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THE REPORTING OF DISEASE—THE NEXT STEP IN LIFE CONSERVATION.[1]

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The life-saving campaigns of the last few decades have borne fruit. The death rate has been lowered and the average span of life correspondingly lengthened. Deaths from certain causes, especially from typhoid fever, smallpox, the infectious diseases of childhood, and tuberculosis, have been reduced. The amount of sickness, on the other hand, has not been controlled to any appreciable degree. There is still too much sickness among us. Indeed, there are those who, with some authority, maintain that illness has actually increased in spite of all the saving in mortality. The next 20 years must, therefore, see our activities in health work directed especially to the control of disease. If we avail ourselves of our present knowledge of sanitary science, we can reduce the incidence of illness fully as much as we have already cut down our death rates.

Value of Sickness Registration.

The basis for any campaign against sickness must be an accurate knowledge of its prevalence. Just as the reduction of mortality is furthered by a complete registration of deaths and their causes, so our efforts to reduce the frequency of disease depend upon machinery for reporting the cases of sickness, their causes, and their duration, for each group in the community. For this purpose, it is not sufficient to know only, as we do now, the number who have died from any particular cause. We must henceforth place our emphasis upon the cases of sickness themselves. They are socially more important than deaths and our program must more and more prevent their occurrence and effect their control. The State must, therefore, in the first instance, see that all preventable diseases are recorded, that we may lay our foundation for efficient sanitary administration.

Health departments have long realized the importance of registering disease. At first they required the reporting of the plagues such

[1] Address presented to the meeting of the Association of Life Insurance Presidents, held in New York City, N. Y., June 5, 1914, and referred to the health committee of the association for further consideration.

as smallpox, yellow fever, cholera, etc. Later the list was extended to include the acute infections, especially those of childhood, like diphtheria, scarlet fever, and measles. With the development of the germ theory of disease, the reporting of tuberculosis was included, first on a voluntary, and later on a compulsory basis. Finally, in some of the more advanced States, certain noninfectious diseases, such as cancer, pellagra, and even a few of the occupational diseases, have been made reportable. At the present time nearly all States of the Union have laws requiring the reporting of one or more of the preventable diseases.

Present Status.

What, then, is the actual condition of disease registration in the States? A questionnaire sent in 1913 by the statistical bureau of the Metropolitan Life Insurance Co. to the State health officers made specific inquiry regarding disease registration. The replies received showed conclusively that this important phase of our health work was sorely neglected. While some of the communicable diseases, such as smallpox, scarlet fever, diphtheria, acute anterior poliomyelitis (infantile paralysis), and tuberculosis were required to be reported in the larger number of communities, the facilities for carrying out the provisions of the law were most unsatisfactory. The statement of one health officer is typical of many: "We do not have funds," he writes, "to properly enforce the reporting of diseases and hence make it a local matter. We expect to make tuberculosis and some others reportable as soon as we can get our State-wide vital statistics law into operation. Then we will have some means of checking delinquent doctors who neglect to report." Other States fare even worse.

In the inquiry referred to above, health officers were asked to indicate the diseases which involved special difficulties in registration. One health officer replied as follows: "We have not marked those which give special difficulty in securing complete reports, because we seldom get complete returns for any of them." Much the same story was obtained from a number of other health officers, but perhaps the most illuminating return was received from the health officer of one of the largest of the Eastern States, who replied that he was "experiencing more or less difficulty in obtaining complete returns of all the diseases at the present time."

Various explanations are, of course, offered. In some cases the fault is put directly upon the State for neglecting to provide adequate legislation. In others the lack of funds for the proper administration of the law is deplored, and in still other instances the fault is ascribed to the lack of cooperation from physicians who will not take the necessary pains to report their cases.

Whatever be the explanation, it is quite clear that at the present time no important aspect of our State health work shows up to such poor advantage as does the registration and control of the preventable diseases. We are here concerned with conditions which are responsible from year to year for large economic and social losses, and yet we have only the crudest machinery for checking them. Prof. Irving Fisher, of Yale, has estimated that about 3,000,000 people are seriously ill at any one time in the United States, of whom about a half are suffering from preventable causes. The economic losses from such illness he declares to be no less than $500,000,000 annually in wages and an equal sum in doctors' fees, drugs, and other necessary medical accessories. These figures, he believes, are conservative; but it is obviously impossible to make any estimate which will approximate the truth in view of the total absence of reliable information. In fact, there are no records of illness in this country excepting the very fragmentary reports of a few States and some corporations. Whatever be the exact amount of loss sustained through sickness, effective registration will help materially to reduce it and will thus yield a big return to the communities on the relatively small investment required.

Effect Upon Public Welfare.

Permit me to show in some detail how an efficient system of reporting disease will affect the public welfare:

First. It will make possible the immediate and effective treatment of certain infectious diseases. In cases of tuberculosis, for example, an early report to the department of health puts at the disposal of the patient the entire battery of the hygienic resources of the community. In New York City, where, for years, facilities have been well developed, an early report of a tuberculosis case means that a nurse is at once sent to the home to inspect the premises and to give the necessary advice and instruction as to home care. She urges enrollment in a municipal clinic, and in many cases arranges to have the patient treated in a sanatorium or a day camp. It is altogether possible that the reduction in the amount of tuberculosis in New York City and other cities which have extensive antituberculosis work has been largely effected through the enforced registration of this disease.

Let us take another instance, that of diphtheria, where success in the treatment depends so largely on an early and correct diagnosis. The registration of a suspected case enables the health authorities to make a culture which settles the diagnosis. In positive cases the information placed at the disposal of the physician in charge helps to make a cure almost certain. So, too, the early reporting of eye affections of the new born brings a nurse or medi-

cal inspector to the home, who sees that the required treatment is given. As a result, many children now grow up with normal vision whose lives would otherwise have been shrouded in blindness.

Second. The registration of the communicable diseases will enable health officers to discover foci of infection in time to prevent the further spread of such diseases. The early and complete reporting of cases of typhoid fever at once puts the efficient health officer on the track of the infection. It may be the sewerage system, or the water or milk supply, which is at the bottom of the trouble. In any event, the location and the sequence of the cases settles the question, and the epidemic may, in this way, be quickly prevented from spreading to other sections. Such was the case recently in New York City, where an infected milk supply gave rise to some 300 cases of typhoid fever. In this instance, if the department of health had waited until the first death had been reported, the epidemic would in all probability have spread to innumerable other homes and the death losses increased many fold.

Similarly, in the city of Buffalo, during 1912, an epidemic of infantile paralysis was checked without serious fatalities, as the result of early reporting. In this one instance, the combined forces of the local health department, the Rockefeller Institute for Medical Research, and the United States Public Health Service were brought into consultation by the reporting of the first few cases which indicated a widespread contagion. Rigid steps were at once taken to isolate every case. As a result of the work of these cooperating agencies, it was possible to give proper treatment to the 281 cases of the disease and to prevent its further spread among the foreign population, where it had had its widest development.

Third. The reporting of occupational diseases enables departments of health to supplement the efforts of bureaus of labor in following up cases to their sources. Thus, the compulsory reporting of a case of lead poisoning puts the authorities at once on the trail of carelessly kept factories where other workmen may be similarly exposed to possible poisoning. The health and labor officials can then bring to bear all their facilities for the instruction of employers and employees and also for the fulfilment of the various requirements of the law. The reporting of occupational diseases can be made to serve as a most excellent check on the efficiency of existing labor legislation. It is significant to observe at this point that as a result of the effort of the American Association for Labor Legislation, there are now 15 States which have upon their statute books a model bill for the reporting of occupational diseases. This is what one public-spirited organization accomplished.

Fourth. The thorough registration of certain diseases, such as pellagra and cancer, will throw much light upon the origin of these

obscure maladies. We have much to learn with regard to the frequency with which these diseases occur in the various social groups. There is already sufficient evidence at hand that their incidence varies considerably with race, sex, age, occupation, personal habits, and other conditions not as yet differentiated. Thus, a recent study of considerable merit, of cancer in Norway showed the very surprising fact that in that country cancer is more prevalent among men than among women, and that the commonest form of the disease is the affection of the stomach. In one large series of cases 65 per cent of the total were cancers of the stomach, a condition not previously noted in any other country. If these figures be verified, a careful research may lead to the discovery and elimination of the conditions which are responsible for the prevalence of this form of the disease. In like manner, there is evidence that cancer may result from certain occupations which involve the continuous irritation of the skin or other exposed parts of the body. Thus, there are the peculiar cancers of chimney sweeps, of X-ray workers, and of those engaged in the manufacture of arsenical products. The application of preventive measures to those trades should have a beneficial effect. Our advance in the control of cancer, therefore, depends in large measure upon the cooperation of the physician, the registrar, and the vital statistician.

Fifth. The registration of the preventable diseases is, furthermore, the chief test at our disposal for measuring the efficiency of community control over them. Millions of dollars are being expended annually in our campaigns to check their progress. There is, however, a considerable difference of opinion, even among experts, as to the best methods to pursue, and the several communities are applying their appropriations in different ways. Thus, in the treatment of tuberculosis the widest differences of opinion are to be noted. There are those who place considerable emphasis upon the value of sanatorium treatment, while others discount this method, indicating that our results will depend upon an entirely different line of attack. It is clearly an advantage for every group to know the results obtained through the application of their special methods. In this way, the recording of cases, together with a complete statement of the method employed, will ultimately decide the fate of such experiments as are now being made with visiting nursing, isolation of communicable diseases, and the disinfection of premises where such diseases have occurred, sanatorium treatment for incipient tuberculosis, and other plans still awaiting judgment.

In spite of the fine possibilities that the registration of morbidity promises, the actual conditions, as we have already pointed out, are far from satisfactory. Not one State in the entire country has made adequate provisions for this important branch of its health work, and

the largest number have just begun to make any advances in this field. In view of this situation, the Surgeon General of the Public Health Service and the State health officers, assembled in their annual conferences for the discussion of health matters, have during the last few years directed their attention to this problem. After a series of annual reports and resolutions, the standing committee on the subject formulated plans for appropriate legislation. The committee carefully examined the entire subject, and at the eleventh conference, held in Minneapolis on June 16, 1913, submitted, provisionally, a model bill. This, it was hoped, would bring about uniform and complete reporting of the preventable diseases in all of the States of the Union. The bill received the attention of the conference members, and, after a thorough analysis, was adopted unanimously and recommended for introduction into the various State legislatures.

Scope of Model Bill.

The following are a few of the attractive features of the proposed law:[1]

I. The law definitely stipulates that the reporting and registering of the preventable diseases shall be one of the responsible functions of the State department of health and makes specific provision and appropriation for the technical administration of this work.

II. It specifies diseases and conditions which shall be reported in every State and includes:

(*a*) The infectious diseases;

(*b*) The occupational diseases and injuries;

(*c*) The venereal diseases; and

(*d*) Certain diseases of unknown origin, like pellagra and cancer.

III. A precise provision is made for supplementary information and a uniform report blank is stipulated. This will facilitate comparisons of the data obtained from the several States.

IV. The time within which the disease or injury must be reported is definitely stated, and the local machinery and routine for bringing the necessary information to the attention of the State departments is specified.

V. Adequate provisions are made for the instruction of physicians and midwives in the requirements of the law. Severe penalties are also provided which will more fully assure the enforcement of the measure.

The bill which I have just summarized gives the results of the continuous deliberations of a body of health specialists who are familiar at first hand with the various phases of the problem and know what they want. It is my purpose to interest your association

[1] The model law will be found in the Public Health Reports, June 27, 1913, p. 1323, and Reprint No. 133 from the Public Health Reports.

in the splendid opportunity for service that awaits it in taking up this measure with the same enthusiasm with which it furthered legislation for the registration of births and deaths.

Plan of Campaign.

The Association of Life Insurance Presidents can assist in having this measure placed upon the statute books of the States by cooperating with committees which will be appointed for the purpose by the American Medical Association and the American Public Health Association. It is suggested that the combined organizations endeavor to interest the American Bar Association, local medical societies, State and municipal chambers of commerce and boards of trade, editorial staffs of newspapers and magazines, and the general public. The life insurance companies especially have the facilities necessary to carry on this propaganda most effectively through their medical examiners and agency force. They can interest their policyholders through the distribution of special pamphlets and through lectures and correspondence. This will, of course, require considerable effort; and it is therefore suggested that the committees concentrate first upon some one or, at most, a few States which give most promise. Above all, the various committees should work entirely in harmony with the Surgeon General of the United States Public Health Service, who has directed the movement for better registration from the very beginning, and should consult with him as to the point of attack.

It is particularly appropriate that the life insurance companies should be among the first to take a forward step in the solution of the problem for controlling the preventable diseases. They are most seriously affected through the occurrence of illness among their policyholders. Not only are the diseases to which we have referred the cause of a large part of the mortality for which claims are paid; but, perhaps equally important, they are the prime factors in bringing about those economic disturbances of the budgets of policyholders which so largely determine the cancellation of insurance. No one knows just how much of the lapse waste is due to sickness, but there must be a considerable amount of insurance canceled each year because of the effects of disability upon the family income. With the more complete control of morbidity which would follow upon the enactment of the measure suggested, our insurance business and hosts of other social activities would at once show healthy improvement.

The Metropolitan Life Insurance Co., because of its vital interest in the reduction of mortality and lapse losses, stands ready to take an active part in a movement of this kind. Indeed, it has already attempted, on its own account, to collect information on the occurrence

of epidemics and other unfavorable community conditions through its extensive field force. During the winter of 1912 the field staff was instructed to report the occurrence of epidemics of communicable disease and similar conditions to the statistical bureau of the company. As a result, the company has received notices of epidemics from many sections of the country. Superintendents have also advised the home office when the situation was under the control of the local authorities or the other agencies at work. We have been advised of defects in water supplies, the lack of adequate facilities for the disposal of sewage and other physical conditions which influence public health. The various conditions described by the late Dr. Messenger in his address before this association in June, 1911, were fully confirmed. It is but one step further to make such information the basis for the more complete cooperation of the life insurance companies with local and State health officers.

Need for Interstate Reporting.

In closing, permit me to direct your attention to one other important phase of our subject. We have to this point considered only the mechanism of reporting morbidity as a State function. It must be remembered, however, that the communicable diseases are unconventional enough to ignore any and all artificial State boundary lines. Typhoid fever, for instance, follows along the lines of water courses and many States thus receive infection from the same source. New York and other large communities have for years been the dumping ground for the tuberculous sick of near-by communities which have fewer facilities for treatment. Every railway is an avenue for the spread of infection. The New York City milk supply is brought from five adjacent States and in this way the germs of tuberculosis, typhoid fever, scarlet fever, and diphtheria are in many instances brought into the city. It is, therefore, not enough for a State health officer to know the incidences of the infectious diseases in his own State only. He must, in addition, have some effective arrangement with the authorities of neighboring States and particularly with some central interstate office to keep him fully informed as to the existence of epidemics in other parts of the country. Nothing short of a central governmental agency in constant communication with all sections can help solve the problem of controlling the communicable diseases.

With this in mind, the Surgeon General of the Public Health Service and the State health officers, assembled in their tenth annual conference in 1912, agreed upon a system of voluntary reports by which the Public Health Service would be informed by the State of the incidences of the more important infections. This plan is much restricted in scope and is valuable mainly as an index of what

could be done with better registration within the States. It will be difficult for the Surgeon General ever to report effectively on the prevalence of the preventable diseases until the individual States have at their disposal a sufficient amount of accurate and complete registry data. This can be made possible only by the passage and enforcement of the model bill.

A Registration Area for Sickness.

Let me, therefore, suggest that the health committee of this association take up this cause by resolution of this meeting in order to encourage at least a few States to perfect their registration of the preventable diseases. Ultimately, there should be an approved registration area for morbidity under the jurisdiction of the Surgeon General's office very much as the Census Bureau at the present time provides for the registration and statistical analysis of data on births and deaths. This much has already been accomplished by the Russian Government throughout the Empire. Our plan of campaign should aim for as much. Many practical difficulties will be encountered in the operation of this system, but our obvious duty is first to obtain an effective and uniform statute. The amount of effort required to bring about this desired condition will be small compared with the benefits which will ultimately accrue to the participating organizations.

SANITARY WORK IN VERA CRUZ

DURING THE FIRST THREE WEEKS OF THE AMERICAN OCCUPATION.

By G. M. Guiteras, Surgeon, United States Public Health Service.

Sanitary Condition of Vera Cruz at the Time of the American Occupation.

Considering the fact that Vera Cruz is a tropical seaport town with a mixed Spanish and Indian population, its sanitary condition at the time of the American occupation was better than one might have expected. The streets were paved, many of them with asphalt, and kept fairly clean. The city was provided with good drainage and sewerage systems. The water supply is derived from springs at some distance from the city, and is of good quality, but unfortunately deficient in quantity. The storage capacity of the reservoir is also insufficient, and it is said that during the rainy season the water becomes very muddy.

The public markets were not clean, and a number of other public buildings were dirty and ill kept. The hospitals, of which there are three, were in poor condition; the lazaretto for the treatment of smallpox cases was in a lamentable state of ruin, and the patients

were without proper nursing or medical attention. Mosquitoes were not troublesome except in some of the outlying districts of the city. Hotels and private residences are almost all unscreened, and yet it was rare to be disturbed by these insects.

Stegomyia and anophelines were particularly rare. Surg. von Esdorf, in a mosquito survey of the city, found but few anopheline-breeding places. It is true the rainy season had but just commenced, but under like circumstances of season and other existing conditions one would have expected to find mosquitos much more prevalent than they were in Vera Cruz. This unexpected state of things was no doubt due to the antimosquito work which, for some years, had been carried on by the local junta de salubridad (board of health). On the other hand, flies were numerous.

Mexican Sanitary Organizations.

At the time of the American occupation sanitary measures were distributed under three more or less related powers, to wit:

(1) "La sanidad maritima," or maritime quarantine.

(2) The local sanitary board of the junta superior de salubridad de Mexico. In other words, a board of health for the State of Vera Cruz under the direction of the national health authorities in Mexico City.

(3) A purely local or municipal health board, with limited powers.

The first two were controlled by the Mexican Federal Government, and the third by the city council of Vera Cruz. Of these three sanitary entities, the second alone was holding together after the American occupation, and, though naturally demoralized, was doing some work; the first had been superseded by the American quarantine authorities; and the third was entirely in abeyance.

The maritime quarantine establishment was well equipped. Its headquarters and plant were housed in a large and handsome stone building on the sanitary pier, an excellent concrete dock. The plant consisted of four steam disinfecting chambers—three large and one small—their ends being properly separated into a foul and clean side by a stone partition. Boilers, shower baths, dressing rooms, office rooms, laboratory, boarding boats, and, in fact, all the necessary equipment of a first-class quarantine station for the handling of a large number of passengers and their baggage was at hand. This building was occupied by the Twenty-eighth United States Infantry, and only the small steam disinfecting cylinder was available for sanitary purposes. The personnel of the station consisted of 14 persons, including 2 medical officers, a clerk, an engineer, fireman, boatmen, and other employees.

The local sanitary board of the junta superior de salubridad was housed in a small frame building on the water front, containing the

office and storeroom for disinfecting material. This building was selected as the headquarters of the department of public health.

The personnel of the department consisted of 4 medical officers, a civil engineer, 25 sanitary inspectors, about 16 "petroleros" or oilers, and 10 fumigators. The main purpose of this organization was the destruction of mosquitos and their breeding places, and incidentally a general supervision of sanitary matters. That the antimosquito work had been effective was demonstrated by the few mosquitos found.

For the purpose of carrying out the objects of this sanitary board the city was divided into four districts, each in charge of a medical officer. Each district was further divided into subdistricts, the latter under the supervision of sanitary inspectors. The assignment of oilers was so arranged that every part of the city was covered once every eight or nine days.

The fumigating force, under the direction of the medical officers or the sanitary inspectors, was employed in fumigating and disinfecting infected houses or in cleaning up insanitary conditions. The sanitary inspectors were uniformed and wore a badge, showing a number and the words "Agente de sanidad" (sanitary agent).

The modus operandi was as follows: The sanitary inspectors, oilers, and fumigators met at the office at 8 a. m. to receive instructions and immediately proceeded to their districts. At 11 a. m. they returned to the office and reported any insanitary conditions found, the existence of illness, etc., to the medical officer in charge of the district, the necessary action being taken at once to investigate and remedy the evils reported to exist. At 1 p. m. the inspection would be resumed and a second report made at 4 p. m.

In accordance with the reports made, breeding places for mosquitoes were covered with oil or otherwise gotten rid of, infected premises were fumigated, persons reported ill and not in charge of a medical attendant were seen by a medical inspector, and all insanitary conditions liable to prejudice the public health were called to the attention of those responsible for the same, in writing, giving them a reasonable but specified time to remove the nuisance, under certain penalties of fine or imprisonment or both, as provided for in the Sanitary Code.

Existing Sanitary Forces Utilized.

The orders from headquarters were to utilize in all civil administrative offices the personnel in office prior to the American occupation. In so far as the sanitary department is concerned, much difficulty was experienced in carrying this out. Dr. Iglesias, the head of the sanitary department, both maritime and local, had left Vera Cruz for Mexico City immediately after the American forces

took possession, and his entire force was undecided whether to follow his example or to continue under the new dispensation. The majority of the personnel was willing to work, but they feared the criticism of the press, of their friends and acquaintances, and the public in general.

It took considerable tact, patience, and perseverance to surmount these difficulties. The press was appealed to for the purpose of creating a favorable atmosphere, and it was insisted upon that the sanitary service was neither political nor military, that its work was humanitarian, directed to safeguarding not only the health of the American troops but also that of the people of Vera Cruz, their own fellow citizens. After much uncertainty and hesitancy, toward the end of the first week in May the personnel of the sanitary department decided to continue at their posts. Out of a personnel of about 75 only 5 or 6 were permanently separated from the service.

Organization of Department of Public Health.

The department of public health, as organized on May 2, was based on the existing organization as above outlined.

The existing organization was potentially efficient, but in practice it was deficient, due to the fact that it had not been given proper support by the governing authorities. There seemed to be some lack of supervision by those in charge of the service.

This was at once corrected. The sanitary inspectors and other employees were instructed in their duties and given to understand that orders were to be carried out impartially.

The department of public health as finally organized comprised the following divisions:

(1) Maritime quarantine, both incoming and outgoing.
(2) General sanitary inspection and the enforcement of the rules and regulations of the sanitary code.
(3) Antimosquito measures.
(4) Fumigation and disinfection of infected premises.
(5) Supervision of hospitals.

The head of the department, the director of public health, reported to the provost-marshal general, as did also the head of the department of public works, which included street cleaning and the care of the markets and public parks. The two worked in unison, cooperating one with the other.

Much of the preliminary work of the department of public health had been outlined and partly put in effect before the actual organization of the department.

A study of the mortality records was undertaken. The records of the civil registrar were examined by Surg. von Ezdorf and a mortality table was prepared comprising the years 1913 and 1914 up to and

including April 20, the date prior to the American occupation. This table, a copy of which is herewith attached, shows the total mortality and that from certain specified diseases, which were considered of particular importance from a sanitary point of view. The stillbirths are included in the monthly totals. Estimating the population of Vera Cruz at 42,000 the death rate for 1913 is 43.2 per thousand, including stillbirths, and 40.5 excluding stillbirths. The mortality from tuberculosis is above the average. The excessive mortality from malaria is peculiar in view of the fact that anophelines and their breeding places were difficult to find. It may be due either to the introduction of cases originating in the interior of the State of Vera Cruz or to errors in diagnosis. This was left for future study.

Although not shown in the table, the records show that the infantile death rate is high.

Maritime Quarantine.

I took charge of the quarantine service immediately on my arrival in Vera Cruz, April 28, having been assigned thereto by Medical Inspector Spratling, United States Navy, then in charge of the sanitary department. Both incoming and outgoing quarantine were put in effect at once and the necessary measures taken to guard Vera Cruz against the introduction of quarantinable disease.

The principle on which these measures were based was that, for the time being, Vera Cruz was to be considered as a subtropical United States port, and the quarantine regulations of the United States Treasury Department relating thereto were made to apply to Vera Cruz, with certain modifications, as follows:

(1) Inspection of crews and passengers and fumigation of vessels bound for the United States.

(2) No detention of vessels arriving from ports suspected of being infected with yellow fever. Such vessels were fumigated and the crew and passengers kept under observation for a period of six days. Special care was taken wit ı vessels coming from Progreso, Campeche, Frontera, and other southern Mexican ports where yellow fever had been reported during the past six months.

General Sanitary Inspection and the Enforcement of the Rules and Regulations of the Sanitary Code.

As previously stated in this report, sanitary inspection work was in the hands of the four medical inspectors, each having a number of sanitary inspectors under his orders. Charts were prepared showing the limits of the district of each inspector at a glance and also the exact position of any infected dwelling or insanitary condition. All violations of the sanitary code were reported by the inspectors and the necessary steps at once taken to remedy the evil or impose the penalty provided by the code.

The sanitary code of the State of Vera Cruz is a model one. It is comprehensive, gives the sanitary authorities ample powers, and imposes sufficient penalties for violation thereof. If its provisions had been strictly carried out the sanitary condition of Vera Cruz would have been excellent. One of the first duties of the department of public health was to instill vigor and thoroughness into the inspecting force, exacting strict compliance with the provisions of the sanitary code.

A smallpox outbreak prevailed in Vera Cruz at the time of the American occupation and gave considerable trouble and annoyance to the health department, for the reason that it was viewed with alarm by the military authorities.

It is a curious commentary on the mental processes whereby one looks with indifference at health conditions in one's own country, but becomes unduly exercised when a similar condition is found elsewhere. Most of the troops had come from Galveston, Tex., where smallpox was more prevalent than in Vera Cruz, yet in the former city no one gave the outbreak any special attention, while in the latter it attracted the greatest attention.

However, it was the duty of the department of public health to eliminate, as far as practicable, all communicable diseases and it set to work against the spread of smallpox in common with other dangerous communicable diseases. Vaccine was ordered and plans were made to open four free vaccination stations as soon as the vaccine was received. In the meantime, with the supply on hand, orders were issued that all persons unprotected against smallpox entering Vera Cruz by land or sea must be vaccinated.

The quarantine officer, Acting Asst. Surg. I. A. Campbell, carried out this order in connection with his quarantine duties for such persons coming by water, and a special medical sanitary inspector was detailed to board all trains on the outskirts of the city and vaccinate all passengers unprotected against smallpox.

A plotted map showing the points where smallpox cases had originated during the past year was prepared, with the object of carrying out a special disinfection of all such dwellings.

In connection with the above measures against smallpox, but also directed against the propagation of other important diseases, an antifly campaign was inaugurated. It consisted of the use of flytraps, fly paper, the screening of foodstuffs, sanitary stables, and last, but not least, insistence on general cleanliness.

Antimosquito Work.

As has been already stated, mosquitoes were not numerous in Vera Cruz, and Stegomyia and Anopheles were particularly scarce.

Under the department of public health the antimosquito campaign was continued on the same lines as obtained during the previous

régime, except that its scope was somewhat enlarged and steps were taken to clean out a drainage canal where anopheline larvæ had been found.

Fumigation and Disinfection of Infected Premises.

All buildings or dwellings considered infected were disinfected by the sanitary department, and when insanitary conditions existed which could not be removed by those living on the premises on account of poverty or other adequate reason, the work was done by the department. In other cases, the insanitary condition complained of was brought to the attention of the owner or tenant, a specified time for the abatement of the nuisance being specified, and on failure to comply therewith the fine or imprisonment provided for by the sanitary code was imposed. Printed forms were used for the notices above mentioned.

Deaths reported in Vera Cruz, 1913–1914 (Jan. 1 to Apr. 20).

	Malaria.	Tuberculosis.	Cerebro-spinal meningitis.	Smallpox.	Total for month including stillbirths.	Stillbirths.
1913.						
January	16	27	.....	.....	148	11
February	8	27	.....	1	151	9
March	5	35	.....	.....	140	4
April	5	26	.....	3	128	8
May	9	29	.....	5	149	5
June	10	31	.....	4	141	13
July	19	23	3	1	151	7
August	14	29	1	.....	157	13
September	14	16	5	.....	133	11
October	22	23	3	.....	162	19
November	19	30	3	3	163	10
December	16	27	20	1	192	2
Total	157	323	35	18	1,815	112
1914.						
January	6	27	6	2	180	17
February	5	22	3	2	123	12
March	5	23	3	23	177	9
April 1–20	9	22	6	10	127	10

SOLUBLE ALUMINUM COMPOUNDS.

THEIR OCCURRENCE IN CERTAIN VEGETABLE PRODUCTS.

By C. N. Myers, Expert in Organic Chemistry, and Carl Voegtlin, Professor of Pharmacology, Hygienic Laboratory, United States Public Health Service.

During the last year the United States Public Health Service started an extensive investigation into the cause of pellagra. Among other questions studied, the relation of diet to this disease was given consideration. From a survey of the dietary peculiarities of countries in which pellagra is endemic, it seemed especially interesting to determine the effect of a mainly vegetable diet on the animal

organism. For this purpose extensive feeding experiments on mice, rats, and other animals were carried on at the Hygienic Laboratory.[1]

Among other results the following was obtained: White mice, kept on an exclusive diet of corn, sweet potatoes, or certain other vegetable products, very often developed, in the course of a few days, well-defined toxic symptoms, soon followed by the death of the animal Preliminary experiments showed that the toxic material could be extracted from the corn. This extract produced similar toxic symptoms, when fed or introduced intravenously into normal animals. With these experiments as a basis, we began a study of the chemical character of the poisons involved in this intoxication. The first positive finding was the detection of relatively large amounts of soluble aluminum compounds in corn. This observation is certainly of considerable scientific and probably practical interest.

In order to make the study as complete as possible, samples of corn from nearly every State in the United States were examined, so that a fair average might be expected from a series of chemical analyses. In addition, as many samples of foreign corn as were available were analyzed. It should be stated that all of this corn was of good quality with a high percentage of germination. The percentage of metallic aluminum in this set of about 75 samples varied from 0.074 to 0.181 for whole corn grown in America. Corn in the form of meal, grits, hominy, etc., showed different values. These differences depend largely upon the method of milling employed, and upon what part of the kernel has been removed.

The products analyzed can be easily summed up in the following brief table expressed in per cent of aluminum:

Whole corn (American):	
Maximum	0.181
Mean	.120
Minimum	.074
Whole corn (foreign)	.165
Corn oil cake	.817
Corn meal	.178
Hominy	.145
Grits	.168
Oat meal	.175
Millet	.428
Rye	.273
Wheat flour	.045
Sunflower seed (hull removed)	.401
Cottonseed meal	.996
Banana (fresh; peel removed)	.033
Yams:	
Dried	.332
Fresh	.094

[1] The results of this investigation will be published in due time.

Parsnips:	
Dried	0.306
Fresh	.053
Carrots:	
Dried	.301
Fresh	.036
Irish potatoes:	
Dried	.126
Fresh	.029

In the above table it is noticed that cottonseed meal has a very high percentage of aluminum, and wheat flour the least (for the dried material). In the case of the vegetables, the calculations were made upon the basis of both fresh and dried vegetables. Yams contain about 72 per cent of water, and carrots 88 per cent; thus it is seen that very large amounts of aluminum are present when calculations are made for the dried vegetables.

The question then arose, Is the aluminum present in a water-soluble form in these foodstuffs? It is obvious that only soluble aluminum may be absorbed from the gastro-intestinal canal. In order to investigate this phase of the subject a great many water extractions of the vegetables concerned were made, and the filtered extracts analyzed for aluminum. Among the foodstuffs examined were white potatoes—boiled in a manner similar to the method used by the housewife—sweet potatoes, carrots, parsnips, oatmeal, hominy, corn meal, etc. A second series of experiments was carried out by digestion with distilled water in a thermostat for 12 hours at 37° C. A third series of experiments was conducted with the same materials in the presence of 0.3 per cent hydrochloric acid (same as gastric acidity) in a thermostat for 12 hours at 37° C. In order to study the effect of baking on the solubility of the aluminum contained in corn, bread was made from corn meal which had previously been analyzed for aluminum. This bread was then submitted to water and weak hydrochloric acid extraction.

As a result of these four series of experiments it is found that at least 65 per cent of the aluminum present is soluble in water at 37° C. In the presence of hydrochloric acid (a condition prevailing in the stomach), the aluminum of corn, carrots, etc., is completely soluble On the other hand wheat flour and sunflower seed contain but a trace of soluble aluminum. In the case of one sample of corn which was previously analyzed, all of the aluminum present was soluble in weak hydrochloric acid. The following table shows examples of all series of experiments previously outlined.

	Total amount of aluminum in dry vegetable.	Aluminum soluble in H_2O after digestion for 12 hours at 37° C.	Aluminum soluble in 0.3 per cent HCl digested for 12 hours at 37° C.
	Per cent.	*Per cent.*	*Per cent.*
Corn (whole)	0.115	0.090	0.115
Carrots	.305	.....	[1].312
Sweet potatoes	.332	.....	.261
Cottonseed meal	.996	.....	.718
Millet	.428	.....	.171

[1] The carrots used for this determination were a little withered and undoubtedly the amount of dry material was greater than that found in previous water determination.

The corn meal which was used for the preparation of the corn bread contained 0.217 per cent of aluminum. Equal amounts of this meal were baked to various degrees of brownness (light, medium, and dark).

A sample of light brown bread yielded on extraction with water for 12 hours at 37° C., 0.169 per cent aluminum.

A sample of medium brown bread yielded on extraction with 0.3 per cent HCl for 12 hours at 37° C., 0.197 per cent aluminum.

A sample of dark brown bread yielded on extraction with 0.3 per cent HCl for 12 hours at 37° C., 0.201 per cent aluminum.

Discussion and Conclusions.

The presence of aluminum in cereals and in vegetables has received little attention from investigators who had occasion to study the inorganic constituents in the ash of these products. Reference is made here to the bibliography by Langworthy and Austen on the "Occurrence of aluminum in vegetable products, animal products, and natural waters." From an examination of the data given in this paper it will be seen that certain cereals and vegetables which are consumed in relatively large quantities by man, contain considerable amounts of soluble aluminum compounds (corn, sweet potatoes, carrots, etc.). On the other hand, some cereals, such as wheat for example, which are also consumed in relatively large amounts, contain aluminum in a mainly insoluble form. It is not the purpose of this preliminary communication to discuss the significance of the occurrence of soluble aluminum salts in the food of man, nor do we claim at present any relation between these findings and the etiology of pellagra. These questions are, however, under consideration. A few references to the biological importance of aluminum salts may, however, not be out of place. Gies and his coworkers have shown that, when soluble aluminum salts are administered to animals, they are absorbed, a fact which was corroborated in this laboratory, inasmuch as cows' milk, bought on the open market, showed, on analysis, 0.16

per cent of aluminum. According to Langworthy and Austen human milk also contains small quantities of aluminum. Thus it is evident that the aluminum had to be absorbed from the gastro-intestinal canal in order to be secreted with the milk.

Toxic symptoms have been described by various investigators who have studied the effect of the soluble aluminum salts on animal bodies. To determine whether the quantities found in human food have any deleterious effects on man will necessitate considerable further research. The chemical constitution of the aluminum compounds contained in these vegetable products is under investigation.

In conclusion, it may be said that aluminum is present in certain foods in rather large quantities in a water-soluble form, and that the daily consumption of aluminum on a mainly vegetable diet may assume large proportions.

We are indebted to Mr. Hartley, of the Bureau of Plant Industry, for many of the samples of corn used in this investigation. Some of the foreign corn was obtained through the courtesy of Dr. C. H. Lavinder, of the United States Public Health Service.

PLAGUE IN HAWAII.

WITH SPECIAL REFERENCE TO ITS OCCURRENCE ON THE NORTHERN COAST OF THE ISLAND OF HAWAII.

By GEORGE W. McCOY, Surgeon, United States Public Health Service, and Sanitary Adviser to the Governor of Hawaii, and DONALD S. BOWMAN, Chief Sanitary Inspector, Island of Hawaii, Territorial Board of Health.

In December, 1899, the first cases of plague known to have occurred in the Hawaiian Islands appeared in the Chinese quarter of Honolulu on the island of Oahu. The disease subsequently developed on the other important islands of the group. The first case to be recognized on Hawaii, the largest island, occurred early in February, 1900. The type of the disease wherever it appeared was bubonic, though a few cases of what was regarded as primary pneumonic plague occurred. Rat infection undoubtedly existed as the primary cause of the disease in all of the outbreaks, but there was no systematic rodent examination or rodent extermination in the earlier years, this being prior to the recognition of the rat as the essential agent in the spread of the bubonic type of plague. The disease was suppressed in each locality in which it appeared with the exception of the northern coast of Hawaii and in the city of Honolulu. Cases occurred from time to time in Honolulu up to July 14, 1910.

From Hilo, the chief city of the island of Hawaii, where the disease appeared in 1900, the infection spread along the line of commercial

intercourse toward the south, cases appearing in several villages and plantation camps. The usual antiplague measures sufficed to limit and extinguish the infection, though it reappeared in several villages.

With the exception of the outbreak that occurred on the northern coast of Hawaii, the disease throughout the islands presented the usual characteristics of plague, and epidemiologically there were no points of particular importance. In the excepted locality there were certain features of special interest that will be considered in this paper.

Plague on the Northern (Hamakua) Coast of Hawaii.

(*a*) *Local conditions.*—The coast line of the island of Hawaii runs in a general direction north and northeast from Hilo, the principal city. With few exceptions the shore line is characterized by precipitous cliffs from 20 to 100 feet or more in height. There are no harbors, and steamers lie offshore, discharging cargoes and loading raw sugar, the only export, by means of a cable and sling, or basket. This fact is mentioned, as it is certain that there is much less danger of rats passing between a vessel and the shore under these conditions than in places where a vessel lies at a dock, or even where cargo is transferred in lighters. The district under consideration is approximately 60 miles long. The forest line runs roughly parallel with the shore and from three to five miles distant from it. The intervening space is entirely occupied by sugar plantations and nearly all of the land is planted in cane. The northwestern extremity of the district is marked by a deep valley (Waipio) beyond which there is practically no traffic. Until comparatively recently, when a railroad was completed, all of the local commerce has been carried on in stages and wagons.

The climatic conditions are similar to those of the windward coasts of the other islands of the group. During the winter months the temperature may fall as low as 55°, while in summer it is exceptional to have it rise above 85°. The rainfall varies considerably, but it averages about 90 inches per year. The population of the district is approximately 9,000, among which 19 cases of plague have occurred in a period of four years.

There are two important villages in the district, Honokaa, with a population of about 300, and Kukuihaele with about 100. Six cases of plague have occurred in the former and four in the latter, while nine were scattered among the plantations.

(*b*) *Human plague.*—A list of all cases that have occurred, with certain data in connection therewith, is shown here.

TABLE 1.—*Human plague cases—Hamakua district.*

Case No.	Date.	Type.	Location of bubo.	Sex.	Age.	Nationality.	Occupation.
	1910.						
1	Mar. 13	Bubonic...	Cervical...	Female.	13	Scotch.....	Schoolgirl.
2	...do.....	...do.....	...do.....	...do.....	5	.....do.....	Do.
3	Dec. 16	...do.....	...do.....	Male....	25	Filipino.....	Cook.
	1911.						
4	Jan. 23	...do.....	...do.....	Female..	2	Hawaiian.....	Child.
5	...do.....	Pneumonic	.....	Male....	2	Chinese-Hawaiian.....	Do.
6	Apr. 19	Bubonic...	Cervical...	...do.....	21	Hawaiian.....	Mill hand.
7	Oct. 22	...do.....	...do.....	...do.....	12	.....do.....	Schoolboy.
8	Oct. 27	...do.....	...do.....	...do.....	69	.....do.....	Policeman.
	1912.						
9	Feb. 8	...do.....	...do.....	...do.....	16	Portuguese-German...	Garbage-wagon driver.
10	Feb. 25	...do.....	Axillary...	...do.....	32	Japanese.....	Mill hand.
11	...do.....	...do.....	Cervical...	Female..	40	.....do.....	Housewife.
12	Mar. 14	...do.....	...do.....	Male....	12	Portuguese-German...	Schoolboy.
13	Dec. 14	Pneumonic	.....	Female..	6	Japanese.....	Schoolgirl.
14	Dec. 15	Bubonic...	Inguinal..	Male....	9	Hawaiian.....	Schoolboy.
15	...do.....	...do.....	...do.....	...do.....	65	.....do.....	Teamster.
	1913.						
16	Jan. 11	...do.....	...do.....	Female..	7	Filipino.....	Schoolgirl.
17	Jan. 30	...do.....	...do.....	Male....	48	Hawaiian.....	Poi manufacturer.
18	May 1	Pneumonic	.....	Female..	37	English.....	Housekeeper.
19	May 8	...do.....	.....	...do.....	35	.....do.....	School-teacher.

The first case (No. 1) recognized as plague that occurred in this district developed in the village of Honokaa on March 8, 1910, the victim being the 13-year-old daughter of a well-to-do merchant. A second child (No. 2) a girl aged 5, in the same family, sickened two days later. Both cases were fatal; indeed, every case that has occurred has succumbed, death occurring in from 36 hours to 5 days after the onset of the symptoms.

Cases 4 and 5 occurred on the same day, though the patients lived 2 miles apart. In each of these cases, however, the father was employed in a sugar mill from which an infected rat was taken a few days after the death of the children.

Case 7, a boy, and case 8, an old man, lived in the same house. It was not possible to satisfactorily account for the origin of the infection in either of these. The man, a policeman, frequented a locality where a plague rat had been taken a month before; possibly he carried the disease home in the shape of infected fleas, an occurrence that, according to some writers is believed to be common.

Cases 10 and 11 occurred on the same day though they lived about 8 miles apart. Infected rats were found near where each of the persons worked or lived at about the same time that the illness began.

Cases 13, 14, and 15 occurred at practically the same time and all lived in the same neighborhood. An infected rat was found a few days later under the house where No. 13 had lived.

An infected rat was found near the house in which case 18 (May 1) lived. Case 19 (May 8) nursed case 18 and may have been infected

from the former—both were of the pneumonic type—or the infection may have come from the same external source.

Cases 9 and 12 were of much interest. They were brothers, and lived in the same house. The first probably contracted the disease at a stable where an infected rat had been found about a week prior to the beginning of the boy's illness. After his death the house was disinfected with bichloride of mercury, but it was not fumigated, as the infection was believed to have been acquired elsewhere; nevertheless, 34 days later the younger brother was taken sick. Both of us happened to be on the ground when the second boy became ill. Every effort to trace the infection was without avail. An infected rat had been found in the village about two weeks before the boy became sick, but there was no clear association of the boy with the infected premises. After the boy died the house was fumigated twice with sulphur dioxide and once with hydrocyanic acid, roaches and other bugs being killed by each fumigation.

A careful search failed to reveal any dead rats in the house or in the vicinity either before or after the fumigation, and a careful watch was kept while the fumigation was in progress for the purpose of killing any rat that might try to escape, but none was seen. There were no rat holes under the house, though there were some in the floor, which was above the ground from 4 inches to 3 feet, the house standing on sloping ground. Flour bags in the kitchen had been cut by rats or mice and droppings had been seen. The members of the family declared that they had not been aware of the presence of rats for several months, but that prior to this period of freedom the house was infested. Only one rat had been caught on the premises between the death of the older brother and the sickening of the younger one, and that was taken at a stable about 50 yards from the house. It was negative for plague. The house had a double roof, an old one of shingles having been covered by one of corrugated iron. The latter was removed and one rat's nest, apparently long deserted, was found. We might mention here the fallacy of paying any attention to the finding of dead rats in tracing infection, unless they are found to have plague, as a dead *Mus rattus* was found in the yard in front of the house a couple of days after the death of the second boy, and a dead *Mus norvegicus* was found at the barn where he had played. Neither rat was plague infected.

In examining the table one is impressed by the large proportion of cases showing cervical buboes. Thus of the 19 cases, 15 were of the bubonic type and of these, 10 (66.6 per cent) had the bubo in the neck. Among 43 cases of the bubonic type of plague occurring in other parts of the island but one presented a cervical bubo. We have no explanation for this unduly large percentage of cases in which the neck glands were affected. So far as we have been able to determine, the

conditions under which the people live, the rodents that infest the region, and the parasites found on man and on rodents, do not differ from those in other parts of the island. We collected a number of parasites, head lice, and bedbugs from one of the cases with neck buboes. The bedbugs were shown by the guinea-pig test to harbor *Bacillus pestis*, while the head lice were negative. One would expect to find the bacillus in bedbugs taken from any plague patient in which septicemia was present; this, of course, would include a very large proportion of cases.

Attention is called to the fact that none of the cases has occurred during the months of June, July, August, and September, while 14 of the 19 occurred in the months of December, January, February, and March.

(*c*) *Rodents and rodent infection.*—The total number of rodents, taken in connection with the antiplague campaign, is shown in the following table:

TABLE 2.—*Number and species of rodents taken.*

Species.	Number taken.	Percentage of all taken.	Percentage of rats and mice taken.
Mus norvegicus	22,996	15.66	15.99
Mus alexandrinus	20,721	14.08	14.41
Mus rattus	25,422	17.28	17.68
Mus musculus	74,678	50.77	51.92
Mongoose	3,271	2.22	.....
Total	147,088	.....	.....

Rats do not appear to be particularly numerous in the region under consideration. If the accounts of old residents are reliable these rodents were so prevalent some years ago as to interfere materially with the growing of sugar cane. The mongoose was introduced for the purpose of reducing the number of rats and it is believed that some success has attended the experiment.[1]

Habitat.—Most of the rats came from stables and about residences either in the villages or on the plantations (camps).

The village of Honokaa (population 300), the largest community in the section, did not appear to be badly infested, as 200 traps yielded but about 5 rats per day. This relative scarcity of rats was probably due to the fact that when the first cases of plague appeared in 1910 the village had been pretty generally "rat proofed" by tearing out floors that rested on the ground and by elevating buildings so that the natural enemies of the rat might move about freely underneath.

[1] There is some doubt on this point as rats are said to have been much reduced on Kauai, one of the Hawaiian islands, on which mongoose have never been permitted.

In the country districts rats are frequently caught in the cane fields, but it is believed that they generally make their nests in stone piles, gulches, stone fences, etc. The question arose as to whether it would be advisable to attempt to abolish the breeding places in stone fences and stone piles, but it was decided that even if extermination on such a large scale proved practicable it was quite possible that if the natural breeding places were interfered with the rodents might seek new quarters in and about human habitations where they would become a more serious menace than in their natural haunts.

Parasites.—The conditions were not favorable for collecting and examining fleas, as the rodents were all brought to the laboratory together in one container. The following is the result of the few identifications that were made:

Loemopsylla cheopis, 9; *Ctenocephalus felis*, 9; *Ctenocephalus canis*, 4.

The only point of interest is the presence of *L. cheopis*, the rat flea of tropical countries, which has been shown to be the usual plague carrier in India and doubtless is in other warm countries.

TABLE 3.—*Distribution of rat infection, by years.*

Year.	Norvegicus.	Rattus.	Musculus.	Mongoose.	Species not stated.	Total found infected.
1910	3	0	1	0	4	8
1911	3	0	0	0	0	3
1912	20	21	30	1	6	78
1913	4	2	1	0	6	13
Total	30	23	32	1	16	102

TABLE 4.—*Proportion of plague among the several species.*

Species.	Examined.	Found infected.	Proportion infected.
Mus norvegicus	22,996	30	1:766
Mus rattus	25,422	23	1:1106
Mus musculus	74,678	32	1:2334
Mongoose	3,271	1	1:3271
Mus alexandrinus	20,721	0	.....
Not identified	.....	16	.....
Total	147,088	102	1:1442

The figures in the tables are taken from the laboratory records. We suspect that errors of identification make these figures somewhat untrustworthy, especially on account of the apparent absence of infection among *M. alexandrinus*.

More trustworthy we believe is the following tabulation, showing places from which infected rodents were taken.

TABLE 5.—*Nature of places where infected rats were found.*

Place.	Norvegicus.	Rattus.	Musculus.	Mongoose.	Not identified.	Total.
House	17	5	6	0	8	36
Camp	5	2	12	1	0	20
Railroad track	0	0	1	0	0	1
Gulch	3	1	1	0	0	5
Stable	4	2	6	0	8	20
Churchyard	0	0	1	0	0	1
Cane field	1	10	4	0	0	15
Cargo landing	0	2	0	0	0	2
Stone wall	0	1	1	0	0	2
Total	30	23	32	1	16	102

In the early part of the work the microscopical examination of the spleen was depended upon in picking out suspected rodents which were then submitted to cultural and inoculation tests. Later, after the laboratory force had had the opportunity of becoming familiar with the gross lesions of rat plague, the naked eye was depended upon for detecting rats that required more detailed study. The results of this latter method fully justified the high esteem in which it is held by those who have had experience with it.

Infection in the mongoose.—A single case of plague in the mongoose came under observation during the work. The case was detected by Dr. F. W. Taylor, of Pauillo, Hawaii, who supervised the dissection of rodents in the infected district. A careful study of the culture secured from the animal showed that it did not differ in any respect from cultures obtained from rats and from man. We are acquainted with the fact that the mongoose has been shown to be susceptible to laboratory infection with the plague bacillus but we do not consider this rodent a factor of importance in the spread of the disease in Hawaii. Our reasons for holding this view are as follows:

(1) But a single infected mongoose was found among several thousand examined.

(2) These rodents do not appear to harbor ecto-parasites. We have examined a great many of them but we have found no ecto-parasites that did not clearly come from other rodents.

(3) These rodents do not generally come into close association with man.

Until recently the rats were examined at a branch laboratory maintained in the field at Honokaa but since railroad communication has been established they are shipped from each collecting station to the central laboratory at Hilo. A sealed glass container, which is incased in a wooden box, is employed, a packing of felt obviating the danger of breakage.

The antiplague measures that have been taken are the trapping and poisoning of rodents, the establishment of a garbage collection

service in the villages and on the plantations throughout the district, the removal of nearly all of the wooden floors that rested on the ground and replacing them by concrete, or elevating the floor so that there would be no opportunity for rats to harbor underneath, and the removal of double partitions wherever they have been found. These measures have, however, been less effective than they would have been in a locality where the rodent population was not so largely made up of *Mus rattus* and *Mus alexandrinus*. We are not acquainted with any very satisfactory mode of dealing with these species of rats.

The problem of rodent plague in this district is in many respects similar to that presented by the ground squirrel infection in California. It is essentially a problem of the destruction of rural rodents, in this case, rats and mice. There is this difference, however: The ground squirrel is readily killed by poisoned grain and poisonous gases, while rats are far more difficult to destroy.

After a careful study of the situation we have come to the conclusion that the only practicable measures are those directed toward keeping the environments of villages and camps as free from rats as possible, as an attempt at general extermination would be prohibitively expensive.

We wish to acknowledge our indebtedness to Dr. J. S. B. Pratt, president of the territorial board of health, for access to much of the data employed in the preparation of this paper.

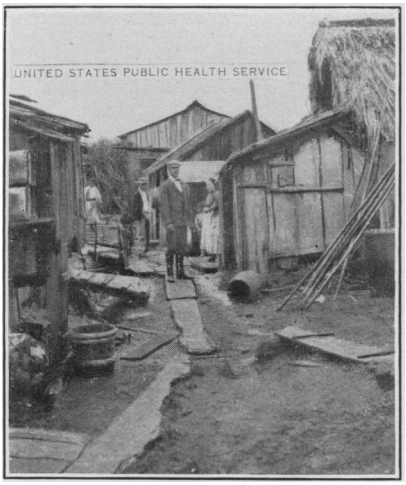

FIG. 1.—A RAT-INFESTED CORNER OF CAMP

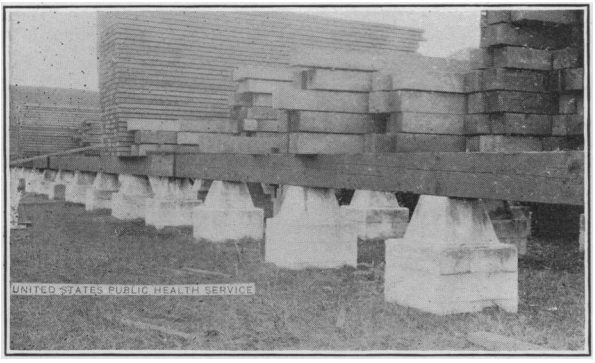

FIG. 2.—RAT-PROOFING LUMBER BY ELEVATION ON CONCRETE PILLARS

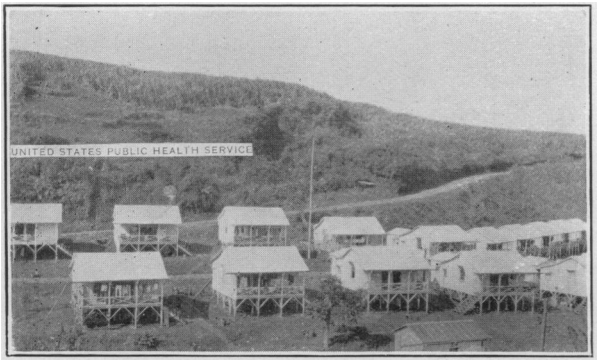

FIG. 3.—BUILDINGS OF CAMP ELEVATED AS RAT-PROOFING MEASURE.

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.

Miscellaneous State Reports.

Places.	Cases.	Deaths.
Arizona (May 1-31):		
County—		
Maricopa	2	
Connecticut (May 1-31):		
Counties—		
Hartford	1	
Middlesex	2	
Total	3	
Illinois (Apr. 1-30):		
Counties—		
Adams	31	
Alexandria	13	
Bureau	3	
Carroll	1	
Cass	1	
Champaign	2	
Christian	2	
Clinton	1	
Cook	13	
Cumberland	8	
Edgar	18	
Fayette	1	
Franklin	6	
Fulton	22	
Greene	1	
Grundy	4	
Hamilton	6	
Hancock	8	
Illinois (Apr. 1-30)—Contd.		
Counties—Continued.		
Henry	5	
Jefferson	8	
Jo Daviess	2	
Kane	1	
Knox	1	
La Salle	12	
Logan	3	
McLean	1	
Madison	28	
Marion	2	
Massac	1	
Montgomery	8	
Morgan	2	
Peoria	1	
Pulaski	5	
Rock Island	14	
St. Clair	3	
Saline	10	
Sangamon	26	
Stephenson	9	
Union	1	
Vermilion	3	
Warren	1	
White	3	
Whiteside	5	
Williamson	20	
Winnebago	2	
Total	318	

City Reports for Week Ended May 30, 1914.

Places.	Cases.	Deaths.
Baltimore, Md	2	
Bellingham, Wash	3	
Bridgeport, Conn	1	
Cleveland, Ohio	1	
Detroit, Mich	7	
Duluth, Minn	6	
Evansville, Ind	4	
Galveston, Tex	6	
Kansas City, Kans	5	
Kansas City, Mo	23	
La Crosse, Wis	2	
Little Rock, Ark	5	
Lynchburg, Va	2	
Milwaukee, Wis	23	
Mobile, Ala	1	
Moline, Ill	13	
Muncie, Ind	1	
Nashville, Tenn	10	
Norfolk, Va	3	
Portland, Oreg	1	
Racine, Wis	5	
Richmond, Va	1	
Roanoke, Va	4	
Rochester, N. Y	1	
St. Louis, Mo	4	
Sandusky, Ohio	3	
Seattle, Wash	3	
Springfield, Ill	1	
Springfield, Ohio	1	
Sumas, Wash	10	
Superior, Wis	2	
Tacoma, Wash	8	
Toledo, Ohio	6	
Washington, D. C	5	
Zanesville, Ohio	1	

TYPHOID FEVER.

City Reports for Week Ended May 30, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Altoona, Pa	2		Muncie, Ind	1	
Baltimore, Md	15	2	Nashville, Tenn	2	
Bayonne, N. J	1		Newark, N. J	4	1
Boston, Mass	7	1	New Bedford, Mass	1	1
Brockton, Mass	1	1	New Castle, Pa	1	
Brownsville, Tex	1		New London, Conn	1	
Buffalo, N. Y	7	1	New Orleans, La	2	
Camden, N. J	1		Niagara Falls, N. Y		1
Charleston, S. C	4		Norristown, Pa	5	
Chelsea, Mass	1		Norfolk, Va	1	
Chicago, Ill	9	3	Orange, N. J	1	
Chicopee, Mass	1		Philadelphia, Pa	10	2
Cincinnati, Ohio	7	2	Pittsburgh, Pa	1	1
Columbus, Ohio	1		Pottstown, Pa	1	
Cumberland, Md	1		Providence, R. I	2	
Danville, Ill		1	Reading, Pa	2	1
Detroit, Mich	7		Richmond, Va	1	1
Duluth, Minn	1		Rochester, N. Y	2	1
Dunkirk, N. Y	1	1	Saginaw, Mich	1	
Evansville, Ind	1		St. Louis, Mo	3	1
Fall River, Mass	3	1	Sandusky, Ohio	1	
Galveston, Tex	1		San Francisco, Cal	2	1
Grand Rapids, Mich	1		Schenectady, N. Y		4
Harrisburg, Pa	2		Seattle, Wash	1	
Haverhill, Mass		1	Sumas, Wash	2	
Johnstown, Pa	1		Superior, Wis		1
Kansas City, Mo	1		Toledo, Ohio	10	
Key West, Fla	1		Washington, D. C	2	
Los Angeles, Cal	4		Weymouth, Mass		1
Lowell, Mass	2		Wheeling, W. Va	3	1
Memphis, Tenn	5	1	Wilmington, N. C	1	
Milwaukee, Wis	1		York, Pa	2	
Mobile, Ala	2				

CEREBROSPINAL MENINGITIS.

City Reports for Week Ended May 30, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md		1	Jersey City, N. J	2	
Boston, Mass		1	Los Angeles, Cal	2	1
Chicago, Ill	1	1	Mobile, Ala	1	
Cincinnati, Ohio	1		Nashville, Tenn	1	1
Cleveland, Ohio		1	St. Louis, Mo	2	2
Columbus, Ohio	1		Waltham, Mass	1	
Dayton, Ohio	2				

ERYSIPELAS.

City Reports for Week Ended May 30, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Binghamton, N. Y	1		Milwaukee, Wis	2	
Bridgeport, Conn	1		Moline, Ill	1	
Buffalo, N. Y	9	1	Newark, N. J		1
Camden, N. J	1		New Castle, Pa	1	
Chicago, Ill	17	3	Norfolk, Va	1	
Cincinnati, Ohio	3	2	Philadelphia, Pa	6	2
Cleveland, Ohio	6	1	Pittsburgh, Pa	10	3
Coffeyville, Kans	1		Providence, R. I		1
Concord, N. H		1	Reading, Pa	1	
Erie, Pa	1		St. Louis, Mo	4	
Kalamazoo, Mich	1		San Francisco, Cal	2	
Johnstown, Pa	2		Trenton, N. J		2
Los Angeles, Cal	1				

PELLAGRA.

During the week ended May 30, 1914, pellagra was notified by cities as follows: Austin, Tex., 1 death; Brownsville, Tex., 1 case; Los Angeles, Cal., 1 case, with 1 death; Memphis, Tenn., 2 cases, with 3 deaths; New Orleans, La., 3 deaths.

PLAGUE.

California—Rats Collected and Examined.

During the week ended May 30, 1914, 524 rats were collected in San Francisco and 479 examined. No plague-infected rat was found.

California—Squirrels Collected and Examined.

During the week ended May 30, 1914, ground squirrels were collected and examined in California as follows: Alameda County, 18; Contra Costa County, 47; Merced County, 6; Monterey County, 6; San Benito County, 12; San Joaquin County, 8; Santa Clara County, 4; Stanislaus County, 10. No plague-infected squirrel was found.

PNEUMONIA.

City Reports for Week Ended May 30, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1	.....	Los Angeles, Cal.	7	4
Binghamton, N. Y.	1	2	Manchester, N. H.	5	5
Braddock, Pa.	1	1	New Castle, Pa.	1	.....
Chicago, Ill.	148	79	Newport, Ky.	2	2
Cleveland, Ohio.	22	14	Philadelphia, Pa.	22	42
Erie, Pa.	1	.....	Pittsburgh, Pa.	15	18
Grand Rapids, Mich.	4	2	Reading, Pa.	2	2
Kalamazoo, Mich.	3	1	San Francisco, Cal.	9	5
Kansas City, Mo.	3	8	Schenectady, N. Y.	1	1
Lancaster, Pa.	1	.....	Trenton, N. J.	.....	9

TETANUS.

During the week ended May 30, 1914, tetanus was notified by cities as follows: Baltimore, Md., 1 death; Chicago, Ill., 1 case; Worcester, Mass., 1 case.

RABIES.

New Jersey—Jersey City.

During the week ended May 30, 1914, a case of rabies was notified at Jersey City, N. J.

Washington—Seattle—Rabies in Animals.

Surg. Lloyd, of the Public Health Service, reported June 8, 1914, concerning rabies in animals as follows: To date there have been 361 cases of canine rabies in the city of Seattle since the outbreak began (September, 1913—the first known cases in Seattle), and 96 of these

cases have been proven positive in the laboratory. In addition, 1 cow and 1 horse have died of rabies.

In a further report by telegraph Surg. Lloyd reported that during the week ended June 13, 1914, rabies had been reported in 5 dogs and 1 cow.

ROCKY MOUNTAIN SPOTTED FEVER.

Montana—Bitter Root Valley.

Surg. Fricks, of the Public Health Service, reported that during the week ended June 6, 1914, 2 cases of Rocky Mountain spotted fever had been reported in the Bitter Root Valley, Mont., making a total of 11 cases reported in that section during the present season. Of these cases 6 have resulted in death, 3 have recovered, and 2 remain under treatment.

TYPHUS FEVER.

New York—New York City Quarantine.

The health officer of the port of New York reported by telegraph June 10, 1914, that a case of typhus fever in the person of a 9-year-old girl had been removed from the steamship *President Grant*, from Hamburg via Boulogne and Cherbourg.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

Pittsburgh, Pa.—Scarlet Fever.

Surg. Stoner, of the Public Health Service, reported by telegraph that during the week ended June 13, 1914, 85 cases of scarlet fever, with 2 deaths, had been notified in Pittsburgh, Pa., making a total of 3,750 cases, with 177 deaths, reported since the beginning of the outbreak, August 1, 1913.

City Reports for Week Ended May 30, 1914.

Cities.	Population as of July 1, 1914 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	579,590	169	18	1	9	.....	26	.....	44	15
Boston, Mass.	733,802	237	60	5	158	.....	109	4	80	17
Chicago, Ill.	2,393,325	673	142	9	274	3	104	9	187	86
Cleveland, Ohio.	639,431	161	28	4	30	2	10	.....	40	19
Detroit, Mich.	537,650	149	20	.....	.....	.....	13	1	24	15
Philadelphia, Pa.	1,657,810	509	30	7	154	2	52	1	132	57
Pittsburgh, Pa.	564,878	178	26	2	67	1	116	4	29	14
St. Louis, Mo.	734,667	247	51	4	144	5	50	3	35	12
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y.	454,112	316	17	.....	37	1	13	.....	29	14
Cincinnati, Ohio.	402,175	111	16	2	5	.....	16	.....	32	.....
Los Angeles, Cal.	438,914	95	9	1	27	.....	12	.....	46	12
Milwaukee, Wis.	417,054	99	17	1	38	1	25	4	22	10
Newark, N. J.	389,106	112	16	2	75	.....	49	2	46	11
New Orleans, La.	361,221	145	11	1	8	.....	3	.....	37	17
San Francisco, Cal.	448,502	117	9	1	231	.....	4	.....	9	19
Washington, D. C.	353,378	96	3	.....	6	.....	1	.....	17	.....

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

City Reports for Week Ended May 30, 1914—Continued.

Cities.	Population as of July 1, 1914 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio	204,567	73	.....	.....	96	.....	5	.....	13	8
Jersey City, N. J.	293,921	80	10	.....	17	.....	18	.....	20	.....
Kansas City Mo.	281,911	85	10	2	17	.....	6	.....	3	9
Portland, Oreg.	260,601	.....	8	.....	7	.....	4	.....	7	4
Providence, R. I.	245,090	72	6	1	1	1	13	2	.....	9
Rochester, N. Y.	241,518	72	3	.....	70	.....	9	.....	4	4
Seattle, Wash.	313,029	51	3	.....	16	.....	2	2	16	3
From 100,000 to 200,000 inhabitants:										
Albany, N. Y.	102,961	.....	2	.....	3	.....	1	.....	6	.....
Bridgeport, Conn.	115,289	20	1	1	2	.....	4	1	10	.....
Cambridge, Mass.	110,357	21	3	.....	6	.....	7	.....	5	2
Camden, N. J.	102,465	.....	3	.....	.....	.....	1	.....	5	.....
Dayton, Ohio	123,794	11	2	.....	1	.....	1	.....	.....	9
Fall River, Mass.	125,443	48	4	2	.....	.....	5	.....	14	5
Grand Rapids, Mich.	123,227	36	3	.....	9	.....	6	1	3	2
Lowell, Mass.	111,004	33	1	.....	10	.....	2	.....	.....	4
Memphis, Tenn	143,231	60	3	.....	14	.....	3	.....	8	2
Nashville, Tenn.	114,899	52	.....	.....	2	.....	1	.....	1	4
New Bedford, Mass.	111,230	15	1	.....	1	.....	2	.....	5	1
Oakland, Cal.	183,002	45	4	1	39	1	3	.....	5	2
Reading, Pa.	103,361	31	5	2	4	.....	13	.....	2	4
Richmond, Va.	134,917	54	1	.....	2	.....	3	.....	7	6
Springfield, Mass.	100,375	26	2	.....	2	.....	4	.....	7	2
Tacoma, Wash.	103,418	.....	2	.....	.....	.....	.....	.....	.....	.....
Toledo, Ohio	184,126	49	5	1	128	.....	3	.....	.....	8
Trenton, N. J.	106,831	58	5	.....	.....	.....	12	1	6	6
Worcester, Mass.	157,732	.....	3	.....	21	.....	6	1	11	2
From 50,000 to 100,000 inhabitants:										
Altoona, Pa.	56,553	9	1	.....	4	.....	5	.....	1	.....
Atlantic City, N. J.	53,952	4	1	.....	7	.....	3	.....	5	.....
Bayonne, N. J.	65,271	.....	2	.....	28	.....	1	.....	3	.....
Binghampton, N. Y.	52,191	27	1	1	7	.....	.....	.....	4	1
Brockton, Mass.	64,043	11	7	.....	8	.....	11	.....	3	2
Charleston, S. C.	60,121	34	.....	.....	2	.....	1	.....	.....	1
Duluth, Minn.	89,331	.....	4	.....	6	.....	9	2	4	2
Erie, Pa.	72,401	26	3	.....	17	.....	3	.....	4	.....
Evansville, Ind.	71,284	20	1	.....	55	.....	.....	.....	.....	5
Harrisburg, Pa.	69,493	9	3	.....	6	.....	1	.....	.....	.....
Johnstown, Pa.	64,642	10	3	3	8	.....	.....	.....	2	1
Kansas City, Kans.	94,271	.....	.....	.....	7	.....	2	.....	3	.....
Little Rock, Ark.	53,811	14	.....	.....	8	.....	.....	.....	.....	.....
Lynn, Mass.	98,207	16	.....	.....	1	.....	16	.....	4	1
Manchester, N. H.	75,635	25	2	.....	45	1	13	.....	1	1
Mobile, Ala.	53,573	.....	1	.....	.....	.....	.....	.....	2	4
Norfolk, Va.	86,540	.....	.....	.....	9	.....	.....	.....	.....	.....
Passaic, N. J.	66,270	20	1	1	20	.....	1	.....	4	1
Pawtucket, R. I.	56,901	.....	.....	.....	.....	.....	1	.....	.....	2
Saginaw, Mich.	53,988	18	.....	.....	.....	.....	1	.....	1	.....
Schenectady, N. Y.	90,503	19	.....	.....	1	.....	5	.....	1	.....
South Bend, Ind.	65,114	12	.....	.....	11	.....	.....	.....	2	1
Springfield, Ill.	57,972	15	.....	.....	.....	.....	.....	.....	.....	.....
Springfield, Ohio	50,058	12	1	.....	7	.....	1	.....	2	3
Wilkes-Barre, Pa.	73,660	34	2	1	15	.....	6	1	10	2
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	26,330	6	.....	.....	144	.....	.....	.....	1	.....
Aurora, Ill.	33,022	9	1	1	.....	.....	2	.....	.....	.....
Austin, Tex.	33,218	19	2	.....	1	.....	.....	.....	.....	3
Brookline, Mass.	31,138	9	2	.....	11	.....	.....	.....	.....	1
Chelsea, Mass.	32,452	7	.....	.....	5	.....	6	.....	3	1
Chicopee, Mass.	28,057	6	6	1	1	.....	.....	.....	1	.....
Danville, Ill.	30,847	11	.....	.....	6	.....	1	.....	.....	1
East Orange, N. J.	39,8 2	.....	.....	.....	5	.....	6	.....	.....	.....
Elmira, N. Y.	37,816	10	1	.....	.....	.....	.....	.....	.....	1
Everett, Mass.	37,381	6	.....	.....	8	.....	.....	.....	1	.....
Fitchburg, Mass.	40,507	7	1	.....	7	.....	2	.....	2	2
Galveston, Tex.	40,249	10	1	.....	.....	.....	.....	.....	1	2
Haverhill, Mass.	47,071	18	1	.....	1	.....	4	.....	5	2
Kalamazoo, Mich.	45,842	10	.....	.....	28	.....	.....	.....	3	2

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

City Reports for Week Ended May 30, 1914—Continued.

Cities.	Population as of July 1, 1914 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabitants—Continued.										
La Crosse, Wis.	31,367	7	.....	.....	.....	.....	.....	.....	1	1
Lancaster, Pa.	49,685	.....	.....	.....	.....	.....	.....	.....	2	.....
Lynchburg, Va.	31,830	12	.....	.....	1	.....	.....	.....	1	1
Malden, Mass.	48,979	17	6	.....	3	.....	4	.....	1	3
Medford, Mass.	25,240	5	.....	.....	1	.....	6	.....	.....	.....
Moline, Ill.	26,402	6	.....	.....	.....	.....	1	.....	.....	.....
New Castle, Pa.	39,569	.....	2	.....	.....	.....	2	.....	.....	.....
Newport, Ky.	31,517	12	.....	.....	.....	.....	4	.....	2	2
Newport, R. I.	29,154	8	1	.....	42	.....	2	.....	.....	1
Niagara Falls, N. Y.	35,127	10	2	.....	.....	.....	.....	.....	.....	.....
Norristown, Pa.	30,265	7	1	.....	3	.....	2	.....	.....	.....
Orange, N. J.	31,968	5	2	.....	13	.....	2	.....	7	.....
Pasadena, Cal.	40,880	10	.....	.....	5	.....	1	.....	2	1
Portsmouth, Va.	37,569	8	.....	.....	11	.....	5	.....	.....	1
Racine, Wis.	44,528	13	.....	.....	.....	.....	2	2	1	.....
Roanoke, Va.	40,574	5	1	.....	11	.....	3	.....	3	.....
San Diego, Cal.	48,900	2	.....	.....	.....	.....	1	.....	3	2
South Omaha, Nebr.	26,368	5	.....	.....	.....	.....	.....	.....	.....	.....
Superior, Wis.	44,344	12	1	.....	.....	.....	2	.....	.....	.....
Taunton, Mass.	35,631	13	1	.....	.....	.....	.....	.....	.....	.....
Waltham, Mass.	29,688	6	2	.....	7	.....	1	.....	.....	.....
Wheeling, W. Va.	42,817	15	.....	.....	4	1	1	.....	1	.....
Wilmington, N. C.	27,781	19	.....	.....	1	.....	.....	.....	.....	1
York, Pa.	49,430	.....	2	.....	.....	.....	.....	.....	2	.....
Zanesville, Ohio.	29,949	.....	.....	.....	2	.....	1	1	.....	.....
Less than 25,000 inhabitants:										
Ann Arbor, Mich.	14,948	7	.....	.....	.....	.....	.....	.....	4	.....
Beaver Falls, Pa.	13,100	.....	1	.....	.....	.....	.....	.....	.....	.....
Brownsville, Tex.	12,310	.....	.....	.....	2	.....	.....	.....	.....	.....
Cambridge, Ohio.	12,540	.....	.....	.....	20	.....	.....	.....	.....	.....
Clinton, Mass.	13,075	2	1	.....	.....	.....	.....	.....	.....	2
Coffeyville, Kans.	15,982	.....	.....	.....	.....	.....	.....	.....	1	.....
Columbus, Ind.	9,103	2	.....	.....	.....	.....	.....	.....	.....	.....
Concord, N. H.	22,291	9	.....	.....	.....	.....	1	.....	.....	.....
Cumberland, Md.	23,846	11	2	1	3	.....	7	1	2	.....
Harrison, N. J.	16,160	4	.....	.....	.....	.....	5	.....	.....	.....
Kearney, N. J.	21,967	.....	.....	.....	4	.....	1	.....	3	2
Kokomo, Ind.	19,694	7	1	.....	2	.....	2	.....	.....	.....
Manitowoc, Wis.	13,553	.....	3	.....	1	.....	.....	.....	1	.....
Massillon, Ohio.	14,912	5	.....	.....	.....	.....	.....	.....	.....	.....
Melrose, Mass.	16,887	2	.....	.....	.....	.....	4	.....	.....	.....
Montclair, N. J.	24,782	10	.....	.....	20	.....	.....	.....	1	1
Muncie, Ind.	24,969	9	2	.....	.....	.....	5	.....	.....	.....
Muscatine, Iowa.	17,074	3	.....	.....	.....	.....	.....	.....	.....	.....
Nanticoke, Pa.	21,756	8	1	.....	.....	.....	.....	.....	.....	.....
Newburyport, Mass.	15,147	4	.....	.....	.....	.....	.....	.....	.....	.....
New London, Conn.	20,557	.....	.....	.....	1	1	.....	.....	1	.....
North Adams, Mass.	22,019	4	.....	.....	.....	.....	.....	.....	.....	1
Northampton, Mass.	19,766	5	.....	.....	12	.....	.....	.....	1	.....
Palo Alto, Cal.	.....	.....	.....	.....	3	.....	.....	.....	.....	.....
Plainfield, N. J.	22,755	1	.....	.....	10	.....	.....	.....	.....	.....
Port Arthur, Tex.	.....	.....	.....	.....	30	.....	.....	.....	10	.....
Portsmouth, N. H.	11,538	.....	.....	.....	1	.....	.....	.....	.....	.....
Pottstown, Pa.	16,408	4	.....	.....	1	.....	.....	.....	.....	.....
Rutland, Vt.	14,417	5	.....	.....	1	.....	.....	.....	.....	.....
Sandusky, Ohio.	20,527	12	.....	.....	.....	.....	.....	.....	.....	.....
Saratoga Springs, N. Y.	12,813	6	.....	.....	.....	.....	.....	.....	.....	1
Steelton, Pa.	15,126	1	.....	.....	.....	.....	1	.....	.....	.....
Weymouth, Mass.	13,564	4	.....	.....	.....	.....	2	.....	.....	.....
Wilkinsburg, Pa.	21,701	5	.....	.....	12	.....	3	.....	1	.....

IN INSULAR POSSESSIONS.

HAWAII.

Plague—Honokaa.

A fatal case of plague was notified at Honokaa, June 11, 1914.

Examination of Rats and Mongoose.

Rats and mongoose have been examined in Hawaii as follows: Honolulu, two weeks ended May 23, 1914, 621; Hilo, three weeks ended May 16, 1914, 6,676. No plague-infected animal was found.

FOREIGN REPORTS.

AUSTRALIA.

Smallpox—New South Wales.

During the period from April 3 to 29, 1914, 19 cases of smallpox were notified in New South Wales. Of these 11 occurred in the metropolitan area of Sydney, 6 in New Castle district, and 2 at Coraki.

CANADA.

Typhus Fever—Grosse Isle Quarantine Station.

Two cases of typhus fever were notified, June 5, 1914, at Grosse Isle quarantine station, Quebec. The patients arrived, June 4, on the steamship *Montezuma* from Antwerp.

CHINA.

Plague—Hongkong.

During the week ended June 17, 1914, 81 cases of plague were notified in Hongkong.

CUBA.

Plague—Habana.

On June 16, 1914, 2 new cases of plague were notified in Cuba. Of these cases, 1 occurred in the Vedado, a suburb of Habana, and 1 at San Jose de las Lajas, 12 miles south of Habana. The total number of cases notified in Cuba from March 5, 1914, was 25.

Communicable Diseases—Habana.

Communicable diseases have been notified in Habana, as follows:

MAY 21-31, 1914.

Diseases.	New cases.	Deaths.	Remaining under treatment.
Diphtheria	11	.....	9
Leprosy	.....	1	[1] 259
Malaria	.....	.....	4
Measles	16	1	54
Paratyphoid fever	1	.....	2
Plague	2	1	4
Scarlet fever	25	1	27
Typhoid fever	10	2	25
Varicella	13	1	37

[1] From the interior of the Republic.

ECUADOR.

Plague—Yellow Fever.

During the month of April, 1914, plague and yellow fever were notified in Ecuador as follows: Plague—Guayaquil, 2 cases; yellow fever—Esmeraldas, 2 cases with 2 deaths; Guayaquil, 4 cases with 4 deaths.

GIBRALTAR.

Quarantine Against Fedala Removed.

The quarantine restrictions imposed April 8, 1914, at Gibraltar against Fedala, Morocco, on account of plague, were removed May 18, 1914.

JAPAN.

Plague—Typhus Fever.

During the week ended June 15, 1914, plague and typhus fever were notified in Japan as follows: Tokyo, plague 6 cases, typhus 67 cases; Yokohama, 3 cases of plague and 3 cases of typhus with 1 death.

RUSSIA IN ASIA.

Plague.

Under date of May 16, 1914, 19 cases of plague with 12 deaths were reported at Turkjan, about 20 miles from Baku.

TURKEY IN ASIA.

Plague.

Plague has been notified in Turkey in Asia as follows: Beirut, May 18, 1914, 1 fatal case; Chio, Island of Chio, May 14, 1914, 4 cases.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended June 19, 1914.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bassein	Mar. 15–Apr. 12	35	28	
Bombay	May 3–9	1	.....	
Calcutta	Apr. 26–May 2	.....	88	
Madras	May 3–16	2	2	
Moulmine	Mar. 1–Apr. 4	6	6	
Negapatam	Mar. 15–21	1	1	
Provinces	.....	.....	.....	Total, year 1913: Deaths, 177,920.
Assam	Year, 1913	.....	13,958	
Bengal	.....do	.....	78,913	
Burma	.....do	.....	3,871	
Central provinces and Berar.	.....do	.....	14,974	
Punjab	.....do	.....	5,845	
United Provinces	.....do	.....	60,959	
Straits Settlements:				
Singapore	Apr. 19–May 2	68	47	

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

Reports Received During Week Ended June 19, 1914—Continued.

YELLOW FEVER.

Places.	Date.	Cases.	Deaths.	Remarks.
Ecuador:				
Esmeraldas	Apr. 1–30	2	2	
Guayaquil	do	4	4	

PLAGUE.

Ceylon:				
Colombo	Apr. 29–May 9	10	9	Total, Jan. 25–May 9: Cases, 156; deaths, 141. First instance of plague.
China:				
Hongkong	Apr. 19–25	193	151	June 11–17: Cases, 81.
Cuba				Total, Mar. 5–June 16: Cases, 25; deaths, 5.
Habana	June 16	1		
San Jose de las Lajas	do	1		
Ecuador:				
Guayaquil	Apr. 1–30	2		
Hawaii:				
Honakaa	June 11	1	1	
India:				
Bassein	Mar. 16–Apr. 18	108	113	
Bombay	May 3–16	533	495	
Calcutta	Apr. 26–May 2		31	
Karachi	May 3–16	87	67	
Moulmine	Jan. 4–Apr. 18	75	72	Including previous report.
Negapatam	Mar. 15–21	2	2	
Provinces				Total, Jan. 4–Apr. 25: Cases 208,404; deaths, 174,166.
Delhi	Jan. 4–Apr. 25	22	11	
Bombay and Sind	do	16,867	12,208	
Madras	do	4,400	3,205	
Bengal	do	325	291	
Bihar and Orissa	do	50,028	43,392	
United Provinces	do	90,623	79,222	
Punjab	do	36,431	27,512	
Burma	do	5,265	4,919	
Assam	Jan. 4–10	1	1	
Central Provinces	Jan. 4–Feb. 28	11	6	
Mysore	Jan. 4–Apr. 25	1,573	1,130	
Hyderabad	do	1,016	858	
Central India	do	183	128	
Rajputana	do	1,236	1,005	
North West Province	do	268	208	
Kashmir	do	155	70	
Japan:				
Tokyo	June 9–15	6		
Yokohama	do	3		
Russia:[1]				
Turkjan (Tueakent)	May 16	19	12	Pneumonic. In Asia.
Turkey in Asia:				
Basra	May 25	1		
Beirut	May 18		1	
Chio, island	May 14	4		
Venezuela:[2]				
Miranda	Apr. 16		1	

SMALLPOX.

Brazil:				
Para	May 17–23		1	
Rio de Janeiro	Apr. 19–May 9	120	23	
Canada:				
Quebec—				
Grosse Isle quarantine station	June 7	1		From s. s. Canada.
Winnipeg	May 31–June 6	2		
Chile:				
Talcahuano	May 3–9	2		

[1] From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, May 27, 1914.
[2] Corrected from date, p. 1319.

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

Reports Received During Week Ended June 19, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
China:				
Hankow	do		1	
Hongkong	Apr. 19–25	10	8	
Tsingtau	May 10–16	1		
Dutch East Indies:				
Java				Apr. 29–May 2; Cases, 181; deaths, 33, including Batavia.
Batavia	Apr. 29–May 2	12	2	
Borneo	do	6	2	
Egypt:				
Alexandria	May 6–20	5		
Cairo	May 1–13	82	22	
France:				
Paris	May 10–16	1		
Germany				May 24–30: Cases, 7.
Great Britain:				
Leeds	May 24–30	1		
Russia	Jan. 15–Mar. 22			Present in vicinity of Charkov, and Volost Balakleja.
Riga	May 17–30	13		
Spain:				
Barcelona	May 25–30		7	
Turkey in Europe:				
Constantinople	May 19–23		2	
Saloniki	do		6	

Reports Received from Dec. 27, 1913, to June 12, 1914.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Bosnia-Herzegovina—				
Brod	Nov. 13–18	2		
Kostjnica	do	1		
Novigrad	Oct. 26–Nov. 5	1		
Sjekocac	Nov. 6	1		
Travnik, district	Dec. 10–16	6		
Vranduk	Nov. 20	1		
Zenica	Oct. 20–Nov. 19	9	2	
Croatia-Slavonia—				
Pozenga	Nov. 18–Dec. 1	2		
Syrmien—				
Adasevci	do	6	2	
Semlin	do	1	1	
Vitrovica—				
Dobrovic	do	2	2	
Hungary				Total, Sept. 1–Dec. 29: Cases, 729; deaths, 372; Dec. 29, free.
Bacs-Bodrog, district	Nov. 9–Dec. 29	52	31	
Jasz-Nagy-Kun-Szolnok—				
Szolnok	Nov. 9–15	2	2	
Maramaros	Nov. 30–Dec. 6	1	1	
Pest Pilis—				
Soroksar	Nov. 9–22	2	1	
Szabolcs—				
Nyiregyhaza	Nov. 9–15	1	1	
Temes—				
Varasliget	do		1	
Torontal	Nov. 9–Dec. 13	27	19	
Ung—				
Jasza	Nov. 9–15	1	1	
Ceylon:				
Colombo	Nov. –Jan. 17	33	19	
Galle	Feb. –Mar. 28	12		
China:				
Hongkong	Nov. –Dec. 22	10	4	

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies				Jan. 1-31: Cases, 91; deaths, 74.
Java—				
Batavia and Tanjong Priok.	Nov. 9-Feb. 14	47	35	
Do	Jan. 18-24	1	1	
Pamanoekan	do	1	1	
Samarang	Nov. 30-Dec. 27	47	25	
Do	Jan. 1-31	8	5	
Sumatra—				
Padang	Dec. 1-Jan. 24	136	101	Total.
Baros	Jan. 15-31	55	46	
Sorkam	Jan. 1-17	22	17	
India:				
Bassein	Feb. 1-Mar. 7	15	13	
Bombay	Nov. 10-May 2	39	20	
Calcutta	Nov. 9-Apr. 25		1,624	
Madras	Nov. 16-Mar. 7	14	5	
Moulmine	Jan. 4-Feb. 28	23	23	
Negapatam	Jan. 4-Mar. 14	108	89	
Rangoon	Nov. 1-Dec. 31	5	1	
Do	Jan. 1-Mar. 31	15	11	
Indo-China				Year 1913: Cases, 432; deaths, 13. Total, Jan. 1-Feb. 10: Cases, 16; deaths, 13.
Cholon	Jan. 21-31	1		
Laos (Shan States)	Jan. 1-10	10		Along the upper Mekong River.
Phanri	Jan. 1-Feb. 10		3	
Saigon	Jan. 13-Apr. 13	4	1	
Philippine Islands				The last instance of cholera was on Panay Island Mar. 18. Apr. 14, free.
Manila	Nov. 9-Mar. 14	86	56	Total, Aug. 23-Jan. 24: Cases, 186; deaths, 124. Third quarter, 1913: Cases, 14; deaths, 6 Fourth quarter, 1913: Cases, 107; deaths, 104. Jan. 3, 1 fatal case on s. s. Sigismund from Rabal, New Guinea. At the necropsy, pathological lesions of cholera and beriberi were found.
Provinces				Total, Aug. 23-Dec. 27: Cases, 148; deaths, 94.
Bulacan—				
Bulacan	Dec. 14-20			Present in vicinity.
Meycauayan	do			Present.
Capiz				Total, Dec. 17-23: Cases, 26; deaths, 18. Feb. 21, still present.
Banga	Dec. 17-20			Present.
Capiz	Jan. 28			Do.
Calivo	Dec. 17-Jan. 24			1 death daily.
New Washington	do			Present.
Cavite—				
Santa Cruz	Nov. 13-19			Do.
Cebu—				
Cebu	do			Do.
Opon	Nov. 19	1		On Mactan Island.
Pampanga	Dec. 7-Jan. 28			Present in Guagua, Macabebe, San Fernando, and other places.
Pangasinan	Dec. 19-29			Present in Dagupan, Lingayen, San Carlos, and Urdaneta.
Rizal—				
Las Pinas	do	1		
Pasig	Nov. 19			Present.
Pateros	Jan. 28			Do.
Rizal	do			Do.
Roumania				Total, Nov. 14-Dec. 7: Cases, 18; deaths, 15.
Russia:				
Bessarabia—				
Ismail	Oct. 26-Nov. 8	6	1	
Ekaterinoslav	do	1		
Kherson	do	6	9	
Taurida—				
Dneiper district	do	1	2	
Servia				Nov. 10-24: 8 cases with 2 deaths in the districts Podrigne and Pojarevatz.

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Siam:				
Bangkok	Nov. 2-Apr. 18		267	
Straits Settlements:				
Kedah, province	Feb. 4-Mar. 15	1,733	1,074	
Penang	Apr. 9	1	1	
Singapore	Nov. 2-Apr. 18	49	29	
Turkey in Asia:				
Aivali	Jan. 10-23	9	6	
Beirut	Dec. 23	2	1	From among troops on the s. s. Bahr Amer from Rodosto.
Smyrna	Dec. 16-Jan. 8	11	4	
Trebizond	Dec. 9-Jan. 24	22	16	Dec. 9-16: 6 cases among troops from s. s. Guldjemal. Jan. 17, 1 case in the city.
Turkey in Europe:				
Adrianople	Feb. 28-May 11	114	42	Among the military.
Constantinople	Nov. 25-Feb. 15	141	56	Total, Aug. 2-Feb. 15: Cases, 216; deaths, 96. Total, Jan. 1-Mar. 21: Cases, 30; deaths, 14; Mar. 24, 1 fatal case.
Dardanelles	Jan. 9-May 1	23	20	
Gallipoli	Jan. 1-3	2	2	
Kirk Kilisse	Mar. 16	2	2	
Pera	Jan. 3-10	5	.....	
Rodosto	Dec. 21-Jan. 9	22	.....	

YELLOW FEVER.

Brazil:				
Bahia	Nov. 23-May 9	35	46	
Ceara	Nov. 1-30	.....	2	
Pernambuco	Mar. 1-15	.....	17	
Ecuador:				
Guayaquil	Nov. 1-Dec. 31	9	6	
Do	Jan. 1-Mar. 31	18	8	
Milagro	Jan. 1-Feb. 28	6	4	
Naranjito	Jan. 1-31	3	2	
Mexico:				
Merida	Dec. 10-11	1	1	From Campeche.
Do	Jan. 4-10	1	1	Do.
Southern Nigeria:				
Logas	Oct. 20-Dec. 28	5	1	Among Europeans from a vessel. Feb. 26, present.
Do	Feb. 13-Mar. 8	3	.....	Case Mar. 8, a European.
Omitsha	Jan. 24	1	.....	
Togo:				
Lome	Sept. 12	1	.....	
Trinidad:				
Brighton	Dec. 30	1	.....	Total, Nov. 22-Dec. 30: Cases, 10; deaths, 3. Mar. 26, 1 case, 3½ miles distant.
Labrea	Mar. 27	1	.....	
Venezuela:				
Caracas	Feb. 1-Mar. 31	.....	4	

PLAGUE.

Arabia:				
Debai	Mar. 7	.....	.....	Present.
Australia:				
Thursday Island Quarantine Station.	May 21	5	.....	Pestis minor from s. s. Taynan, from Hongkong to Townsville.
Azores:				
Terceira—				
Angra-Heroismo	Dec. 21	.....	1	
Brazil:				
Bahia	Nov. 23-May 2	27	20	
Pernambuco	Dec. 16-31	.....	1	
Do	Jan. 1-Feb. 28	.....	2	
Rio de Janeiro	Nov. 16-22	1	1	
British East Africa:				
Kisumu	Sept. 12-Oct. 13	2	.....	Jan. 14-Nov. 15, 1913: Cases, 20; deaths, 22.
Mombasa	Sept. 12-Dec. 15	31	16	Feb. 6-Dec. 15: Cases, 200; deaths, 173, including previous reports.
Nairobi	do	3	3	

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo	Jan. 25–Apr. 25	146	132	Total. From Jan. 25 to Mar. 25: Cases, 100; of which 71 fatal cases were septicemic and 29 cases, with 17 deaths, bubonic. After Mar. 25, type not stated.
Kandy	Jan. 25–Feb. 7	1	.....	From Colombo.
Chile:				
Iquique	Nov. 9–Dec. 28	12	6	Year 1913: Cases, 79; deaths, 33. Apr. 1–18: Deaths, 8.
Do	Jan. 1–Mar. 28	25	15	
Santiago	Mar. 11–Apr. 18	.....	4	
China	.....	.....	.....	Mar. 14, present in Ampo and Tah-tau-po. Jan. 17–Mar. 1, present in localities 15 miles from Chaoyang and in Chin Khoi, Hak Is, Hweilai, Ko Khoi, Khoi Tau, Kun Pau, Sua Ming Sia, and Toa Phau.
Amoy	Feb. 18–Mar. 28	8	5	Present in the island. May 2, increasing.
Chao-Chowfu	Mar. 29–Apr. 4	.....	.....	Present.
Hongkong	Nov. 2–May 2	841	636	June 4–10: Cases, 92.
Hwelan	Apr. 6	.....	.....	About 4 deaths daily per week. 30 miles from Amoy.
Shanghai	Apr. 13–22	1	1	Oct. 1–7, 1 case.
Swatow	Apr. 19	.....	.....	Present in Chaochow and in the Puning district.
Cuba:				
Artemisa	Apr. 23	1	.....	
Habana	Mar. 5–June 10	22	5	
Dutch East Indies:				
Java	.....	.....	.....	Total in East Java, year 1913: Cases, 11,218; deaths, 10,556. Jan. 1–Mar. 31, 1914: Cases, 3,418; deaths, 3,067.
Provinces—				
Kediri	Nov. 1–Dec. 31	547	481	
Do	Jan. 1–Mar. 31	623	579	
Madioen	Nov. 1–Dec. 31	151	140	
Do	Jan. 1–Mar. 31	396	352	
Pasoeroean, including Malang.	Nov. 1–Dec. 31	1,550	1,463	
Do	Jan. 1–Mar. 31	2,217	1,982	
Surabaya	Nov. 1–Dec. 31	93	93	
Do	Jan. 1–Mar. 31	181	153	
Surakarta	do	1	1	
Ecuador:				
Babahoyo	Nov. 1–Dec. 31	1	.....	
Duran	Dec. 1–31	1	.....	
Do	Jan. 1–31	1	1	
Guayaquil	Nov. 1–Dec. 31	349	157	
Do	Jan. 1–Mar. 31	79	36	
Manta	Dec. 1–31	8	.....	
Milagro	Nov. 1–Dec. 31	2	1	
Naranjito	do	3	1	
Yaguachi	Nov. 1–30	2	2	
Do	Jan. 1–31	1	1	
Egypt	.....	.....	.....	Jan. 1–Dec. 24, 1913: Cases, 654; deaths, 304. Jan. 1–Apr. 30: Cases, 34; deaths, 17.
Alexandria	Feb. 19–May 2	2	2	
Cairo	Feb. 13–22	2	.....	
Port Said	Feb. 10–Apr. 26	7	4	
Provinces—				
Assiout	Jan. 5–May 2	4	4	
Assouan	Dec. 10	1	.....	
Do	Jan. 5	1	1	
Dakahlia	Mar. 23	1	.....	
Fayoum	Feb. 10–Apr. 30	5	1	
Garbieh	Dec. 11	1	.....	
Do	Jan. 15–Apr. 27	9	3	
Menouf	Mar. 31–Apr. 2	2	2	
Minieh	Dec. 9–24	3	1	
Do	Jan. 8–Apr. 16	4	2	
German East Africa:				
Dar-es-Salaam	Mar. 13	1	1	Pneumonic.

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Hawaii:				
Honokaa	May 16	1	1	
Kukuihaele	Apr. 18	.....	1	
India		.....	.....	Total Jan. 1, 1913–Jan. 3, 1914: Cases, 238,198; deaths, 198,875. Jan. 4–Mar. 31: Cases, 147,995; deaths, 123,362.
Bassein	Jan. 4–Mar. 15	161	136	Total Jan. 1, 1913–Jan. 3, 1914: Cases, 304; deaths, 283.
Bombay	Nov. 9–Apr. 25	1,772	1,531	Apr. 1–18, epidemic.
Calcutta	Nov. 2–Apr. 18	.....	176	
Karachi	Nov. 9–May 2	873	838	
Madras	Nov. 16–Apr. 25	7	4	
Moulmine	Jan. 4–24	.....	18	Jan. 1, 1913–Jan. 3, 1914: Cases, 574; deaths, 576.
Negapatam	Feb. 1–Mar. 14	41	41	
Rangoon	Oct. 26–Dec. 31	74	68	
Do	Jan. 1–Mar. 31	588	565	
Indo-China		.....	.....	Year 1913: Cases, 4,038; deaths, 3,805. Jan. 1–Feb. 10: Cases, 330; deaths, 303.
Saigon	Nov. 11–May 4	64	7	
Japan		.....	.....	Total Jan. 1–Dec. 31: Cases, 27; deaths, 20; exclusive of Taiwan. Apr. 18–20: 11 cases in Komikawa Cho, and Katori-Gun Chiba, near Tokyo.
Kobe	Dec. 1–7	1	.....	
Taiwan—				
Kagi	Feb. 1–May 2	194	163	
Tokyo	Apr. 18–June 8	34	.....	Apr. 18: 5 cases in the vicinity.
Yokohama	Jan. 4–10	1	1	Total Sept. 19–Jan. 10: Cases, 22; deaths, 18.
Do	May 25–June 1	5	1	
Mauritius	Jan. 1–Apr. 2	42	23	Total year 1913: Cases, 305; deaths, 183.
Morocco:				
Casablanca	Jan. 7	1	1	
El-Arish (Larache)	Sept. 17	1	.....	Among the military.
Do	Mar. 6	1	.....	
Fedala	Mar. 16–Apr. 4	5	1	
New Caledonia:				
Bourail	Sept. 1–Oct. 14	8	2	In a school of the tribe of the Azaren.
Persia:				
Lingah	Mar. 25	1	.....	
Peru		.....	.....	Deaths not reported. Total year 1913: Cases, 869; deaths, 459.
Ancachs—				
Casma	Feb. 9–Mar. 22	2	.....	Dec. 1–Feb. 8, present.
Chimbote	Feb. 23–Mar. 22	.....	.....	Present.
Nepena	Nov. 1–Jan. 18	.....	.....	Do.
Arequipa—				
Mollendo	Dec. 1–Mar. 22	17	.....	Apr. 11, 5 cases present.
Cajamarca—				
Contumaza	Jan. 19–24	12	.....	Feb. 8, present.
Callao—				
Callao	Jan. 19–Feb. 22	7	.....	
Lambayeque—				
Chiclayo	Dec. 1–Mar. 22	84	.....	
Ferrenaje	Dec. 1–Feb. 8	18	.....	
Guadalupe	Dec. 1–Mar. 22	27	.....	
Pacasmayo	Jan. 25–Mar. 22	6	.....	
Libertad—				
San Pedro	Dec. 1–Mar. 22	37	.....	
Salaverry	Feb. 16–Mar. 22	7	.....	Mar. 17–25: Cases, 3; deaths, 1.
Santiago de Coa	Feb. 23–Mar. 22	.....	.....	Present.
Trujillo	Dec. 1–Feb. 22	73	.....	Apr. 21: 10 cases in hospital.
Lima	Dec. 1–Jan. 18	6	.....	
Laisna	Dec. 1–Mar. 22	51	.....	
Pisco	Dec. 1–Jan. 18	2	.....	
Monsefu	.....do	2	.....	
Piura—				
Catacaos	Dec. 1–Mar. 22	18	.....	
Piura	Dec. 1–Jan. 24	10	.....	Feb. 8, present.

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Manila	Nov. 23–Apr. 25	16	15	Third quarter, 1913: Cases, 2; deaths, 1. Fourth quarter, 1913: Case, 1; death, 1.
Russia:				
Saratov	Feb. 11	1		
Ural territory				Total Oct. 20–Nov. 10: Cases, 212; deaths, 170; and 2 fatal cases from Issum Tube.
Djakisabevsk district	Mar. 2–13	16	16	
Djumarta	Nov. 9–10	5	1	
Djantayu	Nov. 8–10	2	2	
Kizilu	Nov. 8	1	1	
Fourteenth village	Nov. 7–9	6		
Sarbas	Nov. 8–10	13	7	
Kaziljar district	Nov. 5–10	39	24	In Assaukurt, Baitchurek, Biskuduk, and Djamankuduk.
Lbistchensky district	Mar. 2–13	16	15	
Issum Tube	Oct. 20–Nov. 10	138	127	
Kaimlkov	Nov. 4–10	6	6	
Senegal:				
Dakar	May 13			Present.
Siam:				
Bangkok	Nov. 2–Apr. 18		42	
Tripoli:				
Bengazi	Jan. 31			Present. Apr. 15, free.
Turkey in Asia:				
Beirut	Dec. 10–23	2	2	
Do	May 16	1		
Jaffa	June 3			Present.
Jiddah	Feb. 2–Mar. 11	5	2	
Venezuela:				
Caracas	Apr. 7		1	Of case reported Apr. 12.
Miranda, State	Apr. 16	1	1	
Zanzibar	Dec. 31–Jan. 21	5	3	On s. s. Prasident from Dar-es-Salaam.

SMALLPOX.

Algeria:				
Departments—				
Algiers	Sept. 1–Dec. 31	10		
Do	Jan. 1–Feb. 28	3		
Constantine	Oct. 1–Dec. 31	15		
Do	Jan. 1–Feb. 28	1		
Oran	Sept. 1–Nov. 30	216		Feb. 1–28: Cases, 5; deaths, 4.
Do	Jan. 1–Feb. 28	117		
Arabia:				
Aden	Nov. 25–Mar. 9	6	6	
Maskat	Nov. 30–Dec. 6	10		Dec. 20, present.
Matarah	Dec. 23–Jan. 10	9		Nov. 30, present; Mar. 7, still present.
Argentina:				
Buenos Aires	Nov. 1–30		1	
Rosario	Dec. 1–31	1		
Australia:				
New South Wales				Total July 1, 1913–Apr. 29, 1914: Cases, 1,151.
Singleton	Feb. 1–Mar. 13	15		
Sydney, metropolitan area				Total, July 1, 1913–Apr. 29, 1914: Cases, 1,066, and in the country districts, cases, 85.
Coraki	Apr. 3–29	2		
Newcastle, district	do	6		
Western Australia—				
Fremantle				Dec. 2: 1 fatal case on R. M. S. Malwa, from London via Port Said, Aden, and Colombo.
Victoria—				
Melbourne				At Point Napean quarantine station, Jan. 19: 1 case from F. M. S. Caledonian from Noumea via Sydney.

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Coastland—				
Trieste	Jan. 25–31	3		
Galicia	Feb. 15–21	1		
Krain	Mar. 1–14	4		
Lower Austria—				
Vienna	Jan. 4–24	6		
Moravia	Jan. 18–Feb. 21	5		
Silesia	Feb. 15–18	1		
Tyrol and Vorarlberg	Nov. 23–Feb. 21	6		
Upper Austria	Dec. 14–Feb. 21	20		
Belgium:				
Liege	Mar. 1–7		6	
Brazil:				
Bahia	Nov. 23–Apr. 11	83	1	
Para	Dec. 1–Apr. 16	80	89	
Pernambuco	Nov. 1–Feb. 28		78	
Rio de Janeiro	Nov. 9–Apr. 18	613	128	
Canada:				
British Columbia—				
Vancouver	Apr. 19–25	1		
Manitoba—				
Winnipeg	Feb. 14–May 30	37	1	
Ontario—				
Cornwall	Feb. 26–Apr. 4	1		
Fort William	Feb. 24–Mar. 2	1		
Hamilton	Jan. 1–Apr. 30	33		
Ottawa	Dec. 7–May 2	25		
Toronto	Dec. 7–May 8	15	1	
Windsor	May 3–30	4	2	
Quebec—				
Montreal	Dec. 7–May 30	96		
Quebec	Jan. 24–31	1		
Canal Zone:				
Panama				Nov. 1–30: Santo Tomas hospital, 1 case from a vessel from Callao.
Ceylon:				
Colombo	Nov. 30–Dec. 6	1		
Do	Mar. 22–May 23	8		
Chile:				
Talcahuano	Apr. 5–May 12	11		
China:				
Amoy	Dec. 14–Jan. 10			Present.
Kulangsu	Apr. 12–18	1		
Antung	Jan. 4–Apr. 26	7	2	
Chefoo	Feb. 22–Mar. 7	2	1	
Dairen	Dec. 7–Apr. 11	32	10	
Hankow	Nov. 2–Mar. 8	14	2	
Hongkong	Dec. 14–Apr. 18	48	34	
Mukden	Mar. 8–15	3	1	
Nanking	Jan. 24–Apr. 18			Do.
Shanghai	Dec. 8–Apr. 26	30	33	Deaths among natives.
Tientsin	Nov. 9–15		1	
Ting Chow	Jan. 5			Epidemic, 130 miles from Amoy.
Tsingtau	Jan. 15–Apr. 25	15	1	
Tong An	Dec. 27			Present, 20 miles from Amoy.
Dutch East Africa:				
Mombasa	Mar. 1–31	1		
Dutch East Indies:				
Java				Dec. 13–Apr. 4: 1,083 cases with 266 deaths in the western part, and 100 cases with 63 deaths in the interior.
Batavia				Nov. 27–Dec. 27: Cases, 51; deaths, 13.
Do	Jan. 11–Apr. 4	106	48	
Besoeki	Oct. 19–29	227	47	
Cheribon	Mar. 7			Epidemic.
Madioen	Oct. 19–28	36	12	
Surabaya	Oct. 28–Jan. 31	6		
Surakarta	Oct. 19–Dec. 6	481	91	
Sumatra—				
Padang	Jan. 1–31			Present.
Egypt:				
Alexandria	Nov. 26–May 6	37	15	
Cairo	Nov. 19–Apr. 29	322	117	
Port Said	Dec. 3–Apr. 22	10	2	

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
France:				
Bordeaux	Mar. 8–14		1	
Marseille	Nov. 1–Apr. 30		119	
Nantes	Feb. 1–May 2	9	2	
Nice	Nov. 1–Dec. 31	2		
Paris	Nov. 23–May 2	55		
St. Etienne	Nov. 16–Mar. 14	12	4	
Toulon	Jan. 1–31		1	
Germany				Dec. 7–13, 1913: Case, 1; Jan. 1–May 23: Cases, 69.
Berlin	Feb. 8–14	2		
Bremen	do	1		
Breslau	do	1		
Hamburg	Dec. 11–25	4		
Kehl	Jan. 1–31		1	
Lubec	Feb. 15–21	1		
Plauen	Mar. 1–31	11		
Strassburg	do	1	1	
Gibraltar	Dec. 1–Mar. 22	6		
Great Britain:				
Aberdeen	Feb. 22–Mar. 21	6	1	
Cardiff	Feb. 16–21	1		
Edinburgh	Mar. 1–7		1	
Liverpool	Mar. 15–21	1		From a vessel.
London	Jan. 18–Mar. 22	6		
Nottingham	Dec. 21–27	28		
Southampton	Feb. 2–28	1		
Greece				Jan. 28–Feb. 12: Present in the barracks at Athens and in the surrounding country.
Achaia and Elis, Province	Mar. 8–14	7	5	Jan. 29, present.
Kalamata	May 1–31			Present in vicinity.
Hermopolis (Syros)	Mar. 16	6		
Piraeus	Jan. 18–Feb. 12	19	11	
Grenada	Mar. 18	3		In St. Andrews Parish, 20 miles from St. Georges.
St. Georges	Mar. 22–28	4		
Guadeloupe:				
Pointe a Pitre quarantine station, Islet a Cosson.	Feb. 16–23	10	1	From among returned troops from s. s. Perou from Havre via Bordeaux and Santander.
Guatemala:				
Guatemala	Apr. 21			Present.
Honduras:				
Puerto Cortes	Apr. 1–30	3		
India:				
Bombay	Nov. 23–Apr. 25	181	82	
Calcutta	Nov. 2–Apr. 18		303	
Karachi	Nov. 2–Apr. 25	26	7	
Madras	do	64	23	
Rangoon	Jan. 1–Mar. 31	62	8	
Indo-China				Total Jan. 1–31: Cases, 160; deaths, 16.
Saigon	Nov. 11–24	1	1	
Italy:				
Genoa	Mar. 1–15	1	1	
Leghorn	Dec. 21–27	1		
Milan	Feb. 1–28	1		
Naples	Jan. 3	1		
Turin	Dec. 22–28	1		
Do	Apr. 29–May 10	2	1	
Japan				Total Jan. 1–Dec. 31, 1913: Cases, 108; deaths, 39, exclusive of Taiwan. Total Jan. 1–Mar. 31: Cases, 57; deaths, 12.
Fukuoka ken	Dec. 1–31	2		
Kobe	Apr. 20–26	1		
Nagasaki	Jan. 1–Mar. 22	3	1	
Taiwan	Mar. 22–May 2	5	2	
Tokyo	Nov. 1–Mar. 7	10		
Yokohama	Jan. 6–12	1	1	
Luxemburg:				
Echternach, Canton	May 2–16	1		
Mauritius	Oct. 2–25	60	4	

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

Reports Received from Dec. 27, 1913, to June 12, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Acapulco	Dec. 6-Apr. 18	5	6	
Aguascalientes	Dec. 1-Mar. 29	.....	112	
Chihuahua	Dec. 29-May 17	.....	25	
Cruz	Apr. 2	.....	.....	Epidemic in vicinity.
Durango	Apr. 1-May 31	.....	77	
Guadalajara	Jan. 11-Feb. 14	89	46	
Imuris	Dec. 29-Jan. 4	5	.....	
Juarez	Feb. 15-Apr. 9	2	4	
Llano	Jan. 17	8	.....	
La Paz	Jan. 16-22	3	1	
Manzanillo	Mar. 21-27	2	.....	
Mexico	Oct. 26-Jan. 17	129	40	
Monterey	Nov. 17-May 17	14	10	
Nogales	Apr. 27-May 23	10	.....	
Salina Cruz	Jan. 18-Apr. 15	3	1	Present in vicinity.
San Luis Potosi	Nov. 2-Jan. 24	4	7	
Tampico	Dec. 24-Mar. 10	200	58	May 19: 50 cases present.
Vera Cruz	Dec. 6-May 23	77	53	Apr. 25: 2 cases among refugees.
Morocco:				
Casablanca	Mar. 7	.....	.....	Present.
Tangier	Apr. 11	.....	.....	Do.
Netherlands, The	Feb. 8-14	1	1	
New Zealand	.....	.....	.....	Apr. 8, 1913, to Jan. 7, 1914: Cases, 2,000, including report p. 2863, vol. 28.
Norway:				
Trondhjem	Nov. 1-Apr. 30	35	.....	
Peru:				
Callao	Jan. 26	.....	.....	Still epidemic, Mar. 7, improving.
Lima	....do	.....	.....	Do.
Philippine Islands:				
Manila	.....	.....	.....	Third quarter, 1913: Cases, 15. Fourth quarter, 1913: Cases, 18.
Portugal:				
Lisbon	Nov. 16-May 9	32	.....	
Russia:				
Libau	May 4-17	2	.....	
Moscow	Dec. 14-May 9	105	32	
Odessa	Nov. 16-Apr. 4	43	2	
Riga	Jan. 1-Feb. 28	63	16	Apr. 25-May 16: Cases, 21.
St. Petersburg	Nov. 23-May 9	141	37	
Vladivostok	Dec. 22-Apr. 13	8	1	
Warsaw	Oct. 5-Jan. 31	86	51	
Servia:				
Belgrade	Nov. 7-May 23	154	52	
Siam:				
Bangkok	Jan. 25-Mar. 22	.....	4	
Spain:				
Almeria	Nov. 1-Jan. 31	.....	9	
Barcelona	Nov. 30-May 23	.....	146	
Madrid	Nov. 1-Apr. 30	.....	103	
Seville	....do	.....	2	
Valencia	Dec. 1-May 16	47	.....	
Straits Settlements:				
Penang	Nov. 2-Dec. 6	13	1	
Singapore	Nov. 2-22	2	.....	
Sweden:				
Malmo	Mar. 22-28	13	.....	
Switzerland:				
Canton—				
Aargau	Apr. 12-25	10	.....	
Basel	Nov. 23-Apr. 25	146	.....	
Genoa	Nov. 23-29	3	1	
Turkey in Asia:				
Adana	Jan. 10-24	2	.....	Dec. 28, epidemic.
Beirut	Nov. 23-May 16	378	163	
Jaffa	Dec. 6-Apr. 11	39	7	
Jerusalem	Feb. 1-Apr. 11	10	.....	
Mersina	Jan. 4-Mar. 7	3	3	May 16, present in vicinity.
Smyrna	Nov. 16-Apr. 13	.....	182	
Tarsus	Dec. 28-Feb. 8	.....	.....	Still present.
Trebizond	Jan. 11-May 16	.....	.....	Present.
Tripoli	Jan. 25-Apr. 4	110	8	
Turkey in Europe:				
Constantinople	Nov. 20-Apr. 25	.....	25	
Saloniki	Dec. 1-May 16	.....	115	

SANITARY LEGISLATION.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

NEW YORK.

Morbidity Reports—Tuberculosis. (Chap. 318, Act Apr. 14, 1914.)

SECTION 1. Section 320 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 amended by section 13 of chapter 559 of the laws of 1913, is hereby amended to read as follows:

SEC. 320. *Reports of tuberculosis by physicians and others.*—Tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in the State of New York to report by telephone or in person or in writing on a form to be furnished as hereinafter provided the name and address of every person known by said physician to have tuberculosis to the health officer of the city, town, or village in which said person resides or may be, within 24 hours after such fact comes to the knowledge of said physician. It shall also be the duty of the chief officer having charge for the time being of any hospital, dispensary, asylum or other similar private or public institution to report the name, age, sex, color, occupation, place where last employed if known, the previous address of every patient having tuberculosis who comes into his care or under his observation, within 24 hours thereafter to the health officer of the city, town, or village in which said institution is located and also to the health officer of the city, town, or village from which said patient came.

Any physician, nurse, employer, teacher, head of a family, landlord, or other person may report in writing the name and address of any person coming under his observation who appears to be suffering from tuberculosis to the health officer of the city, town, or village in which such person is, and the health officer shall thereupon take such steps as may be prescribed by the sanitary code, provided the person making such report signs his own name and address thereon.

Each registrar of vital statistics shall promptly report to the health officer the name and address of every person reported to him as having died from tuberculosis. The health officer shall ascertain whether such person has been previously reported as having tuberculosis by the phyiscian signing the death certificate, and if it appears that such physician has not so reported such person, the health officer shall call the attention of such physician to the provisions of this section. In case of repeated violations of the provisions of this section by any physician the health officer shall report such repeated violations to the board of health or other local health authorities, who shall cause such steps to be taken as may be necessary to enforce the penalty provided for such violation.

Definitions—Penalty. (Reg. Public Health Council Apr. 7, 1914.)

CHAPTER 1—*Definitions and general provisions.*

REGULATION 1. *Definitions.*—Unless otherwise specifically provided herein, the following words and terms used in this code are defined for the purposes thereof as follows:

(1) The term "communicable disease" means such communicable disease as may be designated in regulation 1 of chapter 2 of this code.

(2) The term "municipality" means and includes a city, town, or village.

(3) The term "board of health" or "local board of health" means and includes the local board, department, or commissioner of health, or other body or official, of a municipality, by whatever title the same may be known, having the usual powers and duties of the board of health of a municipality.

(4) The term "health officer" or "local health officer" means and includes the health officer, or other officer of a municipality by whatever title he may be known, having the usual powers and duties of the health officer of a municipality.

REG. 2. *Violations declared to be misdemeanors.*—Any violation of any provision of this code is hereby declared to be a misdemeanor and is punishable by a fine of not more than $200 or by imprisonment for not more than six months, or by both.

REG. 3. *When to take effect.*—Every regulation in this chapter, unless otherwise specifically stated, shall take effect on the 1st day of May, 1914.

Communicable Diseases—Morbidity Reports—Quarantine—Disinfection—Placarding—School Attendance—Common Carriers. (Reg. Public Health Council Apr. 7, 1914.)

CHAPTER 2—*Communicable diseases.*

REGULATION 1. *Communicable diseases designated.*—For the purposes of this code the term communicable disease shall be held to include the following diseases, which are hereby declared to be communicable through the conveyance of infective organisms:

Anthrax.
Chickenpox.
Cholera, Asiatic.
Diphtheria (membranous croup).
Dysentery, amebic and bacillary.
Epidemic cerebrospinal meningitis.
Epidemic or streptococcus (septic) sore throat.
German measles.
Glanders.
Measles.
Mumps.
Ophthalmia neonatorum.
Paratyphoid fever.
Plague.
Poliomyelitis, acute anterior (infantile paralysis).
Puerperal septicemia.
Rabies.
Scarlet fever
Smallpox.
Trachoma.
Tuberculosis.
Typhoid fever.
Typhus fever.
Whooping cough.

REGULATION 2. *Reporting cases of communicable disease by physicians.*—It shall be the duty of every physician to report to the local health officer, within whose jurisdiction such patient is, the full name, age, and address of every person affected with a communicable disease, together with the name of the disease, within 24 hours from the time when the case is first seen by him. Such report shall be by telephone or telegram, when practicable, and shall also be made in writing.

REGULATION 3. *Reporting cases of communicable disease in institutions.*—It shall be the duty of the superintendent or person in charge of every hospital, other institution, or dispensary, to report to the local health officer, within whose jurisdiction any such hospital, other institution, or dispensary is located, the full name, age, and address

of every person under his charge affected with a communicable disease, together with the name of the disease, within 24 hours from the time when the case first develops or is first admitted to such hospital, other institution, or dispensary. Such report shall be by telephone or telegram, when practicable, and shall also be made in writing.

REGULATION 4. *Reporting cases of disease presumably communicable in schools.*—When no physician is in attendance, it shall be the duty of every teacher to report forthwith to the principal or person in charge of the school all facts relating to the illness and physical condition of any child in such school who appears to be affected with a disease presumably communicable. It shall be the duty of the principal or person in charge of every school to report forthwith to the local health officer all facts relating to the illness and physical condition of any child attending such school who appears to be affected with any disease presumably communicable, together with the name, age, and address of such child. Such child shall be at once sent home or isolated.

REGULATION 5. *Reporting cases of disease presumably communicable in hotels, boarding and lodging houses.*—When no physician is in attendance, it shall be the duty of the proprietor or keeper of any hotel, boarding house, or lodging house, to report forthwith to the local health officer all facts relating to the illness and physical condition of any person in any hotel or house under his charge who appears to be affected with any disease presumably communicable, together with the name of such person.

REGULATION 6. *Reporting cases of disease presumably communicable by nurses and persons in charge of camps.*—It shall be the duty of every visiting nurse and public-health nurse and of the person in charge of any labor or other camp, having knowledge of any person affected with any disease presumably communicable, who, by reason of the danger to others, seems to require the attention of the public-health, authorities, to report at once to the local health officer, within whose jurisdiction such case occurs, all facts relating to the illness and physical condition of such affected person.

REGULATION 7. *Reporting cases of disease presumably communicable on vessels.*—It shall be the duty of the master or person in charge of any vessel lying within the jurisdiction of the State to report or cause to be reported immediately in writing to the local health officer at such ports or landings as the State commissioner of health may designate all facts relating to the illness and physical condition of any person in or on such vessel affected with any disease presumably communicable, together with the name of such affected person. This regulation shall not apply to any vessel within the jurisdiction of the health officer of the port of New York.

REGULATION 8. *Reporting cases of communicable disease on dairy farms by physicians.*—When a case of Asiatic cholera, diphtheria, amebic or bacillary dysentery, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, paratyphoid fever, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, or other dairy products for sale, it shall be the duty of the physician in attendance to report immediately to the local health officer the existence on such farm or dairy of such case.

It shall be the duty of the health officer to report immediately to the State commissioner of health, by telephone or telegram, the existence on such farm or dairy of such case, together with all facts as to the isolation of such case, and giving the names of the localities to which such dairy products are delivered.

REGULATION 9. *Reporting cases of disease presumably communicable on dairy farms by owner or person in charge.*—When no physician is in attendance, it shall be the duty of the owner or person in charge of any farm or dairy producing milk, cream, butter, cheese, or other food products likely to be consumed raw, to report forthwith to the local health officer the name and address and all facts relating to the illness and physical condition of any person, who is affected with any disease presumably communicable, and who is employed or resides on or in such farm or dairy, or comes in contact in any way therewith or with its products.

REGULATION 10. *Diphtheria; material for cultures to be submitted.*—In every case of illness which there is reason to suspect is diphtheria, it shall be the duty of the attending physician or, if the local health authorities so require, of the health officer promptly to take material for cultures from the throat of the suspected person and submit the same for examination to a State, county, or municipal bacteriological laboratory, or to a laboratory approved by the State commissioner of health.

REGULATION 11. *Isolation of persons affected with communicable diseases.*—It shall be the duty of every physician, immediately upon discovering a case of communicable disease, to secure such isolation of the patient, or to take such other action, as is required by the special rules and regulations which from time to time may be issued by the local health authorities or by the State department of health.

REGULATION 12. *Adults not to be quarantined in certain cases.*—When a person affected with a communicable disease is properly isolated on the premises, except in cases of smallpox, adult members of the family or household, who do not come in contact with the patient or with his secretions or excretions, unless forbidden by the health officer, may continue their usual vocations, provided such vocations do not bring them in close contact with children.

REGULATION 13. *Removal of cases of communicable disease.*—After isolation by the local health officer no person, without permission from him, shall carry, remove, or cause or permit to be carried or removed from any room, building, or vessel, any person affected with diphtheria, scarlet fever, smallpox, or typhus fever.

Without permission from the local health officer no person shall carry, remove, or cause or permit to be carried or removed from any hotel, boarding house, lodging house, or other dwelling, any person affected with chicken pox, diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, mumps, poliomyelitis (infantile paralysis), scarlet fever, smallpox, typhus fever, or whooping cough.

Without permission from the local health officer no master of any vessel or other person shall remove or aid in removing, or permit the removal, from any such vessel to the shore of any person affected with any communicable disease.

This regulation shall not apply to any vessel within the jurisdiction of the health officer of the port of New York.

REGULATION 14. *Removal of articles contaminated with infective material.*—Wituoht permission from the local health officer no person shall carry, remove, or cause or permit to be carried or removed from any room, building, or vessel, any article which has been subject to contamination with infective material through contact with any person or with the secretions of any person affected with Asiatic cholera, diphtheria, scarlet fever, smallpox, typhoid fever, or typhus fever, until such article has been disinfected according to the special rules and regulations of the State department of health.

Without permission of the local health officer no master of any vessel or other person shall remove or aid in removing or permit the removal from any such vessel to the shore of any article which has been subject to contamination with infective material through contact with any person or with the secretions of any person affected with Asiatic cholera, diphtheria, scarlet fever, smallpox, typhoid fever, or typhus fever.

This regulation shall not apply to any vessel within the jurisdiction of the health officer of the port of New York.

REGULATION 15. *Right of entrance and inspection.*—No person shall interfere with or obstruct the entrance to any house, building, or vessel by any inspector or officer of the State or local health authorities, in the discharge of his official duties, nor shall any person interfere with or obstruct the inspection or examination of any occupant of any such house, building, or vessel by any inspector or officer of the State or local health authorities, in the discharge of his official duties.

REGULATION 16. *Instructions as to disinfection of excreta in Asiatic cholera, dysentery, paratyphoid fever, and typhoid fever.*—It shall be the duty of the physician in attendance on any case suspected by him to be Asiatic cholera, dysentery, paratyphoid

fever, or typhoid fever, to give detailed instructions to the nurse or other person in attendance in regard to the disinfection and disposal of the excreta. Such instructions shall be given on the first visit, and shall conform to the special rules and regulations of the State department of health. It shall be the duty of the nurse or person in attendance to carry out the disinfection in detail until its discontinuance is permitted by the local health officer.

REGULATION 17. *Instructions as to disinfection of discharges in diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, and whooping cough.*—It shall be the duty of the physician in attendance on any case suspected by him to be diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or whooping cough, to give detailed instructions to the nurse or other person in attendance in regard to the disinfection and disposal of the discharges from the nose, mouth and ears of the patient. Such instructions shall be given on the first visit and shall conform to the special rules and regulations of the State department of health. It shall be the duty of the nurse or person in attendance to carry out the disinfection in detail until its discontinuance is permitted by the local health officer.

REGULATION 18. *Precautions to be observed by physicians and attendants.*—The physician or nurse or other necessary attendant upon a case of diphtheria, measles, or scarlet fever, after attendance upon the case, shall take precautions and practice measures of cleansing or disinfecting of his person or garments to prevent the conveyance to others of infective material from the patient.

REGULATION 19. *Distribution of circulars.*—It shall be the duty of every health officer, as soon as a case of diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, typhoid fever, typhus fever, or whooping cough is reported to him, or as soon thereafter as possible, to give every family or individual living in the house or building, in which such case is the circulars of information and copies of any rules and regulations, printed in a language understood by such individual, concerning such diseases which may be issued by the State department of health or the local health authorities. The health officer shall also notify every family or individual living in the house of the existence of such disease.

REGULATION 20. *Posting placards.*—When a case of diphtheria, epidemic cerebrospinal meningitis, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or typhus fever exists in any house, or apartment, or room, it shall be the duty of the health officer to post such house, or apartment, or room or rooms in which such case is isolated, near the entrance thereof, a placard stating the existence therein of a communicable disease.

REGULATION 21. *Interference with placards.*—No person shall interfere with or obstruct the posting of any placard by any health authority in or on any place or premises, nor shall any person conceal, mutilate, or tear down any such placard, except by permission of the health authority.

In the event of such placard being concealed, mutilated, or torn down, it shall be the duty of the occupant of the premises concerned immediately to notify the local health officer.

REGULATION 22. *Preventing the spread of communicable diseases in institutions.*—It shall be the duty of the superintendent or person in charge of any hospital or other institution or dispensary in which there is a person affected with any communicable disease to take such steps as will, so far as practicable, prevent the spread of infective material.

REGULATION 23. *Isolation wards required for institutions for children.*—Every institution for children, in which 20 or more children sleep, shall be provided with at least

one isolation ward, or room or apartment or tent, so related to the rest of the building as to make proper isolation therein practicable.

REGULATION 24. *Exposure of persons affected with communicable disease.*—No person shall permit any child, minor, or other person under his charge, affected with diphtheria, measles, scarlet fever, smallpox, typhus fever, or whooping cough, to associate with others than his attendants.

No person affected with any of said diseases shall expose himself in such manner as to cause or contribute to, promote, or render liable their spread.

REGULATION 25. *Needless exposure to communicable disease forbidden.*—No person shall expose or permit the visiting, association, or contact of any child, minor, or other person under his charge, with any person affected with diphtheria, measles, scarlet fever, smallpox, typhus fever, or whooping cough, or with discharges of any kind from the person of a patient affected with any of said diseases.

No person shall needlessly expose himself, or visit or associate or come in personal contact with, a case of any of said diseases, or the discharges therefrom, or in any manner cause or contribute to, promote, or render liable, the spread thereof.

REGULATION 26. *Exclusion from school of cases of disease presumably communicable.*—It shall be the duty of the principal or other person in charge of any public, private, or Sunday school to exclude therefrom any chlid or other person affected with a disease presumably communicable until such child or other person shall have presented a certificate issued by the health officer, or by the attending physician and countersigned by the health officer, stating that such child or other person is not liable to convey infective material.

REGULATION 27. *Exclusion from schools and gatherings of cases of certain communicable diseases.*—No person affected with chicken pox, diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, German measles, measles, mumps, poliomyelitis (infantile paralysis), scarlet fever, smallpox, trachoma, or whooping cough shall attend or be permitted to attend any public, private, or Sunday school, or any public or private gathering. Such exclusion shall be for such time and under such conditions as may be prescrbed by the local health authorities, not inconsistent with the provisions of this code or the special rules and regulations of the State department of health.

REGULATION 28. *Exclusion from schools and gatherings of children of households where certain communicable diseases exist.*—Every child who is an inmate of a household in which there is, or has been within 15 days, a case of chicken pox, diphtheria, epidemic cerebrospinal meningitis, German measles, measles, mumps, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or whooping cough shall be excluded from every public, private, or Sunday school and from every public or private gathering of children for such time and under such conditions as may be prescribed by the local health authorities, not inconsistent with the provisions of this code or the special rules and regulations of the State department of health.

REGULATION 29. *Precautions to be observed in chicken pox, German measles, mumps, and whooping cough.*—No person affected with chicken pox, German measles, mumps, or whooping cough shall be permitted to come in contact with or to visit any child who has not had such disease or any child in attendance at school.

REGULATION 30. *Isolation or removal in smallpox.*—It shall be the duty of every health officer, whenever a case of smallpox occurs in his jurisdiction, if a suitable hospital is available, to remove or cause to be removed such case promptly thereto. Every inmate of the household where such case occurs, and every person who has had contact with such case, or with his secretions or excretions, shall be either vaccinated within three days of his first exposure to the disease or placed under quarantine, and, when vaccinated, the name and address of such inmate or other person shall be taken and such inmate or other person shall be kept under daily observation. Such observation shall continue until successful vaccination results, or for at least

20 days. If such inmate or other person refuses to be vaccinated, he shall be quarantined until discharged by the local health officer.

If there is no hospital available, the patient shall be isolated and every inmate of the household shall be vaccinated or strictly quarantined until discharged by the local health officer.

Whenever a case of smallpox occurs in his jurisdiction, it shall be the duty of the local health officer to use all diligence in securing the names and addresses of all persons who have had contact with such case, and in causing such persons to be either vaccinated or placed under quarantine.

REGULATION 31. *Provision for free vaccination.*—It shall be the duty of the board of health of every municipality to provide, at public expense, free vaccination for all persons in need of the same.

REGULATION 32. *Removal to hospital or isolation and restriction of visiting in certain cases.*—It shall be the duty of the health officer to remove, or cause to be removed, every case of diphtheria, measles, or scarlet fever promptly to a suitable hospital, or to see that such case is properly isolated. Such isolation shall be maintained until its discontinuance is permitted by the health officer.

No person, except the physician and the nurse or other person in attendance, shall be permitted to come in contact with or to visit a case of diphtheria, measles, or scarlet fever, except by permission of the health officer.

REGULATION 33. *Removal to hospital from lodging houses, hotels, or boarding houses, or isolation, and provision for persons who can not be removed.*—It shall be the duty of the health officer, whenever a case of diphtheria, scarlet fever, or typhus fever occurs in a lodging house, hotel, or boarding house within his jurisdiction, if a suitable hospital is available, to remove or cause to be removed such case promptly thereto, unless, in the judgment of such officer, the case can be safely isolated on the premises.

If there be no proper hospital available, or if, for any sufficient reason, such case can not be removed, it shall be the duty of the municipal authorities to make provision, when necessary, for the medical and nursing care of such case in such lodging house, hotel, or boarding house, and the local health officer may, if in his judgment such action seems necessary, remove or cause to be removed the other inmates therefrom.

REGULATION 34. *Quarantine in certain emergencies.*—When any case of diphtheria, epidemic cerebrospinal meningitis, measles, scarlet fever, smallpox, or typhus fever is not or can not be properly isolated on the premises and can not be removed to a suitable hospital, it shall be the duty of the local health officer to forbid any member of the household from leaving the premises, except under such conditions as he may specify and except as provided by regulation 12 of this chapter.

REGULATION 35. *Maximum period of incubation.*—For the purpose of this code, the maximum period of incubation (that is, between the date of the exposure to disease and the date of its development), of the following communicable diseases is hereby declared to be as follows:

	Days.
Chicken pox	21
Measles	14
Mumps	21
Scarlet fever	7
Smallpox	20
Whooping cough	14

REGULATION 36. *Minimum period of isolation.*—The minimum period of isolation, within the meaning of this code, shall be as follows:

Chicken pox, until 12 days after the appearance of the eruption and until the crusts have fallen and the scars are completely healed.

Diphtheria (membranous croup), until two successive negative cultures have been obtained from the nose and throat at intervals of 24 hours.

Measles, until 10 days after the appearance of the rash and until all discharges from the nose, ears, and throat have disappeared and until the cough has ceased.

Mumps, until two weeks after the appearance of the disease and one week after the disappearance of the swelling.

Scarlet fever, until 30 days after the development of the disease and until all discharges from the nose, ears, and throat, or suppurating glands, have ceased.

Smallpox, until 14 days after the development of the disease and until scabs have all separated and the scars completely healed.

Whooping cough, until eight weeks after the development of the disease or until one week after the last characteristic cough.

REGULATION 37. *Sale of foods forbidden in certain cases.*—When a case of diphtheria, epidemic or septic sore throat, amebic or bacillary dysentery, epidemic cerebrospinal meningitis, measles, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, cheese, or other foods likely to be consumed raw, no such foods shall be sold or delivered from such farm or dairy, except under the following conditions:

(*a*) That such foods are not brought into the house where such case exists;

(*b*) That all persons coming in contact with such foods eat, sleep, and work wholly outside such house;

(*c*) That such persons do not come in contact in any way with such house or its inmates or contents;

(*d*) That said inmates are properly isolated and separated from all other parts of said farm or dairy, and efficiently cared for; and

(*e*) That a permit be issued by the health officer.

REGULATION 38. *Destruction of foods in certain cases.*—When a case of diphtheria, epidemic or septic sore throat, amebic or bacillary dysentery, epidemic cerebrospinal meningitis, measles, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, cheese, or other foods likely to be consumed raw, the State commissioner of health or the local health officer may destroy or order the destruction of any such foods which in his opinion may have been so contaminated as to be a source of danger, and the local authorites may compensate the owner for foods so destroyed.

REGULATION 39. *Handling of food forbidden in certain cases.*—No person affected with any communicable disease shall handle food or food products intended for sale, which are likely to be consumed raw or liable to convey infective material.

No person who resides, boards, or lodges in a household where he comes in contact with any person affected with bacillary dysentery, diphtheria, epidemic or septic sore throat, measles, scarlet fever, or typhoid fever, shall handle food or food products intended for sale.

No waiter, waitress, cook, or other employee of a boarding house, hotel, restaurant, or other place where food is served, who is affected with any communicable disease, shall prepare, serve, or handle food for others in any manner whatsoever.

No waiter, waitress, cook, or other employee of a boarding house, hotel, restaurant, or other place where food is served, who lodges or visits in a household where he comes in contact with any person affected with bacillary dysentery, diphtheria, epidemic or septic sore throat, measles, scarlet fever, or typhoid fever, shall prepare, serve, or handle food for others in any manner whatsoever.

REGULATION 40. *Carriers of disease germs.*—Any person who is a carrier of the disease germs of Asiatic cholera, bacillary dysentery, diphtheria, epidemic cerebrospinal meningitis, poliomyelitis (infantile paralysis), or typhoid fever, shall be subject to the special rules and regulations of the State department of health.

REGULATION 41. *Reports of food poisoning.*—When any physician or the superintendent or person in charge of any hospital, other institution, or dispensary, or any visiting nurse or public health nurse, or the person in charge of any labor or other camp

shall have knoweledge of the occurrence of a number or group of cases of severe or fatal illness believed to have been due to the consumption of articles of food suspected to have been spoiled or poisonous, it shall be the duty of such physician, superintendent, nurse, or other person to report the same immediately, by telephone or telegram, when practicable, to the State commissioner of health and to the local health officer in whose jurisdiction such cases occur.

It shall be the duty of the local health officer to report immediately to the State commissioner of health, by telephone or telegram, when practicable, the occurrence of a number or group of such cases.

REGULATION 42. *Duties of physicians and other persons concerning tuberculosis.*—It shall be the duty of every physician or other person required to perform any duty under sections 320 to 330, both inclusive, of article 16 of the public health law, providing for the reporting and control of cases of tuberculosis, to take all steps incumbent on him and necessary to carry into effect the provisions of the said law.

REGULATION 43. *Inoculation with living bacteria.*—The use of living bacterial organisms in the inoculation of human beings for the prevention or treatment of disease is hereby prohibited until full and complete data regarding the method of use, including a specimen of the culture and other agents employed therewith, and a full account of the details of preparation, dosage, and administration shall have been submitted to the State commissioner of health and until permission shall have been granted in writing by the State commissioner of health for the use of the same.

REGULATION 44. *Inspection of laboratories.*—The State commissioner of health, or his authorized representative, shall have authority to inspect every bacteriological or chemical laboratory doing work for the health authorities of the State or of any county or municipality therein. He may advise the person in charge of such laboratory as to the methods employed in the examinations which in any way affect the public health, and he may report the result of the inspection to the authorities of the county or municipality employing such laboratory.

REGULATION 45. *Cleansing, renovation, and disinfection required.*—Adequate cleansing of rooms, furniture, and belongings, when deemed necessary by the local health officer, or required by this code or otherwise by law, shall immediately follow the recovery, death, or removal of a person affected with a communicable disease. Such cleansing shall be performed by and at the expense of the occupant of said premises, upon the order and under the direction of the local health officer, in accordance with the regulations of the sanitary code.

Adequate renovation of premises, when deemed necessary by the local health officer, or required by this code or otherwise by law, shall immediately follow the recovery, death, or removal of a person affected with a communicable disease. Such renovation shall be performed by and at the expense of the owner of said premises or his agents, upon the order and under the direction of the local health officer, in accordance with the regulations of the sanitary code.

Adequate disinfection of premises, furniture, and belongings, when deemed necessary by the local health officer or required by this code or otherwise by law, shall immediately follow the recovery, death, or removal of a person affected with a communicable disease. Such disinfection shall be performed by or under the direction of the local health officer in accordance with the regulations of the sanitary code and at the public expense unless otherwise provided pursuant to law.

REGULATION 46. *Methods and precautions in cleansing, renovation, and disinfection.*—The following methods and precautions shall be observed in cleansing, renovation, and disinfection:

(*a*) *Cleansing* shall be secured by the thorough removal of dust and other contaminating material in such a way as to prevent the entry thereof, as far as may be possible, into other rooms or dwellings; washing with soap and water; scouring; airing; and exposure to sunlight; in accordance with the special rules and regulations of the state department of health.

(*b*) *Renovation* shall be secured by removing old paper from walls and ceilings and repainting, recalcimining, or repapering of walls, ceilings, and woodwork as may be ordered by the local health officer in accordance with the special rules and regulations of the state department of health.

(*c*) *Disinfection* of rooms shall be secured by the use of such disinfecting agents in such quantities and in such manner and of such sterilizing procedures as may be ordered by the local health officer, in accordance with the special rules and regulations of the state department of health. When gaseous disinfectants are to be used, all cracks, crevices, and openings into the room shall first be pasted over with paper. Thereafter, all rugs, carpets, upholstered furniture, and such textile fabrics in the said room as can not, in the opinion of the local health officer, be washed or soaked in a disinfecting solution, may be removed for disinfection by steam when ordered by the local health officer, in accordance with the special rules and regulations of the state department of health.

REGULATION 47. *Destruction of furniture, clothing, and other articles.*—Furniture, bedding, clothing, carpets, rugs, and other articles, which may have been contaminated with infective material from any case of diphtheria, scarlet fever, or smallpox, and which are of such a nature or in such condition that they can not, in the opinion of the local health officer, be properly cleansed, disinfected, or sterilized, shall upon his order be destroyed in the manner designated by him.

REGULATION 48. *Cleansing and disinfection of the person.*—It shall be the duty of the patient, upon convalescence or recovery from any communicable disease, and of the nurse or persons in attendance on such case, throughout the course of the disease as well as at its close, suitably to cleanse and, when necessary, to disinfect their persons in accordance with the manner prescribed by the special rules and regulations of the state department of health.

REGULATION 49. *Letting of rooms forbidden while contaminated with infective material.*—No proprietor of a hotel, boarding house, or lodging house shall let for hire or cause or permit anyone to occupy a room or apartment previously occupied by a person affected with diphtheria, epidemic cerebrospinal meningitis, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, tuberculosis, or typhus fever, until such room or apartment has been cleansed, renovated, or disinfected under the direction of the local health officer.

When an order requiring the cleansing, renovation, or disinfection of articles or premises is not complied with, the local health officer shall post a placard on the premises, reading as follows:

NOTICE.—These apartments have (or this room has) been occupied by a person affected with ..... They (or it) must not again be occupied until orders for cleansing, renovation, or disinfection have been complied with. This notice must not be removed under penalty of the law.

Date .....

....., *Health Officer.*

REGULATION 50. *Duties of common carriers during epidemics.*—Whenever the State commissioner of health shall make public declaration of the existence of an epidemic of a communicable disease in any municipality, and shall notify the local health board or officer of such declaration, the State commissioner of health may declare, and his declaration shall have the force and effect of law, that no common carrier shall receive or admit any person for carriage or transportation in such municipality except upon the presentation and surrender to the agent, conductor, or other person in charge of the conveyance in which such person desires to travel, of a certificate by the local health officer to the effect that such person is, in the opinion of the officer issuing the same, free from the disease then epidemic and that such person may be received and carried without danger to the general public health, and giving in plain, legible writing the name, residence, and place of destination of such person; and said declaration

may further provide that no person shall board or enter any such conveyance without such certificate.

Such certificate shall be filed in the office of the State department of health by the common carrier receiving the same within 36 hours after the receipt thereof.

The provisions of this regulation shall not apply to common carriers carrying passengers wholly within the limits of the municipality affected.

REGULATION 51. *Placarding by common carriers.*—When the declarations are made as provided in the preceding regulation, and a common carrier of passengers or an officer or agent thereof is notified by the State commissioner of health or by the local health officer of such declaration, it shall be the duty of such common carrier of passengers operating public conveyances in any such municipality to forthwith conspicuously place or post in every station, within such area as the State commissioner may designate, and in every conveyance the placard hereinafter described, and to keep the same posted until the epidemic is declared ended by the State commissioner of health:

WARNING.—There is an outbreak of ..... in ..... (give name of the disease and of city, town, or village). Passengers are cautioned.

STATE COMMISSIONER OF HEALTH.

Said placard shall be in heavy block letters in red ink on a white background, with each letter not less than 2 inches in height and 1½ inches in width, and shall be posted so that the same shall be in plain view of passengers when they are seated.

Any common carrier aforesaid entering any such municipality shall post such placard in such conveyance in the manner aforesaid at least one hour before arriving in any municipality in which an epidemic is declared to exist, and shall keep the same posted not less than half an hour after departing therefrom.

REGULATION 52. *Duties of undertakers.*—It shall be the duty of every undertaker taking charge of the preparation for burial of the body of any person dead of Asiatic cholera, diphtheria, epidemic cerebrospinal meningitis, glanders, plague, scarlet fever, smallpox, or typhus fever to cause it immediately to be wrapped in a sheet saturated with disinfecting solution and promptly thereafter placed in a coffin or casket, which shall then be immediately and permanently closed. This regulation shall not be construed to prohibit the embalming of any such body, but the undertaker shall cause such embalming to be done immediately upon taking charge of the body, except that, when a permit for embalming is required, this shall not proceed until the receipt of such permit. But immediately after the embalming he shall cause such body to be wrapped in a sheet and placed in a coffin or casket as hereinabove directed.

After handling, embalming, or preparing for burial the body of a person dead of any of the communicable diseases enumerated in this regulation, such parts of the persons, garments, and utensils or other articles of the undertaker or his assistants as may have been liable to contamination with infective material shall be immediately cleansed or disinfected or sterilized in the manner prescribed by the rules and regulations of the State department of health.

REGULATION 53. *Public funerals forbidden in certain cases.*—A public or a church funeral shall not be held of any person who has died of diphtheria, measles, scarlet fever, smallpox, or typhus fever; but any funeral of such person shall be private.

REGULATION 54. *When to take effect.*—Every regulation in this chapter, unless otherwise specifically stated, shall take effect on the 1st day of May, 1914.

Foodstuffs—Cold Storage—Inspection and Regulation. (Chap. 414, Act Apr. 17 1914.)

SECTION 1. Sections 336, 337, and 338, 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 added by chapter 335 of the laws of 1911, are hereby amended to read, respectively, as follows:

SEC. 336. *Cold storage food to be marked.*—It shall hereafter be unlawful for any person or persons, corporation or corporations, engaged in the business of cold storage warehousemen or in the business of refrigerating, to receive any kind of food unless the said food is in an apparently pure and wholesome condition, and the food or the package containing the same is branded, stamped, or marked in some conspicuous place, with the day, month, and year, when the same is received in storage or refrigeration.

It shall be unlawful for any person or persons, corporation or corporations engaged in the business of cold storage warehousemen or in the business of refrigerating to permit any article of any kind whatsoever used for food in the possession of any person or persons, corporation or corporations, engaged in the business of cold storage warehousemen or refrigerating, to be taken from their possession without first having branded, stamped, or marked on said foodstuffs or the package containing same, in a conspicuous place, the day, month, and year when said foodstuffs or package was removed from cold storage or refrigeration.

It shall also be unlawful for any person or persons, corporation or corporations, to offer for storage in a cold storage warehouse or to place in storage in a cold storage warehouse any articles of food unless the same is in an apparently pure and wholesome condition.

SEC. 337. *Time that cold storage foods may be kept.*—It shall hereafter be unlawful for any person, corporation, or corporations, engaged in the business of cold storage warehousemen or refrigerating, or for any person placing food in a cold storage warehouse, to keep in storage for preservation or otherwise any kind of food or any article used for food a longer period than 10 calendar months, excepting butter products which may be kept in said cold storage or refrigeration 12 calendar months.

SEC. 338. *Powers of State commissioner of health.*—The State commissioner of health is hereby vested with full power and authority to inspect and supervise all places in this State now used or hereafter to be used for cold storage or refrigerating purposes; the State commissioner of health or his duly authorized agents or employees shall be permitted access to such place or places and all parts thereof at all times for the purpose of seeing that said place or places are kept and maintained in a clean and sanitary manner, and for the purpose of determining whether or not the provisions of this article or any other act relating to foodstuffs are being complied with. The commissioner of health shall have the power by subpœna or subpœna duces tecum, issued and attested by him in his official capacity, to require the attendance and testimony before him, or the deputy commissioner, of any person who he may have reason to believe has knowledge of any alleged violation of this article, and the production before him, or the deputy commissioner, of any records, books, papers, and documents for the purpose of investigating any alleged violation of this article. Such subpœnas or subpœnas duces tecum may be served by any person over the age of 21 years. No person shall be excused from attending and testifying or producing any records, books, papers, or other documents before said commissioner of health, or the deputy commissioner, upon such investigation upon the ground or for the reason that the testimony or evidence, documentary or otherwise, required of him may tend to convict him of a crime or subject him to a penalty or forfeiture; but no person shall be prosecuted or subjected to any penalty or forfeiture for or on account of any transaction, matter, or thing concerning which he may so testify or produce evidence, documentary or otherwise, and no testimony so given or produced shall be received against him upon any criminal action, investigation, or proceeding.

Any person who shall omit, neglect, or refuse to attend and testify or to produce any records, books, papers, or documents, if in his power so to do, in obedience to such subpœna or subpœna duces tecum, shall be guilty of a misdemeanor. Any person who shall willfully and knowingly make any false statement under oath before the commissioner of health, or the deputy commissioner, concerning a material matter shall be guilty of perjury. The commissioner of health and the deputy commissioner are

hereby authorized and empowered to administer oaths and affirmations in the usual appropriate forms to any person in any matter or proceedings authorized as aforesaid and in all matters pertaining or relating to this article, and to take and administer oaths and affirmations in the usual appropriate forms, in taking any affidavit or deposition which may be necessary or required by law or by any order, rule, or regulation of the commissioner of health for or in connection with the official purposes, affairs, powers, duties, or proceedings of said commissioner of health, or the deputy commissioner, or for any official purpose lawfully authorized by said commissioner of health. The power of supervision hereby granted shall extend to enable the State commissioner of health to adopt such reasonable rules and regulations as may be determined upon from time to time as essential to the proper protection of the consumer of the commodities kept and preserved in such place or places, and the State commissioner of health may appoint and designate from time to time such person or persons as he deems fit for the purpose of making such inspections.

Tuberculosis—County Hospitals—Establishment. (Chap. 323, Act Apr. 14, 1914.)

SECTION 1. Section 45 of chapter 16 of the laws of 1909, entitled "An act in relation to counties, constituting chapter 11 of the consolidated laws," as added by chapter 341 of the laws of 1909, and amended by chapters 166 and 379 of the laws of 1913, is hereby amended to read as follows:

SEC. 45. *Establishment of county hospital for tuberculosis.*—The board of supervisors of any county shall have power by a majority vote to establish a county hospital for the care and treatment of persons suffering from the disease known as tuberculosis. The board of supervisors of any county that previous to January 1, 1914, has not voted to establish a hospital shall have authority to submit the question of establishing such a hospital to the voters of the county at any general election at which public officers are elected. The board of supervisors shall fix the sum of money deemed necessary for the establishment of said hospital. The form of the proposition submitted shall read as follows: "Shall the county of ..... appropriate the sum of ..... dollars for the establishment of a tuberculosis hospital?" The notices of the general election shall state that the proposition will be voted upon and in the form set forth above. Provision for taking such vote and for the canvassing and returning of the result shall be made by the duly constituted election authorities.

If a majority of the voters voting on such proposition shall vote in favor thereof then such hospital shall be established hereunder and the sum of money named in the said proposition shall be deemed appropriated, and it shall be the duty of the board of supervisors to proceed forthwith to exercise the powers and authority conferred upon it in this section.

When the board of supervisors of any county shall have voted to establish such hospital, or when a referendum on the proposition of establishing such a hospital in a county, as authorized above, shall have been carried, the board of supervisors shall:

1. Purchase or lease real property therefor, or acquire such real property, and easements therein, by condemnation proceedings, in the manner prescribed by the condemnation law, in any town, city, or village in the county. After the presentation of the petition in such proceeding prescribed in section 3360 of the code of civil procedure and the filing of the notice of pendency of action prescribed in section 3381 thereof, said board of supervisors shall be and become seized of the whole or such part of the real property described in said petition to be so acquired for carrying into effect the provisions of this act, as such board may, by resolution adopted at a regular or special session, determine to be necessary for the immediate use, and such board for and in the name of such county may enter upon, occupy, and use such real property so described and required for such purposes. Such resolution shall contain a description of the real property of which possession is to be taken and the day upon which

possession will be taken. Said board of supervisors shall cause a copy of such resolution to be filed in the county clerk's office of the county in which such property is situate, and notice of the adoption thereof, with a copy of the resolution and of its intention to take possession of the premises therein described on a day certain, also therein named, to be served, either personally or by mail, upon the owner or owners of, and persons interested in such real property, at least five days prior to the day fixed in such resolution for taking possession. From the time of the service of such notice the entry upon and appropriation by the county of the real property therein described for the purposes provided for by this act, shall be deemed complete, and such notice so served shall be conclusive evidence of such entry and appropriation and of the quantity and boundaries of the lands appropriated. The board of supervisors may cause a duplicate copy of such papers so served, with an affidavit of due service thereof on such owner or person interested, to be recorded in the books used for recording deeds in the office of the county clerk of its county, and the record of such notice and such proof of service shall be prima facie evidence of the due service thereof. Compensation for property thus acquired shall be made in such condemnation proceeding.

2. Erect all necessary buildings and alter any buildings on the property when acquired for the use of said hospital, provided that the plans for such erection or alteration shall first be approved by the State commissioner of health.

3. Cause to be assessed, levied, and collected such sums of money as it shall deem necessary for suitable lands, buildings, and improvements for said hospital, and for the maintenance thereof, and for all other necessary expenditures therefor; and to borrow money for the erection of such hospital and for the purchase of a site therefor on the credit of the county, and issue county obligations therefor, in such manner as it may do for other county purposes.

4. Appoint a board of managers for said hospital as hereinafter provided.

5. Accept and hold in trust for the county, any grant or devise of land, or any gift or bequest of money or other personal property, or any donation to be applied, principal or income, or both, for the benefit of said hospital, and apply the same in accordance with the terms of the gift.

SEC. 2. Section 47 of such chapter as added by chapter 341 of the laws of 1909, and amended by chapters 40 and 379 of the laws of 1913, is hereby amended by adding thereto a new subdivision, to be subdivision 9, to read as follows:

"9. Shall have authority to employ a county nurse or nurses for the discovery of tuberculosis cases and for the visitation of such cases and of patients discharged from the hospital and for such other duties as may seem appropriate; and may cause to be examined by the superintendent or one of his medical staff suspected cases of tuberculosis reported to it by the county nurse or nurses or by physicians, teachers, employers, heads of families, or others; and to take such other steps for the care, treatment, and prevention of tuberculosis as it may from time to time deem wise."

Drugs, Habit-Forming, Sale of—Commitment of Habitual Drug Users. (Chap. 363, Act Apr. 14, 1914.)

SECTION 1. Chapter 49 of the laws of 1909, entitled "An act in relation to the public health, constituting chapter 45 of the consolidated laws," is hereby amended by adding after article 11 a new article, to be article 11*a* thereof, to read as follows:

ART. 11*a*.—*Habit-forming drugs.*

SEC. 245. *Sale prohibited—Exception.*—No pharmacist, druggist, or other person shall sell, have, or offer for sale or give away any chloral, opium or any of its salts, alkaloids, or derivatives, or any compound or preparation of any of them, except upon the written prescription of a duly licensed physician, veterinarian, or dentist: *Provided*, That the provisions of this article shall not apply to the sale of domestic and proprietary

remedies actually sold in good faith as medicines and not for the purpose of evading the provisions of this article: *And provided further*, That such remedies and preparations do not contain more than 2 grains of opium, or one-fourth grain of morphine or one-fourth grain of heroin or 1 grain of codeine or 10 grains of chloral or their salts in 1 fluid ounce or, if a solid preparation, in 1 avoirdupois ounce, nor to plasters, liniments, and ointments for external use only.

SEC. 246. *Prescriptions—Certificates.*—It shall be unlawful for any person to sell at retail or give away any of the drugs, their salts, derivatives or preparations mentioned in section 245 of this chapter except as herein provided without first receiving a written prescription signed by a duly licensed physician, veterinarian, or dentist. The prescription must contain substantially the following: The name in full of the physician, veterinarian, or dentist issuing such prescription, his office address, his office hours, and telephone, and the name, age, and address of the person to whom and date on which such prescription is issued. It shall be unlawful for any duly licensed physician, veterinarian, or dentist to issue any such prescription containing any of the drugs, their salts, derivatives, or preparations mentioned in section 245 of this chapter except after a physical examination of any person for the treatment of disease, injury, or deformity. It shall be unlawful for any person to sell at retail any of the drugs or preparations of any of those mentioned in section 245 of this article without first verifying the authority of any prescription containing more than 4 grains of morphine, 30 grains of opium, 2 grains of heroin, 6 grains of codeine or 4 drams of chloral. Such verification can be made by telephone or otherwise. Such prescription so received shall be filled out at the time of receiving the same for the full quantity prescribed and no prescription so received shall be filled out more than 10 days after the date which said prescription be dated. Such prescription, from which no copy shall be taken, shall be retained by the person who dispenses the same and shall be filled but once. Such prescription shall be kept on the general prescription file and given a regular consecutive number on such file. On such prescription shall be inscribed the name and address of the purchaser making such purchase and the date upon which said sale is made.

Any person who sells at retail, furnishes, or dispenses any of the drugs mentioned in section 245 of this chapter upon a written prescription by a duly registered physician or veterinarian or dentist shall, at the time of dispensing the same, place upon the package a label or deliver therewith a certificate stating the name and address of the person selling or furnishing the same, the name and address of the physician, veterinarian, or dentist upon whose prescription such sale is made, the date of sale, and the name of the person to whom such sale is made. Any person, other than a manufacturer of any of the drugs mentioned in section 245 or a wholesale dealer in drugs or a licensed pharmacist, licensed druggist, duly registered practicing physician, licensed veterinarian, or a licensed dentist, who shall possess any of the drugs mentioned in section 245 or their salts, derivatives, or preparations, shall be guilty of a misdemeanor, unless said possession is authorized by the certificate described in this section. Nothing herein contained shall be construed to prohibit the sale of any of such drugs by any manufacturing pharmacists or chemists or wholesale or retail pharmacists or druggists, or to hospitals, colleges, scientific or public institutions, except that such sales shall be made in the manner provided in the next succeeding section.

SEC. 247. *Order blanks—Filing.*—The State commissioner of health shall prepare and furnish to all boards of health or officers official order blanks, serially numbered in duplicate, bound in book form, with carbon or transfer paper between the duplicate pages. The said official order shall be furnished by the local health board or officer to any local, duly licensed physician, dentist, pharmacist, druggist, or veterinarian, upon which must be written all orders for the purchase of any of the drugs enumerated in

section 245 of this chapter for the use of such physician, dentist, pharmacist, druggist, or veterinarian. It shall be unlawful for any person to sell, furnish, or dispose to any physician, pharmacist, druggist, veterinarian, or dentist any of the drugs enumerated in section 245 of this chapter without first receiving from such physician, druggist, veterinarian, or dentist an official order blank as provided in this section, which official order shall be retained by the person or corporation who sells, furnishes, or dispenses any of the drugs enumerated in section 245 of this chapter, and such official order shall be kept in a separate file or book and an entry made or caused to be made on the order stating the date of sale, the name and address of the purchaser, and the name of the person making such sale.

SEC. 248. *Physicians, etc., to keep records.*—All physicians, druggists, pharmacists, veterinarians, and dentists shall keep on record the name and address of each person to whom such physician, dentist, or veterinarian administers or disposes in any way whatsoever any of the drugs enumerated in section 245 of this chapter, and the quantity so administered, disposed of or given away. Such record shall be preserved for five years and shall always be open for inspection by the proper authorities. Any violation of this section is hereby declared to be a misdemeanor.

SEC. 249. *Hypodermic syringe, sale of—Record—Penalty.*—It is unlawful for any person to sell at retail or to furnish to any person, other than a duly licensed physician, dentist, or veterinarian, an instrument commonly known as a hypodermic syringe or an instrument commonly known as a hypodermic needle, without the written order of a duly licensed physician or veterinarian. Every person who disposes of or sells at retail, or furnishes or gives away to any person, either of the above instruments, upon the written order of a duly licensed physician or veterinarian, shall, before delivering the same, enter in a book kept for that purpose the date of the sale, the name and address of the purchaser, and a description of the instrument sold, disposed of, furnished, or given away. Any person or persons who sell, dispose of, or give away an instrument commonly known as a hypodermic syringe, or an instrument commonly known as a hypodermic needle, except in the manner prescribed in this section, shall be guilty of a misdemeanor.

SEC. 249*a*. *Commitment of habitual drug users—Procedure—Discharge.*—The constant use by any person of any habit-forming drug, except under the direction and consent of a duly licensed physician, is hereby declared to be dangerous to the public health. Whenever a complaint shall be made to any magistrate that any person is addicted to the use of any habit-forming drug, without the consent or direction of a duly licensed physician, such magistrate, after due notice and hearing, is satisfied that the complaint is founded and that the person is addicted to the use of a habit-forming drug, shall commit such person to a State, county, or city hospital or institutions licensed under the State lunacy commission. Whenever the chief medical officer of such institution shall certify to any magistrate that any person so committed has been sufficiently treated or give any other reason which is deemed adequate and sufficient, he may discharge the person so committed. Every person committed under the provisions of this section shall observe all the rules and regulations of the institution or hospital. Any such person who willfully violates the rules and regulations of the institution or repeatedly conducts himself in a disorderly manner may be taken before a magistrate by the order of the chief medical officer of the institution. The chief medical officer may enter a complaint against such person for disorderly conduct and the magistrate, after a hearing and upon due evidence of such disorderly conduct, may commit such person for a period of not to exceed six months to any institution to which persons convicted of disorderly conduct or vagrancy may be committed, and such institution shall keep such persons separate and apart from the other inmates, provided that nothing in this section shall be construed to prohibit any person committed to any institution under its provisions from appealing to any court having jurisdiction for a review of the evidence in which this commitment was made.

SEC. 249*b*. *Revocation of licenses.*—Any license heretofore issued to any physician, dentist, veterinarian, pharmacist, or registered nurse may be revoked by the proper officers or boards having power to issue licenses to any of the foregoing upon proof that the licensee is addicted to the use of any habit-forming drug or drugs after giving such licensee reasonable notice and opportunity to be heard. Whenever it shall appear after one year from date of revocation of such license that such licensee has fully recovered and is no longer an addict to any of the drugs herein prohibited, such board may grant a rehearing and in its discretion reissue the license of such licensee.

SEC. 249*c*. *Revocation of license after conviction.*—Whenever any physician, dentist, veterinarian, pharmacist, or registered nurse is convicted in a court having jurisdiction of any of the violations of this article, any officer or board having power to issue licenses to any such physician, dentist, veterinarian, pharmacist, or registered nurse may, after giving such licensee reasonable notice and opportunity to be heard, revoke the same.

SEC. 249*d*. *Penalties.*—Any violation of any of the provisions of this article shall be deemed a misdemeanor. Nothing contained in this article shall be construed to amend or repeal section 1746 of the penal law.

SEC. 2. This act shall take effect July 1, 1914.

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

NEW BEDFORD, MASS.

Milk—Production, Care, and Sale. (Reg. Bd. of H., Aug. 9, 1913.)

RULE 1. No person, firm, or corporation shall engage in the production, sale, delivery, or distribution of milk in the city of New Bedford except in accordance with the rules and regulations of the board of health of New Bedford.

RULE 2. Every person, firm, or corporation keeping or offering for sale milk in the city of New Bedford shall annually, before the 1st day of June, be licensed so to do by the milk inspector of said city, and then only after applicant has filed with said milk inspector a list of producers supplying him with milk, together with quantity furnished. Changes in the list of producers must from time to time be reported to the board of health. Licenses are not transferable.

RULE 3. No milk for sale or distribution in the city of New Bedford shall be stored in any portion of a building which is used for the stabling of horses, cows, or other animals, or for the storing of manure, or in any room used in whole or in part for domestic or sleeping purposes, unless the storage room for milk is separated from other parts of the building to the satisfaction of the board of health.

RULE 4. All rooms in which milk intended for sale in the city of New Bedford is stored, cooled, mixed, or strained shall be kept clean at all times to the satisfaction of the board of health, and all utensils actually employed in the storage, sale, or distribution of milk shall be washed with boiling water or sterilized with live steam regularly after being so used.

RULE 5. No urinal, water-closet, or privy shall be located in the rooms called for in the preceding sections, or so situated as to pollute the atmosphere of said rooms.

RULE 6. All milk produced for the purpose of sale or distribution in the city of New Bedford shall be strained and cooled as soon as it is drawn from the cow, outside of the barn and in a clean atmosphere, and away from all sources of contamination.

RULE 7. Milk for sale in any store, shop, restaurant, market, bakery, or other establishment shall be stored in a covered can or vessel in a refrigerator. No vessel containing milk for sale shall be allowed to stand outside said cooler, box, or refrigerator, except while a sale of said milk is being made.

RULE 8. All cans, bottles, or other vessels of any sort used in the sale, distribution, or delivery of milk shall be cleansed or sterilized before they are again used for the same purpose, and all wagons used in the conveyance of milk for sale or distribution shall be kept in a cleanly condition and free from offensive odors.

RULE 9. The use of wooden plugs as covers for milk cans is prohibited after September 5, 1913.

RULE 10. No vessels which have been handled by persons suffering from typhoid fever, scarlet fever, diphtheria, or other infectious diseases shall be used to hold or convey milk until they have been thoroughly sterilized. No bottle, can, or receptacle used for the reception or storage of milk shall be removed from a private house, apartment, or tenement wherein a person has any infectious disease, except with the consent of the board of health.

RULE 11. All stables where cows are housed must be kept clean, well lighted and ventilated, and the tie-ups whitewashed at least twice a year.

RULE 12. The hands of the milkers must be washed before milking, immediately after the udders of the cows have been wiped with a clean cloth, and all the milking must be done with dry hands.

RULE 13. The keeping of swine within 50 feet of any barn or building where milk is handled is hereby prohibited.

RULE 14. Every person, firm, or corporation holding a license to distribute milk in the city of New Bedford must handle milk in a room or building constructed and equipped to the satisfaction of the inspector of milk.

RULE 15. The board of health reserve the right to collect samples of milk for bacterial count and to inspect the premises of any producer supplying New Bedford with milk, and a continuance of the business in New Bedford depends upon conformity with these regulations and such other conditions as the board of health may from time to time impose.

NEW BRUNSWICK, N. J.

Milk and Cream—Production, Care, and Sale. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 23.—*Milk.*

SECTION 1. No person, corporation, or association of persons shall sell or deliver or have in possession for sale or delivery in the city of New Brunswick any milk or cream without first obtaining from the board of health a permit for such sale or delivery.

SEC. 2. No permit as required in the last preceding section shall be issued by the board of health until there shall be paid to the said board of health for the issuing thereof and for a proper inspection and supervision of the milk or cream, the sum of $2. The fees named in section 2 shall cover one place of business and one wagon, for each additional place of business or wagon an additional fee of $1 shall be required.

SEC. 3. Each permit to be granted under the provisions of this article shall expire on the first day of May following the granting of the same: *Provided*, That if any person so granted a permit as aforesaid or any of the employees, servants, or agents shall violate any ordinance or rule of the board of health relating to the sale, distribution or inspection of milk or cream, such permit may at the discretion of the board of health be revoked.

SEC. 4. Any person, corporation, or association of persons engaged in the sale of milk or cream within the city of New Brunswick shall, when requested by the board of health or health officer of said city, furnish to said board or said health officer a true statement in writing upon blanks to be supplied by said board of health, setting forth the locality from which said milk or cream was procured, and also a full and complete list of the names of persons from whom said milk or cream was purchased or procured, and the names and addresses of all persons and customers to whom he or they may sell or deliver milk or cream within said city, and said blanks, when filled in as aforesaid, shall be signed by the person selling or delivering said milk or cream to whom said blank shall be tendered.

SEC. 5. Any person, corporation, or association of persons engaged in the sale or delivery of milk or cream within the city of New Brunswick shall notify the board of health in writing before changing the source of supply of the milk or cream to be sold by him or them within said city, and said notice shall also state the name or names of the persons from whom, and the locality from which, said milk or cream is to be procured.

SEC. 6. No milk or cream shall be sold or offered for sale or distributed in the city of New Brunswick except from cows in good health nor unless the cows from which

it is obtained have, within one year, been examined by a veterinarian whose competency is vouched for by the State veterinary association of the State in which the herd is located, and a certificate signed by such veterinarian has been filed with the board of health stating the number of cows in each herd that are free from disease. On and after January 1, 1914, this examination shall include the tuberculin test and charts showing the reaction of each individual animal and shall be filed with this board. All cows which react to tuberculin test shall be removed from the premises or separated from the other cows in a manner satisfactory to this board at once if the sale of milk is to continue, and no cows shall be added to a herd until certificates of satisfactory tuberculin tests of said cows have been filed with this board: *Provided*, That milk or cream from cows which have not been subjected to the tuberculin test may under permission of this board be allowed to be sold after being subjected to a pasteurizing or heating process satisfactory to this board.

SEC. 7. All animals found to be free from tuberculosis under the tests provided for in section 6 of this article shall be marked with an indestructible tag to be supplied by this board.

SEC. 8. No person, persons, firm, or corporation shall sell, offer for sale, exchange, or have in possession with intent to sell within the limits of the city of New Brunswick any milk or cream which is the product, in whole or in part, of any animal kept in a crowded, uncleanly, or unhealthy place or condition which is the product in whole or in part of any animal fed on swill or any substance of an unwholesome nature or any food or substance which may produce diseased or unwholesome milk.

SEC. 9. No person, persons, firm, or corporation shall sell, offer for sale, exchange, or have in possession with intent to sell within the limits of the city of New Brunswick any milk which is produced in whole or in part from any animal within 15 days before or 5 days after parturition.

SEC. 10. In case of any sickness or contagious disease breaking out in any herd, the owner shall immediately report the same to the board of health, and no milk or cream shall be sold or delivered until investigation shall have been made by the said board and permission given by said board for such sale or delivery.

SEC. 11. Upon notice from this board that any well or spring the water from which is supplied to cows or used for washing utensils used in connection with milk or cream or the sale, delivery, or handling thereof is contaminated, the water from such well or spring shall not be used for any of the above-mentioned purposes.

SEC. 12. If at any time any person or persons having any connection with a dairy or milk depot from which cream or milk is delivered or sold or offered for sale in the city of New Brunswick, or any resident member of the family of any person so situated shall be stricken with any communicable or contagious disease, notice shall be given to said board immediately by the owner or owners of the dairy, and no milk or cream produced from such dairy shall, after the first discovery of any such communicable disease, be sold or exposed for sale or delivered in the city of New Brunswick until special permission therefor has been granted by said board.

SEC. 13. No person, persons, firm, or corporation shall sell, offer for sale, exchange, or have in possession with intent to sell within the limits of the city of New Brunswick any milk which contains less than 11½ per cent of milk solids, or more than 88½ per cent of watery fluids, or less than 3 per cent of milk fats.

SEC. 14. No person, persons, firm, or corporation shall sell, offer for sale, exchange, or have in possession with intent to sell, within the limits of the city of New Brunswick, any milk from which the cream or any part thereof has been removed, unless every can, vessel, or package containing such milk shall have a metal label or tag of metal distinctly, durably, and permanently soldered in a conspicuous place upon the outside and not more than 6 inches from the top thereof, with the words "skimmed milk" stamped, indented, or engraved on the label or tag in letters not less than 2 inches in height, and the several lines shall be not less than three-eighths of an inch in width:

Provided, however, That every glass bottle, in lieu of such label or tag, may have blown in it the words "skimmed milk" in letters which shall not be less than 1 inch in height and the several lines of which shall not be less than one-eighth of an inch in width; such milk shall only be sold or shipped in or retailed out of a can, bottle, or vessel so marked.

SEC. 15. No milk or cream shall be sold or delivered in the city of New Brunswick which is obtained from a dealer who handles a supply any part of which supply is not approved by this board; and no person, corporation, or association of persons shall deliver or offer for sale in the city of New Brunswick any milk or cream unless the entire supply which he handles complies with the requirements hereinbefore set forth, unless satisfactory evidence is given this board that any and all parts of his supply which do not comply with the said requirements are kept separate and apart and not made the subject of sale or delivery in said city.

SEC. 16. The score-card system adopted by the board of health of the State of New Jersey for the rating of dairies is hereby adopted by this board of health. No milk, cream, or skimmed milk shall be sold, delivered, or exposed for sale or used in the manufacture of ice cream which is obtained from a dairy having a rating below 60 per cent under the said system: *Provided*, That milk produced at a dairy rating below 60 per cent may be sold after pasteurization under a system approved by this board.

SEC. 17. No person, persons, or corporation shall be granted a license to retail milk within the limits of the city of New Brunswick until it shall be shown upon inspection that a satisfactory method for the sterilization of bottles and all other utensils has been installed.

SEC. 18. No person, persons, firm, or corporation shall sell, deliver, or offer for sale within the limits of the city of New Brunswick any milk or cream which contains over 500,000 bacteria per cubic centimeter or any pathogenic bacteria as shown in three tests made within 10 successive days.

SEC. 19. No milk shall be sold or labeled "certified milk" within the limits of the city of New Brunswick unless the method used in its production shall conform to the standard established by the laws of the State of New Jersey and shall be certified by a milk commission acceptable to the board of health of the city of New Brunswick.

SEC. 20. No milk shall be sold as pasteurized milk unless the methods used in such pasteurization be acceptable to and approved by the board of health of the city of New Brunswick, and such pasteurized milk shall be distinctly and legibly labeled "Pasteurized milk" with the date of pasteurization.

SEC. 21. No person, persons, firm or corporation shall sell, offer for sale, exchange, store, or transport or have in possession with intent to sell within the limits of the city of New Brunswick any milk which is at a temperature exceeding or higher than 50° F.

SEC. 22. On and after July 1, 1913, all milk shall be delivered in bottles, and no milk in partly filled bottles shall be sold or offered for sale, and no bottles shall be filled, capped, or recapped outside the bottling room used for filling bottles, and said room shall at all times be kept in a clean and sanitary condition, and milk bottles shall be used for no other purpose than as receptacles for milk: *Provided*, That in any case in which one customer shall buy at one time 10 quarts or more of milk, the milk so purchased may be delivered in cans which have been sealed at the dairy, bottling house, or creamery.

SEC. 23. No person having custody of a milk can, bottle, or other vessel used as container for milk or cream intended for sale or distribution shall place or permit to be placed therein any article or substance other than milk or its products or water or other agents used for cleansing such can, bottle, or vessel.

SEC. 24. It shall be the duty of any person, persons, firm, or corporation to whom milk or cream is delivered by any person, persons, firm, or corporation before returning the can or vessel used for transportation of such milk or cream to remove all milk or

cream from such can or vessel and to thoroughly rinse such can or vessel or cause the same to be done.

SEC. 25. Every person who sells or offers or exposes for sale, or has in his possession for the purpose of sale, any milk or condensed milk contained in any can or package having a capacity of 40 quarts or more, from which milk or condensed milk the cream or any part thereof has been removed, shall securely fix a label or tag in a conspicuous place upon the outside of every such can or package containing such milk or condensed milk, and such label or tag shall have the words "Skimmed milk" or "Condensed milk," as the case may be, printed thereon in letters not less than 1 inch in height, and the several lines of which letters shall not be less than one-eighth of an inch in width; and such milk or condensed milk shall only be sold or offered or exposed for sale, or had in possession with intent, or shipped in a can or package so marked.

SEC. 26. No person, corporation, or association of persons shall deliver or leave at any house, dwelling, apartment, or store which is quarantined or in which there is a case of typhoid fever any milk bottle, can, or other receptacle used for delivering milk or cream; and no such bottle, can, or other receptacle shall be removed from such house, dwelling, apartment, or store until permission so to do is given by this board.

SEC. 27. Any person, corporation, or association of persons selling or delivering milk or cream in the city of New Brunswick by means of a wagon or other vehicle shall have the name of such person or persons and the number of the permit in plain letters and figures on each side of said wagon or vehicle.

SEC. 28. All stores or other establishments in which milk or cream is sold shall have displayed therein their permit or a card bearing the number and date of such permit.

SEC. 29. Milk or cream kept for sale in any store, shop, restaurant, market, bakery, or other establishment in the city of New Brunswick shall be kept in a covered cooler, box, or refrigerator properly drained and cared for, and shall at no time be allowed to become malodorous through the lack of proper cleaning and at no time shall the temperature of such milk or cream be allowed to exceed 50° F. Said store, shop, restaurant, market, bakery or other establishment shall at all times when business is being carried on, be open to inspection by any member of this board or its authorized agents.

SEC. 30. No person, persons, firm, or corporation who desire to retail or wholesale any milk or cream within the limits of the city of New Brunswick shall be allowed to use a room or rooms for the purpose of handling, storing or distribution of milk in a cellar or basement of a dwelling; provided, that any person, persons, firm, or corporation occupying a room or rooms in a cellar or basement of a dwelling at the passage of this ordinance may be allowed to continue the same if in the judgment of the board the premises are in a sanitary condition.

SEC. 31. No person or persons shall be allowed to live or sleep in any room where milk or cream intended for sale or distribution within the limits of the city of New Brunswick is produced, stored, distributed, or sold. Nor shall any person work in any building, room, or vehicle occupied or used for the distribution or transportation of milk or cream intended for sale or distribution within the limits of the city of New Brunswick who is affected with any communicable disease.

SEC. 32. When the board of health of the city of New Brunswick shall have established isolation or quarantine on any dwelling house, store, shop, or other building in this city, it shall be the duty of any person delivering milk at such quarantined premises to pour such milk into a vessel which it shall be the duty of the family so quarantined or the person in charge thereof to furnish, and the transfer of the milk shall be made in such a manner as to avoid the handling of the vessel so furnished; and every person delivering milk in such cases is hereby prohibited from leaving vessels containing milk, or taking or removing from such quarantined premises any milk ticket or coupon or any can, bottle, or other vessel used for handling or transporting milk

until such premises shall have been disinfected and the quarantine removed by order of the board of health.

SEC. 33. Samples of milk shall be furnished to this board or its authorized agents by any producer or dealer at any time upon request and proper payment therefor.

SEC. 34. No cream shall be sold, exposed for sale, or delivered within the city of New Brunswick unless it is produced and handled in accordance with the requirements hereinbefore set forth for the production and handling of milk.

SEC. 35. Everything about farms, stables, dairies, milk wagons, milk depots of dealers doing business in the city of New Brunswick must at all times be open to inspection of the board of health, its officers and agents.

SEC. 36. The board of health will, from time to time, adopt rules and regulations in regard to the production and transportation of milk, and all dairies, the milk from which is to be sold or delivered in the city of New Brunswick, must conform with the requirement of such rules and regulations. Any violation of the requirements as set forth in said rules and regulations, on the part of the dairyman or dealer, will be sufficient cause for the revocation of the permit under which the milk from such dairy is sold. The intention of the board is that this section shall be deemed to be separable from the other sections of this article and not essential to the validity of the other sections.

SEC. 37. That if any section of this article shall for any reason be held to be unconstitutional or invalid, it shall not affect the other provisions of this article.

SEC. 38. No person, persons, firm, or corporation shall after the passage of this article be allowed to establish any dairy within the limits of the city of New Brunswick, provided the above shall not mean any dairy or dairies established within the limits of the city of New Brunswick before the passage of this article: *And provided further*, That the dairies established within the limits of the city of New Brunswick before the passage of this article shall be kept in a strictly sanitary condition at all times.

SEC. 39. No metallic card or paper card tickets shall be used in connection with the sale or distribution of milk or cream in the city of New Brunswick but instead thereof a coupon ticket shall be employed, and such ticket shall be cancelled and destroyed after being once used.

SEC. 40. Any person, persons, who shall violate any of the provisions of this article shall be liable to a fine or penalty of $25 for each and every offense, said fine and penalty to be imposed and collected in the manner provided by law in such cases.

Street Cars—Cleaning and Heating. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 24.—*Street cars.*

SECTION 1. That no railway car running through or upon the streets or elsewhere in the city of New Brunswick, unless propelled by steam power, shall be used with cushions on the seats or on the backs of the seats thereof which may be declared unsanitary.

SEC. 2. That each and every railway car running through or upon the streets of or elsewhere in the city of New Brunswick and engaged in carrying passengers in said city or to other places shall be carefully and thoroughly washed and cleaned and, when so directed by this board, fumigated, so that all filth and dirt or causes of disease are removed from the said car.

SEC. 3. That every person or corporation engaged in the running or operating of a line of railway cars through or upon the streets of or elsewhere in the city of New Brunswick shall have and provide for the use of the passengers desiring to ride therein cars which are entirely inclosed and properly heated whenever the state of the temperature or of the elements require the same or whenever in the judgment of the board of health the same may be necessary for the proper preservation of the health of the inhabitants of the city of New Brunswick, and to be heated to a temperature of 65°.

SEC. 4. Any person or corporation engaged in the operating or running a line of railway cars or any motor truck or motor car or cycle through or upon the streets of, or elsewhere in the city of New Brunswick, shall remove from any of said streets the body of any aminal which shall be killed by any of said vehicles, cycles or cars so operated or controlled, within three hours after such killing may occur.

SEC. 5. Every person or corporation violating any of the provisions of this article shall forfeit and pay a penalty of $25 for every such offense.

Spitting—Prohibited in Public Places—Spittoons Must be Provided. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 25.—*Spitting.*

SECTION 1. Spitting or expectorating upon the sidewalk of any street, alley, thoroughfare, square, park, or other public place in the city of New Brunswick, or upon the floor, walls, or other part of any room, hall, or office in any hotel or other part of any tenement or lodging house which is used in common by the guests or inmates thereof, or upon the floors, walls, or other part of any theater, store, factory, or of any building which is used in common by the public, or upon the floor of any street car or railroad car or other public conveyance, or upon the floor of any depot, station, or upon the station platform or stairs of a railroad or common carrier is hereby forbidden.

SEC. 2. Every corporation, proprietor, or other person owning, operating, or controlling any such building, store, factory, street car, or railroad car or other public conveyance, depot, or station, station platform or stairs of a railroad or common carrier are hereby required to keep permanently posted in each of said places a sufficient number of notices forbidding spitting, according to the provisions of section 1 of this article.

SEC. 3. Every corporation, proprietor, or other person owning, operating, or controlling any store, factory, theater, or other building or room which is used in common by the public, or any street or railroad car or other public conveyance, or any depot or railroad station shall provide a sufficient number of nonabsorbent receptacles for expectoration, and shall provide for satisfactory cleansing and disinfection thereof at least once in 24 hours.

SEC. 4. It is hereby made the duty of every corporation, proprietor, or other person owning, operating, or controlling any manufacturing concern in the city of New Brunswick, in which two or more persons are employed, to provide a sufficient number of nonabsorbent receptacles for spitting.

SEC. 5. Any person violating any of the provisions of the four preceding sections of this article shall, on conviction thereof, be fined in any sum not less than $1 and not more than $5 for the first offense, and in any sum not less than $5 and not more than $10 for each and every subsequent violation of the provisions of said four sections; and on failure to pay said fine shall be committed to the county jail for a period not exceeding 30 days.

Wells and Water Supplies—Pollution of, Prohibited—Closing of Wells. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 26.—*Wells and water supply.*

SECTION 1. No person shall cause or suffer to be brought or to throw into any stream of water, pond or reservoir, or well in this city, the water of which is used for domestic purposes, or into any drain or pipe communicating therewith, any substance whereby the water in such stream or well is or may become polluted.

SEC. 2. No person shall throw, cause, or permit to be thrown into any reservoir of water, the water whereof is intended for distribution for public use in this city, any carcass of any dead animal or any offal or offensive matter whatsoever fitted to render said water impure or unfit for domestic use.

SEC. 3. Whenever it appears to the satisfaction of this board that the water of any well in this city, used for domestic purposes, is polluted or detrimental to the public health, this board may, by notice in writing, require the owner, lessee, or occupant of the premises whereon such well is situated forthwith to close the same and to do all work necessary or proper for that purpose. And if such notice be not complied with within 10 days after such service the owner, lessee, or occupant of such premises shall be adjudged as violating the provisions of this section, and each day's continuance of such violation shall constitute a separate and distinct offense.

SEC. 4. Every person who shall violate any of the provisions of this article shall forfeit and pay a penalty of $25 for each offense.

Ice—Permit Required for Cutting—Sale of Impure, Prohibited. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 27.—*Ice.*

SECTION 1. No ice shall be cut for the purpose of being sold or used in this city from any pond, creek, or river within the limits of such city, unless a permit therefor shall be first obtained from the board of health; and no person, persons, or corporation shall sell or deliver any ice in this city without first obtaining a permit therefor from the board of health; fee for such permit shall be $1 for the first wagon and 50 cents for each additional wagon; and this board of health may refuse a permit and revoke any granted by them as aforesaid when in their judgment the use of any ice cut or sold, or to be cut or sold, under the same is or would be detrimental to the public health.

SEC. 2. Permits provided for in section 1 of this article shall be granted from May 1 in each year and shall be in force for one year (or fractional part thereof), expiring May 1 each year.

SEC. 3. The board of health may prohibit the sale and use of any ice within the limits of the city when in their judgment the same is unfit for use, and the use of the same would be detrimental to the public health; and the board may prohibit and through its officers stop, detain, and prevent the bringing of any such ice for the purpose of sale or use into the limits to the city, and also in the same manner stop, detain, and prevent the sale or use of any such ice found within the limits of the city.

SEC. 4. Any person or persons or corporation who shall violate any of the provisions of this article, or who shall attempt to cut, sell, or bring into this city any such ice after being notified by said board of health or its officers not to do so, shall forfeit and pay a penalty of not less than $25 or more than $50 for every such offense.

Slaughtering of Animals—Permit Required. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 28.—*Slaughtering of Animals.*

SECTION 1. No person shall slaughter or disembowel any cattle, sheep, or swine, or calf within the corporate limits of the city of New Brunswick except by special permit from this board, and such place for which such permit is granted shall meet such requirements as the laws of the State of New Jersey demand. The fee for such special permit shall be $10 per annum. And every person who shall violate this article shall forfeit and pay a penalty of $25 for every such offense.

Nuisances—Abatement of—Inspection of Premises. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 29.—*Administration.*

SECTION 1. The members of the board of health, police force, and such officers, agents, and employees as may be appointed by the board of health, are hereby authorized to enter, inspect, and examine all buildings and parts of buildings and other premises within the city for the purpose of inspecting the sanitary condition thereof and for the purpose of the discovery and abatement of nuisances therein. If any such member of the board of health, or police force, or any such officer, agent, or employee shall find any nuisance whatever in or upon any such buildings, parts of buildings, or other premises, he shall report the same immediately to the health officer, unless the owner, occupant, or agent of such premises immediately cause the same to be remedied. Any person or persons who shall in any manner interfere with, hinder, or obstruct any such member of the board of health, police officer, or any other such officer, agent, or employee in the exercise of the said authority or duty of said officer, agent, or employee, as provided by this article, or who shall refuse to any such officer, agent, or employee admission or entry to such premises after demand made by such officer, agent, or employee in the exercise of his authority or duty, as prescribed by this article, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in a sum not less than ten dollars nor more than one hundred dollars.

SEC. 2. This board of health may, by resolution, delegate any portion of its power to any member of the board or to any officer thereof, to be exercised only when the board is not in session, and any notice by any member of the board, or by any officer thereof, shall be notice by the board, and the person served therewith shall be bound thereby.

NEW CASTLE, PA.

Street Cars—Cleaning and Ventilation. (Reg. Bd. of H., Feb. 24, 1913.)

RULE 11. The floors of all street cars used for the transportation of passengers within the city of New Castle must be thoroughly washed with hose and scrubbed with water once each day, and each car shall be disinfected whenever and in the manner which may be directed by the board of health. All seats and window ledges in street cars must be wiped once a day with a cloth wet with a disinfectant solution; and all of the said cars shall be properly ventilated; and the conductor or other person or persons in charge of any street car shall see that the car in his or their charge is replenished with fresh air, from time to time, as needed to prevent the air from becoming foul, insanitary, or oppressive. The cars must at all times be kept clean and free from accumulations of mud, dust, or other offensive materials. Any street passenger railway company violating any of the provisions of this rule shall, upon conviction, be sentenced to pay a fine or penalty, as prescribed by rule 10, heretofore adopted by the board of health, and be subject to the provisions of the said rule.

Poultry—Keeping of, in City. (Reg. Bd. of H., May 7, 1913.)

RULE 12. No chicken coop, chicken yard, or other place where chickens are kept shall be erected, maintained, or be kept nearer than 20 feet from any dwelling house, residence, or place in which persons reside or live, and all places shall be kept in a sanitary condition so that the same shall not be an annoyance or injurious to the public health.

Any person or persons violating any provisions of this rule shall be subject to procedure and penalty provided by rule 10 of the board of health, heretofore adopted.