, arriving there at 7 p. m. A banquet was served on shore at Cedar Point and was attended by the officers of the Rhode Island military organizations and certain of the citizen members of the *Rochester* party. A few members of the party who did not attend the banquet went to Sandusky for the evening. The *Rochester* with all on board left Cedar Point at 5 a. m. on September 11 and returned to Put-in-Bay, arriving there at 7 a. m. The passengers were again ashore at this point attending the centennial exercises. At 5 p. m. the *Rochester* sailed for Detroit, Mich., arriving there at 9 p. m. This same evening, September 11, a number of the *Rochester* party took a short trip on board the ferryboat *Promise* to Belle Isle, Detroit. A lunch was served on board. On September 12 a lunch was served at the Hotel Pontchartrain, Detroit, and was attended by practically all the members of the *Rochester* party. At 11 p. m. on September 12 the *Rochester* sailed for Buffalo, arriving there at 9 p. m. on September 13. The party remained on board for the night, taking train for Providence on the morning of September 14 and arriving at their destination at 11 p. m. the same date. En route from Buffalo to Providence two meals were served by the railroad company, breakfast in the diner attached to the train and basket lunch put on board at Albany, N. Y.

Reports concerning 235 members of the party have been received, and in this number there occurred 122 cases of gastroenteritis, and 42 cases of typhoid-like attacks, including 5 deaths.

The cases of gastroenteritis varied in severity from those having a diarrhea of only a few hours' duration to those in which the diarrhea was severe, lasting for several weeks, and accompanied by more or less prostration, slight febrile course, general malaise, and gastric disturbances. The typhoid-like cases varied in type from mild paratyphoid-like attacks to cases in which there was presented a clinical picture of severe typhoid fever. These 42 cases were reported as having their respective dates of onset in the period between September 21 and October 12. Of these, 29 gave histories of primary diarrhea occurring some little time before the dates on which they were considered to have had their definite onsets. Of the gastroenteric cases 101 gave histories of dates of onset during the period from September 9 to 15. The remaining 19 developed on various dates from September 16 to 22. There were 51 cases occurring on September 14, 19 on September 13, and 13 on September 15, making a total of 83 for those three days, and showing that the effects of the infection were felt most acutely during that period.

Another Rhode Island party, 122 in number, on the steamship *Greyhound*, followed the same itinerary as the *Rochester* party, visiting the same points and attending the same functions on shore. In this party there occurred but 12 cases of diarrhea, of short duration, and since the return home there have developed no cases of gastroenteritis or typhoid.

Careful inquiry on all points showed no probability of the infection, which caused the outbreak, having been acquired on shore at any of the places visited. The *Greyhound* party served as a valuable control in the elimination of any probable factors other than those which may have existed on the *Rochester* itself, as the trips of the two parties, with the exception of the time spent on board their respective ships, were practically identical.

The investigation brought out the fact that there had been numerous cases of more or less persistent diarrhea among the *Rochester's* crew, not only on this trip, but during the entire season. Four cases of typhoid fever among the crew were also reported in the persons of an electrician who was admitted to hospital on August 16, a stewardess who left the ship "ailing" on September 20 and was admitted to hospital as a typhoid case on October 10 and subsequently died, a water tender who was feeling badly when he left the ship on September 20 and was later diagnosed as a case of typhoid, and a meat cook who was admitted to the United States Marine Hospital, Buffalo, N. Y., on September 15 in the febrile stage of the disease.

As outbreaks, similar to the one which occurred among the *Rochester's* passengers, directly traceable to infection by sewage-polluted drinking water, have occurred from time to time on various ships operating on the Great Lakes and in cities which derive their

water supplies from the Lakes, an investigation as to the drinking water used on board the *Rochester* during the trip in question was made. The capacity of the water tanks on board not being great enough to permit the carrying of a sufficient supply to last during an entire trip of this character, it was necessary to take on water several times at a number of different places. The chief engineer of the *Rochester* stated that water was taken on direct from Lake Erie on at least six different occasions on certain dates while the ship was on certain definite courses.

Results of thorough examinations of Lake Erie water, which have been made from time to time, show that several of the stated sources of the *Rochester's* drinking water may be considered questionable as to safety; and the water stated as having been taken on board on September 11, half way between Cedar Point and Put-in-Bay, and again on the same date, between Put-in-Bay and Detroit half way to Bar Point Light, is considered to have been obtained not only from a decidedly unsafe source, but from an area which shows frequent sewage pollution.

In reference to the meat cook above mentioned as having been admitted to hospital with typhoid fever on September 15, it may be stated that this man gave history of having been ill with the disease since about September 1 and of having had a more or less profuse diarrhea not only during the trip, but for some time previous. While the ship was in Detroit on September 12 he consulted a physician and at that time was found to be running a febrile course. However, no definite diagnosis of typhoid was made at that time. According to his statement, he had worked in the ship's galley, where all food was handled and prepared, during the trip, until the afternoon of September 11, when he felt so badly that he had to lay off and go to bed. During the trip he cooked meats, made soups, gravies, and entrees, and occasionally helped with the salads.

Taking into consideration the various facts which were developed during the course of the investigation, I am of the opinion that the factors which may be considered as operative in causing the outbreak are sewage-polluted water taken on board at some point and furnished to passengers and crew for drinking purposes, and the presence of the meat cook, with profuse diarrhea and in the febrile stage of typhoid fever, in the galley during the major portion of the trip, where food was handled and prepared for all on board.

PREVALENCE OF DISEASE.

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

IN CERTAIN STATES AND CITIES.

SMALLPOX.

Wisconsin Report for November, 1913.

Places.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Wisconsin:						
Adams County	1		1			
Brown County	15		1	3	11	
Columbia County	5				5	
Dane County	62					62
Dodge County	4		1	1	2	
Kenosha County	2		1		1	
Kewaunee County	17		5	2	10	
La Crosse County	3		3			
Manitowoc County	2				2	
Marinette County	18				18	
Milwaukee County	70				1	69
Monroe County	3		2		1	
Oconto County	1				1	
Outagamine County	6		3		3	
Portage County	16		2	1	11	2
Rock County	12		1	1	7	3
Rusk County	1				1	
Waukesha County	3		3			
Wood County	27				26	1
Total	268		23	8	100	137

Miscellaneous State Reports.

Places.	Cases.	Deaths.
Arizona (Nov. 1-30):		
Counties—		
Maricopa	3	
Colorado (Nov. 1-30):		
Counties—		
Denver	1	
El Paso	1	
Jackson	1	
Las Animas	1	
Otero	13	
Pueblo	12	
Total	29	

Places.	Cases.	Deaths.
Connecticut:		
Counties—		
Hartford	2	
New London	10	
Windham	26	
Total	38	
Mississippi (Oct. 1-31):		
Counties—		
Bolivar	1	
Jefferson Davis	11	
Lincoln	3	
Newton	1	
Oktibbeha	7	
Tunica	2	
Total	25	

SMALLPOX—Continued.

Miscellaneous State Reports—Continued.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Virginia (Nov. 1-30):			Virginia (Nov. 1-30)—Contd.		
Counties—			Counties—Continued.		
Alexandria	2	.....	Nansemond	34	1
Appomattox	1	.....	Norfolk	3	.....
Bedford	2	.....	Orange	1	.....
Buchanan	10	.....	Pittsylvania	1	.....
Campbell	8	.....	Prince William	2	.....
Goochland	3	.....	Russell	8	.....
Greensville	9	.....	Southampton	6	.....
Halifax	7	.....	Washington	3	.....
Hanover	10	.....	Wise	3	.....
King and Queen	1	.....	Wythe	1	.....
Mecklenburg	11	.....	Total	173	1
Montgomery	47	.....			

Illinois—Alton.

The health officer of Alton, Ill., reported that during the month of November, 1913, 13 cases of smallpox had been notified in Alton, Ill.

New York—Niagara Falls.

Acting Asst. Surg. Bingham, of the Public Health Service, reported by telegraph that during the week ended December 13, 1913, 11 cases of smallpox had been notified in Niagara Falls, N. Y.

Oregon—Portland.

Surg. Magruder, of the Public Health Service, reported that during the month of November, 1913, 9 cases of smallpox had been notified in Portland, Oreg.

City Reports for Week Ended Nov. 29, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Altoona, Pa	3	.....	Marinette, Wis	2	.....
Chicago, Ill	9	.....	Milwaukee, Wis	26	.....
Cincinnati, Ohio	1	.....	Nashville, Tenn	13	.....
Columbus, Ohio	5	.....	Niagara Falls, N. Y	36	.....
Evansville, Ind	7	.....	Oakland, Cal	1	.....
Hartford, Conn	1	.....	Spokane, Wash	9	.....
Kansas City, Kans	7	.....	Toledo, Ohio	16	.....
Knoxville, Tenn	2	.....	Zanesville, Ohio	1	.....
Los Angeles, Cal	2	.....			

TYPHOID FEVER.

Washington—Centralia.

Surg. Lloyd, of the Public Health Service, reported that 40 cases of typhoid fever had been notified in Centralia during the two days December 15 and 16, 1913, making a total of 160 cases reported since the beginning of the outbreak.

TYPHOID FEVER—Continued.

Mississippi Report for October, 1913.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Mississippi:		Mississippi—Continued.	
Alcorn County	4	Madison County	1
Amite County	2	Marion County	8
Attala County	1	Monroe County	15
Bolivar County	6	Montgomery County	5
Calhoun County	3	Neshoba County	2
Carroll County	6	Noxubee County	1
Chickasaw County	3	Oktibbeha County	11
Clarke County	9	Panola County	14
Clay County	7	Pearl River County	8
Coahoma County	4	Perry County	3
Copiah County	3	Pontotoc County	4
Covington County	9	Prentiss County	10
George County	4	Scott County	2
Grenada County	3	Simpson County	11
Harrison County	5	Sunflower County	15
Holmes County	3	Tallahatchie County	5
Issaquena County	10	Tate County	13
Jasper County	3	Tishomingo County	4
Jefferson Davis County	5	Tunica County	1
Jones County	19	Union County	2
Lafayette County	6	Warren County	2
Lamar County	9	Winston County	8
Lauderdale County	6	Yalobusha County	4
Lawrence County	1	Yazoo County	5
Lee County	23		
Lincoln County	7	Total	315

State Reports for November, 1913.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Virginia:		Virginia—Continued.	
Albemarle County	1	Greenesville County	8
Alexandria County	1	Halifax County	5
Alleghany County	4	Hanover County	3
Amelia County	3	Henrico County	12
Amherst County	2	Henry County	6
Appomattox County	3	Highland County	1
Augusta County	5	Isle of Wight County	8
Bath County	1	King and Queen County	2
Bedford County	4	Lancaster County	1
Bland County	3	Lee County	17
Botetourt County	5	Loudoun County	10
Brunswick County	1	Lunenburg County	9
Buchanan County	5	Madison County	3
Buckingham County	2	Mecklenburg County	4
Campbell County	8	Middlesex County	1
Caroline County	5	Montgomery County	5
Carroll County	4	Nansemond County	9
Chesterfield County	1	Nelson County	3
Clarke County	3	Norfolk County	11
Cumberland County	1	Northampton County	3
Dickenson County	2	Nottoway County	2
Dinwiddie County	5	Orange County	1
Elizabeth City County	2	Pittsylvania County	3
Fairfax County	2	Powhatan County	1
Fauquier County	4	Prince Edward County	5
Floyd County	9	Prince George County	4
Fluvanna County	1	Pulaski County	1
Franklin County	2	Richmond County	2
Frederick County	5	Roanoke County	18
Giles County	8	Rockbridge County	2
Grayson County	2	Rockingham County	2

TYPHOID FEVER—Continued.

State Reports for November, 1913—Continued.

Places.	Number of new cases reported during month.
Virginia—Continued.	
Russell County	7
Scott County	2
Shenandoah County	4
Smyth County	2
Southampton County	2
Spottsylvania County	1
Stafford County	4
Surry County	2
Sussex County	10
Tazewell County	17
Warren County	3
Washington County	6
Westmoreland County	5
Wise County	8
Wythe County	10
York County	2
Total	351
Wisconsin:	
Ashland County	2
Bayfield County	2
Burnett County	2
Chippewa County	3
Crawford County	1
Dane County	1
Door County	1
Douglas County	4
Dunn County	5
Fond du Lac County	2
Grant County	3
Green Lake County	2
Juneau County	1
Kenosha County	2
La Crosse County	2
Lincoln County	2
Marathon County	1
Marinette County	1
Milwaukee County	12
Monroe County	1
Oneida County	1
Outagamie County	1
Price County	1
Rock County	3
Rusk County	1
St. Croix County	4
Sheboygan County	2
Trempealeau County	1
Vernon County	3
Walworth County	1
Washburn County	1
Wood County	3
Total	72

City Reports for Week Ended Nov. 29, 1913.

Places.	Cases.	Deaths.
Altoona, Pa	1	
Ann Arbor, Mich	1	
Auburn, N. Y	1	2
Aurora, Ill		2
Austin, Tex		1
Baltimore, Md	21	
Bayonne, N. J	1	1
Boston, Mass	4	2
Buffalo, N. Y	24	2
Cambridge, Ohio		2
Camden, N. J	2	
Chicago, Ill	47	8
Cincinnati, Ohio	3	
Cleveland, Ohio	8	2
Coffeyville, Kans	1	
Columbus, Ohio	4	
Concord, N. H	1	
Cumberland, Md	1	
Dunkirk, N. Y		1
Elmira, N. Y	2	1
Erie, Pa	2	
Evansville, Ind	3	3
Everett, Mass	1	
Fall River, Mass	3	
Grand Rapids, Mich	1	1
Hartford, Conn	5	
Jersey City, N. J		1
Kansas City, Kans	2	
Knoxville, Tenn	1	
La Fayette, Ind	1	
Lancaster, Pa	1	
Lawrence, Mass	1	
Lexington, Ky		1
Los Angeles, Cal	4	3
Lowell, Mass	6	
Lynn, Mass	2	
Manchester, N. H	1	
Melrose, Mass	1	
Milwaukee, Wis	3	1
Montclair, N. J	1	
Morristown, N. J	2	
Nashville, Tenn	2	
Newark, N. J	6	
New Bedford, Mass		1
New Castle, Pa	5	
New Orleans, La	1	2
Norristown, Pa	1	
Oakland, Cal	7	2
Philadelphia, Pa	25	9
Pittsburgh, Pa	6	1
Providence, R. I	4	
Richmond, Va	1	
Roanoke, Va	2	1
Rutland, Vt	1	
Sacramento, Cal		1
St. Louis, Mo	18	4
San Diego, Cal	1	1
Saratoga Springs, N. Y	1	1
Schenectady, N. Y	1	
South Bend, Ind	1	
South Bethlehem, Pa	1	
Springfield, Ill	2	
Toledo, Ohio	5	1
Washington, D. C	7	
Wheeling, W. Va	1	1
Wilmington, N. C	3	1
Worcester, Mass	1	
Yonkers, N. Y		1
York, Pa	3	

CEREBROSPINAL MENINGITIS.

Mississippi Report for October, 1913.

The State Board of Health of Mississippi reported that during the month of October, 1913, cerebrospinal meningitis had been notified in Mississippi as follows: Attala County 1 case, Lawrence County 1 case, and Tate County 1 case.

Wisconsin Report for November, 1913.

The State Board of Health of Wisconsin reported that during the month of November, 1913, cases of cerebrospinal meningitis had been notified in Wisconsin as follows: Brown County 1, Dane County 1, Milwaukee County 3, Iron County 1, Trempealeau County 2.

City Reports for Week Ended Nov. 29, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Boston, Mass	1		Lynn, Mass	1	
Buffalo, N. Y		1	Malden, Mass	1	1
Chicago, Ill	1	2	New Orleans, La	1	1
Cincinnati, Ohio	1		Pittsburgh, Pa	1	
Cleveland, Ohio		1	Providence, R. I		1
Haverhill, Mass	1		Richmond, Va		2
Los Angeles, Cal	2		St. Louis, Mo	1	1
Lowell, Mass	1				

POLIOMYELITIS (INFANTILE PARALYSIS).

Mississippi Report for October, 1913.

The State Board of Health of Mississippi reported that during the month of October, 1913, poliomyelitis had been notified as follows: one case each in Attala, Panola, and Lincoln Counties.

Virginia Report for November, 1913.

Places.	Number of new cases reported during month.	Places.	Number of new cases reported during month.
Virginia:		Virginia—Continued:	
Albemarle County	1	Lunenburg County	1
Alleghany County	1	Nansemond County	2
Augusta County	1	Powhatan County	1
Bath County	1	Princess Anne County	1
Caroline County	1	Prince Edward County	1
Chesterfield County	1	Rappahannock County	1
Franklin County	1	Southampton County	1
Henrico County	1	Warren County	1
Isle of Wight County	1	Washington County	1
Lee County	1		
Loudoun County	1	Total	21

Wisconsin Report for November, 1913.

The State Board of Health of Wisconsin reported that during the month of November cases of poliomyelitis had been notified in Wisconsin as follows: Calumet County 1, Grant County 1, La Crosse County 2, Langlade County 1.

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

City Reports for Week Ended Nov. 29, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1		Los Angeles, Cal.	10	8
Austin, Tex.	1		Manchester, N. H.		1
Boston, Mass.	1		San Diego, Cal.	1	1
Cincinnati, Ohio.	1		Schenectady, N. Y.		1

ERYSIPELAS.

City Reports for Week Ended Nov. 29, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.	1		Moline, Ill.	1	
Binghamton, N. Y.	1		Mount Vernon, N. Y.	1	
Buffalo, N. Y.	8		Newark, N. J.		1
Chicago, Ill.	14	1	New Castle, Pa.	1	
Cincinnati, Ohio.	5		Philadelphia, Pa.	8	
Cleveland, Ohio.	2		Pittsburgh, Pa.	7	2
Dayton, Ohio.	1		Providence, R. I.		1
Kalamazoo, Mich.	2	1	St. Louis, Mo.	10	2
Lexington, Ky.	1		Wilkes-Barre, Pa.	1	
Milwaukee, Wis.	5				

PLAGUE.

Rats Collected and Examined.

Places.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
California:					
Cities—					
Oakland	Nov. 22, 1913	21	719	609	
Berkeley	do		202	108	
San Francisco	do	5	1,903	1,504	
Washington:					
City—					
Seattle	do	12	[1] 563		

[1] All rats collected that were not too badly decomposed were examined for plague infection.

California—Squirrels Collected and Examined.

During the week ended November 22, 1913, 5 squirrels from Alameda County were examined for plague infection. None was found plague infected.

PNEUMONIA.

City Reports for Week Ended Nov. 29, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Auburn, N. Y.	2	1	New Castle, Pa.	2	
Binghamton, N. Y.	2		Newport, Pa.	1	1
Chicago, Ill.	84	76	Pasadena, Cal.	1	2
Cleveland, Ohio.	19	12	Philadelphia, Pa.	30	43
Dunkirk, N. Y.	3		Pittsburgh, Pa.	21	16
Grand Rapids, Mich.	2	5	St. Joseph, Mo.	1	1
Kalamazoo, Mich.	1		South Omaha, Nebr.	3	
Lancaster, Pa.	3		Schnectady, N. Y.	2	2
Manchester, N. H.	1	1	Springfield, Ill.	3	
Mount Vernon, N. Y.	3		Yonkers, N. Y.	1	9

RABIES.

California—San Francisco and Vicinity—Rabies in Animals.

Surg. Long, of the Public Health Service, reported by telegraph that during the week ended December 13, 1913, cases of rabies in dogs had been reported in San Francisco, Cal., and vicinity, as follows: San Francisco 2, Oakland 5, Berkeley 1, and Alameda 1.

Washington—Rabies in Animals.

The State Board of Health of Washington reported November 19, 1913, concerning the outbreak of rabies among animals, which made its first appearance about the middle of September, 1913, as follows:

In Pierce County clinical diagnosis of rabies had been made in 7 dogs.

In King County microscopical verification of rabies had been made in 1 dog at Wilburton and in another at Renton. It was stated that the dog at Wilburton had bitten 6 dogs and 4 hogs, all of which had died of rabies.

From microscopical examinations made in the State board of health laboratory the presence of negri bodies had been demonstrated in 7 dogs.

Six persons bitten by known rabid animals had received treatment from the State board of health.

In the city of Tacoma microscopical examinations showed the presence of negri bodies in 25 dogs. In a herd of 15 cattle examined at Tacoma 8 were reported as positively affected with rabies. The number of animals in which the clinical diagnosis of rabies had been made by veterinarians was stated to be about 75; none of these was verified by laboratory tests. It was stated that 30 persons bitten by known rabid animals had been given antirabic treatment.

In the city of Seattle positive clinical diagnosis of rabies had been made in 132 dogs, and during the period from September 10 to October 30, 1913, 39 dogs had been examined in the city laboratory. Negri bodies were found present in 29 of these dogs.

During the period from October 6 to 30, 1913, 13 persons in Seattle were reported as having been bitten by dogs known to have rabies. All received antirabic treatment.

TETANUS.

During the week ended November 29, 1913, tetanus was notified by cities as follows: Baltimore, Md., 1 death; Cambridge, Mass., 1 case; Cleveland, Ohio, 1 case with 1 death.

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.

Mississippi Report for October, 1913.

The State Board of Health of Mississippi reported that during the month of October, 1913, there had been reported in that State 20 cases of scarlet fever, 55 cases of measles, and 115 cases of diphtheria.

Wisconsin Report for November, 1913.

The State Board of Health of Wisconsin reported that during the month of November, 1913, there had been reported in that State 213 cases of scarlet fever, 264 cases of measles, and 268 cases of diphtheria.

City Reports for Week Ended Nov. 29, 1913.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md	558,485	159	52	2	4	.....	22	.....	15	17
Boston, Mass	670,585	207	38	2	27	1	55	2	52	22
Chicago, Ill	2,185,283	554	206	15	25	.....	90	7	163	52
Cleveland, Ohio	560,663	130	86	6	27	.....	23	1	21	9
Philadelphia, Pa	1,549,008	450	62	10	28	.....	66	4	130	32
Pittsburgh, Pa	533,905	135	42	3	61	3	80	3	21	13
St. Louis, Mo	687,029	197	80	3	32	2	15	.....	45	17
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	423,715	119	79	2	60	1	53	1	26	8
Cincinnati, Ohio	364,463	131	28	2	1	.....	13	.....	40	19
Los Angeles, Cal	319,198	103	9	.....	1	.....	12	.....	45	19
Milwaukee, Wis	373,857	100	29	3	9	.....	17	1	18	5
Newark, N. J	347,469	86	53	4	89	.....	15	.....	40	9
New Orleans, La	339,075	35	42	5	8	.....	.....	.....	41	18
Washington, D. C	331,069	103	4	.....	3	.....	5	.....	18	15
From 200,000 to 300,000 inhabitants:										
Jersey City, N. J	267,779	81	.....	2	.....	.....	.....	.....	.....	8
Providence, R. I	224,326	90	36	5	6	5	7	1	7	12
Seattle, Wash	237,194	39	3	.....	1	.....	1	.....	11	3
From 100,000 to 200,000 inhabitants:										
Bridgeport, Conn	102,054	30	6	1	19	1	4	.....	4	1
Cambridge, Mass	104,839	32	8	.....	.....	.....	6	.....	7	2
Columbus, Ohio	181,548	53	7	.....	1	.....	3	.....	7	3
Dayton, Ohio	116,577	21	23	1	3	.....	2	.....	1	1
Fall River, Mass	119,295	21	5	1	1	.....	10	.....	3	3
Grand Rapids, Mich	112,571	39	11	2	91	1	16	.....	3	.....
Lowell, Mass	106,294	19	4	.....	1	.....	.....	.....	4	.....
Nashville, Tenn	110,364	29	2	.....	6	.....	8	.....	4	1
Oakland, Cal	150,174	43	13	1	.....	.....	2	.....	5	5
Richmond, Va	127,628	43	3	.....	1	.....	10	.....	8	5
Spokane, Wash	104,402	.....	2	.....	.....	.....	.....	.....	.....	1
Toledo, Ohio	168,497	29	7	.....	.....	.....	4	.....	.....	1
Worcester, Mass	145,986	32	6	1	1	.....	8	.....	8	5
From 50,000 to 100,000 inhabitants:										
Altoona, Pa	52,127	9	2	.....	.....	.....	3	.....	.....	1
Bayonne, N. J	55,545	18	6	1	5	.....	2	.....	5	2
Brockton, Mass	56,878	17	1	1	1	.....	5	.....	1	.....
Camden, N. J	94,538	.....	5	.....	1	.....	1	.....	4	.....
Erie, Pa	66,525	26	5	.....	3	.....	4	.....	5	.....
Evansville, Ind	69,647	19	6	.....	.....	.....	4	.....	.....	.....
Harrisburg, Pa	64,186	12	18	1	1	.....	.....	.....	4	1
Hartford, Conn	98,915	.....	6	.....	1	.....	.....	.....	7	1
Hoboken, N. J	70,324	.....	1	.....	.....	.....	1	.....	4	.....
Johnstown, Pa	55,482	19	8	.....	4	.....	1	.....	.....	4
Kansas City, Kans	82,331	.....	3	.....	.....	.....	4	.....	3	.....
Lawrence, Mass	85,892	.....	4	.....	.....	.....	6	1	4	4
Lynn, Mass	89,336	19	2	.....	1	.....	2	.....	10	3

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

City Reports for Week Ended Nov. 29, 1913—Continued.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhabitants—Continued.										
Manchester, N. H.	70,063	20	2				8	2		
New Bedford, Mass.	96,652	32	5				5		7	
Passaic, N. J.	54,773	14	2		5		1			1
Saginaw, Mich.	50,510	14	4		1				1	
St. Joseph, Mo.	77,403	22	1						6	4
Schenectady, N. Y.	72,826	17	4	1			3		1	1
South Bend, Ind.	53,684	8	1							
Springfield, Ill.	51,678	22	2						3	
Springfield, Mass.	88,926	29	3		1				2	1
Trenton, N. J.	96,815	31	3				3		5	3
Wilkes-Barre, Pa.	67,105	21	9	2			4		3	1
Yonkers, N. Y.	79,803	32	10	2	31		4		4	5
From 25,000 to 50,000 inhabitants:										
Atlantic City, N. J.	46,150	4	1				4		2	
Auburn, N. Y.	34,668	12	1				3		1	
Aurora, Ill.	29,807	10	2	1						
Austin, Tex.	29,860	17	6	1	1					2
Binghamton, N. Y.	48,443	17							5	5
Brookline, Mass.	27,792	8	3		1				2	
Chelsea, Mass.	32,452	10	3		2		1		1	1
Chicopee, Mass.	25,401		2				3			
Danville, Ill.	27,871	14	1		2					
East Orange, N. J.	34,371		2		21		1			
Elmira, N. Y.	37,176	13	1							
Everett, Mass.	33,484	9			1		12			
Fitchburg, Mass.	37,826	14	1				4		1	1
Haverhill, Mass.	44,115	3	4				1		1	
Kalamazoo, Mich.	39,437	11	1						2	2
Knoxville, Tenn.	36,346	9	1		4					2
La Crosse, Wis.	30,417	3	5						1	
Lancaster, Pa.	47,227		3				2		2	
Lexington, Ky.	35,099	14	1				2		2	2
Lynchburg, Va.	29,494	9	2		1				3	1
Malden, Mass.	44,404	14	9	1	2		3		1	
Mount Vernon, N. Y.	30,919				1		1			
Newcastle, Pa.	36,280						4			
Newport, Ky.	30,309	11	4				1		2	2
Newton, Mass.	39,806	12					2			
Niagara Falls, N. Y.	30,445	10	4				1			
Norristown, Pa.	27,875	7	3				2			1
Orange, N. J.	29,630	6	2				1		4	
Pasadena, Cal.	30,291	8	1						15	1
Pittsfield, Mass.	32,121	10	5	1	1		3	1		1
Portsmouth, Va.	33,190	8	3							1
Racine, Wis.	38,002	6	3				5			
Roanoke, Va.	34,874	8	7		1		2		1	
Sacramento, Cal.	44,696	22	3				2			2
San Diego, Cal.	39,578	7	7						5	5
South Omaha, Nebr.	26,259	13	1							
Superior, Wis.	40,384	10					3			
Taunton, Mass.	34,259	7	3				3			
Waltham, Mass.	27,834	5	1				2			
West Hoboken, N. J.	35,403		2				1		2	
Wheeling, W. Va.	41,641	10	2	2	1		1		3	
Wilmington, N. C.	25,748	21	9		8		4		1	3
York, Pa.	44,750		1						1	
Zanesville, Ohio.	28,026		6							
Less than 25,000 inhabitants:										
Alameda, Cal.	23,833	8					1			1
Ann Arbor, Mich.	14,817	9	1				2		6	
Beaver Falls, Pa.	12,191	0	3				2		2	
Braddock, Pa.	19,357		1				2			
Cambridge, Ohio.	11,327	4								1
Clinton, Mass.	13,075	7							1	1
Coffeyville, Kans.	12,687		2						1	
Columbus, Ind.	8,813	4								1
Concord, N. H.	21,497	5					1			1
Cumberland, Md.	21,839	4	5		4					
Dunkirk, N. Y.	17,221	7	2	1	42		1			
Franklin, N. H.	6,132	2								
Harrison, N. J.	14,498	3	2						1	1

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

City Reports for Week Ended Nov. 29, 1913—Continued.

Cities.	Population, United States census 1910.	Total deaths from all causes	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Less than 25,000 inhabitants—Continued.										
Kearny, N. J.	18,659	6	.....	.....	19	.....	2	.....	3	1
La Fayette, Ind.	20,081	4	1	.....	.....	.....	.....	.....	.....	.....
Marinette, Wis.	14,610	4	3	.....	.....	.....	1	.....	.....	.....
Massillon, Ohio	13,879	3	.....	.....	1	.....	.....	.....	.....	.....
Medford, Mass.	23,150	4	.....	.....	.....	.....	1	.....	.....	.....
Melrose, Mass.	15,715	4	2	.....	.....	.....	6	.....	.....	.....
Moline, Ill.	24,199	8	4	.....	.....	.....	.....	.....	.....	1
Montclair, N. J.	21,550	11	.....	.....	.....	.....	.....	.....	1	1
Morristown, N. J.	12,507	3	.....	.....	2	.....	.....	1	.....	.....
Nanticoke, Pa.	18,877	3	4	.....	.....	.....	.....	.....	.....	.....
Newburyport, Mass.	14,949	4	.....	.....	.....	.....	.....	.....	.....	.....
North Adams, Mass.	22,019	8	.....	.....	.....	.....	.....	.....	.....	.....
Northampton, Mass.	19,431	13	1	.....	.....	.....	.....	.....	.....	1
Palmer, Mass.	8,610	3	.....	.....	.....	.....	.....	.....	.....	.....
Plainfield, Mass.	20,550	7	2	1	.....	.....	.....	.....	4	2
Pottstown, Pa.	15,599	5	1	.....	.....	.....	1	.....	.....	1
Rutland, Vt.	13,546	7	.....	.....	.....	.....	.....	.....	.....	.....
Saratoga Springs, N. Y.	12,693	5	.....	.....	1	.....	.....	.....	2	.....
Steelton, Pa.	14,246	4	1	.....	1	.....	.....	.....	.....	1
South Bethlehem, Pa.	19,973	6	2	.....	.....	.....	3	.....	3	1
Wilkinsburg, Pa.	18,924	10	1	.....	.....	.....	4	.....	.....	.....
Woburn, Mass.	15,308	6	.....	.....	.....	.....	.....	.....	.....	1

IN INSULAR POSSESSIONS.

HAWAII.

Examination of Rats and Mongoose.

Rats and mongoose have been examined in Hawaii as follows: Honolulu, week ended November 22, 1913, 286; Hilo, week ended November 15, 1913, 3,123. None was found plague infected.

PHILIPPINE ISLANDS.

Status of Cholera—Manila.

During the week ended November 8, 1913, 23 cases of cholera with 17 deaths were notified in Manila.

FOREIGN REPORTS.

AUSTRALIA.

Smallpox—New South Wales.

During the period from July 1 to October 24, 1913, 953 cases of smallpox with 1 death were notified in New South Wales. Of these cases 929 occurred in the metropolitan district of Sydney and the remainder in country districts.

CHINA.

Cholera—Plague—Examination of Rats—Hongkong.

During the two weeks ended November 1, 1913, cholera and plague were notified in Hongkong as follows: Cholera, 6 cases with 3 deaths; plague, 9 cases with 8 deaths. During the same period 4,922 rats were examined at Hongkong for plague infection. No plague-infected rat was found.

Plague-Infected Rats—Shanghai.

During the week ended November 8, 1913, 287 rats were examined at Shanghai for plague infection. Of this number 3 were found plague infected.

CUBA.

Communicable Diseases—Habana.

NOV. 20-30, 1913.

Diseases.	New cases.	Deaths.	Remaining under treatment.
Leprosy	.....	1	259
Malaria	1	.....	3
Typhoid fever	19	4	41
Diphtheria	4	.....	3
Scarlet fever	5	1	4
Measles	34	1	60
Varicella	9	.....	7
Paratyphoid fever	2	.....	2

JAPAN.

Communicable Diseases.

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

MONTH OF SEPTEMBER, 1913.

Diseases.	Cases.	Deaths.	Diseases.	Cases.	Deaths.
Diphtheria	1,089	224	Scarlet fever	51	1
Dysentery	3,706	811	Smallpox	7	3
Paratyphoid fever	748	71	Typhoid fever	4,813	812
Plague	3	3			

Summary of Communicable Diseases.

JAN. 1-SEPT. 30, 1913.

Diseases.	Cases.	Deaths.	Diseases.	Cases.	Deaths.
Cholera	78	22	Plague	3	3
Diphtheria	13,803	3,580	Scarlet fever	961	82
Dysentery	12,963	2,684	Smallpox	102	36
Paratyphoid fever	2,664	320	Typhoid fever	18,697	3,424

ROUMANIA.

Status of Cholera.

During the period from November 13 to 17, 1913, 3 cases of cholera with 1 death were notified in Roumania, making a total from the beginning of the outbreak to date of 5,680 cases with 2,926 deaths.[1] On November 17, 1913, 8 cases remained under treatment.

RUSSIA.

Status of Cholera.

During the period from October 26 to November 8, 1913, 14 cases of cholera with 12 deaths were notified in Russia. The cases were distributed in the governments of Bessarabia, Ekaterinislav, Kherson, and Taurida.

Plague.

During the period from October 20 to November 5, 1913, 86 cases of plague with 45 deaths were notified in the Lbistchensky district of the territory of the Ural, Russia.

TRINIDAD.

Yellow Fever—Brighton.

Three cases of yellow fever were notified at Brighton, Island of Trinidad, December 9, 1913.

TURKEY IN EUROPE.

Quarantine Measures—Constantinople.

Quarantine measures in force at Constantinople against Bulgaria and ports on the European coast of the Aegean Sea were suspended November 18, 1913. On November 19, 1913, arrivals from Constantinople were declared subject to medical inspection at ports in the Ottoman Empire.

[1] The official reports of cholera in Roumania show a discrepancy of 233 cases, the total of cases being stated as 5,680, while the total of cases, deaths, and cases remaining under treatment is 5,447.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Dec. 19, 1913.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo	Oct. 26-Nov. 1	4	11	
China:				
Hongkong	do	2	2	
Dutch East Indies:				
Java—				
Batavia	do	24	19	
Philippine Islands:				
Manila	Nov. 2-8	23	17	
Roumania				Aug. 1-Nov. 17. Total, cases, 5,680; deaths, 2,926.
Russia:				
Governments—				
Bessarabia—				
Ishmail	Oct. 26-Nov. 1	6	1	
Katerinislav—				
Katerinislav, district	do	1		
Kherson—				
Kherson, district	Oct. 19-Nov. 1	8	9	
Odessa, district	Oct. 19-25	2		
Taurida—				
Dneiper, district	Oct. 19-Nov. 1	3	3	
Servia:				
Districts—				
Kraina				Declared free from cholera Nov. 27.
Kragujevatz				Do.
Kroushevatz				Do.
Morava				Do.
Niche				Do.
Oujitze				Do.
Pirot				Do.
Roudnik				Do.
Smederevo				Do.
Tchatchak				Do.
Timok				Do.
Toplitza				Do.
Waljevo				Do.
Wragne				Do.
Straits Settlements:				
Singapore	do	16	9	
Turkey in Europe:				
Constantinople	Nov. 16-22		5	
Dardanelles—				
Saloniki	Nov. 9-15		1	

YELLOW FEVER.

Brazil:				
Bahia	Nov. 9-15	2	1	
Trinidad:				
Brighton	Dec. 9	3		

PLAGUE.

Brazil:				
Bahia	Nov. 9-15	4	2	
Chile:				
Iquique	Oct. 5-Nov. 8	4	1	
China:				
Hongkong	Oct. 19-Nov. 1	9	8	

SMALLPOX.

Arabia:				
Aden	Nov. 3-17	8	1	
Australia:				
New South Wales				Total, July 1-Oct. 24: Cases, 953; Sydney district, 929 cases.
Bourke	Oct. 1-24	1		
Cootamundra	do	3		
Grafton	do	1		

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

Reports Received During Week Ended Dec. 19, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Belgium:				
Brussels	Nov. 16–22		1	
Brazil:				
Pernambuco	Oct. 2–15		27	
Rio de Janeiro	Oct. 26–Nov. 8	22	7	
Canada:				
Provinces—				
Ontario—				
Niagara Falls	Nov. 8–21	2		
Ottawa	Nov. 23–29	3		
Quebec—				
Montreal	Nov. 30–Dec. 6	1		
China:				
Hankow	Oct. 26–Nov. 1	2		
Hongkong	do	1		
Dutch East Indies:				
Java—				
Batavia	do	5	1	
Egypt:				
Alexandria	Nov. 12–18	1	1	
Cairo	Nov. 5–11	2	3	
Port Said	do	1		
France:				
St. Etienne	Nov. 2–15	8	1	
India:				
Bombay	Nov. 2–8	1		
Mexico:				
Mexico	Oct. 5–18	20	7	
Veracruz	Nov. 24–30		1	
Russia:				
St. Petersburg	Nov. 9–15	3		
Warsaw	Sept. 20–27	4	5	
Servia:				
Belgrade	Nov. 9–15	7	1	
Spain:				
Barcelona	Nov. 16–22		5	
Switzerland:				
Canton—				
Basel	Nov. 9–15	5		
Turkey in Asia:				
Beirut	Nov. 16–22	8	2	
Mersina	Nov. 9–15	2		
Turkey in Europe:				
Saloniki	Nov. 2–22		32	

Reports Received from June 28 to Dec. 12, 1913.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Hodeidah	Aug 27–Sept. 4	3	2	
Do	Aug. 20–Sept. 4	123	21	Among the military at quarantine.
Austria-Hungary:				
Bosnia-Herzegovina—				
Bijela	Aug. 16–Oct. 21	11		
Boljanic	Sept. 30–Oct. 13	2		
Bosnisch Samac	Aug. 16–Sept. 15	7	1	
Brecko	Aug. 1–Oct. 31	50	14	
Brezovopolje	Sept. 1–30	1		
Brod	Sept. 30–Oct. 19	2		
Buskinje	Aug. 1	1		
Creveno Brodo	Aug. 28–Sept. 6	1		
Dereventa	Oct. 16–31	6	3	
Donja Skukva	Aug. 16–27	1	1	
Golovac	Sept. 1–30	1		
Gornja Tuzla	Aug. 1–Sept. 7	6	1	
Gracamca	Aug. 16–27	1		
Gracanica	Sept. 30–Oct. 31	6	2	

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Bosnia-Herzegovina—Con.				
Gradista	Oct. 16–31	2	2	
Janja	Aug. 28–Sept. 29	5	.....	
Kostajnica	Sept. 30–Oct. 13	2	.....	
Labuca	do	1	.....	
Lajubaca	Aug. 28–Sept. 6	1	.....	
Morac	do	2	.....	
Orasje	Aug. 16–Sept. 29	18	1	
Poloj	Oct. 20	1	.....	
Tuzla	Aug. 28–Sept. 29	2	.....	
Uljice	Aug. 16–26	1	.....	
Vidovice	Aug. 16–Sept. 29	9	.....	
Vusic Doinji	Aug. 16–Sept. 7	3	.....	
Vusic Gornji	Aug. 16–Sept. 15	4	.....	
Croatia-Slavonia	.....	.....	.....	Total Oct. 6-12: Cases, 62; deaths, 22.
Posenga—				
Brod	Sept. 29–Oct. 5	4	.....	
Davor	do	2	.....	
Jasenovac	Sept. 22–Oct. 5	2	2	
Novska	Sept. 22–28	1	1	
Syrmien—				
Adasevci	Sept. 8–Oct. 5	12	7	
Alt Slankamen	Aug. 16	2	.....	
Bacinici	Sept. 8–14	5	3	
Bebrina	Sept. 1–7	1	1	
Beska	Sept. 14–28	2	.....	
Bosnjaci, Mitrovica district.	do	1	.....	
Bosnjaci, Zupenja district.	Aug. 16–Sept. 28	39	13	
Bosut	Aug. 25–Sept. 28	4	2	
Cerna	Sept. 22–5	9	.....	
Cortanovci	Aug. 25–Sept. 28	6	3	
Djakova	Aug. 25–Sept. 2	1	.....	
Drenovci	Sept. 14–28	6	2	
Galubinci	Sept. 8–Oct. 5	18	6	
Grad, Mitrovica district.	Sept. 1–14	2	1	
Grad, Zemum district.	Sept. 8–14	1	1	
Ilinci	Aug. 25–Oct. 5	2	.....	
Klenac	Sept. 29–Oct. 4	2	2	
Kreevna	July 31	5	3	
Kupinovo	Aug. 17–Sept. 22	2	1	
Kutina	Aug. 25–Sept. 2	1	.....	
Kuzmin	Sept. 1–Oct. 5	142	45	
Lacarak	Aug. 25–Oct. 5	13	1	
Martinci	Aug. 16–Oct. 5	19	13	
Micanovici	Sept. 29–Oct. 5	2	.....	
Mitrovica	July 15–Sept. 28	10	5	
Morovic	Sept. 14–28	5	1	
Novo Karlovci	Aug. 25–Oct. 5	30	18	
Novo Slankamen	Sept. 8–14	1	1	
Ogar, Ruma district	do	2	1	
Ogar, Sid district	Sept. 8–Oct. 5	17	5	
Osiek	Sept. 22–28	3	1	
Otok	Sept. 1–7	2	1	
Podgajci	Aug. 16–Sept. 14	3	2	
Raca	Sept. 22–28	1	1	
Rivica	Sept. 8–14	2	2	
Semlin	Aug. 25–Sept. 22	2	2	
Sid	Sept. 29–Oct. 5	1	.....	
Siskovci	Sept. 22–Oct. 5	4	2	
Tovarnik	Sept. 14–28	3	2	
Vinkovci	Sept. 8–14	1	1	
Vojka	Sept. 14–22	1	.....	
Vukovar Argoviste	do	1	1	
Zupinge	Sept. 22–25	.....	.....	Present.
Crownland—				
Bohemia—				
Marienbad	Sept. 13	1	.....	
Weinberge	Sept. 27	1	1	
Dalmatia—				
Cattaro	Aug. 6	1	1	

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Crownland—Continued.				
Galicia—				
Skole—				
Oporsec	Sept. 10-Oct. 6	15	9	
Slawsko	do	1		
Tuchla	Sept. 18-Oct. 6	2		
Tucholka	Sept. 10-Oct. 6	2	1	
Wyzlow	do	1	1	
Lower Austria—				
Vienna	Aug. 4	1		
Hungary				Total Sept. 1-Nov. 8: Cases, 615; deaths, 102. Deaths not fully reported.
Bacs-Bodrog—				
Ada	Sept. 7-13	2		
Apatin	Sept. 29-Oct. 4	3		
Bacs	Sept. 14-27	3		
Csurog	Sept. 2-Oct. 4	20	2	
Kolpeny	Sept. 14-Oct. 4	2		
Petroz	Sept. 7-20	2	1	
Obecse	Sept. 7-Oct. 4			
Szanttamas	Sept. 14-Oct. 4	31		
Temerin	do	2		
Bereg—				
Alsolvereczke	Sept. 21-27	1		
Borhalom	do	2		
Csetfalva	Oct. 4	1		
Felsovereczke	Sept. 7-27	7		
Harsfalva	do	2		
Kanora	Sept. 14-20	4		
Kissana	Sept. 21-27	7		
Kissolyva	Sept. 7-13	2		
Munkacs	do	1		
Nagylucska	Sept. 21-28	1		
Odavidhaza	Sept. 7-13	3		
Orosztelek	Sept. 7-28	4		
Proszueg	Sept. 14-20	3		
Rakoczi-szallas	Sept. 14-28	9		
Szarvoskut	Sept. 21-28	4		
Szentomiklos	Sept. 14-28	13		
Szolyva	Sept. 21-28	6		
Tarpa	Sept. 21-Oct. 4	4		
Ujdavidhaza	Sept. 14-28	5		
Varkulesa	Sept. 7-Oct. 11	5		
Varpalanka	Sept. 21-28	3		
Vezerszallas	do	1		
Voloscz	Sept. 7-Oct. 4	2		
Zajago	Sept. 7-13	1		
Zsilip	Sept. 21-Oct. 11	6		
Zugo	Sept. 7-Oct. 11	6		
Borsod—				
Sajolad	Sept. 28-Oct. 11	22		
Budapest—				
Budapest	Sept. 13-Oct. 4			
Fejer—				
Adony	Oct. 4	1		
Pazmand	Sept. 21-28	1		
Heves—				
Ludas	Oct. 5-11	1		
Poroszlo	do	1		
Jasz-Nagykun-Szolnok—				
Tiszaroff	do	2		
Kolozs—				
Koloszvar, Klausenburg.	Sept. 21-Oct. 11	17		
Komarom, Komorn	Sept. 29-Oct. 4	1		
Mezoszopor	Oct. 4	2		
Pancsova	Sept. 29-Oct. 4	1		
Krasso-Soreny—				
Bozovics	Sept. 14-Oct. 11	6		
Dalbosfalva	Oct. 5-11	5		
Illyed	Sept. 21-Oct. 4	7		
Jam	do	7		
Nagylaposnok	Sept. 14-Oct. 4	23		
Neramezo	Sept. 21-Oct. 11	4		
Neramogyoros	Sept. 7-14	18		
Stajerlak-anina	Sept. 21-28	1		
Szakalar	Sept. 14-Oct. 4	21		

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary—Continued.				
Pest-Pilis—				
Erzsebetfalva	Sept. 21-28	1		
Fallsz	Oct. 5-11	1		
Hidegkut	Sept. 21-28	2		
Raczkeve	....do	2		
Do	....do	1		
Tokol	....do	1		
Pozenoy, Pressburg—				
Kismagyar	Oct. 5-11	1		
Szatmar—				
Tiszabecs	Oct. 4	3		
Temes—				
Deliblat	Sept. 1-Oct. 4	31		
Homokos	Oct. 4	3		
Kevevera	Aug. 16-Sept. 20	8	3	
Palank	Aug. 10-Oct. 4	16	1	
Temesvalalza	Oct. 5-11	7		
Torontal—				
Csenta	Oct. 11	6		
Melenze	Sept. 14-20	2		
Nagybecskerek	Sept. 21-28	1		
Kuman	Sept. 14-28	8		
Ung—				
Csap	Sept. 14-Oct. 4	6		
Kisteglas	Sept. 21-28	1		
Lehocz	....do	1		
Nagyrat	Sept. 21-28	3		
Palocz Ujvaros	Oct. 5-11	1		
Titel	Sept. 17-27	1		
Unglovasad	Oct. 5-11	2		
Zala—				
Nagykanizsa	Oct. 11	6		
Radvanc	Sept. 14-20	1		
Zemplen—				
Satoraljanjhely	Sept. 21-28	1		
Bulgaria				Nov. 4, free from cholera.
Rustschuk	Sept. 8	18	8	
Sistovo	....do	60		
Tirnovo	....do	14	14	
Varna	Sept. 11	3		Aug. 25, 3 deaths among returning soldiers.
Ceylon:				
Colombo	Sept. 30-Oct. 25	46	34	Aug. 17, 1 fatal case.
China:				
Amoy	Aug. 23			Present in vicinity; Oct. 4, present.
Canton	July 13-26	132	6	
Chuan Chow	Sept. 6			Present.
Foochow	Sept. 13			Do.
Hongkong	Aug. 3-Oct. 18	92	41	
Swatow	Aug. 1-31	31	30	
Dutch East Indies:				
Borneo				Total, May 12-June 7: Cases, 131; deaths, 105.
Sesajap, district	May 12-June 7	57	40	
Java—				
Batavia and Tanjong-Priok.	May 18-Oct. 25	589	475	May 25-Oct. 18: 14 cases and 1 death among Europeans.
Madioen, Province	Apr. 22-28	1	4	
Pamanoekan	To Oct. 4	34	27	
Pekalongan	Aug. 10-Sept. 20	110	76	
Preanger	Aug. 9-15	41	23	
Samarang	July 12-Aug. 16	18	11	
Surabaya	Aug. 2-23	2		
Sibiru	Mar. 24-Apr. 27	117	104	
Sumatra—				
Djambi, Province	June 1-Oct. 25	325	156	July 15-Aug. 17 not received.
Padang	Sept. 11-20	5	4	
Palembang	June 22-Oct. 18	278	165	
Greece:				
Athens	Sept. 15-29	1	1	
Piræus	Sept. 13-Oct. 13	9	5	Among troops at quarantine.
India:				
Bassein	May 4-July 19	31	23	Sept. 27, 1 case.
Bombay	May 25-Nov. 1	55	38	
Calcutta	Apr. 27-Oct. 18		569	
Madras	June 15-Oct. 18	17	10	

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
India—Continued.				
Moulmine	May 4–June 14	6	6	
Negapatam	Sept. 14–27		29	
Rangoon	May 1–Oct. 11	9	5	
Indo-China				Total, Jan. 1–Sept. 10: Cases, 213. Deaths, Jan. 1–July 10: 145.
Saigon	June 17–23	2	2	
Japan				Total Jan. 1–Aug. 31: Cases, 78; deaths, 22. Aug. 1–31, 2 cases.
Kobe	Sept. 5–8	7		From s. s. Canada Maru. Crew quarantined at Wada.
Nagasaki	Aug. 25–31	2		From s. s. Canada Maru.
Philippine Islands				Oct. 19–25: Present in Bacoor, Cavite Province, and in Paranaque, San Filipe Nery, and Pasig, Rizal Province.
Manila	Aug. 25–Nov. 1	87	59	
Cavite	Oct. 5	1		Sept. 28–Oct. 4: 1 fatal case on s. s. Cebu.
Mecanayan	Oct. 5–11	1		
Novaliches	Oct. 15–18	3	3	
Polo	Sept. 28–Oct. 4	1		In Bulacan.
Roumania				Aug. 1–Nov. 12: Total cases, 5,677; deaths, 2,925. Oct. 16–22: Cases, 169; deaths, 140.
Bucharest	Aug. 5–14	1	1	
Braila	To Sept. 2	43		Among the military.
Do	Sept. 3–8	4	3	Civilians.
Galatz	Aug. 22–Sept. 2	34	6	
Kustenje	Sept. 3–12	8	1	
Silistria	To Aug. 25	26		
Stephanesti	Aug. 1–14	18	7	
Sulina	To Aug. 24	56		Including previous reports.
Turnu-Magureie	Aug. 5		1	Cases present.
Viisoara-Teleorman	do	3		
Russia:				
Governments—				
Bessarabia—				
Akkerman	Sept. 16–18	11	4	
Ishmail	Sept. 16–Oct. 11	26	11	
Kishinef	Sept. 22	3	1	
Reni	Oct. 5–18	1		
Wolfkanechty	Sept. 18–21	1	1	
Ekaterinislav—				
Ekaterinislav, district.	Oct 5–18	5		
Nicopol	Sept. 22–Oct. 11	6		
Kherson—				
Elizabethgrade	Sept. 28–Oct. 4	1	1	
Kherson, district	Aug. 26–Oct. 25	51	28	Aug. 24–Oct. 25: Total, Cases, 150; deaths, 66; including previous reports.
Kherson	Aug. 26–Oct. 19	54	14	
Odessa, district	Sept. 7–Oct. 4	39	17	
Odessa	do	7	5	
Varvaroka	Sept. 22			Present.
Kief—				
Zvenigorode	Sept. 8	2	2	
Minsk	Sept. 14–22	1	1	
Poltava	Sept. 18–Oct. 4	25	5	
Taurida—				
Alechki	Sept. 8–Oct. 4	5	1	
Dneiper district	Sept. 21–Oct 25	5	3	
Dneprovski	Sept. 8–14	8	2	
Servia				Total, July 4–Oct. 18: Cases, 4,710; deaths, 1,896.
Districts—				
Belgrade	July 4–Oct. 25	102	51	Sept. 22, 1 case.
Belgrade	July 4–Aug. 30	262	98	
Kraina	Aug. 3–Nov. 2	265	100	
Kragujevatz	July 4–Sept. 27	231	94	
Kroushevatz	July 4–Oct. 25	238	82	
Lajkovac	Aug. 1–7	1		
Morava	July 4–Oct. 25	588	241	
Niche	July 4–Nov. 2	329	117	
Oujitze	July 22–Sept. 27	30	20	
Palanka	Aug. 1–7	1		
Pirot	July 4–Nov. 2	631	253	

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Servia—Continued.				
Districts—Continued.				
Podrigne	July 4–Nov. 9	119	55	
Pojarevatz	Aug. 3–Nov. 9	472	245	
Pozenga	July 25–31	1	.....	
Roudnik	Aug. 3–Oct. 25	35	17	
Shabatz	Aug. 1–7	1	.....	
Smederevo	July 4–Sept. 27	200	78	
Tchatchak	July 22–Nov. 2	46	7	
Timok	July 19–Sept. 27	251	129	
Toplitza	July 22–Sept. 27	45	20	
Ueskub	July 19–Aug. 2	37	19	
Visnjica and Mirjevo	July 4–21	.....	1	
Waljevo	July 22–Nov. 2	274	196	
Wragne	July 22–Oct. 25	378	195	
Siam:				
Bangkok	Mar. 23–Oct. 4	.....	20	
Straits Settlements:				
Singapore	July 6–Oct. 18	33	32	
Turkey in Asia:				
Derindje	Oct. 11	.....	.....	Present among troops.
Smyrna	July 29–Oct. 12	293	179	Aug. 9, 1 case on s. s. Carlsbad.
Trebizond	Oct. 29	.....	.....	Present among troops.
Turkey in Europe:				
Constantinople	Aug. 2–Nov. 2	53	27	
Dardanelles—				
Boulair	.....	.....	.....	Oct. 28, present.
Gallipoli	Sept. 17–Oct. 28	.....	.....	Present.
Maidos	Sept. 8	.....	3	
Kalemi	Oct. 12	2	.....	Isle of Marmora.
Kavak	Aug. 8–22	98	50	Sept. 30, still present.
Rodosto	Sept. 17–Oct. 5	12	8	
Saloniki (Macedonia)	.....	.....	.....	July 19–Aug. 8, epidemic.
Saloniki	July 7–Oct. 12	511	458	Among civilians. July 10, present in Kavala, Drama, Oriana, Serres, and Stroumitza.
Silviri	Oct. 15–27	4	4	

YELLOW FEVER.

Brazil:				
Bahia	May 11–Nov. 1	48	24	
Manaos	June 30–July 5	6	6	
Pernambuco	May 1–June 30	.....	3	
Rio de Janeiro	May 25–Oct. 18	4	5	Sept. 13—1 fatal case on s. s. Canova from Bahia. Oct. 30, 1 death.
British East Africa:				
Kisumu	Sept. 12–Oct. 13	2	2	
Mombasa	....do	25	24	
Nairobi	....do	1	1	
Colombia:				
Cartagena	Aug. 23	1	.....	Contracted in interior.
Cuba:				
Habana	July 16	.....	.....	1 case on s. s. Hydra, which left Manaos June 17, Para June 21. Four deaths occurred in voyage; 2 at Manaos, 1 at Guantanamo, and 1 at Cienfuegos.
Do	Aug. 8–14	1	.....	From steamship Morro Castle, passenger from Campeche.
Ecuador:				
Babahoyo	June 1–July 31	2	2	
Bucay	June 1–Aug. 31	3	2	
Duran	May 1–31	1	.....	
Guayaquil	May 1–Sept. 30	33	21	Nov. 6, increasing.
Milagro	May 1–Aug. 31	21	11	
Naranjito	....do	12	9	
Mexico	.....	.....	.....	Total May 25–Sept. 20: Cases, 27; deaths, 15.
Campeche	May 25–Oct. 18	26	11	
Carmen	Oct. 11	.....	.....	Present.
Maxcanu	Aug. 23–Sept. 6	2	2	Case, Aug. 23, from Campeche.
Merida	Nov. 16	.....	1	From Campeche.
Puerto Mexico, V. C.	Nov. 17	2	.....	

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

YELLOW FEVER—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Southern Nigeria:				
Forcados	Oct. 31	1	.....	
Lagos	May 12	1	.....	July 23–Aug. 22: Epidemic; Oct. 15, still present.
Worri	June 1–30	.....	.....	Present.
Venezuela:				
Caracas	Feb. 1–28	1	.....	
Do	May 1–31	1	.....	From Valencia.
Do	July 1–31	1	1	
Do	Oct. 1–31	1	.....	Do.

PLAGUE.

Arabia:				
Aden	June 3–25	8	4	Total Apr. 9–June 25: Cases, 81; deaths, 59.
Debai	.....	.....	.....	Aug. 31, free; reported, p. 656, Pt. I.
Argentina	.....	.....	.....	Nov. 6, outbreak, with 25 deaths in 4 localities west from Rosario.
Austria-Hungary:[1]				
Trieste	Nov. 1–8	.....	.....	1 fatal case on a post steamer from Buenos Aires.
Brazil:				
Bahia	May 11–Nov. 8	134	68	
Rio de Janeiro	July 27–Oct. 11	2	3	
British East Africa	May 15–June 12	.....	.....	1 death.
Kisumu	May 15–Sept. 1	6	1	
Mombasa	May 1–Sept. 11	89	73	Apr. 25–30, 15 deaths.
Nairobi	May 15–Sept. 11	9	5	
Cephalonia Island	Oct. 4	.....	.....	Present.
Chile:				
Iquique	May 11–Oct. 4	45	19	
China	.....	.....	.....	May 18–June 14; still present in Ampo, Chaoyand, Fungshun, Kityang, Puning, Ta-bu, and other points along the railway.
Amoy	Apr. 1–Aug. 25	.....	409	May 25–June 7, 10 to 20 deaths daily; Sept. 22, free.
Kulangsu	Jan. 1–May 24	.....	29	June 7, 1 or 2 deaths daily.
Canton	.....	.....	.....	Apr. 1–June 30: Cases, 229. Apr. 10–May 22, 300 fatal cases in the Sunninger district.
Hongkong	May 18–Oct. 18	296	250	
Kaochow	Apr. 10–May 22	.....	.....	10 deaths daily.
Macao	July 3	.....	.....	Present Aug. 7, 1913.
Nangking	Oct. 25	.....	.....	Present.
Shanghai	June 1–15	8	7	Among natives.
Swatow	July 12	.....	.....	Decreasing along the Swatow Chaochowfu Railway.
Dutch East Indies:				
Java—				
Districts—				
Kediri	Apr. 1–Sept. 30	1,603	1,392	
Madioen	.....do	598	538	
Malang	.....do	3,507	3,358	
Surabaya	.....do	166	157	
Madura—				
Bangkalan	July 13–Aug. 9	34	27	And district, Nov. 6, 112 cases.
Ecuador:				
Guayaquil	May 1–Sept. 30	94	28	
Milagro	May 1–July 31	1	1	
Egypt	.....	.....	.....	Total, Jan. 1–Oct. 30: Cases, 639; deaths, 299.
Alexandria	May 28–Oct. 28	32	15	
Port Said	June 2–Sept. 9	19	6	
Provinces—				
Behera	June 13–Oct. 2	11	4	
Fayoum	May 30–Oct. 11	46	17	
Galioubeh	May 21–Sept. 12	7	2	
Garbieh	May 27–Oct. 28	63	22	Jan. 1–May 26: Cases, 12; deaths, 5.
Girgeh	Oct. 1	1	1	
Gizeh	May 29–July 1	6	1	
Menouf	May 28–Aug. 27	3	3	Jan. 1–May 26: Cases, 51; deaths, 24.
Minieh	May 30–Sept. 7	29	10	

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

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
German East Africa:				
Districts—				
Usmawo—				
Misungi	Mar. 15–May 10			Present.
Nora	do			Do.
Urima	do			Do.
Muanza	Mar. 15–June 11	503	459	Aug. 24, fatal case from s. s. Sybil.
Greece:				
Athens	Aug. 29	1		
Piræus	Aug. 21–Sept. 3	8	2	
India:				
Bombay	May 18–Oct. 12	711	604	
Calcutta	Apr. 27–Sept. 27		302	
Karachi	May 18–Nov. 1	202	171	
Rangoon	May 1–Oct. 25	401	379	
Provinces				Total, May 4–Oct. 18: Cases, 40,013; deaths, 31,435.
Delhi	May 4–Aug. 2	24	18	
Bombay	May 4–Oct. 18	14,553	10,289	
Madras	do	901	774	
Bengal	do	316	324	
Bihar and Orissa	do	1,927	1,539	
United Provinces	do	10,349	8,824	
Punjab	do	7,239	5,782	
Burma	do	1,456	1,364	
Coorg	June 22–Aug. 30	10	8	
Central Provinces	May 4–Oct. 18	7	4	
Mysore	do	2,307	1,570	
Hyderabad	do	695	562	
Central India	do	43	31	
Rajputana	do	264	223	
Kashmir	May 4–Aug. 2	65	44	
North West Province	May 4–Oct. 18	88	80	
Indo-China				Total, Jan. 1–Sept. 10: Cases, 2,745; Jan. 1–July 10: Deaths, 2,547.
Saigon	June 17–Aug. 25	63	40	
Japan:				
Kobe	Nov. 2–9		1	
Taiwan—				
Kagi	June 1–July 19	81	63	
Yokohama	Sept. 19–Nov. 12	19	1	
Mauritius	Apr. 18–Sept. 18	68	46	Total, Jan. 1–Aug. 28: Cases, 126; deaths, 70.
Morocco:				
Casablanca	Oct. 2	1		
Rabat	Oct. 19–25	3		
Persia				June 5, in Kermanchah Province, 150 cases, at Caravadeh, Harounabad, and Loud. June 11, present in vicinity of Abassabad.
Djame-Chouran	May 31–Sept. 13	37	21	
Faizabad	June 11		3	
Gommi	do		11	
Harounabad	May 20–June 25	71	51	
Larzangueneh	May 27–June 15	30	28	
Mahi-Dacht	June 4	2	2	
Taybat	June 11		3	
Zebyri	May 31–June 25	14	10	
Peru:				
Departments—				
Ancachs—				
Chimbote	July 28–Sept. 7	2		
Arequipa—				
Mollendo	Apr. 28–Oct. 12	16	2	
Callao	June 30–Sept. 21	6		
Caxamarca—				
Cutervo	June 9–Aug. 17	5		
Chota	June 30–July 27			Present.
Libertad—				
Chiclayo	Apr. 28–June 8	1	1	
Salaverry	June 4–Aug. 17	3	1	
San Pedro	June 4–Oct. 12	9	2	
Trujillo	May 19–Oct. 12	13		
Lima	do	24		
Monsefu	Oct. 6–12	12		
Piura	June 30–July 27			Present.
Catacaos	Sept. 2–Oct. 6	2		
Piura	do	1		

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Manila	May 11-24	3		Fourth quarter, 1912: Cases, 39; deaths, 33. First quarter, 1913: Cases, 8; deaths, 7. Second quarter: Cases, 9; deaths, 7.
Do	Sept. 21-27	1	1	
Russia:				
Astrakhan				Aug. 2, 2 fatal cases.
Tsarev	June 3-10		9	Pneumonic form.
Acheozek	Aug. 22	1	1	
Diamantai-Toubek	July 15-Aug. 17	6	6	
Breslavsk	Oct. 3-19	5	5	Pneumonic.
Gromoslavsk	do	11	7	Do.
Kalatch	do	5	4	Do.
Novopetrovsk	Sept. 26-Oct. 21	35	35	
Ralatch Estate	Sept. 28-Oct. 16	4	4	
Voisko-Donsky	Oct. 19-21	31	28	
West Turkestan—				
Semiretchji territory—				
Prjevalsk district	Sept. 25	26	26	Among the Tourguen.
Siam:				
Bangkok	Mar. 23-Oct. 4		20	
Korat	Mar. 21-31			Epidemic.
Straits Settlements:				
Singapore	June 15-21	1	1	
Tripoli:				
Derma	July 15			Present.
Tripoli	July 1-Sept. 30	56	19	
Turkey in Asia:				
Adalia	Aug. 30	1		
Basra	July 14-21	1	1	To June 3, 31 cases.
Trebizond	Sept. 29-Oct. 4	11	2	In the prison.
Uruguay:				
Montevideo				July 28, present.

SMALLPOX.

Algeria:				
Departments—				
Algiers	May 1-July 31	11		
Constantine	Apr. 1-July 31	27		
Oran	May 1-July 31	59		
Arabia:				
Aden	June 3-9	1		
Do	Oct. 6-20	2	1	
Argentina:				
Buenos Aires	Apr. 1-July 31		11	
Australia:				
New South Wales				Total July 1-Sept. 26: Cases, 829.
Albury	Sept. 12-26	1		Sydney district, 810 cases.
Coolah	do	1		
Cootamundra	Aug. 7-Sept. 26	1		
Goulburn	July 1-31	1		
Illabo	Aug. 7-Sept. 11	1		
Hardon	do	1		
Lithgow	July 1-31	1		
Liverpool	Aug. 7-Sept. 11	2		
Newcastle	July 1-31	1		
Nyngan	do	1		
Parkes	do	5		
Penrith	do	2		
Sydney	July 1-Sept. 11	721		
Taree	July 1-31	2		
Ulmsarra	do	2		
Wellington	Sept. 12-26	1		
Queensland—				
Brisbane	Aug. 7-Sept. 11	1		
Ipsich	July 1-Sept. 11	4		
Toowoomba	July 1-31	1		
South Australia	July 17-Aug. 2	1		
Victoria—				
Melbourne	July 14			1 case on s. s. Karoola Sydney.

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Capodistria	Oct. 5-11	2		
Coastland	July 6-12	1		
Decani	Oct. 5-11	2		
Fiume	May 27-July 7	19	1	
Galicia	July 6-Aug. 12	1		
Gorz and Gradinska	Aug. 7-14	1		
Krain	do	1		
Trieste	June 1-Nov. 1	45	1	Cases June 14 from Patras.
Tyrol and Vorarlberg	Aug. 10-Oct. 25	15		
Belgium:				
Antwerp	July 1-7	1		
Brazil:				
Bahia	May 11-Nov. 8	16	1	
Manaos	June 15-21	1		
Para	June 15-Nov. 8	77	39	
Pernambuco	May 1-Sept. 30		250	
Rio de Janeiro	May 4-Oct. 18	202	34	
British East Africa:				
Mombasa	Mar. 1-June 30	29	9	
Canada:				
Provinces—				
British Columbia—				
Vancouver	June 8-Sept. 13	2		
Manitoba—				
Winnipeg	June 15-Oct. 18	20		
Nova Scotia—				
Sydney	July 14-Aug. 2	2		Case July 14 from s. s. Hartlepool from Marseille.
Ontario—				
Hamilton	Oct. 1-31	3		
Fort William	June 10-30	4		
Ottawa	June 8-Nov. 22	22		
Toronto	June 16-Aug. 2	9		
Quebec—				
Grosse Isle Quarantine.	June 20	1	1	In steerage.
Quebec	June 8-Sept. 20	6		
Montreal	July 6-Nov. 22	85	2	
St. Johns	May 25-July 5	4		
Chile:				
Iquique	June 1-21	2		
Santiago	June 15-29			Present. Aug. 16-Sept. 13, epidemic.
Valparaiso	July 12			Present.
China:				
Amoy	May 25-June 7			Do.
Kulangsu	May 25-31			Do.
Chungking	Aug. 2			Do.
Dalny	July 27-Oct. 20	2	1	
Hothow				Aug. 22, free.
Hongkong	May 18-June 14	9	7	
Nanking	May 11-Sept. 27			Do.
Shanghai	May 19-Oct. 28	9	49	Deaths among natives.
Tietsin	June 8-14		1	
Dutch East Indies				Sept. 8-15, present in Ia zitian, Klatten, and Soerakarta.
Java—				
Batavia	June 22-Oct. 25	32	13	
Klatten	Sept. 8-29	78	3	
Patjittan	do	15	7	
Samarang	do	637	78	
Soerkarta	Aug. 15	517	39	
Surabaya	May 11-Oct. 11	16	5	
Egypt:				
Alexandria	May 28-Nov. 4	26	20	
Cairo	May 14-Oct. 21	46	14	
Port Said	Oct. 15-28	10	3	
France:				
Limoges	Sept. 1-30		21	
Lyon	June 23-29		1	
Marseille	May 1-Oct. 31		142	
Nantes	Aug. 3-Nov. 1	2		
Paris	May 25-Nov. 1	28		
St. Etienne	Sept. 21-Oct. 31	4	1	
Toulon	Aug. 18	1		

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Germany				Total June 8–Oct. 4: Cases, 7.
Berlin	Aug. 24–30	1		
Kehl	June 1–July 31	2	1	
Strassburg	Aug. 1–31	1		
Great Britain:				
Hull	Sept. 14–20	1		
Liverpool	May 25–Oct. 18	6	1	
Manchester	July 20–26	1		
Greece:				
Patras	June 9–Aug. 31		9	
India:				
Bombay	May 26–Oct. 25	77	68	
Calcutta	Sept. 13–27		2	
Karachi	May 25–Aug. 16	13	4	
Madras	May 24–Oct. 4	31	13	
Moulmine	Mar. 30–June 28	5	5	
Do	Aug. 3–9	1	1	
Rangoon	May 1–Sept. 30	51	20	
Indo-China:				
Saigon	July 8–14	1	1	
Italy:				
Naples	Aug. 2–15	3		
Rome	Jan. 5–11	1	1	
Japan				Total Jan. 1–July 31: Cases, 87; deaths, 29.
Hokkaido	Apr. 1–30	1		
Kanagawa ken	May 1–31	1		
Kobe	June 23–29	1		
Nagasaki ken	May 1–July 31	54	14	
Oita ken	May 1–June 30	11	4	
Tokyo	June 18–Aug. 31	18	11	Aug. 18, epidemic.
Yokohama	Aug. 19–25	1	1	
Luxemburg:				
Esch	May 17–31	2		
Malta	Sept. 1–30	2		
Mauritius	Apr. 13–July 5	1,019	106	
Mexico:				
Acapulco	May 25–Aug. 16		5	
Aguascalientes	June 9–Nov. 23		40	
Chihuahua	June 23–Nov. 2		13	
Guadalajara	June 8–Oct. 18	80		
Hermosillo	June 7–Nov. 3	128	85	Among troops.
Manzanillo	July 18			Present.
Mexico	Apr. 20–Oct. 4	252	140	
Monterey	June 9–Oct. 26		8	
Oaxaca	Oct. 12–Nov. 17		3	
Panuco	Sept. 12	30		
Puerto Mexico	July 1–31		3	
San Luis Potosi	Apr. 27–Oct. 18	26	13	
Saltillo	Aug. 1–June 30		25	
Veracruz	June 16–Nov. 16	15	5	
Tampico	Sept. 16–Oct. 20	3	2	
Newfoundland:				
St. Johns	June 15–Oct. 18	39		
Norway:				
Trondjem	Oct. 1–31	6		
Peru				Sept. 30, epidemic in Ancon, Callao, Chancay, Huaco, and Lima. Sept. 27, still present in Ancon and Huaco. In Lima Jan. 1–June 30, 235 cases were admitted to the lazaretto.
Philippine Islands				First quarter, 1913: Cases, 57; second quarter, cases, 63.
Portugal:				
Lisbon	May 25–Nov. 15	77		
Russia:				
Batoum	Apr. 1–May 31	4		
Libau	June 2–July 20	3	1	
Moscow	May 18–Nov. 1	93	27	
Odessa	June 8–Nov. 1	59	15	
Riga	June 22–28	6		
St. Petersburg	May 18–Nov. 8	36	6	
Siberia—				
Vladivostok	May 7–June 20	3		
Warsaw	Feb. 23–Sept. 20	86	35	

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

Reports Received from June 28 to Dec. 12, 1913—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Samoa:				
Apia				May 18, 1 death on transport Michael Jepson, from Hongkong, and to June 4, 4 cases transferred from this vessel to a lighter 3 miles east.
Servia:				
Belgrade	June 1–Sept. 27	16	3	July 16, present in Dubotzi, Neresnitza, and Volui.
Siam:				
Bangkok	Mar. 23–Aug. 9		11	
Spain:				
Almeira	June 1–Aug. 31		6	
Barcelona	June 8–Nov. 15		97	
Cadiz	May 1–Sept. 30		5	
Madrid	June 1–Oct. 31		216	
Malaga	Aug. 1–31		1	
Seville	July 1–31		1	
Valencia	June 1–Oct. 25	6		
Straits Settlements:				
Singapore	May 4–Oct. 11	2	1	
Switzerland:				
Cantons—				
Basel	June 1–Nov. 8	42		
Zurich	May 18–24	1		From Paris.
Turkey in Asia:				
Beirut	May 25–Nov. 15	114	55	
Damascus	June 1–7			Present.
Mersina	May 25–July 12		3	
Smyrna	Apr. 26–Aug. 2		67	
Turkey in Europe:				
Constantinople	June 1–Nov. 8		84	
Saloniki	June 2–Nov. 1		68	
Union of South Africa:				
Johannesburg	May 10–June 7	23		
Uruguay:				
Montevideo	Sept. 1–30	38	1	
West Indies:				
Trinidad	Aug. 19	2		On s. s. Danube and placed in quarantine 5 miles distant.

SANITARY LEGISLATION.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

FLORIDA.

Hotels and Restaurants—Licensing, Inspection, and Regulation. (Act June 7, 1913.)

SECTION 1. There is hereby created a hotel commission in the State of Florida for which the usual facilities for transacting its business shall be furnished the same as for other executive departments of the State government.

SEC. 2. The governor of this State is hereby required to appoint a hotel commissioner, who shall constitute the hotel commission whenever that term shall be used in this act, and who shall furnish a bond of $2,000, approved by the secretary of State, and there is devolved upon him the duty of executing all the provisions of this act and all other acts now in force or which may hereinafter be enacted relating to hotels and restaurants. Said hotel commissioner shall receive a salary of $2,000 per annum and traveling expenses. Said hotel commissioner shall keep accurate account of all the expenses of the said hotel commission and shall file monthly itemized statements of such expense with the auditor of public accounts, together with an account of all fees collected from applications for hotel and restaurant licenses. He shall hold office at the pleasure of the governor and shall aid in the discharge of all the duties which shall devolve upon the hotel commission. He is hereby authorized and required to make such rules and regulations as are necessary to carry out the provisions of this act, in accordance with its true intent, and is to assist in the enforcement of any orders promulgated by the State board of health and pure-food department of this State relating to hotels and restaurants.

SEC. 3. That every building or other structure, and all buildings in course of construction, kept, used, maintained as or advertised as, or held out to the public to be a place where food is served and sleeping accommodations are offered for pay, to transient guests, in which five or more rooms are used for the accommodation of such transient guests and having one or more dining rooms or cafés where meals or lunches are served to such transient guests, such sleeping accommodations and dining rooms being conducted in same building, and under the same management shall, for the purpose of this act, be deemed a hotel, and only such above-described business shall have the right to the use of the name hotel, in connection with their business, and upon proper application the hotel commission of this State shall issue to such above-described business a license to conduct a hotel.

SEC. 4. That every building or other structure, and all outbuildings in connection, kept, used, maintained as, or advertised as, or held out to the public to be a place where meals and lunches are served without sleeping accommodations shall, for the purpose of this act, be defined to be a restaurant, and the person or persons in charge thereof, whether as owner, lessee, manager, or agent, for the purpose of this act, be deemed the proprietor of such restaurant, and whenever the word restaurant shall occur in this act it shall be construed to mean every such structure as described in this section.

SEC. 5. That on or before January 1, 1914, and each year thereafter, every person, firm, or corporation now engaged in the business of conducting a hotel or restaurant, or both, and every person, firm, or corporation who shall hereafter engage in conducting such business shall procure a license for each hotel or restaurant so conducted or proposed to be conducted: *Provided*, That one license shall be sufficient for each combined hotel and restaurant where both are conducted in the same building and under the same management. Each license shall expire on the 30th day of September next following its issuance. And no hotel or restaurant shall be maintained and conducted in this State after the taking effect of this act without a license therefor, and no license shall be transferable.

SEC. 6. The fee for a license to conduct a hotel and restaurant in this State shall be $2, which shall be paid, before said license is issued, to the deputy hotel commissioner, who shall on the first day of each month pay into the State treasury all fees collected for license issued during the preceding month.

SEC. 7. The hotel commissioner shall, upon request therefor, furnish to any person, firm, or corporation desiring to conduct a hotel or restaurant the necessary application blank for a license, which the applicant shall fill in, stating the full name and address of the owner and agent of the building, or both, the lessee and manager of such hotel or restaurant, together with a full description of the building and property to be used or proposed to be used for such business, and stating the location of same, which application, upon its return to the hotel commissioner, shall be accompanied by the license fee of $2.

SEC. 8. It is hereby made the duty of the hotel commissioner to inspect, or cause to be inspected, at least annually, every hotel and restaurant in the State, and for that purpose he shall have the right of entry and access thereto at any reasonable time; and whenever upon such inspection of any hotel or restaurant it shall be found that such business and property so inspected is not being conducted or is not equipped in the manner and condition required by the provisions of this act it shall thereupon be the duty of the hotel commissioner to notify the owner, proprietor, or agent in charge of said business, or the owner or agent of the building so occupied, of such changes or alterations as may be necessary to effect a complete compliance with the provisions of this act. It shall thereupon be the duty of such proprietor or agent in charge of such business to make such alterations or changes as may be necessary to put such building and premises in a condition that will fully comply with the requirements of this act: *Provided, however*, That 30 days' time after receipt of such notice shall be allowed for conforming to the requirements of sections 16, 17, 18, 19 of this act and 60 days' time for conforming to the requirements of sections 10, 11, 12, 13, 14, 15: *And provided, further*, That the proprietor or managing agent in charge of such business shall not be required to comply with the requirements of sections 10, 11, 12, 13, 14, 15 whenever the notice herein provided for and criminal process can be served upon the owner of the building occupied by such business, who in such case shall be responsible for the performance of the requirements of such sections.

SEC. 9. Every person, firm, or corporation, who shall fail or refuse to comply with the provisions of sections 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and whose duty it is to so comply as provided in said sections 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, shall be deemed guilty of a misdemeanor and shall be subject to a fine of $5 for each and every day he may fail or refuse to so comply; and if for 30 days after any final conviction, or any such violation, he or they still fail or refuse to comply with said sections mentioned in such notice, the building and premises involved may be closed for use as such hotel or restaurant until all the provisions of this act shall be complied with, upon 5 days' notice thereof from the hotel commissioner.

SEC. 10. Every hotel and restaurant in this State shall be properly plumbed, lighted, and ventilated, and shall be conducted in every department with strict regard to health, comfort, and safety of the guests: *Provided*, That such proper lighting

shall be construed to apply to both daylight and illumination, and that such proper plumbing shall be construed to mean that all plumbing and drainage shall be constructed and plumbed according to approved sanitary principles, and that such proper ventilation shall be construed to mean at least one door and one window in each sleeping room, also a transom as wide as the door leading into the hallway. No room shall be used for a sleeping room which does not open to the outside of the building or light wells, air shafts, or courts, and all sleeping rooms shall have at least one window and one door with a transom. In each sleeping room there must be at least one window with opening so arranged as to provide easy access to the outside of building, light wells, or courts.

SEC. 11. In all cities, towns, and villages where a system of waterworks and sewerage is maintained for public use every hotel and restaurant therein operated shall, within six month after the passage of this act, be equipped with suitable water-closets for the accommodation of its guests, which water-closet or closets shall be connected by proper plumbing with such sewerage system and means of flushing such water-closet or closets with the water of said system in such manner as to prevent sewer gas or effluvia from arising therefrom. All lavatories, bathtubs, sinks, drains, closets, and urinals in such hotels or restaurants must be connected and equipped in a similar manner both as to methods and time.

SEC. 12. In all cities, towns, and villages not having a system of waterworks, every hotel or restaurant shall have properly constructed privies or over vaults, the same to be kept clean and well screened at all times and free from all filth of every kind, furnishing separate apartments for sexes, each being properly designated.

SEC. 13. Each hotel or restaurant in this State shall be provided with a main public wash room, convenient and of easy access to guests.

(Sections 14, 15, and 16 relate to fire escapes, construction of halls, and fire extinguishers.)

SEC. 17. All hotels and restaurants in this State shall hereafter, in the said main public wash room and in view and reach of guests during the regular meal hours, and where no regular meal hours are maintained then between the hours of 6.30 a. m. and 9 a. m., and 11.30 a. m. and 2 p. m., and 6 p. m. and 8 p. m., and in each bedroom, furnish each guest with two clean individual towels so that no two or more guests will be required to use the same towel unless it has been first washed. Such individual towels shall not be less than 10 inches wide and 15 inches long after being washed.

SEC. 18. All hotels hereafter shall provide each bed, bunk, cot, or other sleeping place for the use of guests with pillow slips and under and top sheets. Each sheet to be made 99 inches long and of sufficient width to completely cover the mattress and springs: *Provided*, That a sheet shall not be used which measures less than 90 inches after being laundered. Said sheets and pillow slips to be made of white cotton or linen, and all such sheets and pillow slips after being used by one guest must be washed and ironed before they are used by another guest, a clean set being furnished each succeeding guest. And further provide mosquito nets of sufficient dimensions to cover each bed, bunk, cot, or other sleeping place for the use of guests.

SEC. 19. All bedding, including mattresses, quilts, blankets, pillows, sheets, and comforts, used in any hotel in this State must be thoroughly aired, disinfected, and kept clean: *Provided*, That no bedding, including mattresses, quilts, blankets, pillows, sheets, or comforts, shall be used which are worn out or are unfit for further use: *Provided further*, That after six months after the passage of this act no mattress on any bed in a hotel shall be used which is made of moss, sea-grass excelsior, husks, or shoddy. Any room in any hotel or restaurant infested with vermin or bedbugs shall be fumigated, disinfected, and renovated until said vermin or bedbugs are exterminated.

SEC. 20. The deputy hotel commissioner is hereby empowered to appoint and employ such office help and traveling inspectors as are necessary to carry out the terms of this act. Such inspectors shall be under the control and direction of the hotel commission and shall receive such compensation as shall be fixed by the hotel commission, not to exceed $1,200 per annum, payable monthly, together with all necessary traveling expenses.

SEC. 21. All notices to be served by the hotel commissioner provided for in this act shall be in writing and shall be either delivered personally or by registered letter to the owner, agent, lessee, or manager of such building and premises or the owner, agent, lessee, or manager of such hotel or restaurant. Any person, firm, or corporation who shall operate a hotel or restaurant in this State or who shall let a building used for such business without first having complied with the provisions of this act shall be guilty of a misdemeanor and shall be fined in the sum of $5 for each and every day he or they shall be found guilty of such noncompliance with this act, together with costs of suit.

SEC. 22. The county attorney of each county in this State is hereby authorized and required, upon complaint on oath of the hotel commissioner or other person, to prosecute to termination before any court of competent jurisdiction in the name of the State of Florida a proper action or proceeding against any person or persons violating the provisions of this act, and he shall make immediate report to State attorney.

SEC. 23. Such money as may be necessary shall be appropriated out of the general fund of the State for the purpose of carrying into effect the provisions of this act.

SEC. 24. On 60 days' notice from the passing of this law all hotels and restaurants shall screen all outside doors and windows in such manner as will meet approval of hotel inspector, in accordance with section 9 of this act.

SEC. 25. All previous acts conflicting with this act are hereby repealed.

NEW YORK.

Births and Deaths—Registration of. (Chap. 619, Act May 21, 1913.)

SECTION 1. Article 18 of chapter 49 of the laws of 1909, entitled "An act in relation to the public health, constituting chapter 45 of the consolidated laws," as renumbered article 19 by section 5 of chapter 128 of the laws of 1911, and renumbered article 20 by chapter 445 of the laws of 1912, is hereby made article 21 thereof, and sections 350 and 351 of such chapter, as renumbered sections 360 and 361 by chapter 445 of the laws of 1912, are hereby renumbered sections 450 and 451, respectively.

SEC. 2. Such chapter is hereby amended by inserting therein a new article, to be article 20 thereof, to read as follows:

SEC. 370. *Registration of births and deaths; duties of State department of health.*—The State department of health shall have charge of the registration of births and deaths, shall provide the necessary instructions, forms, and blanks for obtaining and preserving such records, and shall procure the faithful registration of the same in each primary registration district as constituted by this article and in the division of vital statistics at the capital of the State. The said department shall be charged with the uniform and thorough enforcement of this article throughout the State, and shall from time to time recommend any additional legislation that may be necessary for this purpose. The public health council may establish such rules and regulations supplementary to the provisions of this article and not inconsistent therewith, as it may deem necessary from time to time, in relation to the registration of births and deaths. Such rules and regulations shall be observed by all authorities upon whom duties are imposed by this article in connection with the registration of births and deaths.

SEC. 371. *Duties of State commissioner of health as to vital statistics.*—The State commissioner of health shall have general supervision of the division of vital statistics, which shall be established by the department of health, and which shall be under the immediate direction of a director to be appointed by the commissioner, who shall possess such qualifications as may be prescribed by the public health council. The State commissioner of health shall detail to the division of vital statistics such clerical and other assistants as may be necessary to carry into effect the provisions of this act. The trustees of public buildings shall provide suitable offices in the capitol or elsewhere for the division of vital statistics, which shall be suitably equipped for the permanent and safe preservation of all records received or made under the provisions of this act.

SEC. 372. *Registration districts.*—The State shall be divided into registration districts as follows: Each city, each incorporated village, and each town shall constitute a primary registration district, provided that the State commissioner of health may combine two or more primary registration districts to facilitate registration.

SEC. 373. *Registrar of vital statistics.*—In each primary registration district there shall be a registrar of vital statistics. Qualifications of registrars of vital statistics hereafter appointed shall be prescribed by the public health council. A local health officer shall be eligible for appointment as registrar of vital statistics, and if so appointed and if receiving a salary equivalent to not less than 15 cents per year per inhabitant of such registration district, he shall serve as registrar of vital statistics without additional remuneration therefor. In towns and villages the registrar of vital statistics shall be appointed by the town board and by the village board of trustees, respectively; in the cities, unless otherwise provided by the charter, the registrar of vital statistics shall be appointed by the mayor. The term of office of a registrar of vital statistics, unless the charter of the city or village shall provide otherwise, shall be four years. Each registrar of vital statistics shall hold office until his successor shall have been appointed and shall have qualified. Any registrar of vital statistics who in the judgment of the State commissioner of health fails or neglects to discharge efficiently the duties of his office as set forth in this article, or to make prompt and complete return of births and deaths as required thereby, shall be forthwith removed by the State commissioner of health, and such other penalties may be imposed as are provided by this article. Each registrar of vital statistics shall immediately upon his acceptance of appointment as such, appoint a deputy, whose duty it shall be to act in his stead in case of his absence or inability, and such deputy shall in writing accept such appointment and be subject to all rules and regulations governing registrars. When it appears necessary for the convenience of the people in any rural district, the registrar is authorized, with the approval of the State commissioner of health, to appoint one or more suitable persons to act as subregistrars, who shall be authorized to receive birth and death certificates and to issue burial or removal permits in and for such portions of the district as may be designated, and each such subregistrar shall note on each certificate over his signature the date of filing and shall forward all certificates to the local registrar of the district within three days, and in all cases before the third day of the following month: *Provided, however,* That each subregistrar shall be subject to the supervision and control of the State commissioner of health and may be by him removed for neglect or failure to perform his duty in accordance with the provisions of this act or the regulations of the public health council, and shall be subject to the same penalties for neglect of duty as the local registrar.

SEC. 374. *Correction of defective registration.*—If defects be found in the registration under the supervision of a registrar of vital statistics, the State commissioner of health shall notify such registrar that such defects must be corrected within 10 days of the date of the notice. If such defects are not so corrected, the State commissioner of health shall take control of such registration and of the records thereof, and enforce the rules and regulations in regard thereto and secure a complete registration in such district, and such control shall continue until the registrar of vital statistics shall satisfy

the commissioner of health that he will make such record and registry complete as required by law and by the rules and regulations of the public health council. The expenses incurred by the State commissioner of health or his authorized representative while in control of such registration shall be a charge upon the city, town, or village comprising the registration district.

SEC. 375. *Permits for burial or removal of dead bodies.*—The body of any person whose death occurs in this State or which shall be found dead therein shall not be interred, deposited in a vault or tomb, cremated or otherwise disposed of or removed from or into any registration district, or be temporarily held pending further disposition more than 72 hours after death unless a permit for burial, removal, or other disposition thereof shall have been properly issued by the registrar of vital statistics of the registration district in which the death occurred or the body was found. No such burial or removal permit shall be issued by any registrar until, wherever practicable, a complete and satisfactory certificate of death has been filed with him as heretofore provided: *Provided*, That when a dead body is transported from outside of the State into a registration district in this State for burial, the transit or removal permit issued in accordance with the law and health regulations of the place where the death occurred shall be given the same force and effect as the burial permit herein provided for. No registrar of vital statistics shall receive any fee for the issuance of burial or removal permits under this act other than the compensation provided in this article.

SEC. 376. *Registration of stillborn children.*—A stillborn child shall be registered as a birth and also as a death, and separate certificates of both the birth and the death shall be filed with the registrar of vital statistics in the usual form and manner, the certificate of birth to contain in place of the name of the child the word "stillbirth:" *Provided*, That a certificate of birth and a certificate of death shall not be required for a child that has not advanced to the fifth month of uterogestation. The medical certificate of the cause of death shall be signed by the attending physician, if any, and shall state the cause of death as "stillborn," with the cause of the stillbirth, if known, whether a premature birth, and, if born prematurely, the period of uterogestation, in months, if known, and a burial or removal permit of the prescribed form shall be required. Midwives shall not sign certificates of death for stillborn children, but such cases and stillbirths occurring without attendance of either physician or midwife shall be treated as deaths without medical attendance, as hereinafter provided in this article.

SEC. 377. *Certificate of death.*—The certificate of death shall contain the following items, which are hereby declared necessary for the legal, social, and sanitary purposes subserved by registration records:

1. Place of death, including State, county, township, village, or city. If in a city, the ward, street, and house number. If in a hospital or other institution, the name of the same to be given instead of the street and house number. If in an industrial camp, the name of the camp to be given.

2. Full name of decedent. If an unnamed child, the surname preceded by "unnamed."

3. Sex.

4. Color or race, as white, black, mulatto (or other negro descent), Indian, Chinese, Japanese, or other.

5. Conjugal condition, as single, married, widowed, or divorced.

6. Date of birth, including the year, month, and day.

7. Age, in years, months, and days. If less than one day, the hours or minutes.

8. Occupation. The occupation to be reported of any person, male or female, who had any remunerative employment, with the statement of trade, profession, or particular kind of work; general nature of industry, business, or establishment in which engaged or employed.

9. Birthplace; at least State or foreign country, if known.

10. Name of father.
11. Birthplace of father; at least State or foreign country, if known.
12. Maiden name of mother.
13. Birthplace of mother; at least State or foreign country, if known.
14. Signature and address of informant.
15. Official signature of registrar, with the date when certificate was filed, and registered number.
16. Date of death; year, month, and day.
17. Certification as to medical attendance on decedent, fact and time of death, time last seen alive, and the cause of death, with contributory, that is to say, secondary cause of complication, if any, and duration of each, and whether attributed to dangerous or insanitary conditions of employment; signature and address of physician or official making the medical certificate.
18. Length of residence at place of death and in the State, together with the place where disease was contracted, if not at place of death, and former or usual residence.
19. Place and date of burial, cremation, or removal.
20. Signature and address of undertaker or person in charge of the corpse.

The particulars called for by items 1 to 13, inclusive, shall be authenticated by the signature of the informant, who may be any competent person acquainted with the facts. The statement of facts relating to the disposition of the body shall be signed by the undertaker or person in charge of the corpse. The medical certificates shall be made and signed by the physician, if any, last in attendance on the deceased, who shall specify the time in attendance, the time he last saw the deceased alive, and the hour of the day at which death occurred. He shall further state the cause of death, so as to show the cause of disease or sequence of causes resulting in the death, giving first the name of the disease causing death; that is to say, the primary cause, and the contributory; that is to say, the secondary cause, if any, and the duration of each. Indefinite terms, denoting only symptoms of disease or conditions resulting from disease, shall not be held sufficient for the issuance of a burial or removal permit. Any certificate stating the cause of death in terms which the State commissioner of health shall have declared indefinite shall be returned to the physician or person making the medical certificate for correction and more definite statement. Causes of death which may be the result of either disease or violence shall be explicitly defined; and if from violence, the means of injury shall be stated, and whether apparently accidental, suicidal, or homicidal. For deaths in hospitals, institutions, or of nonresidents, the physician shall supply the information required under item 18, if he is able to do so, and may state where, in his opinion, the disease was contracted.

SEC. 378. *Registration of deaths occurring without medical attendance.*—In case of any death occurring without medical attendance it shall be the duty of the undertaker or other person to whose knowledge the death may come to notify the local health officer of such death, and when so notified the health officer shall immediately investigate and certify as to the cause of death: *Provided*, That if the health officer has reason to believe that the death may have been due to unlawful act or neglect he shall then refer the case to the coroner or other proper officer for his investigation and certification. The coroner or other proper officer whose duty it is to hold an inquest on the body of a deceased person and to make the certificate of death required for a burial permit shall state in his certificate the name of the disease causing death or, if from external causes, the means of death, whether probably accidental, suicidal, or homicidal, and shall, in any case, furnish such information as may be required by the State commissioner of health in order properly to classify the death.

SEC. 379. *Duties of undertaker.*—In each case the undertaker or person having charge of the corpse shall file the certificate of death with the registrar of the district in which the death occurred and obtain a burial or removal permit prior to any disposition of the body. He shall obtain the required personal and statistical particulars from a

person qualified to supply them, over the signature and address of his informant. He shall then present the certificate to the attending physician, who shall forthwith fill out and sign the medical certificate of death, or to the health officer or coroner for the medical certificate of the cause of death and other particulars necessary to complete the record for the registration of deaths, as specified in this article, if no physician was in attendance upon the deceased. He shall then state the facts required relative to the date and place of burial, cremation, or removal, over his signature and with his address, and present the completed certificate to the registrar in order to obtain a permit for burial, removal, or other disposition of the body. The undertaker shall deliver the burial permit to the person in charge of the place of burial before interring or otherwise disposing of the body, or shall attach the removal permit to the box containing the corpse when shipped by any transportation company, said permit to accompany the corpse to its destination, where, if within the State of New York, it shall be delivered to the person in charge of the place of burial.

SEC. 380. *Duties of undertakers; interment within the State.*—If the interment or other disposition of the body is to be made within the State, the wording of the burial or removal permit may be limited to a statement by the registrar, and over his signature, that a satisfactory certificate of death having been filed with him, as required by law, permission is granted to inter, remove, or dispose otherwise of the body, stating the name, age, sex, cause of death, and other necessary details upon the form prescribed by the commissioner of health.

SEC. 381. *Interments.*—No person in charge of any premises on which interments or cremations are made shall inter or permit the interment or other disposition of any body unless it is accompanied by a burial, cremation, or transit permit as herein provided. Such person shall indorse upon the permit the date of interment or cremation over his signature, and shall return all permits so indorsed to the registrar of his district within seven days from the date of interment or cremation. He shall keep a record of all bodies interred or otherwise disposed of on the premises under his charge, in each case stating the name of each deceased person, place of death, date of burial or disposal, and name and address of the undertaker; which record shall at all times be open to official inspection; provided that the undertaker or person having charge of the corpse, when burying a body in a cemetery or burial ground having no person in charge, shall sign the burial or removal permit, giving the date of burial, and shall write across the face of the permit the words "No person in charge," and file the burial or removal permit within three days with the registrar of the district in which the cemetery is located.

SEC. 382. *Registration of births.*—The birth of each and every child born in this State shall be registered within five days after the date of each birth; there shall be filed with the registrar of the district in which the birth occurred a certificate of such birth, which certificate shall be upon the form prescribed therefor by the State commissioner of health. In each case where a physician, midwife, or person acting as midwife, was in attendance upon the birth, it shall be the duty of such physician, midwife, or person acting as midwife, to file said certificate. In each case where there was no physician, midwife, or person acting as midwife, in attendance upon the birth, it shall be the duty of the father or mother of the child, the householder or owner of the premises where the birth occurred, or the manager or superintendent of the public or private institution where the birth occurred, each in the order named, within five days after the date of such birth, to report to the local registrar the fact of such birth. In such case and in case the physician, midwife, or person acting as widwife, in attendance upon the birth is unable, by diligent inquiry, to obtain any item or items of information required in this article, it shall then be the duty of the registrar to secure from the person so reporting, or from any other person having the required knowledge, such information as will enable him to prepare the certificate of birth herein required, and it shall be the duty of the person reporting the birth or

who may be interrogated in relation thereto to answer correctly and to the best of his knowledge all questions put to him by the registrar which may be calculated to elicit any information needed to make a complete record of the birth as contemplated by this article, and it shall be the duty of the informant as to any statement made in accordance herewith to verify such statement by his signature, when requested so to do by the local registrar.

SEC. 383. *Certificate of birth.*—The certificate of birth shall contain the following items, which are hereby declared necessary for the legal, social, and sanitary purposes subserved by registration records.

1. Place of birth, including State, county, town, village, or city. If in a city, the ward, street, and house number; if in a hospital or other institution, the name of the same to be given instead of the street and house number.

2. Full name of child. If the child dies without a name before the certificate is filed, enter the words "Died unnamed." If the living child has not yet been named at the date of filing certificate of birth, the space for "full name of child" is to be left blank, to be filled out subsequently by a supplemental report, as hereinafter provided.

3. Sex of child.

4. Whether a twin, triplet, or other plural birth. A separate certificate shall be required for each child in case of plural births.

5. For plural births number of each child in order of birth.

6. Whether legitimate or illegitimate.

7. Date of birth, including the year, month, and day.

8. Full name of father; provided, that if the child is illegitimate, the name of the putative father shall not be entered without his consent; but the other particulars relating to the putative father may be entered if known, otherwise as "unknown."

9. Residence of father.

10. Color or race of father.

11. Age of father at last birthday, in years.

12. Birthplace of father; at least State or foreign country, if known.

13. Occupation of father. The occupation to be reported if engaged in any remunerative employment, with the statement of trade, profession, or particular kind of work; general nature of industry, business, or establishment in which engaged or employed.

14. Maiden name of mother.

15. Residence of mother.

16. Color or race of mother.

17. Age of mother at last birthday, in years.

18. Birthplace of mother; at least State or foreign country, if known.

19. Occupation of mother. The occupation to be reported if engaged in any remunerative employment, with the statement of trade, profession, or particular kind of work; general nature of industry, business, or establishment in which engaged or employed.

20. Number of children born to this mother, including present birth.

21. Number of children of this mother living.

22. The certification of attending physician or midwife as to attendance at birth, including statement of year, month, day, and hour of birth, and whether the child was born alive or stillborn. This certification shall be signed by the attending physician or midwife, with date of signature and address; if there was no physician or midwife in attendance, then by the father or mother of the child, householder, owner of the premises, manager or superintendent of public or private institution where the birth occurred, or other competent person, whose duty it shall be to notify the local registrar of such birth.

23. Exact date of filing in office of local registrar, attested by his official signature, and registered number of birth, as hereinafter provided.

SEC. 384. *Registration of name of child subsequent to filing of birth certificate.*—When any certificate of birth of a living child is presented without the statement of the given name, the local registrar shall make out and deliver to the parents of the child a special blank for the supplemental report of the given name of the child, which shall be filled out as directed, and returned to the local registrar as soon as the child shall have been named.

SEC. 385. *Registration of physicians, midwives, and undertakers.*—Every physician, midwife, and undertaker shall, on or before the day on which this article takes effect, register his or her name, address, and occupation with the registrar of the district in which he or she resides, and shall so register in any district in which he or she may hereafter establish a residence; and shall thereupon be supplied by the registrar with a copy of this article, together with such rules and regulations as may be prepared by the public health council relative to its enforcement. Within 30 days after the close of each calendar year each registrar shall make a return to the State commissioner of health of all physicians, midwives, or undertakers who have been registered in his district during the whole or any part of the preceding calendar year; provided, that no fee or other compensation shall be charged by registrars to physicians, midwives, or undertakers for registering their names under this section or making returns thereof to the State commissioner of health.

SEC. 386. *Registration of persons in institutions.*—All superintendents or managers or other persons in charge of hospitals, almshouses, lying-in or other institutions, public or private, to which persons resort for treatment of diseases or confinement, or to which persons are committed by process of law, shall make a record of all the personal and statistical particulars relative to the inmates in their institutions when this act takes effect; which are required in the forms of certificate provided for by this article as directed by the State commissioner of health; and thereafter such record shall be by them made for all future inmates at the time of their admittance. In the case of persons admitted or committed for treatment of disease, the physician in charge shall specify for entry in the record the nature of the disease and where, in his opinion, it was contracted. The personal particulars and information required by this section shall be obtained from the individual himself if it is practicable to do so; and when they can not be so obtained, they shall be obtained in as complete a manner as possible from relatives, friends, or other persons acquainted with the facts.

SEC. 387. *Records to be kept by State commissioner of health.*—The State commissioner of health shall prepare, print, and supply to all registrars all blanks and forms used in registering, recording, and preserving the returns, or in otherwise carrying out the purposes of this article, and shall prepare and issue such detailed instructions, not inconsistent with the regulation established by the public health council, as may be required to procure the uniform observance of its provisions and the maintenance of a perfect system of registration; and no other blanks shall be used than those supplied by the State commissioner of health. He shall carefully examine the certificates received monthly from the registrars, and if any such are incomplete or unsatisfactory he shall require such further information to be supplied as may be necessary to make the record complete and satisfactory. All physicians, midwives, undertakers, or informants, and all other persons having knowledge of the facts, are hereby required to supply, upon a form provided by the State commissioner of health or upon the original certificate, such information as they may possess regarding any birth or death upon demand of the State commissioner of health, in person, by mail, or through the registrar; provided, that no certificate of birth or death, after its acceptance for registration by the registrar, and no other record made in pursuance of this article, shall be altered or changed in any respect otherwise than by amendments properly dated, signed, and witnessed. The State commissioner of health shall arrange and permanently preserve the certificates in a systematic manner, and shall prepare and maintain a comprehensive and continuous card index of all births and

deaths registered; said index to be arranged alphabetically, in the case of deaths, by the names of decedents, and in the case of births, by the names of fathers or mothers if born out of wedlock. He shall inform all registrars what diseases are to be considered infectious, contagious, or communicable and dangerous to the public health, as decided by the public health council, in order that when deaths occur from such diseases proper precautions may be taken to prevent their spread.

SEC. 388. *Certified copies of birth certificates evidence of age.*—Certified copies of birth certificates or of statements based on duly registered certificates of birth shall be accepted by public-school authorities in this State as prima facie evidence of age of children registering for school attendance, and by the legally constituted authorities as prima facie proof of age for the issuance of employment certificates, provided that when it is not possible to secure such certified copy of birth registration certificate for any child, the school authorities may accept as secondary proof of age any of the kinds of evidence specified in the labor law.

SEC. 389. *District records to be kept by registrar.*—Each registrar shall supply blank forms of certificates to such persons as require them. Each registrar shall carefully examine each certificate of birth or death when presented for record in order to ascertain whether or not it has been made out in accordance with the provisions of this act and the instructions of the State commissioner of health; and if any certificate of death is incomplete or unsatisfactory, it shall be his duty to call attention to the defects in the return, and to withhold the burial or removal permit until such defects are corrected. All certificates, either of birth or death, shall be written legibly, in durable black ink, and no certificate shall be held to be complete and correct that does not supply all of the items of information called for therein, or satisfactorily account for their omission. If the certificate of death is properly executed and complete, he shall then issue a burial or removal permit to the undertaker; provided, that in case the death occurred from some disease which is held by the public health council to be infectious, contagious, or communicable and dangerous to the public health, no permit for the removal or other disposition of the body shall be issued by the registrar, except to an undertaker licensed under section 295 of the public health law, under such conditions as may be prescribed by the State public health council. If a certificate of birth is incomplete, the local registrar shall immediately notify the informant and require him to supply the missing items of information if they can be obtained. He shall number consecutively the certificates of birth and death, in two separate series, beginning with the number one for the first birth and the first death in each calendar year, and sign his name as registrar in attest of the date of filing in his office. He shall also make a complete and accurate copy of each birth and each death certificate registered by him in a record book supplied by the State commissioner of health, to be preserved permanently in his office as the local record, in such manner as directed by the commissioner of health. He shall, on the 5th day of each month, transmit to the State commissioner of health all original certificates registered by him for the preceding month. If no births or no deaths occurred in any month, he shall on the 5th day of the following month report that fact to the State commissioner of health on a card provided for such purpose.

SEC. 390. *Fees of registrar.*—Except as hereinbefore otherwise provided, each registrar shall be paid the sum of 25 cents for each birth certificate and each death certificate properly and completely made out and registered with him and correctly recorded and promptly returned by him to the State commissioner of health, as required by this act. And in case no births or no deaths were registered during any month, the local registrar shall be entitled to be paid the sum of 25 cents for each report to that effect, but only if such report be made promptly as required by this act. All amounts payable to the local registrar under the provisions of this article shall be paid by the municipality comprising the registration district, upon certification by the State commissioner of health. The State commissioner of health shall annually

certify to the municipality the number of births and deaths properly registered, with the name of the local registrar and the amount due him at the rate fixed herein.

SEC. 391. *Certified copies of records: State commissioner of health to furnish.*—The State commissioner of health may, upon request, supply to any applicant a certified copy of the record of any birth or death registered under the provisions of this act, for the making and certification of which he shall be entitled to a fee of $1, to be paid by the applicant: *Provided*, That the United States Census Bureau may obtain, without expense to the State, transcripts of certified copies of births and deaths without payment of the fee here prescribed, for use solely as statistical data. Any copy of the record of a birth or death, when properly certified by the State commissioner of health, shall be prima facie evidence in all courts and places of the facts therein stated. For any search of the files and records when no certified copy is made, the State commissioner of health shall be entitled to a fee of 50 cents for each hour or fractional part of an hour of time of search, said fee to be paid by the applicant.

If any time within 10 years of the birth, or 1 year of the death of any person within this State, a certified copy of the official record of said birth or death, with the information required to be registered by this act, be necessary for legal, judicial, or other proper purposes, and, after search by the State commissioner of health, it should appear that no such certificate of birth or death was made and filed, as provided by this act, then the person asking for such certified copy may file a sworn statement, to be accompanied by the affidavits of two competent witnesses, as to the fact of birth or death, with as many particulars of the standard certificate supplied as possible, and the State commissioner of health shall file it and issue a certified copy thereof to said applicant without fee and without charge for time of search; and the State commissioner of health shall immediately require the physician or midwife, who, being in attendance upon a birth since the date of the taking effect of this act, failed or neglected to file a certificate thereof or the undertaker or other person who, having charge of the interment or removal of the body of a deceased person since the date of the taking effect of this act, failed or neglected to file the certificate of death, if he or she be living, to obtain and file at once with the local registrar such certificate in as complete form as the lapse of time will permit, together with a fee of $5, which shall be transmitted to the State commissioner of health and accounted for as a fee for certified copies. With said certificate shall be filed the sworn statements and affidavits hereinabove mentioned. The delinquent physician, midwife, undertaker, or other person may also, in the discretion of the State commissioner of health, be prosecuted as required by this article, and shall be prosecuted without bar from the statute of limitations, if he or she shall neglect or fail to file promptly the certificate required by this section as a substitute for the certificate not filed as required by this article, and to pay the filing fee provided for in this section. The State commissioner of health shall keep a true and correct account of all fees by him received under this section, and turn the same over to the State treasurer.

SEC. 392. *Penalties.*—Any person who, for himself or as an officer, agent, or employee of any other person, or of any corporation or partnership, shall inter, cremate, or otherwise finally dispose of the dead body of a human being, or permit the same to be done, or shall remove said body from the primary registration district in which the death occurred or the body was found, without the authority of a burial or removal permit issued by the local registrar of the district in which the death occurred, or in which the body was found; or shall refuse or fail to furnish correctly any information in his possession, or shall furnish false information affecting any certificate or record, required by this article; or shall willfully alter, otherwise than is provided by this article, or shall falsify any certificate of birth or death, or any record established by this article; or being required by this article to fill out a certificate of birth or death and file the same with the local registrar, or deliver it, upon request, to any person charged with the duty of filing the same, shall fail, neglect, or refuse to perform such

duty in the manner required by this article; or being a registrar, deputy registrar, or subregistrar, shall fail, neglect, or refuse to perform his duty, as required by this article and by the instructions and direction of the State commissioner of health thereunder, shall be deemed guilty of a misdemeanor and upon conviction thereof shall for the first offense be fined not less than $5 nor more than $50 and for each subsequent offense not less than $10 or more than $100 or be imprisoned in the county jail not more than 60 days, or be both fined and imprisoned in the discretion of the court.

SEC. 393. *Enforcement.*—Each registrar is hereby charged with the strict and thorough enforcement of the provisions of this article, in his registration district, under the supervision and direction of the State commissioner of health. He shall make an immediate report to the State commissioner of health of any violation of any provision of this article coming to his knowledge, by observation or upon complaint of any person, or otherwise.

The State commissioner of health is hereby charged with the thorough and efficient execution of the provisions of this article in every part of the State, and is hereby granted supervisory power over registrars, deputy registrars, and subregistrars, to the end that all of its requirements shall be uniformly complied with. The State commissioner of health, either personally or by an accredited representative, shall have authority to investigate cases of irregularity or violation of law, and all registrars shall aid him, upon request, in such investigations. When he shall deem it necessary he shall report cases of violation of any of the provisions of this article to the district attorney of the county, with a statement of the facts and circumstances; and when any such case is reported to him by the State commissioner of health the prosecuting attorney shall forthwith initiate and promptly follow up the necessary court proceedings against the person or corporation responsible for the alleged violation of law. Upon request of the State commissioner of health the attorney general shall assist in the enforcement of the provisions of this article.

SEC. 394. *Exemptions.*—Nothing in this article shall be construed to affect, alter, or repeal laws now in force applying to the city of New York.

SEC. 3. Section 5 of such chapter as amended by chapter 557, laws of 1909, and section 22 of such chapter as amended by chapter 407, laws of 1909, chapter 639 of the laws of 1910, and chapter 279 of laws of 1911, and section 23 of such chapter as amended by chapter 407, laws of 1909, are hereby repealed.

SEC. 4. This act shall take effect on the 1st day of January, 1914.

NORTH DAKOTA.

County Boards of Health—Constitution, Powers, and Duties—County Superintendents. (Chap. 59, Act Mar. 15, 1913.)

SECTION 1. That section 259 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 259. There are hereby established county boards of health composed of a president, vice president, and superintendent. The State's attorney in each county shall be president of the county board; the county superintendent of schools shall be vice president, and he shall also appoint a superintendent of public health for the county, who shall be learned in medicine and hold a license to practice medicine and surgery within the State, and the several persons appointed shall hold their offices for one year and until their successors are elected and qualified: *Provided, however.* That whenever the State board of health has reason to believe that the county superintendent of public health is failing to perform his duties as prescribed by law, they may report the case to the board of county commissioners and the latter shall at their next meeting declare the office vacant and appoint another physician in his place for the remainder of the unexpired term."

SEC. 2. That section 262 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 262. The several county boards of health shall have power within their respective counties outside of the corporate limits of cities having a city board of health, subject to the supervisory control of the State board of health and its secretary:

"1. To supervise all matters relating to the preservation of life and health of the people, including public water supplies and sewerage system, and have supreme authority in matters of quarantine, which it may declare and enforce when none exists, and modify, relax, or abolish when it has been established.

"2. To isolate, kill, or remove any animal affected with contagious or infectious diseases that is a menace to the health of human beings.

"3. To remove or abate, or cause to be removed or abated, any public or private nuisance that may endanger the health of others.

"4. To make and enforce orders in local matters when emergency exists, or when the local board of health has neglected or refused to act with promptness or efficiency, or when such board has not been established as provided by law. In such cases the necessary expense incurred shall be paid by the county for which the services are rendered. All expenses actually and necessarily paid or incurred by the county board of health in carrying out the provisions of this article, such as livery, hotel bills, quarantine guards, automobile hire, railroad fare, stamps, etc., shall be audited by the board and certified to the county commissioners and shall be paid the same as other county expenses are paid."

SEC. 3. That section 263 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 263. *Powers and duties of the superintendent.*—The county superintendent of health shall have charge of and superintend, subject to the supervisory control of the State board of health, all matters and things mentioned in subdivisions 1, 2, 3, and 4 of section 2 of this act, throughout the county outside the corporate limits of cities. He shall exercise supervisory control of the local boards of health within his county, known as village boards of health, and township boards of health. He shall furnish, at the expense of the county board of health, all township and village clerks and all physicians within his jurisdiction with proper blanks for reporting to him all contagious and infectious diseases. He shall properly instruct the township and village clerks and the physicians within his jurisdiction on the proper methods to employ in reporting contagious diseases. He shall be charged with strict and thorough enforcement of the laws, rules, and regulations, to the end that the health of the people be conserved and protected. When it shall come to his notice or when he believes that there is a probability that a dangerous disease exists within his jurisdiction he shall make such sanitary inspection of such places as he may deem advisable, and shall take such action and enforce such rules and regulations as he may deem necessary for the protection of the public health. Whenever a village board of health or township board of health within his jurisdiction neglects or refuses to perform any of its duties as specified in this act, or refuses or neglects to execute any of the orders or regulations of the county board of health, then the superintendent of said county board of health may execute its orders and regulations by agents of its own appointment.

"He shall have full and complete control, subject to the supervisory control of the State board of health, of all matters pertaining to public health outside the limits of incorporated cities within his county. He shall decide when quarantine and disinfection are necessary for the safety of the public and shall have power to establish and perform the same. All expenses incurred in quarantining or disinfecting outside of incorporated cities shall be audited by the county board of health and paid for out of the general fund of the county. He may send out circulars permitting the use of the long-distance telephone, at the expense of the county board of health, in all cases of emergency. He may also investigate, subject to the supervisory control of

the State board of health, all public water and ice supplies which are suspected of being infected and cause them to be condemned whenever he finds it necessary. He may also investigate public milk supplies and prohibit the sale of unwholesome milk and dairy products, stop shipment of spoiled or unwholesome meat, the slaughtering of diseased animals and subsequent sale of the meat thereof. He shall enforce cleanliness in schools, inspect overcrowded, poorly ventilated, and insanitary schoolhouses, and when necessary report such cases to the board of inspection, as provided in section 80, chapter 266 of the Session Laws of 1911. He shall by the 10th day of each month report to the secretary of the State board of health, on blanks furnished for that purpose, the name and address of each case of dangerous and contagious infectious diseases occurring in his jurisdiction for the preceding month, with the name of the party reporting the same, together with a detailed statement of his official acts."

SEC. 4. That section 264 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 264. The president and vice president of the board shall receive $3 per day for every day in which they may be actually and necessarily engaged in the performance of their duties, and 5 cents per mile for every mile actually and necessarily traveled in the discharge of their duties. The county superintendent of health shall receive from $300 to $600 a year for his office work, which sum shall be determined annually by the county commissioners, and according to the efficiency of the health officer and the amount and character of the work performed. He shall also receive $5 per day for every day or fraction thereof that he may be actually and necessarily engaged in the performance of his official duties, not including work confined to his office, and in addition to his expenses and other remunerations shall receive 5 cents for each mile actually and necessarily traveled in the performance of his duties."

City Boards of Health—Meetings—Duties—Health Officer. (Chap. 59, Act Mar. 15, 1913.)

SEC. 5. That section 267 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 267. At the first meeting of the city council in April of each odd-numbered year, there shall be appointed by the mayor and confirmed by the council one health officer, who shall hold his office for two years and until his successor is appointed and qualified: *Provided, however,* That when the State board of health is satisfied that the city health officer is neglecting or refusing to perform the duties of his office in conformity with the laws, rules, and regulations which are in force governing such matters, they may report the case to the city council and the mayor shall at the next meeting declare the office vacant and appoint another physician to fill the unexpired term.

"SUBDIVISION A. *Meetings.*—The board shall meet on the first Tuesday after the first meeting of the city council in April at such hour and place as may be named by the city health officer. The board shall organize by electing from its members a president and vice president. The city health officer shall be secretary and executive officer of the board. A majority of the board shall constitute a quorum. The other regular meetings of the board shall be held on the second Tuesday in July, October, and January. Special meetings may be held at any time on call of the president and secretary.

"SUBDIVISION B. *Duties of officers of board.*—The president of each city board of health shall preside at the meetings thereof and in his absence the vice president shall perform the duties of the president. The secretary shall keep a record of all the proceedings of the board and of his official acts. He shall see that the health ordinances of the city, the rules and regulations of his board, and the rules and regulations of the State board of health and the health laws of the State are fully complied with throughout his jurisdiction, and he is hereby charged with strict enforcement of the same. He shall properly instruct the physicians within his jurisdiction in the

proper methods to employ in reporting contagious diseases and shall furnish said physicians with the necessary blanks for that purpose, such blanks to be of the form prescribed by the State board of health. He shall keep a record of all dangerous, contagious, and infectious diseases occurring within his jurisdiction, which record shall show the name and address of the party affected, the name of the disease, by whom reported, and such other statistical data as may be required by the State board of health. He shall by the 10th of each month report to the secretary of the State board of health, on blanks furnished for the purpose, all cases of dangerous, infectious, and contagious diseases that have occurred within his jurisdiction during the preceding month, with such further data as may be required by the State board of health. The diseases that shall be regarded as infectious or contagious shall be those so designated in the rules and regulations of the State board of health."

Infectious Diseases—Reporting of Cases of. (Chap. 59, Act Mar. 15, 1913.)

SEC. 6. That section 275 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 275. *Any physician to report cases of contagion.*—Whenever it shall come to the knowledge of any physician or other person that a case of tuberculosis, typhoid fever, or any other dangerous infectious disease exists within the jurisdiction of any county or city board of health, he shall immediately report to the superintendent of the county board of health or to the city health officer, in whichever jurisdiction the case may be, the name and place of residence, if known, of every person afflicted with such disease, and, if he is the attending physician of such person, he shall report not less than twice each week the condition of each person so afflicted, with the state of such disease."

Township and Village Boards of Health—Constitution, Powers, and Duties. (Chap. 59, Act Mar. 15, 1913.)

SEC. 9. That section 3116 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 3116. The supervisors of each township and the trustees of each incorporated village shall constitute a board of health, and within their respective townships or villages shall have and exercise, under the supervisory control of the county superintendent of public health, all powers necessary for the preservation of public health."

SEC. 10. That section 3117 of the Revised Codes of 1905 be amended to read as follows:

"SEC. 3117. The board of health may examine into all nuisances, sources of filth, and causes of sickness and make such temporary regulations respecting the same as it shall judge necessary for the public health and safety of the inhabitants, but upon taking such action the board shall immediately report the same to the county superintendent of public health, who shall then take the matter up and give the board specific instructions or proceed to the place and take such action as he may deem necessary for the protection of public health, and each person who violates any order or regulation made by any board of health, and duly published, is guilty of a misdemeanor and is punishable by a fine not exceeding $100, or by imprisonment in the county jail not exceeding three months."

Secondhand Goods—Disinfection Required. (Chap. 134, Act Mar. 11, 1913.)

SECTION 1. It shall be the duty of every person, firm, or corporation dealing in secondhand furniture, before selling or exchanging, or offering for sale or exchange, or intending to sell or offer for sale or exchange to the public in this State secondhand furniture, bedclothes, wearing apparel, or any articles, including kitchen equipments and utensils of every description ordinarily used in furnishing, equipping, or decorating a home, to disinfect thoroughly each and every such article before the same shall

be sold or exchanged, or offered for sale or exchange, or in any manner disposed of, in a manner approved or prescribed by the State board of health; and it shall be the duty of the said board to prescribe the rules and regulations necessary to secure proper disinfection, as contemplated in this act, and such other rules relative to the working or tagging of disinfected articles, as in the judgment of said board may be necessary to the proper safeguard of the public from contagious infection.

SEC. 2. Any persons violating any of the provisions of this act in selling or offering for sale or exchange any article or articles of furniture without first having disinfected the same as required herein shall be guilty of a misdemeanor, and shall be fined in a sum not less than $25 and not more than $100, or be imprisoned in the county jail for not less than 30 days nor more than 90 days, in the discretion of the court.

Hotels—Sanitary Regulations for. (Chap. 184, Act Feb. 26, 1913.)

SECTION 1. Section 6 of chapter 135 of the Laws of 1907, as amended by section 5 of chapter 141 of the Laws of 1909, is amended and reenacted to read as follows:

"SEC. 6. *Sanitary provisions.*—Every hotel shall be well drained, constructed, and plumbed according to established sanitary principles; shall be kept clean and in a sanitary condition and free from effluvia arising from any sewer, drain, privy, or other source within control of the owner, manager, agent, or other person in charge; shall be provided with water-closets or privies, properly screened, for the separate use of males and females, which water-closets or privies shall be disinfected as often as may be necessary to keep them at all times in a sanitary condition. All bedrooms shall be bept free from vermin, and the bedding in use shall be clean and sufficient in quantity and quality; all sheets shall be at least 8 feet in length; each guest shall be furnished with two towels; in case bedrooms are carpeted, the carpet or carpets thereon shall be taken up and thoroughly cleansed at least once each year; no rusted tin or iron vessel or utensil shall be used in cooking food, and all foodstuffs shall be kept in a clean and suitable place, free from dampness and contact with dirty water; the floors, closets, cupboards, and walls of all kitchens shall at all times be kept free from dirt, and no dust or greases shall be allowed to collect thereon; a metal container shall be provided to hold ashes where such ashes are stored in or around the hotel building.

"In all cases where a patient having an infectious or contagious disease has been confined in a hotel room, such room shall upon the removal of such patient be closed and fumigated, and upon the completion of such fumigation the certificate of a reputable physician to that fact shall be forwarded to the hotel inspector. In all hotels or lodging houses where 50 cents or more per night is charged for lodging the sheets and pillowcases shall be changed after the departure of each guest, and within three months after the taking effect of this act it shall be unlawful to have upon a bed of any such hotel or lodging house any mattress of a lower grade than that commonly known to the trade as cotton-felt combination; each mattress shall weigh at least 35 pounds, unless it be a hair mattress, in which case it shall weigh 30 pounds or more. Each hotel, rooming house; or restaurant where 50 cents or more per meal is charged shall keep in its main public washroom individual towels or paper toweling in full view and reach of all guests at all hours. Each room shall be properly ventilated by at least one window, and by a doorway leading into the hall."

SEC. 2. Section 10 of chapter 135, Laws of 1907, is amended and reenacted to read as follows:

"SEC. 10. *Certificate of inspection to be posted.*—If the inspector shall find after examination of any hotel that this law has been fully complied with, he shall issue a certificate to that effect to the person operating the same, and said certificate shall be kept posted up in a conspicuous place in said inspected building; and provided, that no certificate shall be issued in any case until the inspection fee shall have been paid."

Diseased Animals—Care and Sale of—Sale of Meat and Milk From. (Chap. 204, Act Mar. 10, 1913.)

Section 2005 of the Revised Codes of 1905 as amended by chapter 162 of the Session Laws of 1909 is hereby amended and reenacted to read as follows:

"SEC. 2005. *Duty of owners of stock—Animals in transit—Meats to be labeled.*—The following regulations shall be observed in all cases of disease covered by this article:

"First. It shall be unlawful to sell, give away, or in any manner part with any animal affected with or suspected of being affected with any contagious or infectious disease, with such exception as shall be provided for by the rules and regulations of the live-stock sanitary board; and in case of any animal that may be known to have been affected with or exposed to any such disease within one year or prior to such disposal, due notice of the fact shall be given inwriting to the person receiving the animal.

"Second. It shall be unlawful to kill for butcher purposes any such animals, or to sell, give away, or use any part of it or its milk, or to remove any part of the skin, with such exceptions as shall be provided for by the rules and regulations of the live-stock sanitary board: *Provided*, That in all cases where, under the rules and regulations of the live-stock sanitary board of this State, it shall be lawful to sell, barter, or give away for human consumption the meat from any animal affected with contagious or infectious diseases, there shall be placed upon each quarter of the animal so affected in at least 10 separate places a stamp or label clearly showing the words 'Affected meat.' No meat from any affected or diseased animal shall be placed upon the same block or table on which meat not so affected is handled. Failure to observe these provisions shall be a misdemeanor, and on conviction shall be punished by a fine of not less than $100 or to be imprisoned in the county jail for a term of not less than 30 days nor more than 1 year. It shall be the duty of the owner, agent, or person having in charge any animal infected or suspected of being infected with any contagious disease immediately to confine the same in a safe place, isolated from all other animals, and with all necessary restrictions to prevent the dissemination of the disease, until the arrival of an accredited agent of the live-stock sanitary board."

SEC. 2. *Repeal.*—All acts and parts of acts in conflict with this act are hereby repealed.

Marriages—Prohibited in Certain Cases—Affidavit of Physician Required—License. (Chap. 207, Act Mar. 1, 1913.)

SECTION 1. No woman under the age of 45 years, or man of any age, except he marry a woman over the age of 45 years, either of whom is a common drunkard, habitual criminal, epileptic, imbecile, feeble-minded person, idiot, or insane person, or person who has theretofore been afflicted with heredity insanity, or is afflicted with pulmonary tuberculosis in its advanced stages, or any contagious venereal disease, shall hereafter intermarry or marry any other person within this State.

SEC. 2. No clergyman or other officer authorized by law to solemnize marriages within this State shall hereafter perform a marriage ceremony uniting persons in matrimony, either of whom is an epileptic, imbecile, feeble-minded person, common drunkard, insane person, habitual criminal, or person afflicted with pulmonary tuberculosis in its advanced stages, or any contagious venereal disease, unless the female party to such marriage is over the age of 45 years.

SEC. 3. The county judge, before a marriage license is issued, shall require each applicant therefor to file in his office upon blanks to be provided by the county for that purpose an affidavit of at least one duly licensed physician, other than the person seeking the license, showing that the contracting parties are not feeble minded. imbeciles, epileptics, insane persons, common drunkards, or persons afflicted with pulmonary tuberculosis in its advanced stages: *Provided*, That in addition the affidavit as to the male contracting party shall show that such male is not afflicted with

any contagious venereal disease. He shall also require an affidavit of some disinterested credible person showing that said persons are not habitual criminals; the female is over the age of 18 years and the male is over the age of 21 years, unless the consent in writing is obtained of the father, mother, or other guardian of the person for whom the license is required in cases where the female is under the age of 18 years and the male is under the age of 21 years: *Provided*, That no consent shall be given nor license issued unless such female be over the age of 15 years. Said affidavit may be subscribed and sworn to before any person authorized to administer oaths. Anyone knowingly swearing falsely to the statements contained in the affidavit mentioned in this act shall be deemed guilty of perjury and punished as provided by the laws of the State of North Dakota.

SEC. 4. A license to marry shall not be issued to one under the influence of intoxicating liquor at the time of making application for license, and no marriage ceremony shall be performed when either or both of the contracting parties are under the influence of intoxicating liquor or any narcotic drug.

SEC. 5. For making an examination of either of the contracting parties to a marriage, and the affidavit required in this act, a physician may charge a fee of not to exceed $2.

SEC. 6. Any person violating any of the provisions of this act, or any person knowingly swearing falsely to any of the statements contained in the affidavits mentioned in this act, shall be punished by a fine of not less than $50 or more than $500, or by imprisonment in the county jail not over 30 days, or by both such fine and imprisonment.

Common Drinking Cups—Prohibited in Schools and Public Places. (Chap. 228, Act Mar. 1, 1913.)

SECTION 1. The use of public drinking cups on railroad trains, in railroad stations, in the public, parochial, or private schools, and other educational institutions and other public buildings of the State of North Dakota, is hereby prohibited from and after September 1, 1913.

SEC. 2. No person or corporation in charge of any railroad train or station, no school board, board of education, town board of school directors, or board of trustees of any public, parochial, or private school or educational institutions and other public buildings shall furnish any drinking cups for public use, and no person or corporation shall permit upon said railroad trains or in station, or at any said public, parochial, or private school or educational institution the common use of drinking cups.

SEC. 3. Whosoever violates the provisions of this act shall be deemed guilty of misdemeanor and shall be liable to a fine of not to exceed $25 for each offense.

Railway Coaches—Sweeping While Occupied by Passengers. (Chap. 231, Act Mar. 13, 1913.)

SECTION 1. The sweeping of railroad coaches or cars while occupied by passengers, except such sweeping be done with a vacuum cleaner, or other similar device, or except when the floor of such car shall previously have been thoroughly moistened with water or oil, or by the use of sufficient sweeping compound to keep down the dust, is hereby prohibited.

SEC. 2. Any person or corporation violating the provisions of this act shall be punishable by a fine not exceeding $25.

Railroad Stations—Water Closets or Privies—Cleaning of Waiting Rooms. (Chap. 232, Act Feb. 25, 1913.)

SECTION 1. *Closets, where provided.*—All railroad companies operating railroads in North Dakota shall provide and maintain at any and all railroad stations in the State where passengers' tickets are sold, within reasonable access of the depot, a water-

closet, earth-closet, or privy for the accommodation of railroad employees and the traveling public, or where a sewerage system is maintained within 300 feet of such station waiting room, then and in that case the water-closet shall be within the station house. Entirely separate compartments for men and women shall be provided. The water-closet, earth-closet, or privy for males shall also have urinals arranged with conduits of galvanized iron or other impervious material, draining into a sewer, vault, or other suitable place which will prevent the creation of a nuisance.

SEC. 2. *Authority to inspect.*—The board of railroad commissioners of the State or the local health officer or health commissioner of the township, incorporated village, or city in which the depot is located, shall have authority to inspect such water-closets, earth-closets, or privies from time to time, and if they are found to be in an insanitary condition, he or they shall notify the proper officials of the railroad company, stating in what respect such water-closets, earth-closets, or privies are insanitary, and it shall be the duty of the railroad company within a reasonable time, to make such alterations or repairs as will remove the insanitary conditions complained of.

SEC. 3. *Waiting rooms, how and when cleaned.*—The waiting rooms at the railroad stations in this State shall be scrubbed or washed at least once a week with some standard disinfectant, and such waiting rooms shall at all times be maintained in a comfortable and sanitary condition.

SEC. 4. *Repeal.*—Chapter 238 of the Session Laws of 1911 is hereby repealed.

SEC. 5. *Penalty.*—Any person, firm, or corporation failing to comply with the provisions of this act shall upon conviction be punished by a fine of not less than $20 or more than $100.

Schools—Investigation of Insanitary Buildings and Defective Children. (Chap. 263, Act Mar. 11, 1913.)

SECTION 1. That section 80 of chapter 266 of the Session Laws of 1911 be, and the same is hereby, amended to read as follows:

"SEC. 80. *County board of health.*—Whenever the county superintendent of schools shall report to the county board of health that a schoolhouse or any school outbuilding is in an insanitary or unsafe condition, or that any of the pupils or any person of school age is alleged to be defective in mind or body, it shall be the duty of the said board to investigate the report without delay and to direct the school board or a person in charge of the alleged defective to take such actions as shall seem to be for the best interests of the persons immediately concerned."

Tuberculosis—Erection of Cottages by Fraternal Societies at State Sanitarium Authorized. (Chap. 286, Act Mar. 11, 1913.)

SECTION 1. Any fraternal corporation or society organized under the laws of this State, or authorized to transact business in this State, is hereby empowered and authorized to build upon the site of the State tuberculosis sanitarium at Dunseith, in the county of Rolette, a cottage or cottages for the treatment of members of such corporations or societies and their families affected with pulmonary tuberculosis.

SEC. 2. Any such fraternal corporation or society desiring to construct a cottage or cottages, as provided in section 1 of this act, may make an application in writing to the board of trustees of the State tuberculosis sanitarium at Dunseith, or other governing board, setting forth in such application a description of the cottage or cottages desired by such corporation or society to be erected on such site, and the said board of trustees or other governing board and the superintendent of the State tuberculosis sanitarium may permit such corporation or society to erect any cottage or cottages, as they may deem proper, and to construct any necessary sewerage, water mains, electric-light connections, telephone lines necessary for the use of such cottage or cottages so erected by such fraternal corporation or society; and the board

of trustees or other governing board of the State tuberculosis sanitarium is hereby authorized to make a contract with such fraternal corporation or society for the furnishing of such cottage or cottages with heat, light, water, sewerage as may be necessary to maintain said cottage or cottages, and may contract to furnish medical attendants, medicines, nurses, food, and anything else necessary for the care and maintenance of the patients in such cottage or cottages so erected as hereinbefore stated.

SEC. 3. All members of such corporation or society mentioned in section 1 and all members in their families affected with pulmonary tuberculosis may be admitted to said cottage or cottages under rules prescribed by the governing body of such corporation or society, except as otherwise provided in this act: *Provided, however*, That all incurable patients must be kept separate and apart from the curable patients, under rules and regulations to be prescribed by the board of trustees of the State tuberculosis sanitarium or other governing body.

SEC. 4. Such corporation or society may admit to such cottage or cottages all patients eligible to admission to the State sanitarium, under section 5 of chapter 44 of the Session Laws of 1911, upon such terms as may be agreed upon by the trustees of the State sanitarium and the governing body of such corporation or society.

Railway Sanitation—Sanitary Regulations for Camps.

On March 28, 1913, the State Board of Health of North Dakota adopted as regulations of that board for the State of North Dakota the rules agreed upon by the Northwestern Sanitary Conference, December 5, 1912, covering railway sanitation (communicable diseases, spitting, drinking water, cleaning and fumigation, etc.) and camp sanitation. These rules were published in the Public Health Reports for November 14 1913, Volume XXVIII, No. 46, pages 2440 to 2443.

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