PUBLIC HEALTH REPORTS

VOL. 32 JANUARY 12, 1917. No. 2

PROTECTION OF MILK SUPPLIES.

NEW YORK COURT DECIDES THAT MILK DEALERS MAY BE REQUIRED TO SUBMIT TO WIDAL TEST.

The commissioner of public safety and the health officer of the city of Rochester, N. Y., required that all applicants for licenses to sell milk should submit to a blood test to determine whether or not they were possible carriers of the typhoid bacillus.

An applicant for renewal of such a license refused to permit the test to be made and applied to the courts for a mandamus to compel the commissioner of public safety to renew his license. The court refused to compel the renewal of the license. In the opinion Judge Rodenbeck said:

> It is important * * * to the whole community that the supply of milk and cream should be kept clean, pure, and wholesome and should not be contaminated with impurities or infected with disease; and it is the duty of the health authorities to see that this is accomplished by the establishment of such reasonable regulations as may be necessary to meet existing conditions or to ward off impending dangers to the public health, and in imposing a blood test as a condition to a license to sell milk and cream in the city the commissioner of public safety and the health officer acted within the scope of their authority, and applicants for such a license should cooperate with the public authorities and assist rather than oppose reasonable efforts to provide pure and wholesome milk and cream for the people of the city. The requirement of a blood test of an applicant for a license is just a step, and a small one, in the direction of the protection of the public health, but every reasonable effort made in this direction should be encouraged so long as it does not unreasonably infringe upon the rights of the individual.

The opinion is published in this issue of the Public Health Reports, page 90.

PUBLIC HEALTH ADMINISTRATION IN ST. PAUL, MINN.

By G. B. YOUNG, Surgeon, United States Public Health Service.

In the following report are contained the results of a study of the organization and administration of the health department of St. Paul, Minn. The work was begun May 1, 1916, and this report submitted September 15, 1916. The study was made at the request of

the State board of health of Minnesota, acting in compliance with a request from the St. Paul Commercial Club. To these bodies and to the Association of Commerce it is desired to make acknowledgment for their hearty cooperation and assistance.

LOCATION, TOPOGRAPHY, AND CLIMATE.

St. Paul, Minn., is situated on both banks of the Mississippi River, but the portion on the right, or southern, bank contains only a small fraction of the population and is so detached, there being only two bridges connecting the southern district with the business portion of the city, that it really forms a separate community.

The city proper is built upon a high rolling tableland, which drops to the river by a sharply precipitous escarpment. The surface of the tableland is crossed by several ridges and marked by several hills. Taken as a whole, the site is one of great natural desirability and beauty. It is high and well drained.

The city contains 35,480 acres, of which 2,092 are water and 1,549 are in parks. About 200 additional acres are taken up by proposed boulevard extensions. There are a number of other nonoccupiable areas of indeterminable size, so that the net area is about 31,200 acres.

The distribution of the population is extremely uneven, varying (1910 census) from 1.5 per acre in the tenth ward to 42 in the fourth ward. There are 7 of the 12 wards with less than 10 per acre. While in the main the city is compactly built and typically urban, there are considerable areas occupied by what is in no sense an urban population. This is shown by the fact that the health department files give records of 110 dairy farms within the city limits with about 2,100 cows, and there are in addition about 400 "family cows." These conditions beyond a doubt are factors of considerable importance in determining the death rate of the city.

The climate of St. Paul is characterized by wide seasonal variations in temperature, the average maximum temperature for the five years 1911 to 1915 being 95°, the average minimum —25°, and the mean 44.6°. The precipitation averaged 28.21 inches. The snowfall averaged 34 inches. The temperature conditions are unquestionably factors affecting the death rate which would be operative entirely independent of activity on the part of the health department, reducing as they do the bacterial growths in the milk supply from cow to consumer, shortening the fly season and largely eliminating the high temperature factor in infant mortality rates.

The percentage of hours of sunshine to possible hours of sunshine is about 66.

POPULATION.

Estimate of Population.

The population as given by the United States census (1910) was 214,744 and was estimated at 247,450 in 1916 by the Census Bureau. The city directory estimates the population at 276,140.

A study of the vital statistics of the city shows that the correct figure is probably somewhere between the census estimate and the directory estimate. The best information obtainable indicates that during the past three years the city grew faster than the arithmetical increment allotted by the census, but, on the other hand, grew very little in the preceding three years. On the whole, it seems probable that 250,000 is a fair estimate.

The health department in its 1915 report (unprinted) made use of the directory estimate for that year, viz, 270,240. This is an increase of about 5 per cent over 255,000, the figure used in 1914, or two and three-quarters times the normal rate of increase. The figure 255,000 was in the same way arbitrarily fixed by the health department in 1913 and was a jump of 8.5 per cent in two years, 20,000 against a normal increment of 10,902. Similarly the 235,000 figure was arbitrarily arrived at in 1911 and represented an increase in one year of 9.5 per cent over the United States Census figures for 1910.

In this connection it is to be noted that increase from immigration has been practically negligible for the past two years, and very considerable numbers of previously arrived immigrants have returned to Europe.

It is quite manifest, therefore, that the death rates of the city of St. Paul as published by the city health department can not be taken as a basis for comparative study. This matter will be referred to in greater detail at a later point in this report.

Classification of Population.

While the necessary limitation of space will not permit giving in detail the reasons for some of the conclusions stated herein, it is necessary to point out to those unfamiliar with vital statistics that the mere stating of the percentage of deaths from a given cause per 1,000 of estimated population is far from giving a reliable basis as to the sanitary status of the city concerned. For comparative purposes the population must be considered in relation to the relative proportions of the sexes, of the races, and of the number of people of different ages making up the population. For all but the most elaborate comparative tables, however, we may omit applying the factors of correction on account of the first two items, simply keeping them in mind when interpreting the tables, but correction on account of age grouping is imperative.

For these reasons and for convenience of reference the following tables are inserted:

TABLE 1.—*Population of St. Paul.*

United States Census estimate:		Figures used by city health department:	
1910	214,744	1910	235,000
1911	220.195	1911	235,000
1912	225,646	1912	235,000
1913	231,097	1913	255,000
1914	236,548	1914	255,000
1915	241,999	1915	270,240
1916	247,450		

TABLE 2.—*Population of St. Paul by sex distribution, United States census, 1910.*

Male	111,809	Female	102,935

TABLE 3.—*Population of St. Paul, Minn., by age distribution, United States census, 1910.*

Under 1 year	3,808	20 to 24 years	27,022
Under 5 years	18,426	25 to 34 years	44,530
5 to 9 years	17,485	35 to 44 years	29,212
10 to 14 years	17,599	45 to 64 years	30,900
15 to 19 years	22,125	65 and over	6,316

TABLE 4.—*Population of St. Paul, according to nationality, United States census, 1910.*

Native white of native parentage	61,594	Foreign born white	56,524
Native white of mixed parentage	24,167	Negro	3,144
Native white of foreign parentage	69,231	Indian	10
		Chinese	45
		Japanese	28
		All other	1

TABLE 5.—*Population of St. Paul by wards, United States census, 1910.*

First	23,863	Seventh	25,390
Second	18,962	Eighth	28,210
Third	8,802	Ninth	18,974
Fourth	14,214	Tenth	9,614
Fifth	22,278	Eleventh	11,658
Sixth	21,848	Twelfth	10,931

Occupational Statistics.

For the purpose of this report it is unnecessary to give any detailed correction of comparative mortality rates based on occupational distribution of the population, but as consideration has been given this factor in arriving at conclusions in regard to the mortality rates, the figures on occupational distributions are here inserted:

TABLE 6.—*Occupational statistics of St. Paul, Census Bulletin, 1909.*

	Number employed.	Percentage of total employed.
Manufacturing and mechanical industries	34,770	33.9
Trade and commerce	18,055	17.56
Domestic and personal	14,552	14.15
Transportation	12,995	12.64
Clerical occupations	12,760	12.40
Professional service	6,191	6.02
Public service not elsewhere specified	1,915	1.86
Agricultural, forestry, and animal industry	1,393	1.35
Extraction of minerals	177	.17

General Organization of Health Activities.

Up to two years ago the St. Paul Department of Health was one of the independent executive departments of the city government. The head, known as the commissioner of health, was responsible directly to the mayor and indirectly to the council, the members of which were elected by wards.

The new charter established a variety of commission form of government under which a mayor, six councilmen, and a controller are elected from the city at large.

The mayor assigns a councilman to the control of each of the six executive departments established by the charter. These are as follows: (1) Public safety; (2) Education; (3) Public works; (4) Parks, playgrounds, and public buildings; (5) Public utilities; (6) Finance.

Relation of Executive Departments to Health Department.

The department of public safety is composed of the bureaus of police, of fire protection, of health, of police and fire-alarm telegraph, and of general administration.

The department of education appoints and controls the school medical inspectors and nurses and controls the school playgrounds "for all purposes whatever."

The department of public works contains a "bureau of sanitation" presided over by a "sanitary engineer," and having charge of street cleaning and waste collection and disposal.

The department of parks, etc., has by law the charge of all playgrounds, except those attached to schools, and the commissioner is ex officio head of the building department with "a competent architect of not less than five years' practical experience in his profession" at a salary of $4,000 "to work under the direction of the commissioner," and he shall "enforce all laws of the State and all ordinances of the city of St. Paul * * * whether relating to their planning, construction, maintenance, repair, fire protection, or any other matter."

The department of public utilities is by law required to establish "municipal testing laboratories," and "whenever said council shall establish said testing laboratories it shall at the same time abolish the officers, etc.," specifically mentioning "the city chemist." The department of public utilities also has complete charge of the administration of the public markets.

The other components of the municipal machinery which directly affect the administration of the department of health are the controller, the purchasing agent, the license inspector, the corporation counsel, and the council.

The controller is ex officio the civil service commissioner, and as such has practically complete control of the nonappointive personnel of the health department.

The controller is charged by law with the inspection and acceptance of all "goods, supplies, and other articles."

The purchasing agent (appointed by the mayor with approval of the council) makes all contracts for supplies and the purchases under them, including printed matter, upon requisitions originating in the health bureau, subject to approval of the commissioner of public safety.

The license inspector is an official of the bureau of police, appointed by the commissioner of public safety with the consent of the council. Part of his function is to report (to the commissioner of the public safety) "all violations of the license laws."

The corporation counsel is the general law officer of the city and furnishes the bureau of health with advice on legal matters, and also represents it in the courts, though, as will be seen later, there is not much occasion for this service.

The council consists of the six councilmen (heads of the executive departments) with the mayor as presiding officer. It is thus in effect is not much occasion for this service.

Power of Council in Health Matters.

The powers granted to the council of St. Paul by the present charter in connection with the exercise of the police power in health matters are apparently full and unrestricted, but analysis will show that in some important directions the full exercise of such powers is considerably limited.

General powers of council.—The council has "full power and authority to make, enact, ordain, establish, enforce, modify, alter, amend, and repeal any and all such ordinances, rules, and by-laws for the good government of the city for * * * the preservation of health * * * and to promote the general welfare * * * comfort, and well being of the city and its inhabitants."

The important limitation occurs in the introductory section (see Sec. 126, p. 29) which makes the exercise of the powers given "subject to the provisions of this charter." Such a limitation was doubtless a legal necessity, but, as will be shown, it has many important results in limiting the efficiency of the bureau of health.

Specific powers of council.—The specific powers of the council are enumerated in section 127 (p. 79) as follows:

For a more specific enumeration and definition of some of the powers granted hereinbefore, a fuller exposition thereof, and as an additional grant thereto, the council shall have power and authority:

B. The council shall have power—

(1) To define, license, regulate, and restrain:

(a) Theaters, halls, exhibitions, and shows and entertainments of all kinds.

(b) * * * and dance halls.

(h) Secondhand stores and junk shops and the owners and managers thereof.

(i) Hawkers, peddlers * * *.

(n) Venders of meats, vegetables, and other food products.

(4) To define, prevent, prohibit, and suppress:

(h) All practices and acts whatsoever inconsistent with the preservation of * * * the comfort of the inhabitants of the city.

(5) To regulate and control, prevent, and prohibit:

(4) (h) All practices and acts whatsoever inconsistent with the preservation of * * * the comfort of the inhabitants of the city.

(d) The running at large of animals.

(f) The cutting of ice within the city limits and the sale thereof.

(g) The burial of the dead within the city limits or within one mile beyond such limits and to regulate the location and conduct of cemeteries and crematories.

(h) Places of bathing and swimming in the water within the city limits.

(j) The penning, herding, and treatment of all animals within the city.

(k) The emission of dense smoke.

(6) To define, regulate, prohibit, and abate nuisances.

(7) To compel all owners, agents, or occupants to keep all buildings and premises * * * in cleanly, wholesome * * * condition, and to regulate the disposal and collection of all refuse whatsoever.

(8) To compel the registration of births and deaths and the collection of other vital statistics.

(9) To impose a tax on dogs and to regulate the keeping thereof and the destruction of the same in a summary manner when at large contrary to the ordinance, etc.

(10) (a) To regulate the construction, alteration, removal of all structures and the permanent equipment thereof * * * or form methods of construction or installation detrimental to life, health, etc.

(d) Compel the installation in all structures of devices, appliances, and arrangements for the * * * preservation of health, * * * etc.

(11) To regulate the location of stockyards, slaughterhouses, rendering plants, soap factories, tanneries, stables, privies, and other unwholesome or nauseous houses or places.

D. The council shall have full power and authority:

(12) To declare and impose fines or penalties and to enforce the same against any person who may violate any of the provisions of any ordinance or

resolution; such fines and penalties may extend to a fine not exceeding $100 or imprisonment not exceeding 90 days, or both.

Nuisances.—SEC. 132. The powers conferred upon the council to provide for the abatement and removal of nuisances shall not prevent or hinder suits, prosecutions, or proceedings in courts according to law.

In this connection it is to be noted that the control of nuisances is rather involved:

1. The general grant of power to abate as in B 6.
2. The provision for suit in section 132.
3. The mandatory provision for the council upon the recommendation of the commissioner of public safety "to give said commissioner and said health officer * * * powers to protect * * * the sanitary conditions of the city. (P. 86, sec. 373.)
4. Independent of such grant of power from the council: "Said commissioner (of public safety) shall have the power of abating and correcting any condition considered by said health officer to be detrimental to the public health and the sanitary condition of the city." (P. 86, sec. 373.)
5. Removing nuisances, section 374: The council by ordinance may empower said commissioner to remove and abate, or cause the same to be removed or abated, any nuisance * * * (and goes on to provide for abatement, after due notice, at the cost of the owner).

It seems probable that such a varied armament of legal and administrative weapons against nuisances has never before been provided in a municipal charter. It also seems possible that when enforcement gets into the courts, which has not yet occurred, as far as the bureau of health is concerned at least, it will be found that in a multitude of methods there is no safety.

Bureau of Health.

The provision for the creation of the central health agency for the city is contained in section 372 of the charter, as follows:

The commissioner of public safety shall ex officio be—

the chief health officer of the city, and subject to the charter and enactments in pursuance thereof, shall appoint the officers and employees hereinafter named, who shall be and constitute the bureau of health.

A health officer who shall be a duly licensed physician of not less than five years practice and at a salary at not to exceed $4,000 per annum.

A deputy health officer who shall be a duly licensed physician of not less than three years practice and at a salary not to exceed $2,500 per annum.

Both of the above officers shall be appointed with the consent of the council, and each shall hold office for a term of two years from and after their appointment and until their successors are appointed.

Such other officers, physicians, inspectors, assistants, and other employees as the council, by an administrative ordinance, may provide and at such compensation as it shall fix.

Section 373, defining the general health powers, is a very remarkable document. It begins:

The council on recommendation of the said commissioner (the commissioner of public safety) shall, by ordinance, give the said commissioner and said

health officer such powers and impose upon them such duties as will enable them fully to protect the public health and the sanitary condition of the city.

The section then goes on for over 800 words to outline the duties and powers of the bureau of health and its actual and titular heads.

It is difficult to escape the conclusion that when the charter was prepared section 373 was obtained by selecting sentences, clauses, or ordinances from the law then existing in St. Paul or elsewhere and consolidating them without consideration of their coherency and without reference to other charter sections limiting or even nullifying the provisions of this section.

For example:

The commissioner "shall have the power to quarantine, placard, or disinfect any house, or order it to be done," but he "shall decide upon the advice of the health officer when persons so quarantined shall be released." In other words, the commissioner can impose quarantine without consulting the health officer, but he can not terminate it without the latter's approval. Other contradictory provisions might be cited.

There is similar confusion in the language relating to ordinances and rules. For example: Physicians must report contagious diseases "in such manner as the said commissioner shall direct," which implies the power to enforce rules of his own making, and yet later in the same section it is expressly provided that the council shall "by proper ordinance make effective and define in detail all powers and duties hereinbefore imposed and granted."

In the penalty clause reference is made to "the provisions of the charter and the ordinances enacted in pursuance thereof" and to "rules and regulations of the bureau of health," evidently having in mind in the latter case the idea that the bureau of health would establish its own administrative regulations and rules of procedure. Yet the charter (sec. 116, p. 27) says, "Every act or bill which shall * * * prescribe * * * the procedure for the performance of any administrative act, or promulgate any rule or regulation * * * shall be expressed and done under administrative ordinance."

Section 375 gives full police power to all officers and employees of the bureau of health.

Sections 376–378 relate to management of public baths and will be referred to later.

Section 379 provides that the commissioner of public safety shall "administer and enforce all laws and ordinances relating to the inspection of milk, meat, and other food substances and also laws and ordinances relating to the inspection of hotels, restaurants, tenement and lodging houses"—all this in direct contradiction of section 432 (as above) which says the commissioner of parks, playgrounds, and buildings, "shall enforce all laws of the State and all ordinances

of the city of St. Paul applying to buildings within said city whether relating to their planning, construction, maintenance, repair, fire protection, or any other matter."

Section 379 also gives the commissioner of public safety control of public comfort stations, but leaves it to his discretion as to whether they shall be administered by the police, fire, or health bureaus, or by the bureau of general administration.

Ordinances.

Present status.—The new charter continued in force all the existing ordinances, and as far as could be ascertained no ordinances dealing with sanitary or public health matters have been passed since it went into effect; indeed, no ordinances on such subjects could be found in the council proceedings of later date than September, 1913, and most of them are of considerably earlier dates.

In some instances the ordinances contradict each other and are not in accordance with the provisions of the charter; many are incomplete in scope and inadequate in effect. There are extensive fields of public health activity quite untouched by the hand of council regulation.

None of the office or field employees knew of any general compilation of health bureau ordinances. Individual employees, however, had leaflets giving the text of one or more ordinances or amendments, or summarizing very briefly the regulations of the State board of health in regard to reportable diseases. After considerable difficulty, it was possible to assemble all ordinances and amendments passed since a compilation published in 1904. This was done by Mr. Geseil, the commissioner of public affairs of the Association of Commerce.[1]

Just what is the real situation legally it is impossible to say. There are these elements of uncertainty: (*a*) Some of the provisions of the charter seem to be contradictory in themselves; (*b*) some of the language of the ordinances seems to be sufficiently in conflict with the charter to have been automatically repealed under section 374; (*c*) it is not clear in some instances that failure to pass ordinances concerning certain powers granted to the council by the charter has not operated to prevent action by the bureau of health.

These matters have been treated in detail, because it was understood that what was in contemplation by the civic organizations of the city was a general reorganization of the legal framework of the bureau of health, and that they therefore wished this report to embrace a discussion of the existing legal situation as well as a report on administrative conditions.

[1] For the information of the local public an enumeration of the sections of the charter affecting directly or indirectly the bureau of health and an alphabetically arranged compilation of the city ordinances were prepared and transmitted to the city authorities.

Methods of passing ordinances.—Ordinances and resolutions may be classed as follows:

(*a*) Every act "which shall define, license, regulate, suppress, prevent, or prohibit any act, business, or person, * * * and likewise any amendment, modification, or repeal of an existing ordinance of a similar character," is an ordinance.

(*b*) Every act or bill "which shall define, regulate, or create any office or prescribe the powers and duties of any officer or department, or the procedure for the performance of any administrative act, or promulgate any rule or regulation for the better government and conduct of the city government, shall be created by, expressed, and done under an administrative ordinance."

(*c*) "Every act, deed, expression, order, or direction not hereinbefore defined or limited, or the approval of every administrative act or appointment of any officer, shall be performed by means and done under resolution of the council, and not otherwise."

The provisions as to initiative and referendum of ordinances are quite elaborate, but the effect is substantially as follows: Ordinances and administrative ordinances can be introduced by petition of 10 per cent of the voters at the last mayoralty election, in which case they must be passed exactly as introduced within 60 days. If not passed they are voted on at a general election or at a special election if the petition has been signed by 25 per cent of the voters.

While ordinarily there is some delay in passing ordinances, health, peace, or safety ordinances can be made operative on publication by a three-fourths' vote of all members elected. Resolutions may be adopted at the meeting at which presented.

Enforcement.—The legal machinery for enforcement is direct and adequate. A warrant for the arrest of anyone violating the provisions of an ordinance can be sworn out by any official of the bureau of health in his capacity as a police officer, and can be served either by the officer obtaining it or by an officer of the city police. Usually it is served by the latter. The court procedure seems prompt and effective. Further reference will be made to this matter.

Discussion.—After careful study of all the factors affecting the organization of the bureau of health or related thereto, the conviction can not be escaped that St. Paul can not expect to develop a central health agency to meet future needs under the provisions of the present charter. Of course, the present organization can be greatly enlarged, improved and strengthened; but at its best it must remain unbalanced, incomplete, and unprepared to assume all the duties which the growth of the city and the education of public opinion will impose upon it.

Space does not permit giving in detail the reasons which lead to this conclusion; but a few of the major ones must be mentioned here, and others will be referred to in connection with the detailed study of the present bureau of health.

(A) The grouping of administrative agencies and their duties under the charter is illogical. The effect of carefully planned and wisely conducted public health activities not only protects the present generation, but guarantees the well-being of future generations. It reaches into every phase of civic life and determines both the happiness and the prosperity of the whole body of citizens. In the higher sense its only rival in importance to the citizens is the operation of the schools. Surely an agency of such complex functions and far-reaching effect is as important an administrative unit as the one in charge of parks and playgrounds and public buildings.

The head of the health activities is officially classed with the superintendent of the fire and police telegraph, below the purchasing agent. He is excluded by section 432 from enforcing "any ordinance" regarding air space, ventilation, lighting, planning "or any other matter" relating to housing or places of public assembly. It is true that he is now making inspections of hotels and lodging houses, but he is doing this under an ordinance which, being directly inconsistent with the charter, was probably repealed by the adoption of the latter. It is also true that section 476 gives a wide general authority to the council to extend the authority of any officer as necessary "to preserve the interest of its inhabitants," but it can only exercise this power "subject to the limitations of the charter," so that in the matter of housing control it is estopped from remedial action.

The chief health officer is ex officio "the sanitary adviser of all city officials," but as long as human nature is human nature a subordinate bureau officer of one department will not infrequently find his advice considered an interference by the head of another department, especially in such matters as medical-school inspection, housing, public recreation, and contagious-disease hospital control. While an elective chief health officer is not to be considered, it would be simple enough to provide (1) for the abolition of the department of parks, playgrounds, and public buildings, giving parks and public buildings to the department of public works, where they really belong, and the playgrounds and all building control, plumbing inspection, and other housing matter to the health department; or (2) for the creation of a seventh executive department to include the present health bureau, housing bureau, and a public welfare and recreation bureau. In either case the department chief should be appointed by the mayor and should have a seat in the council. While he need not have a regular vote in the council, he should have a vote on distinctly public-health measures.

(B) The limitations placed by the charter upon eligibility for appointment as chief health officer, assistant health officer, and the chief technical positions, such as food inspection and chief of schools,

all have the effect of protecting a limited class of citizens at the expense of the rest. These limitations are survivals of the idea that a public office is a job to be kept in the family.

Administering a health department along modern lines is one of the most specialized occupations in existence. If this were not so, the great universities, like Johns Hopkins, Harvard, Michigan, Colorado, Pennsylvania, and others would not have organized special postgraduate courses combining medicine, sanitary engineering, and the like, and leading to the degree of doctor of public health. A man with all these requirements may possibly be found at once in St. Paul or any other large city, but why limit the choice? If a citizen is ill and can afford it, he calls in the best equipped man he hears of without concerning himself about the doctor's voting place. Then, why should he consider it when selecting the community physician?[1]

There are two classes of people, and only two, benefited by limiting the choice of health officer to locally licensed physicians with five and three years' practice, respectively. These are politicians who may wish to use the appointments as pawns in their game and the entirely negligible number of the local medical men who want the positions and are afraid to compete for them.

The limitation of the term of office, two years, puts a premium on inefficiency. Public health work, in the modern sense, is a specialized occupation, because it involves applying advanced sanitary science to promoting the physical efficiency of the public. The man who seriously takes up this work burns all his professional bridges behind him. Four years is the minimum time for which he should serve, depending on efficiency.

(C) The indefiniteness and contradictions in the charter language will lead to a tangle of conflicting officials, personal interest, and a jumble of law suits just as soon as an attempt is made really to exercise the health powers so confusedly set forth.

Sanitary Status of City.

The general sanitary status of the city of St. Paul is unquestionably good. It would be remarkable if it were not. The fundamental elements of a healthful community are all present—a healthful site, a good water supply, a prosperous population derived from strong stocks and unweakened as yet by generally congested housing and insanitary industrial conditions. St. Paul citizens have pointed with pride for years to the low death rate, but without stopping to think

[1] Under sections 102 and 109a, the controller, as civil service commissioner, and the council can waive the voter qualification, but they can not waive the requirements that the health officer and assistant health officer must be "duly licensed physicians." The fact that the health officer is a locally licensed practitioner is of no importance.

whether they had done much themselves to keep it low or to make it lower. The controlling factors have been pure water, low temperatures, plentiful sunlight, and absence of congestion.

Death Rate of St. Paul.

TABLE 7.—*Death rate per 1,000 population, St. Paul, Minn., for 1906–1915, inclusive.*[1]

1906	10.50	1911	10.83
1907	10.90	1912	10.21
1908	10.50	1913	11.06
1909	11.40	1914	11.32
1910	11.91	1915	10.77

This annual death rate is very low. The average crude death rate for the registration cities was 13.5 per 1,000 in 1915. This, of course, includes the largest cities, those with the worst industrial and congestion conditions and those with large colored population.

Morbidity Rates of St. Paul.

It must be remembered, however, that the health status of a city is not arrived at by determining how old the citizens were when they died, but by ascertaining to what extent they enjoyed vigorous health and freedom from preventable diseases while they were alive.

It is not possible to state here all the calculations made in the attempt to arrive at an opinion as to the morbidity rate of St. Paul, but the following tables give some of the data.

Diphtheria.—It will be seen from Table No. 8 that in St. Paul the number of persons per 1,000 having diphtheria was considerably larger than the number per 1,000 in other cities of similar size. The difference against St. Paul in the four-year average was 0.659, or a little over 34 per cent.

TABLE 8.—*Diphtheria.*

Year.	Average case rate per 1,000 population of cities from 200,000 to 300,000, exclusive of St. Paul.	St. Paul case rate per 1,000 population.	Percentage of difference.		Average fatality rate per 100 cases in cities of from 200,000 to 300,000, exclusive of St. Paul.	St. Paul fatality rate per 100 cases.
			St. Paul rate greater.	St. Paul rate less.		
1912	2.024	1.472	.....	27	5.14	5.86
1913	1.832	2.639	44	.....	9.04	6.87
1914	2.035	4.177	105	.....	7.63	6.98
1915	1.750	1.988	14	.....	6.42	6.24
Average	1.910	2.569	[2] 34	.....	7.05	6.49

[1] As given by Minnesota State board and United States Census.
[2] Four years.

The figures on deaths per 100 cases were compiled as a check on the accuracy of the case report. The results are sufficiently close to justify the conclusion that the case report was of about the same degree of completeness in the group cities and in St. Paul.

Scarlet fever.—It is apparent from the following table that the chance of any individual in St. Paul having scarlet fever was 93 per cent greater than the chance of any individual in the combined populations of other cities of the same class.

TABLE 9.—*Scarlet fever.*

Year.	Average case rate per 1,000 population of cities from 200,000 to 300,000, exclusive of St. Paul.	St. Paul case rate per 1,000 population.	Percentage of difference.		Average fatality rate per 100 cases in cities of from 200,000 to 300,000, exclusive of St. Paul.	St. Paul fatality rate per 100 cases.
			St. Paul rate greater.	St. Paul rate less.		
1912	1.694	0.676	.....	60	3.67	4.44
1913	1.989	2.172	9	.....	3.41	3.58
1914	1.819	7.125	291	.....	3.04	2.49
1915	1.493	3.508	134	.....	1.43	3.30
Average	1.749	3.370	[1] 93	.....	2.88	3.45

[1] Four years.

Measles.—The following table will show that St. Paul had less measles reported than the group cities:

TABLE 10.—*Measles.*

Year.	Average case rate per 1,000 population of cities from 200,000 to 300,000 exclusive of St. Paul.	St. Paul case rate per 1,000 population.	Percentage of difference.		Average fatality rate per 100 cases in cities of from 200,000 to 300,000 exclusive of St. Paul.	St. Paul fatality rate per 100 cases.
			St. Paul rate greater.	St. Paul rate less.		
1912	4.919	1.058	.....	78	4.69	0.35
1913	5.504	5.662	2.8	.....	2.09	1.37
1914	6.182	2,365	.....	61	3.37	.89
1915	1.521	5.025	230	.....	3.18	1.23
Average	4.531	3.527	.....	[1] 22	3.33	.96

[1] Four years.

The striking feature is that while the case rate is 22 per cent lower in St. Paul, the death rate is 70 per cent lower. There are two explanations that suggest themselves. The disease may be much more completely reported in St. Paul than in one or more of the group towns, or else the deaths from measles are not accurately reported in St. Paul. The second suggested explanation is disposed of,

however, by the fact that the unpublished tables of the St. Paul mortality from acute respiratory diseases, the usual source of erroneous death reports in measles, show that the total deaths from such diseases in 1915, the year in which St. Paul had an unusually high case rate of measles, was only one more than in 1914, when the city had approximately half as much measles. A greater virulence in the type of the disease might be conceived to be a factor in the death rate of the group cities, but it would have to be continuously manifested in six cities for four years to be much of a factor.

The evidence collected in the course of the preparation of this report strongly suggests that the first explanation is the true one. In this connection it was found, by reference to the data on which Table 10 was based, that during all of the four years the rate in all but two of the group cities is identical with the St. Paul rate. In these two cities the health authorities state that the disease is very imperfectly reported, thus giving apparent fatality rates per 100 cases of from 10.7 to 15.65, which accounts for the group average rate being so much higher than the St. Paul rate.

Taking all these facts into consideration, therefore, it is probable that St. Paul during the past four years had less measles than the other cities in the same class used for comparison.

TABLE 11.—*Typhoid fever.*

Year.	Average case rate per 1,000 population of cities from 200,000 to 300,000, exclusive of St. Paul.	St. Paul case rate per 1,000 population.	Percentage of difference.		Average fatality rate per 100 cases in cities of from 200,000 to 300,000, exclusive of St. Paul.	St. Paul fatality rate per 100 cases.
			St. Paul rate greater.	St. Paul rate less.		
1912	0.903	0.466	.....	48	14.31	18.55
1913	.681	.691	1.4	.....	19.68	11.87
1914	.614	.680	11	.....	27.06	14.91
1915	.676	.624	.....	7.6	17.07	11.92
Average	.718	.615	.....	[1] 14	19.53	14.31

[1] Four years.

With its pure water and short summer St. Paul is entitled to stand very much better in regard to its typhoid rates than the group cities, several of which have long summers and have to treat the water from polluted sources to get a safe supply.

As the table shows, St. Paul made a better showing than the group cities in two of the four years. There are some apparent discrepancies in the fatality rate per 100 cases, but in the average the figures may be considered reasonably accurate in that regard. It was found, however, by reference to the data on which Table 11 was based, that

in three of the four years the case rate in one city, Indianapolis, was very high, from 1.091 to 1.537, and in another city, Denver, the 1912 rate was 2.163. Taking these facts into consideration it can hardly be said that the typhoid rate in St. Paul is as low as it should be with the city's natural advantages.

Typhoid is usually reported on the basis of deaths per 100,000 of population. On this basis the Chicago rate in 1914 was 6.97; in 1915 the New York rate was substantially the same. The St. Paul rates were approximately 10 and 7.4 in these two years. It is a good showing, but could easily be improved.

Infant Mortality.

The baby death rate is affected by so many factors, climatic, racial, and economic, that comparative figures may easily give deceptive results.

Aside from the modifying factors, the basic factors needed are difficult to obtain. We may calculate the baby death rate in at least three ways, (1) on the basis of the relation of the number of deaths under 1 year of age to the births during the year, (2) the relation of the number of deaths under 1 year to the total deaths for a year, or (3) the relation of the deaths under 1 year to 1,000 of population.

The New York milk committee has recently published comprehensive tables giving for a series of years the deaths under 1 year, the rate of deaths to births, and the percentage of infant deaths to the total mortality for 144 American cities. The information upon which the report is based was secured by a questionnaire addressed to health officers and, therefore, is subject to certain reservations as to its accuracy. The tables, however, must on the whole be accepted as the nearest approach to an accurate statement available.

If the 144 cities are listed in order of the rates of deaths under 1 year during a given year to number born during the same year, St. Paul ties for twenty-seventh place with Haverhill, Mass. This is an excellent showing.

In the list of cities reporting, there were by the 1910 census 10 of more than 200,000 and less than 300,000. The infant rate for 1915 is given for nine of these in the published tables of the New York milk committee. Seattle stands first with a rate of 53.1, and St. Paul second with a rate of 77.9. When it comes to the percentage of infant deaths to total mortality, however, St. Paul drops to seventh place.

Summing up all the facts, we seem to be justified in the conclusion that a child born in St. Paul has much above the average chance of escaping the perils of very early infancy, but will have to face a greater probability of contracting typhoid fever than the local con-

ditions necessitate, and a much greater—even very much greater—probability of contracting diphtheria and scarlet fever than if born in other cities of the same population rank.

HISTORY AND PRESENT STATUS OF BUREAU OF HEALTH.

History.—The bureau of health of St. Paul has had a very unusual history. At a time when the central agencies for the health of municipalities were for the most part limiting their activities to the narrow lines of purely medical work, the health officer of St. Paul, Dr. J. Ohage, had a much wider vision and recognized clearly that the time was at hand for health authorities to take hold of the larger problems of clean air, clean people, and clean recreation.

St. Paul was at that time firmly in the grip of the delusion that a dirty atmosphere and prosperity were inseparable—that the former was needed as the visible proof of the latter. Dr. Ohage's fight to remove the smoke cloud from above the city was phenomenally successful, as the records and photographs will show.

The meat inspection system seems also to have been considerably more efficient in St. Paul 15 years ago than was the case in other cities of similar size.

The spot-map method of recording reportable diseases was also adopted by St. Paul long before many other cities adopted it. Dr. Ohage was also one of the first to move for putting tuberculosis on the list of reportable diseases and for an educative system of municipal control.

There are a number of other directions in which the St. Paul health department was in advance of the current practice of the period. The position taken by Commissioner Ohage in regard to the proper relation of the health department to public baths and recreational facilities is especially noteworthy, since it was so far in advance of the general tendency 17 years ago. Through his agency the Harriet Island property was obtained and its control vested in the bureau of health, in perpetuity.

To Dr. Ohage also belongs the credit for abolishing the old "pest house" conditions for the care of smallpox.

Present status.—The bureau has grown somewhat during the past five years. In 1911 the medical force consisted of the chief health officer, the assistant chief, who also had charge of the laboratory, a "second assistant commissioner," not a physician, three "health inspectors" for seven months and four for five months, one of these being a physician. The present organization, with all its defects, is distinctly in advance of former conditions.

The selection of the chief officer of the St. Paul health department, however, has always been subject to the uncertainties of local politics. It is not meant that the candidates' fitness for the position has not

been given consideration, but that the duration of appointment depended on the whole upon the success of a given political party or faction.

The present health officer has been in office for two years, his predecessor served three years, his predecessor four years, and prior to that the present incumbent was in office for a number of years.

Civil service.—Formerly the health officer employed and discharged all subordinate officials. At the present time all but the health officer and deputy health officer are under civil service. This condition being of recent creation (1913), the majority of the present employees are "hold overs" from the prior period. All appointments are now made by competitive examinations, and the commissioner of public safety (not the health officer) has the right to select any one of the three highest on the eligible list.

The opportunity was obtained of examining some of the questions and papers in recent examinations for health bureau positions, and the methods and standards of examinations were found distinctly better than might have been expected in an organization so recently established.

The controller (an elective officer) is ex-officio head of the civil service and can remove or reduce any employee during the first six months of service, and after the termination of the probationary period can remove or reduce after written charges have been made and replied to by the employee.

When there are not as many as three names on the list of eligibles the head of the department (not the health officer) can disregard the list and make a temporary appointment. In this way a temporary appointment can block the appointment of a very desirable man until the two years of eligibility expire, and then by delaying examination the incumbency of the temporary employee may readily be farther extended. The writer has no idea that advantage has been taken of this, but it is a potential source of great danger to the health department, for it is certain that if the examinations are adequate there will quite frequently be not as many as three names on the list of eligibles for the higher grade positions.

Discipline.—As an introduction to a description of the field activities of the bureau of health, the general observation is to be noted that the field force is not graded and that no provision is made for the systematic increase in pay on a reasonable basis of length of service and efficiency, nor are there any working standards, efficiency markings, demerits, or time control. Although it is true that a small force can get along fairly well without such standards where a large one could not get along at all, some system of check and control is necessary, and the deficiencies referred to should be corrected when the bureau is reorganized.

OFFICE ADMINISTRATION, APPROPRIATIONS, ACCOUNTS, AND SUPPLIES.

Management of Office.

No organization chart showing sequence of authority of the bureau of health employees and assignment to specific duties was in existence. Except for certain traditional customs and here and there an unrecorded instruction, there was nothing in existence to show that anyone in the bureau or field force has been assigned to any particular duty or instructed therein. Detailed inquiry was therefore made of a number of employees and a chart constructed. It was then submitted to the deputy health officer and others and verified by them. It is now in the possession of the St. Paul health department.

The principal employees have a variety of occasional or subsidiary duties in addition to their major duties. Because of the varying zeal or capacity of different employees, some of the duties of certain employees are not those which would logically attach to their positions.

It is unnecessary to go into the details of these duties. Those of importance in connection with special lines of field work will be mentioned under the proper headings.

The chief sanitary inspector is virtually the head of the office force and executive officer for the department as a whole. He handles the sanitary complaints, the license applications, the termination of quarantine, and a variety of other matters, besides the monthly reports and other papers going to the desk of the health officer. The stenographer, however, is in many ways the executive of the office, so far as concerns acting for the health officer and deputy health officer in matters of correspondence, answering the telephone, and handling many of the contagious-disease details.

One unusual feature of the office procedure should be mentioned here. Large numbers of children are brought to the office every day to be vaccinated. The deputy health officer and medical inspectors occasionally do the vaccinating, but at least 90 per cent of those applying are vaccinated by the stenographer and another clerk. Of course this is a wasteful practice, interrupting incessantly any continuous work. The employees do this work very well, but the practice is open to serious objections besides those based on a waste of time.

It is inevitable in an organization as small as that of the St. Paul Bureau of Health, with duties rather varied in scope, that there will be an apparent lack of system, which is not inconsistent with very considerable efficiency. The prime factor requisite to secure such a result, however, is intensive personal control and definite assignment to duties and responsibilities, both of which are lacking in the St. Paul Bureau of Health.

Blanks and Records.

Matters relating to the system of record and report will be taken up in connection with the work of the different divisions. Comment here is made on certain general matters only.

There is no proper system of handling and filing correspondence. Into a vertical file in the health officer's office go such letters and carbons as that officer handles personally, together with letters of complaint. No other record is kept of the receipt, answer, or mailing of letters except the carelessly kept personal files of different employees. In nearly all cases it is impossible to trace through the office the details of transactions not sufficiently recent to be well remembered.

Many of the blanks and forms are in accordance with good practice and properly filed, but as a general proposition the blanks and recording and filing methods are the result of individual initiative of members of the field force without experience in such matters. Speaking generally, it must be said that there is in all parts of the office organization, equipment, and methods a lack of definite planning, system, and active control. The situation is greatly redeemed, however, by the intelligence and efficiency of some of the office force.

Office Space.

The bureau of health proper is located in the basement of the city hall. The space is entirely inadequate, awkwardly arranged, and poorly equipped.

The office for the tuberculosis work is in the Wilder Building. This building is situated several blocks from the city hall and is a high-class modern building, occupied by the offices of the Wilder Charitable Foundation and by the offices of various civic and improvement organizations.

Telephone Service.

There are two telephone systems in St. Paul, and the bureau of health has the local service of each, but there is no intercommunicating telephone system; there is an entirely inadequate number of extensions, and, quite beyond comprehension, the department is not authorized to use the telephone in communicating with Minneapolis. It is absolutely necessary that the health bureaus of the contiguous cities should be in active cooperation, and nothing makes for cooperation as effectively as facilities for intercommunication.

It is regretfully noted in this connection, however, that no evidence was found of any cooperation between the two cities. Even where, as in milk, food, and meat inspection and medical work, the

fields of activity always join and sometimes overlap, there was quite complete ignorance on the part of each department as to the methods and rules of the other.

Hours of Employment.

The charter says, "In all city employment eight hours shall constitute a working day," but as a hold-over condition from the former charter there seems to be a general understanding that both the health officer and the deputy health officer are not required to give their entire time to their duties.

The health officer takes a most active interest in the baths and playgrounds on Harriet Island and gives much time to them during the summer season. He also gives on occasion considerable time to seeing smallpox suspects, and supervises the meat and dairy inspection to a slight extent, and, to a very slight extent, the general food inspection. He is thoroughly familiar with all the city machinery and with local conditions and has a large personal acquaintance. With every appreciation of his unusual personality, attainments, and record, however, it must be said that the time given by him to the active duties of his office is insufficient.

The deputy health officer has nominally the direction of the laboratory and of the medical inspections, but is not very actively engaged in either. He usually comes to the office sometime between 10 and 11.30 a. m., and stays an hour or so. He occasionally returns to the office during the afternoon.

The medical inspectors are part-time employees, although the writer found no formal provision for such an arrangement. The idea is that on an average they will be employed up to four hours a day.

The hours for the remainder of the force are as follows:

Chief inspector, 8 a. m. to 5 p. m., with an hour off at noon. Office force, laboratory, and tuberculosis division, 9 a. m. to 5 p. m., with an hour and a half off at noon. Field force, office 8 a. m. to 9 a. m.; field 9 a. m. to 1 p. m.; field from 1.30 to 4 p. m.; one hour off at noon. On Saturday the office closes at 1 p. m., two inspectors (sanitary policemen) remaining on duty until 4 p. m. On Sunday two inspectors are on duty from 8 a. m. to noon. On holidays two inspectors are on duty from 8 a. m. to 4 p. m.

Supplies.

Requisitions for supplies are made upon forms prescribed by the controller and sent to the city purchasing agent. All purchases are made by the latter.

There is no prescribed routine for approving requisitions and no record of authorization or delegation of authority to approve. Any member of the office or field force who needs blanks, cards, record

forms, or other supplies can make out a requisition and turn it over to the bookkeeper. The latter sees that it is in proper form and then forwards it to the purchasing agent. When the goods are delivered, they are checked and signed for by whoever happens to be on hand. There is an entire lack of suitable storage space, records of issues, and property accountability.

The charter makes the purchasing agent the inspector of all articles purchased. Of course this is an absurdity, but it is the law and doubtless relieves the bureau of health of any legal responsibility for the quality or quantity of articles received. It does not affect, however, the responsibility for the other deficiencies noted.

The general effect of the present purchasing arrangement is good enough or could be made so, but at present the bureau of health finds itself generally inconvenienced because it has no authority to pass on the acceptability of its own supplies and no real recognition of its views as to printing and other matters, and especially that in a sense it is expected to produce results with its appropriation for supplies and yet is not permitted to spend it according to its own ideas.

For the purpose of this survey it was necessary to have typed copies made of the annual reports for 1914 and 1915, because it was stated the controller would not permit them to be printed.

No petty cash account is provided for the bureau and this occasions constant inconvenience and would cause more if the field force were more active. If the bureau of health is to grow to anything like its full state of influence, it will have to undertake many activities which will involve purchases or expenditures which can not be advantageously handled by the present method. Provision should be made for open market purchases on emergency, to an amount of, say, $200, and the health officer should be permitted to spend his appropriation, through the regular channels, of course, but in accordance with his best judgment.

Appropriations.

The preparation of the city budget begins with the making of an estimate by the health officer of the funds needed for the next year and a statement of the expenditures for the six months last preceding June 30.[1] This estimate and statement must be in the controller's hands by August 1. Not later than August 15 the controller reports to the council, and then the subject is discussed at length and finally passed before December 31.

The charter puts a limit on city expenditures for all purposes except sinking fund of $24 per capita. The appropriations for the

[1] It has never been understood why so many charters require a statement of the expenditures for a given six months as part of the annual estimates. Such a statement is always misleading as a guide to future appropriations.

bureau of health proper are about 92 per cent for salaries and wages. They are for 1916 approximately 8 per cent of the similar appropriation for the entire department of public safety, and 2.2 per cent of the city expenditures for salaries and wages.

The difficulty in obtaining accurate information from municipal budgets is shown by the fact that in the St. Paul report the sum of $206,502.94 is charged to "sanitation," which includes the expenditures for street cleaning and sprinkling and waste collection.

The following is a summary of the health bureau budget:

TABLE 12.—*Summary of budget, 1916.*

	1915	1916
Health account:		
Salary and wages	$29,175.00	$10,100.00
Maintenance and repairs	2,075.00	3,972.10
	.....	14,072.10
Quarantine account:		
Salary and wages for sanitary inspectors, salaries for detention hospital	20,000.00	19,320.00
Salaries for tuberculosis division	.....	15,840.00
Maintenance and repairs	.....	5,093.00
	.....	40,253.00
Dairy account:		
Salaries and wages	4,680.00	4,880.00
Maintenance and repairs	320.00	200.00
	.....	5,080.00
Public bath account:		
Salaries and wages	10,000.00	9,315.00
Maintenance and repairs	9,250.00	6,885.00
	.....	16,200.00
Public baths music account	.....	4,500.00
Total	.....	80,105.10

Of the total of $80,105.10 the expenditures on account of the recreation center and baths on Harriet Island ($20,700) can not be considered as belonging to health proper. This leaves the health appropriation $59,405.10, of which $6,935 is for maintenance of the smallpox hospital, leaving $52,470 as the net health appropriation, of which $15,840 is for salaries in the tuberculosis division. Including tuberculosis the expenditure for health proper is about 20 cents per capita, or about 22 cents including the detention hospital.

It is a sad commentary on the sanitary intelligence of a community that more than 10 per cent of the total health appropriations has to be spent for the care of a disease from which any citizen can secure protection for nothing.

The salaries of the health officer and deputy health officer amount to $6,500, to which must be added the wages of chauffeur provided for the former ($900), one set of tires and the gasoline allowance, the cost of the last two items not being known. The total cost of super-

intendence must, therefore, be about $7,600, or pretty close to 13 per cent of the total appropriation for health proper.[1]

TABLE 13.—*Principal salary items.*

1 chief health officer	$4,000
1 deputy health officer	2,500
1 chief clerk (accountant)	1,200
1 chief sanitary inspector	1,500
13 sanitary policemen, at $1,080	14,040
1 meat inspector	1,320
1 food inspector	1,080
1 hotel inspector	1,080
1 live-stock inspector	1,500
1 chief dairy inspector	1,500
1 assistant dairy inspector	1,080
1 chief nurse (tuberculosis)	1,500
6 visiting nurses (tuberculosis), at $1,080	6,480
3 medical inspectors (part time), at $1,200	3,600
1 bacteriologist and chemist	1,500
1 laboratory assistant	720

In every small health bureau the cost of superintendence is necessarily a large percentage of the total expense. This is one of the very strongest reasons for requiring full-time service, for it is manifest that St. Paul is not really getting off with an expenditure of 13 per cent of its health appropriations for superintendence; it is really paying several times that amount, as many times more as the combined working hours spent in the bureau by the health officer and deputy health officer will go into 16 working hours. The part-time city health officer is as illogical as a part-time city water supply. The salaries paid by St. Paul to its health officers are not too high, not as high as the importance of their work demands, but they are much too high for fractional time service.

DIVISION OF VITAL STATISTICS.

Death Certificates.

St. Paul is a so-called "registration city," which means that its mortality returns are believed to be sufficiently accurate to justify the United States Census to use the figures for statistical purposes. The accuracy of the mortality rates published by the bureau of health and the discrepancy between them and the State board and the United States Census figures have already been discussed. (See p. 43.) This portion of the report will deal, therefore, only with the administrative and office methods of handling the death and birth reports.

[1] It is true that the $7,600 covers the superintendence of Harriet Island as well as of the department, but as the island season is only four months, and $4,500 of the $20,700 appropriated for Harriet Island is for music, the percentage cost of superintendence can not be materially reduced on that account.

Under the State law a certificate of death upon a prescribed standard form is made out and presented to the bureau of health as a prerequisite to securing a permit for removal or local burial. The original death certificate is transmitted to the State board of health after being copied for the city files. The duplicate copies are bound in standard style and filed in the bureau vault. At the same time a card record is made and filed in an index. The filing facilities in the vault are adequate and of suitable design and the records are in good order and accessible.

The really important part of the work, however, is the securing of accurate statements of the causes of death in the death certificates. Every death certificate should be critically examined by a medical man, or by one specially trained to the work. There are also many errors and omissions in filling in the certificates, and it takes great care and long training to fit a clerk to correct the mistakes.

For local administrative and statistical purposes it is especially important that the returns for deaths of infants and young children and of those dying from reportable diseases should be carefully scrutinized. For medical and legal reasons all sudden or unusual causes of death require investigation. The present law in Minnesota limits the duties of the coroner to the investigation of "violent, mysterious, and accidental deaths, and suspected homicides." This fact greatly increases the responsibility of the division of vital statistics and increases the necessity for critical inspection of the death certificates.

When the death certificate has been presented, a burial permit is made out with a carbon copy for office files. Under the law no interment can be made within the city or for a mile outside without the delivery by the undertaker to the cemetery authorities of the burial permit, which is retained in the files of the cemetery. On the first of each month each cemetery is required to make a return of the burials made during the preceding month, the form being supplied by the bureau of health. Once a month also each hospital or other institution makes a return of all deaths occurring there during the month. By checking up these reports with the files of death certificates, discrepancies of the burial permits can be discovered. Upon request the bureau issues certified copies of death certificates. Every step of these various processes of record requires care and special training and the responsibility for accuracy should be definitely fixed.

The following are the office methods in St. Paul:

One of the clerks usually receives the death certificates and issues the burial permits. This employee has not had the requisite training to make him competent to correct the technical errors in certificates.

The certificates go at the end of the week to the stenographer in the office of the health officer, who is supposed to prepare them for transmission to the State board of health. This employee is apparently discharging the duty with efficiency, but is not prepared to solve technical questions constantly presenting themselves. Until recently, there was no examination of certificates or verification of the statements therein by one having a medical training. At the present time, one of the part-time medical inspectors is voluntarily and without assignment making such technical corrections as his spare time permits. As he does the work at irregular intervals he necessarily is often unable to secure information needed for making corrections.

Once a month the chief sanitary inspector makes out the summary for the monthly bulletin.

So far as could be discovered, no systematic use is made of the death certificates of cases of reportable diseases as a check on the case reports, nor is any systematic study made of the certificates as a basis for investigation.

There is considerable disregard of the law by the cemeteries. To oblige undertakers and others, burials are not infrequently permitted before the burial permit has been procured. The dates of burial entered on the certificate show that quite commonly interments are made before the death certificate has been presented to the bureau of health As the medical inspector does not see the certificate until several days after burial, the door for fraud is wide open. Moreover, the methods described are not in accordance with sound practice and render the mortality returns less accurate and valuable than they should be.

Formal provisions should be made for having the death certificates pass technical inspection immediately after receipt, and if possible before the burial permit is issued. The practice of allowing anybody in the office to issue burial permits should be discontinued. The designation of the person to issue such permits should be the subject of a formal official order duly recorded.

The undertakers should be made to understand that no permit will be issued on a death certificate lacking the essential facts called for thereon. Cemetery keepers and other persons permitting interments without permit should be prosecuted. The copies of certificates made for bureau files should be made on the typewriter and equipment provided for doing mechanically the arithmetical work of the division and of the bureau generally. This would also make possible a much more detailed statistical summary.

Systematic study should be made daily, weekly, and monthly of the mortality returns.

Birth Registration.

The State law requires a report of births within 10 days, the returns being made on standard State blanks and a supplemental form being used if the name of the child is not known at the time of first report. When these reports are received by the division of vital statistics they are copied by hand upon a duplicate form with city heading, the original being transmitted to the State board and the duplicate kept on file for some time in a post binder and finally bound and filed in the vault. No index card is made or other index kept, so that finding a birth record may involve going over thousands of certificates unless the date of birth is accurately known.

The bureau of health issues two forms of birth certificates. One simply certifies that such a birth has been recorded on such a date; the other is a full transcript of the original record certified before a notary.

The summary of the births is made at the end of the month and is printed in the monthly bureau bulletin.

The registration of births is probably not complete, but unquestionably is good and is said to be growing better. It is to be noted in this connection that if the population figure used by the bureau in its bulletin as the basis of the death rate figures is correct, the birth rate in St. Paul is only a little above 17 per 1,000, a figure which is unquestionably too low.

At the earliest possible time provision should be made for indexing the birth register, beginning 14 years previous, so as to have first available the records of children about to leave school; then, after a year or two years have been finished, jumping to the date about six years before current date, so as to provide for children entering school, and so on until the index is complete for the intervening years.

It is only fair to say in concluding this portion of the report that the looseness of method which has been criticised is probably present in many health departments and is the result in a considerable degree of the proneness of both municipal legislative bodies and the public to overlook the fact that adequate office force and equipment must be supplied before extensions are made in the field force.

One can frequently assemble an army of men and women to march upon the city hall with bands and banners for the purpose of demanding two more milk inspectors or another field nurse, where one could not muster one boy with a tin whistle to demonstrate for an additional clerk, and yet all the time the real necessity was enlargement of the existing central force.

There are two other controlling factors in efficiency that must be referred to in this connection. The first is that health bureau ad-

vance to be healthy and permanent must depend upon a well-thought-out policy, each step in development and expansion being carefully prepared for by the design and creation of administrative machinery. Methods of reporting, recording, and utilization of work done must all be prepared, or at least designed, before the advance steps are taken. Furthermore the inauguration of each measure should be preceded by orders definitely outlining procedure and fixing responsibility, and formally made a part of the office record.

It is impossible to carry out such a procedure with a two-year term of office. It will take months to plan and prepare reorganization, months more to get the appropriations, and months more to get the new order finally in operation. This is a two-handed job, and no one can attend to it properly while holding on his official head.

The second thing is that no logical advance can be made unless the health officer is in position to give his entire time to close study of the daily reports of work done and observation of the office methods.

LABORATORY.

The laboratory of the bureau of health is a combined chemical and bacteriological laboratory, but the chemical side is of negligible importance. The force consists of one bacteriologist and chemist at $1,500 per year, one assistant at $720 per year, and one attendant at $30 per month. The laboratory occupies two communicating rooms adjoining the offices of the bureau. The rooms are large, lofty, and well lighted. The floor space is ample. The equipment is of very good quality and, considering the kind of work done, is in good condition. The space does not seem to be employed to the best advantage; it lacks convenience of arrangement, and the standard of neatness and order is not high. For most of these things the poor janitor service, insufficient attendant service, and lack of funds are responsible.

Summary of Laboratory Operations.

The laboratory is open from 8.30 a. m. to 4.30 p. m. on week days, but during the rush periods the bacteriologist and his assistant frequently open it earlier and work after hours.

The bulk of the work—14,431 bacteriological examinations out of a total for 1915 of 17,891—is for the diagnosis of diphtheria. The other principal items are 1,501 sputums for tuberculosis with 336 positive, 501 Widals with 132 positive, 47 milk, 157 water, 140 urinalysis, 127 for gonococci, and 5 for *Treponema pallidum.*

This is a respectable amount of work, and during the midwinter season the load is probably fairly close to the maximum capacity of the present force and facilities. The study of the load distribution, however, shows that during the months of May to August advantage

is not taken of the opportunity fully to utilize the capacity of the plant. There is no evidence, however, that the omission is directly chargeable to the laboratory.

Diphtheria cultures are not collected by the city. They are sent to the laboratory by physicians, and if the laboratory is closed they are deposited in a box at the door. When the bacteriologist comes on duty he removes the cultures, makes the smears, and telephones results. If smear is negative the culture is incubated five to six hours and reexamined.

The method of handling cultures is very wasteful of time, the most precious thing in diphtheria control, and would be much worse except that the bacteriologist usually visits the laboratory during the evening. The city hall watchman has a key to the laboratory, and if the doctor or his messenger hunts him up he can be admitted to the laboratory and can put cultures in the incubator, but this is almost never done. For about $15 an electric incubator could replace the present box and practically all cultures received after office hours would be ready for final examination the next morning.

When final examination of a culture is made it is reported by telephone to physicians and confirmed by mail, but no record is made of the report. Prior to January 1 the record was a letter sheet form kept in a letter file; since that date a card record has been begun, indexed alphabetically. It would be much better to index by street and number.

A daily report of the results of examinations is made out, which goes to the chief sanitary inspector, who assigns the positive cases for placarding by the sanitary policemen.

The first terminal cultures are handled in about the same way. The second is brought in by sanitary policemen who make out the white record card and turn it in with culture; the results are telephoned as above without a record being made, and the card goes into the alphabetically indexed file, but it is not in any way connected or identified with the diagnostic culture. For instance, all Jones cards are indexed "Jo," and if one wishes the history in any given Jones case one must look at possibly every card filed for months before under "Jo."

The Widals come, as a rule, from physicians. Sending in either a positive diphtheria or Widal is treated as being the formal report of the case required by the State law. This is certainly opposed to all sound practice.

Water Examinations.

The water examinations made at the laboratory are bacteriological, the chemical analyses being done by the city chemist.

Two samples of the city water are examined each week. The samples are taken by the water department, one at different points in the pumping plant and one at taps in different locations in the city. The bacteriological status of the St. Paul water supply is of the very highest. Recently there have been some examinations of the water in swimming pools. Strangely enough no examinations are made of the water at the Harriet Island baths operated by the health bureau itself. Samples several years ago are said to have shown very high counts and 200 colon bacilli or more per 1 c. c.

Milk Examinations.

No card or other record is kept in the laboratory for milk samples examined. It was stated by the bacteriologist that the cards were formerly kept in the laboratory, but that the "milk inspector thought he ought to keep them," and so the laboratory gave them to him. They were found in a box among a clutter of files, letter books, etc., on a mantlepiece in the office, the cards of several years all together without any arrangement as to name or date. The laboratory report for 1915 says that the 47 samples of milk were examined bacteriologically, but it was learned that practically none of these were collected by the bureau, being sent in by private parties.

It appears that there were 495 milk samples examined in 1913, but in 1914 the number fell to 43. About the beginning of 1914 the policy of concentrating all endeavor upon improving the sanitary status of the dairy farms was approved by the health officer, and sampling was stopped.

Neither the laboratory nor the milk division has any tabulation of counts or any other data of value in obtaining an idea of the quality of the milk supply. All the cards on file were examined, but they were too scattered and incomplete to be of use; incidentally, no cards could be found for 41 of the 47 samples referred to in the annual report. Just six imperfect cards constituted the record of a year's bacteriological work in milk for a city of over a quarter of a million people.

It is not possible to go into laboratory findings in detail. Speaking generally, it appeared that the staff was competent, worked faithfully, and were poorly paid for very long hours.

[This report will be continued in a subsequent issue of the Public Health Reports.]

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.

UNITED STATES.

ANTHRAX.

Massachusetts—North Adams.

Collaborating Epidemiologist Kelley reported that a case of anthrax was notified December 16, 1916, at North Adams, Mass., in the person of C. A. C., aged 49 years, living at 304 Beaver Street, who worked at unloading hides for the Barber Leather Co. The patient first noticed a pustule on his left breast December 13, was admitted to hospital December 14, and died December 17, 1916.

Dr. Kelley further reported January 5, 1917, that another case of anthrax had been notified at North Adams, in the person of O. B., who was also an employee of the Barber Leather Co.

CEREBROSPINAL MENINGITIS.

State Reports for November, 1916.

Place.	New cases reported.	Place.	New cases reported.
Indiana:		Virginia—Continued.	
Hamilton County	1	Charles City County	1
Jefferson County	1	Henry County	1
		Lunenburg County	1
Total	2	Orange County	1
		Pittsylvania County	1
Kansas:		Rockbridge County	2
Marion County	1	Russell County	1
		Shenandoah County	1
Virginia:		Smyth County	1
Alleghany County	1	Wise County	1
Augusta County	1		
Bedford County	1	Total	15
Brunswick County	1		

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Boston, Mass	1	.....	New York, N. Y	1	2
Chicago, Ill	.....	1	Philadelphia, Pa	1	1
Cleveland, Ohio	.....	1	Providence, R. I	2	1
Newark, N. J	1	.....	Reading, Pa	1	.....
New Britain, Conn	1	.....	St. Louis, Mo	2	.....

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 82.

ERYSIPELAS.

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Binghamton, N. Y.	1		Omaha, Nebr.	1	
Buffalo, N. Y.	2		Philadelphia, Pa.	18	1
Chicago, Ill.	21	4	Pittsburgh, Pa.	9	1
Cleveland, Ohio	3		Portland, Oreg.	3	
Detroit, Mich.	9	1	Rutland, Vt.	1	
Dubuque, Iowa.	1	1	St. Joseph, Mo.	2	1
Duluth, Minn.	1		St. Louis, Mo.	10	2
Hartford, Conn.	2		St. Paul, Minn.	3	
Kalamazoo, Mich.	1	1	San Francisco, Cal.	3	
Los Angeles, Cal.	2		Seattle, Wash.		1
Milwaukee, Wis.	6		Syracuse, N. Y.		1
Newark, N. J.	7		Trenton, N. J.		1
New Bedford, Mass.		1	Wichita, Kans.	1	
New York, N. Y.		2	Williamsport, Pa.	1	

MALARIA.

State Reports for November, 1916.

Place.	New cases reported.	Place.	New cases reported.
Kansas:		**Virginia—Continued.**	
Butler County	1	Lee County	1
Linn County	1	Loudoun County	4
Montgomery County	2	Louisa County	2
Neosho County	1	Lunenburg County	10
Washington County	1	Mecklenburg County	1
Total	6	Montgomery County	10
Virginia:		Middlesex County	10
Accomac County	8	Nansemond County	58
Albemarle County	2	Nelson County	1
Alleghany County	1	New Kent County	2
Amelia County	1	Norfolk County	25
Appomattox County	2	Northampton County	39
Brunswick County	39	Northumberland County	17
Campbell County	3	Nottoway County	1
Caroline County	5	Pittsylvania County	15
Charles City County	6	Powhatan County	15
Charlotte County	1	Princess Anne County	19
Chesterfield County	4	Prince Edward County	10
Cumberland County	7	Prince George County	14
Dinwiddie County	13	Prince William County	5
Elizabeth City County	16	Richmond County	4
Essex County	11	Roanoke County	2
Fairfax County	2	Rockbridge County	2
Franklin County	1	Rockingham County	1
Gloucester County	11	Southampton County	23
Goochland County	1	Stafford County	1
Greensville County	50	Surry County	9
Halifax County	43	Sussex County	16
Hanover County	9	Warwick County	5
Henrico County	9	Washington County	1
Isle of Wight County	21	Westmoreland County	1
James City County	6	Wise County	1
King William County	2	York County	15
Lancaster County	16	Total	630

City Reports for Week Ended Dec. 23, 1916.

During the week ended December 23, 1916, two fatal cases of malaria were reported in Mobile, Ala., one case was reported in Newark, N. J., and one case in Newton, Mass.

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 82.

PELLAGRA.

State Reports for November, 1916.

Place.	New cases reported.	Place.	New cases reported.
Kansas:		Virginia—Continued.	
Montgomery County	1	Hanover County	1
Virginia:		Henrico County—	
Albemarle County	1	Richmond	1
Augusta County	1	Mathews County	1
Bedford County	1	Nelson County	1
Brunswick County	1	Powhatan County	1
Campbell County	1	Roanoke County—	
Dinwiddie County	1	Roanoke	1
Elizabeth City County	1	Tazewell County	1
Floyd County	1	Washington County	1
Halifax County	1	Total	17

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala		1	New Orleans, La	1	1
Charleston, S. C		5	Taunton, Mass	1	

PNEUMONIA.

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Ann Arbor, Mich	1		Lancaster, Pa	3	
Binghamton, N. Y	4	3	Los Angeles, Cal	11	8
Birmingham, Ala	1	11	Manchester, N. H	6	6
Braddock, Pa	1	2	Newark, N. J	60	12
Butler, Pa	1	1	Newport, Ky	1	1
Chicago, Ill	179	87	Pasadena, Cal	2	1
Cleveland, Ohio	30	18	Philadelphia, Pa	79	53
Detroit, Mich	10	16	Pittsburgh, Pa	23	37
Dubuque, Iowa	1	1	Reading, Pa	10	4
Flint, Mich	3	2	St. Joseph, Mo	2	6
Grand Rapids, Mich	8	2	San Diego, Cal	1	1
Harrison, N. J	1		Sandusky, Ohio	1	
Jackson, Mich	2		San Francisco, Cal	13	9
Johnstown, Pa	7	7	Schenectady, N. Y	4	2
Kalamazoo, Mich	2	1	Stockton, Cal	3	2
Kansas City, Mo	5	8	Toledo, Ohio	1	6

POLIOMYELITIS (INFANTILE PARALYSIS).

West Virginia—Elkins and Grafton—Winter Epidemic.

Passed Asst. Surg. Leake reported January 9, 1917, that during the period from December 15, 1916, to January 8, 1917, 38 cases of poliomyelitis, with 9 deaths, were notified at Elkins, W. Va., and that 3 cases of the disease were notified at Grafton, W. Va.

The following is taken from a previous report made on January 7 by Passed Asst. Surg. Leake, who is investigating the outbreak:

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

West Virginia—Elkins and Grafton—Winter Epidemic—Continued.

Twenty-one reported and 13 suspected but not reported cases have occurred in the following chronological order:

Date of onset.	Age. (years).	Sex.	Results.	Status.
Dec. 15, 1916	10	Female	Fatal	Suspected.
Dec. 18, 1916	1	do	Paralyzed	Reported.
Do	3	Male	Fatal	Suspected.
Do	3	Female	Paralyzed	Reported.
Dec. 19, 1916	2	Male	Fatal	Suspected.
Do	9	do	do	Reported.
Dec. 21, 1916	6	do	do	Suspected.
Do	4	do	Paralyzed	Reported.
Do	4	Female	Nonparalyzed	Do.
Do	2	Male	Paralyzed	Do.
Dec. 22, 1916	2	do	Nonparalyzed	Suspected.
Do	½	do	do	Do.
Do	3	Female	Paralyzed	Reported.
Do	2	Male	do	Do.
Dec. 23, 1916	½	do	do	Do.
Do	4	Female	Nonparalyzed	Suspected.
Dec. 25, 1916	8	do	Paralyzed	Reported.
Do	4	Male	do	Do.
Dec. 26, 1916	2	Female	Fatal	Suspected.
Do	4	do	Paralyzed	Reported.
Do	2	do	do	Do.
Do	3	Male	Nonparalyzed	Suspected.
Do	1	do	do	Do.
Dec. 27, 1916	2	Female	Paralyzed	Reported.
Dec. 29, 1916	3	Male	Nonparalyzed	Suspected.
Do	1	do	Paralyzed	Reported.
Do	1	do	do	Do.
Dec. 30, 1916	5	Female	Nonparalyzed	Suspected.
Do	6	do	Paralyzed	Reported.
Dec. 31, 1916	2	do	do	Do.
Jan. 1, 1917	2	do	Fatal	Suspected.
Jan. 2, 1917	2	Male	Paralyzed	Reported.
Jan. 3, 1917	2	do	do	Do.
Do	5	do	do	Do.

Including all suspected and reported cases, there have been so far 34 infections, or an incidence of approximately 5.5 per thousand, within a period of 20 days, and a death rate of 21 per cent. On the basis of paralyzed and fatal cases only, the incidence has been 4.5 per thousand and the mortality 27 per cent. The nonparalytic or abortive cases have been in the proportion of 31 to 100. Fifty-six per cent of the cases have been males and 44 per cent females. Eighty-five per cent have been 5 years of age or under. These cases apparently were infected in Elkins, and possible occasions of transmission from one case to another directly or indirectly are evident in most instances. Twenty-one families had only one case apiece, five had two, and one had three. The previous incidence of poliomyelitis in Elkins has been less than 10 per 100,000. No connection has been traced with the single other case of poliomyelitis occurring in Elkins in 1916; this case was fatal on September 6. The present clinical types of the disease resemble those prevalent in various other foci of the 1916 epidemic.

Though the number of cases is small, these facts are of more than ordinary interest, since this is the first sharp midwinter outbreak in the history of poliomyelitis in the United States.

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

State Reports for November, 1916.

Place.	New cases reported.
Indiana:	
Clark County	4
Daviess County	1
Dekalb County	4
Laporte County	1
Madison County	1
Marion County	1
Steuben County	1
St. Joseph County	1
Sullivan County	1
Tippecanoe County	1
Total	16
Kansas:	
Butler County	1
Cherokee County	1
Crawford County	1
Ellis County	1
Franklin County	1
Jefferson County	1
Jewell County	2
Marshall County	1
Pawnee County	1
Sherman County	1
Total	11
Virginia:	
Bath County	1
Bedford County	2
Brunswick County	1
Buchanan County	1
Campbell County	7
Lynchburg	1
Clark County	1
Culpeper County	1
Dickenson County	1
Halifax County	1
Henrico County—	
Richmond	1
Lee County	1
Loudoun County	1
Middlesex County	17
Nansemond County	2
Nelson County	1
Norfolk County	1
Portsmouth	1
Page County	1
Pittsylvania County	1
Powhatan County	1
Wise County	1
Total	46

Oregon Report for October, 1916.

Place.	New cases reported.
Oregon:	
Clackamas County	2
Hood River County	2
Marion County	7
Multnomah County—	
Portland	14
Oregon—Continued:	
Washington County	1
Total	26

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.
Boston, Mass	1	.....
Chicago, Ill	1	.....
Coffeyville, Kans	1	.....
Hartford, Conn	1	.....
Lynn, Mass	1	1
Newark, N. J	1	.....
New Haven, Conn	1	.....
New York, N. Y	2	4
Philadelphia, Pa	5	2

RABIES IN ANIMALS.

City Reports for Week Ended Dec. 23, 1916.

During the week ended December 23, 1916, one case of rabies in animals was reported in Detroit, Mich., and one case in St. Paul, Minn.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 82.

SMALLPOX.

Connecticut.

Collaborating Epidemiologist Black reported that during a period of two weeks ended January 6, 1917, cases of smallpox were notified in Connecticut as follows: Greenwich, 1; Stamford, 3; Waterbury, 19.

Minnesota.

Collaborating Epidemiologist Bracken reported that during the week ended January 6, 1917, two new foci of smallpox infection were reported in Minnesota, cases of the disease having been notified as follows: Becker County, Frazee, 4; Wabasha County, Highland Township, 1.

Texas—Waco—Virulent Smallpox.

Asst. Surg. Witte reported January 10, 1917, that on January 7, 1917, two cases of smallpox, with one death, were notified at Waco, Tex., and that since November 1, 1916, 80 cases of the disease, with 18 deaths, had been reported.

Kansas Report for November, 1916.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Kansas:						
Chase County	2				2	
Doniphan County	79			1	46	32
Ellis County	2			1	1	
Finney County	1			1		
Jefferson County	1					1
Labette County—						
Parsons	3					3
Linn County	1				1	
Marion County	60				41	19
Montgomery County	4				1	3
Osborne County	1				1	
Pratt County	1					1
Reno County	1				1	
Seward County	4				4	
Shawnee County—						
Topeka	1					1
Wyandotte County—						
Kansas City	1					1
Total	162			3	98	61

SMALLPOX—Continued.

Miscellaneous State Reports.

Place.	Cases.	Deaths.
Idaho (Oct. 1-31):		
Washington County—		
Weiser	2	.....
Indiana (Nov. 1-30):		
Boone County	1	.....
Elkhart County	5	.....
Fountain County	20	.....
Hamilton County	2	.....
Jay County	61	.....
Lake County	9	.....
Madison County	1	.....
Marion County	10	.....
Randolph County	7	.....
St. Joseph County	1	.....
Tipton County	42	.....
Vermilion County	1	.....
Indiana (Nov. 1-30)—Cont'd.		
Vigo County	2	.....
Warren County	5	.....
Total	167	.....
Oregon (Oct. 1-31):		
Multnomah County—		
Portland	2	.....
Virginia (Nov. 1-30):		
Henrico County	2	.....
Pittsylvania County	10	.....
Powhatan County	1	.....
Total	13	.....

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.
Ann Arbor, Mich	1	.....
Butte, Mont	3	.....
Cleveland, Ohio	8	.....
Danville, Ill	1	.....
Detroit, Mich	2	.....
El Paso, Tex	1	.....
Flint, Mich	2	.....
Indianapolis, Ind	3	.....
Kansas City, Mo	1	.....
Little Rock, Ark	1	.....
Milwaukee, Wis	1	.....
Minneapolis, Minn	12	.....
New Orleans, La	7	.....
Omaha, Nebr	3	.....
Portland, Oreg	1	.....
St. Joseph, Mo	5	.....
St. Paul, Minn	1	.....
Sioux City, Iowa	8	.....
South Bend, Ind	2	.....
Toledo, Ohio	4	.....
Topeka, Kans	3	.....

TETANUS.

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.
Boston, Mass	1	1
Fort Worth, Tex	.....	1
Philadelphia, Pa	1	1
Pittsburgh, Pa	.....	1

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 82.

TYPHOID FEVER.

State Reports for November, 1916.

Place.	New cases reported.
Indiana:	
Allen County	4
Brown County	4
Carroll County	2
Cass County	2
Clark County	11
Clay County	4
Clinton County	1
Daviess County	1
Dearborn County	1
Delaware County	11
Elkhart County	2
Floyd County	7
Gibson County	2
Greene County	1
Hamilton County	6
Hancock County	5
Harrison County	1
Hendricks County	5
Henry County	1
Howard County	5
Huntington County	6
Jackson County	1
Jasper County	1
Jay County	1
Jefferson County	1
Jennings County	1
Johnson County	1
Laporte County	3
Lawrence County	1
Madison County	3
Marion County	35
Montgomery County	5
Pike County	10
Posey County	5
Pulaski County	3
Putnam County	3
Randolph County	5
Rush County	6
Scott County	1
Shelby County	1
Steuben County	1
Tippecanoe County	1
Tipton County	2
Vanderburgh County	5
Wabash County	2
Washington County	5
Wayne County	6
Wells County	15
White County	1
Total	207
Kansas:	
Allen County	5
Anderson County	1
Bourbon County	8
Fort Scott	2
Brown County	8
Butler County	10
Chautauqua County	1
Cherokee County	5
Cheyenne County	1
Cloud County	1
Coffey County	2
Comanche County	1
Cowley County	5
Crawford County	4
Pittsburg	4
Dickinson County	2
Doniphan County	2
Douglas County	1
Edwards County	1
Ellis County	3
Finney County	1
Ford County	2
Franklin County	2
Geary County	1

Place.	New cases reported.
Kansas—Continued.	
Gove County	1
Gray County	1
Greeley County	1
Greenwood County	2
Jefferson County	8
Jewell County	1
Johnson County	3
Kingman County	3
Labette County	1
Parsons	3
Lincoln County	1
Linn County	2
Logan County	1
Miami County	5
Mitchell County	1
Montgomery County	3
Coffeyville	2
Morris County	2
Morton County	1
Nemaha County	1
Neosho County	1
Norton County	2
Osage County	4
Osborne County	3
Ottawa County	1
Pawnee County	2
Pratt County	1
Rawlins County	2
Reno County	2
Hutchinson	2
Republic County	2
Rice County	1
Riley County	2
Saline County	4
Sedgwick County—	
Wichita	6
Seward County	1
Shawnee County	1
Topeka	10
Sherman County	1
Sumner County	8
Wabaunsee County	3
Washington County	3
Wichita County	1
Wilson County	1
Woodson County	1
Wyandotte County	2
Kansas City	1
Total	184
Virginia:	
Accomac County	9
Albemarle County	1
Allegheny County	4
Amelia County	1
Amherst County	1
Appomattox County	2
Augusta County	4
Bedford County	4
Bland County	1
Brunswick County	3
Buchanan County	1
Buckingham County	1
Campbell County	1
Caroline County	12
Carroll County	1
Charlotte County	1
Chesterfield County	2
Clark County	5
Culpeper County	3
Elizabeth City County	2
Essex County	2
Fauquier County	2
Floyd County	3
Fluvanna County	2
Franklin County	1

TYPHOID FEVER—Continued.

State Reports for November, 1916—Continued.

Place.	New cases reported.	Place.	New cases reported.
Virginia—Continued.		Virginia—Continued.	
Gloucester County	1	Northumberland County	12
Grayson County	2	Orange County	5
Greene County	1	Page County	2
Greensville County	5	Patrick County	1
Halifax County	6	Pittsylvania County	3
Hanover	9	Danville	1
Henrico County	1	Prince George	3
Richmond	6	Prince William	2
Henry County	3	Pulaski County	4
Isle of Wight County	2	Rappahannock County	1
James City County	2	Roanoke County	1
King and Queen County	3	Roanoke	7
Lancaster County	2	Rockingham County	3
Lee County	6	Russell County	5
Loudoun County	1	Scott County	4
Louisa County	1	Shenandoah County	11
Lunenburg County	1	Southampton County	2
Madison County	2	Stafford County	1
Mathews County	1	Tazewell County	4
Mecklenburg County	2	Washington County	2
Montgomery County	1	Westmoreland County	3
Middlesex County	3	Wise County	1
Nelson County	7	Wythe County	7
New Kent County	1	York County	1
Norfolk County	2		
Northampton County	3	Total	229

State Reports for October, 1916.

Place.	New cases reported.	Place.	New cases reported.
Idaho:		Oregon:	
Bingham County—		Clackamas County	1
Blackfoot	1	Clatsop County	1
Elmore County—		Lane County	1
Glenns Ferry	1	Linn County	1
Kootenai County—		Malheur County	25
Harrison	5	Marion County	2
Washington County—		Multnomah County—	
Weiser	3	Portland	10
Total	10	Umatilla County	3
		Wallowa County	3
		Total	47

Idaho Report for September, 1916.

Place.	New cases reported.	Place.	New cases reported.
Idaho:		Idaho—Continued.	
Bannock County—		Teton County—	
Pocatello	2	Driggs	1
Franklin County	7	Washington County—	
Madison County—		Weiser	4
Rexburg	2	Total	16

TYPHOID FEVER—Continued.

City Reports for Week Ended Dec. 23, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Atlantic City, N. J.	1		Newark, N. J.	2	
Baltimore, Md.	7	1	New Bedford, Mass.	1	
Binghamton, N. Y.	1		New Haven, Conn.	1	
Birmingham, Ala.	1		New Orleans, La.	4	3
Boston, Mass.	3		New York, N. Y.	17	4
Buffalo, N. Y.	3	1	Norfolk, Va.	1	
Butler, Pa.	2		Norristown, Pa.	1	
Camden, N. J.	1		North Adams, Mass.	1	1
Canton, Ohio.	2		Pasadena, Cal.	2	1
Charleston, S. C.	1		Philadelphia, Pa.	4	2
Chicago, Ill.	8	1	Pittsburgh, Pa.	1	
Cincinnati, Ohio.	3		Pittsfield, Mass.	1	
Cleveland, Ohio.	7		Portland, Oreg.	1	
Coffeyville, Kans.	1		Providence, R. I.	2	1
Columbus, Ohio.	2	1	Reading, Pa.	1	
Concord, N. H.	2		Rutland, Vt.	2	
Detroit, Mich.	5	3	Saginaw, Mich.		1
Duluth, Minn.	1		St. Joseph, Mo.	2	
Elgin, Ill.		1	St. Louis, Mo.	5	1
El Paso, Tex.	1		St. Paul, Minn.	1	
Everett, Mass.	1		Salt Lake City, Utah.	2	
Fall River, Mass.		1	San Diego, Cal.	1	
Flint, Mich.	1		San Francisco, Cal.	5	1
Galesburg, Ill.		1	Seattle, Wash.	6	2
Galveston, Tex.	1		Somerville, Mass.	1	
Harrisburg, Pa.	1		South Bend, Ind.	10	2
Hartford, Conn.	1		Springfield, Ill.		1
Indianapolis, Ind.	2		Springfield, Mass.	1	1
Jersey City, N. J.	1		Springfield, Ohio.	3	
Johnstown, Pa.	1		Stockton, Cal.	1	1
Kansas City, Mo.	1		Toledo, Ohio.	2	1
Lowell, Mass.		1	Trenton, N. J.	1	
Lynn, Mass.	1		Troy, N. Y.	2	1
Milwaukee, Wis.	3	1	Wilkinsburg, Pa.	1	

TYPHUS FEVER.

City Report for Week Ended Dec. 23, 1916.

During the week ended December 23, 1916, three cases of typhus fever with two deaths were reported in El Paso, Tex.

PREVENTABLE DISEASES.

Massachusetts Report for Week Ended Dec. 30, 1916.

Disease.	Cases reported.	Disease.	Cases reported.
Cerebrospinal meningitis	2	Scarlet fever	121
Chicken pox	114	Septic sore throat	1
Diphtheria	177	Tetanus	1
Dog bite	3	Trachoma	2
German measles	6	Tuberculosis (pulmonary)	121
Measles	264	Tuberculosis (other forms)	3
Mumps	62	Typhoid fever	14
Ophthalmia neonatorum	26	Whooping cough	27
Poliomyelitis (infantile paralysis)	4		

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for November, 1916.

State.	New cases reported.			State.	New cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
Idaho	1	69	11	Kansas	280	140	198
Indiana	673	744	132	Virginia	485	855	251

State Reports for October, 1916.

During the month of October, 1916, 2 cases of diphtheria, 3 cases of measles, and 16 cases of scarlet fever were reported in Idaho, and 12 cases of diphtheria, 125 cases of measles, and 59 cases of scarlet fever were reported in Oregon.

Idaho Report for September, 1916.

During the month of September, 1916, one case of measles and four cases of scarlet fever were reported in Idaho.

City Reports for Week Ended Dec. 23, 1916.

City.	Population as of July 1, 1915 (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	584,605	203	17	4	3	.....	11	.....	28	29
Boston, Mass	745,139	239	49	5	15	.....	23	.....	26	19
Chicago, Ill	2,447,045	706	195	35	117	1	234	7	188	66
Cleveland, Ohio	656,975	196	37	3	30	1	17	.....	31	24
Detroit, Mich	554,717	198	126	8	5	.....	76	2	29	20
New York, N. Y	5,468,190	1,605	199	20	118	3	113	2	293	189
Philadelphia, Pa	1,683,664	559	43	6	5	.....	26	1	132	61
Pittsburgh, Pa	571,984	211	20	5	77	.....	4	1	15	18
St. Louis, Mo	745,988	235	81	7	26	.....	39	3	33	16
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	461,335	103	35	1	1	.....	7	.....	22	6
Cincinnati, Ohio	406,706	142	32	2	5	.....	18	1	17	16
Jersey City, N. J	300,133	101	8	1	1	.....	6	.....	7	7
Los Angeles, Cal	465,367	.....	8	.....	5	.....	18	.....	55	27
Milwaukee, Wis	428,062	106	17	4	3	.....	62	1	14	7
Minneapolis, Minn	353,460	.....	21	.....	3	.....	16	.....	.....	.....
Newark, N. J	399,000	.....	22	4	1	.....	5	.....	15	11
New Orleans, La	366,484	.....	9	.....	434	4	2	.....	26	19
San Francisco, Cal	[1] 416,912	169	35	3	41	1	26	.....	32	17
Seattle, Wash	330,834	80	.....	.....	17	.....	13	.....	.....	5
Washington, D. C	358,679	124	27	1	2	.....	12	.....	13	10
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio	209,722	69	6	1	47	.....	5	1	7	4
Denver, Colo	253,161	72	3	.....	44	.....	9	.....	.....	13
Indianapolis, Ind	265,578	.....	45	.....	11	.....	9	.....	9	.....
Kansas City, Mo	280,879	87	9	2	2	.....	22	.....	15	10
Portland, Oreg	272,833	55	2	1	33	.....	11	.....	6	.....
Providence, R. I	250,025	86	9	4	1	1	11	.....	.....	7
St. Paul, Minn	241,999	44	18	.....	4	.....	18	1	5	4
From 100,000 to 200,000 inhabitants:										
Birmingham, Ala	174,108	45	2	.....	5	.....	3	.....	5	4
Bridgeport, Conn	118,434	43	7	1	4	.....	2	.....	4	1
Cambridge, Mass	111,669	31	8	.....	8	.....	5	.....	5	4
Camden, N. J	104,349	.....	4	.....	1	.....	2	.....	3	.....
Fall River, Mass	126,904	34	1	.....	50	1	4	.....	17	4
Grand Rapids, Mich	125,759	28	1	.....	13	.....	15	.....	4	1

[1] Population Apr. 15, 1910; no estimate made.

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

City Reports for Week Ended Dec. 23, 1916—Continued.

City.	Population as of July 1, 1915 (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 100,000 to 200,000 inhabitants—Continued.										
Hartford, Conn.	108,969		4		1		6		8	
Lowell, Mass.	112,124	40	5	1	15	1			4	3
Lynn, Mass.	100,316	26	6	1			6			1
New Bedford, Mass.	114,694	33	4		3		1		9	1
New Haven, Conn.	147,095		4		4		3			
Omaha, Nebr.	135,455	59	2		2		10		1	5
Reading, Pa.	105,094	41	3	2	1		2		2	2
Richmond, Va.	154,674	46	7		2	1	3		5	5
Salt Lake City, Utah.	113,567	45	1		341	2	13	1		2
Springfield, Mass.	103,216	35	5	1			9		8	2
Syracuse, N. Y.	152,534	47	10		1		11			3
Toledo, Ohio.	187,840	56	8		3		56		5	3
Trenton, N. J.	109,212	54	1	1			1		6	5
Worcester, Mass.	160,523	58	3	1	4	2	5		6	7
From 50,000 to 100,000 inhabitants:										
Atlantic City, N. J.	55,806	8			16				6	
Bayonne, N. J.	67,582		2				1		1	
Berkeley, Cal.	54,879	13					1		1	1
Binghamton, N. Y.	53,082	31	14	2	1		5		2	1
Brockton, Mass.	65,746	29	1				4		1	2
Canton, Ohio.	59,139	18	8	2			3		3	2
Charleston, S. C.	60,427	36	2	1			1			5
Covington, Ky.	56,520	11							2	2
Duluth, Minn.	91,913		3				4		2	
El Paso, Tex.	51,936	45	1		5					7
Erie, Pa.	73,798		4		1		1		9	26
Evansville, Ind.	72,125	27	5	2	2		2		2	3
Flint, Mich.	52,159	20	2		1	1	3			
Fort Worth, Tex.	99,528	24	1							2
Harrisburg, Pa.	70,754	20	6							3
Hoboken, N. J.	76,104	15	3				6		2	
Johnstown, Pa.	66,585	24	2				2		2	2
Lancaster, Pa.	50,269								1	
Lawrence, Mass.	98,197	31	3	1			1		2	3
Little Rock, Ark.	55,158	20	2						2	
Malden, Mass.	50,067	14	5		4				1	
Manchester, N. H.	76,959	27					1		2	2
Mobile, Ala.	56,536	25					1		1	6
New Britain, Conn.	52,203		1				1		1	2
Norfolk, Va.	88,076	4	2		4	1				2
Oklahoma, Okla.	88,158	17	1		6		1		1	
Passaic, N. J.	69,010	20	2				2		4	3
Portland, Me.	63,014	23	4		1					1
Sacramento, Cal.	64,806	30	2				3		1	2
Saginaw, Mich.	54,815	24	3	1			9		3	
St. Joseph, Mo.	83,974	29	1				1		2	4
San Diego, Cal.	51,115						3		8	5
Schenectady, N. Y.	95,265	17	2		8		5		1	3
Sioux City, Iowa.	55,588		2							
Somerville, Mass.	85,460	28	3	1	1		2			1
South Bend, Ind.	67,030	22	3	1	1		14			2
Springfield, Ill.	59,468	12	4		1		1			1
Springfield, Ohio.	50,804	17	1						1	2
Troy, N. Y.	77,738		1		6		6		9	6
Wichita, Kans.	67,847		1							
Wilkes-Barre, Pa.	75,218	20					5	1	5	
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,031	6					2			1
Bellingham, Wash.	31,609				12					
Brookline, Mass.	31,934	7					1		1	
Butler, Pa.	26,587	8	2							2
Butte, Mont.	42,918	34	5	1	6				16	10
Chelsea, Mass.	[1] 32,452	9			2		1		1	
Chicopee, Mass.	28,688	7	3	2					2	
Cumberland, Md.	25,564	6								
Danville, Ill.	31,554	9								
Davenport, Iowa.	47,127						3			
Dubuque, Iowa.	39,650				22				1	1
East Orange, N. J.	41,155	6	1				2		1	2

[1] Population April 15, 1910; no estimate made.

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

City Reports for Week Ended Dec. 23, 1916—Continued.

City.	Population as of July 1, 1915 (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.										
Elgin, Ill	27,844	4			11					
Everett, Mass	38,307		7		2		1		3	1
Everett, Wash	33,767	6			11					
Fitchburg, Mass	41,144	8								4
Galveston, Tex	41,076	17	1							
Haverhill, Mass	47,774		2	2			2		3	1
Jackson, Mich	34,730	17	3		3		5		3	1
Kalamazoo, Mich	47,364	13			1		1		5	
Kenosha, Wis	30,319	7					1		1	
Knoxville, Tenn	38,300				18				1	
La Crosse, Wis	31,522	9							2	1
Lexington, Ky	39,703	15	2				3			1
Lincoln, Nebr	46,028	7	5						2	
Long Beach, Cal	20,012	6					2		1	1
Lorain, Ohio	35,662		1				3			
Lynchburg, Va	32,385	6			35					
Medford, Mass	25,737	14			4		1			1
Montclair, N. J	25,550	8								
New Castle, Pa	40,351		1						1	
Newport, Ky	31,722	15							1	1
Newton, Mass	43,085	11					1		1	
Niagara Falls, N. Y	36,240	6			8		1			1
Norristown, Pa	30,833	17	1	2			1		1	3
Ogden, Utah	30,566	9		1	130		8			
Orange, N. J	32,524	12	1		1		3		1	
Pasadena, Cal	43,859	12							5	1
Perth Amboy, N. J	39,725		3		1		1		1	
Pittsfield, Mass	37,580	8							7	
Portsmouth, Va	38,610	12			2		2			1
Quincy, Ill	36,764	8	2							2
Quincy, Mass	37,251	3					1			1
Racine, Wis	45,507	9	2		1		3			
Roanoke, Va	41,929	16			3				1	
Steubenville, Ohio	26,631	12								
Stockton, Cal	34,508	12	1		4		3			1
Superior, Wis	45,285	9	1		4	1	1			
Taunton, Mass	35,957	13					1			
Topeka, Kans	47,914	11			56					2
Waltham, Mass	30,129	5	1						1	
West Hoboken, N. J	41,893	5					1			1
Wheeling, W. Va	43,097	19					1			2
Williamsport, Pa	33,495		4							
Zanesville, Ohio	30,406	12					1			
From 10,000 to 25,000 inhabitants:										
Ann Arbor, Mich	14,979	11	1				1		5	3
Braddock, Pa	21,310	3			1					
Cairo, Ill	15,593	7			1					
Clinton, Mass	[1]13,075	2								1
Coffeyville, Kans	16,765		1							
Concord, N. H	22,480	10	7							
Galesburg, Ill	23,923	4	3							
Harrison, N. J	16,555		1				1		1	
Kearny, N. J	22,753	6	2						3	2
Kokomo, Ind	20,312	7	2	1	63		1			1
Long Branch, N. J	15,057		2							
Marinette, Wis	[1]14,610	3			4					
Morristown, N. J	13,158	3	2		1		1		2	
Nanticoke, Pa	22,441	7	1						3	
Newburyport, Mass	15,195	9			1		1			
New London, Conn	20,771	4								
North Adams, Mass	[1]22,019	6							1	
Northampton, Mass	19,846	13	1		1	1				
Plainfield, N. J	23,280	5								
Portsmouth, N. H	11,602				14					
Rutland, Vt	14,624	3			19	1	3			
Sandusky, Ohio	20,160				14				1	
Saratoga Springs, N. Y	12,812	5	1							
Steelton, Pa	15,337								1	
Wilkinsburg, Pa	22,361	12							1	
Woburn, Mass	15,862	6		1						

[1] Population April 15, 1910: no estimate made.

FOREIGN.

BRAZIL.

Plague—Bahia—Joazeiro.

During the period from January 1 to November 11, 1916, 14 cases of plague with 7 deaths were notified at Bahia. Of these, 7 cases occurred between October 1 and November 11, 1916.

At Joazeiro, Brazil, plague was reported present in epidemic form from June to November, 1916, with 67 cases, of which 51 terminated fatally. The cases were distributed as follows: June, 5 cases; July, 9 cases; August, 14 cases; September, 19 cases; October, 19 cases; November, 1 case. The last case was notified November 6, with fatal termination. Joazeiro is situated on the Sao Francisco River, 250 miles distant from Bahia. It is connected by railway with Bahia.

CHINA.

Examination of Rats—Shanghai.

During the two weeks ended November 25, 1916, 752 rats were examined at Shanghai. No plague infection was found.

The last plague-infected rat at Shanghai was reported found during the week ended May 6, 1916.

Pneumonic Plague—Kansu Province.

An outbreak of pneumonic plague was reported at Taochow, Kansu Province, China, in October, 1916, with 20 fatal cases to October 24 and several cases among animals. The disease was stated to have been introduced from Me-au, a Tibetan monastery 33 miles distant from Taochow. The infection was reported to have spread to Mei-chiochi.

CHOLERA, PLAGUE, SMALLPOX, AND TYPHUS FEVER.

Reports Received During the Week Ended Jan. 12, 1917.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Nov. 12-18	2	3	
Calcutta	Oct. 29-Nov. 4		6	
Indo-China				June 1-30, 1916: Cases, 1,904; deaths, 1,250.
Provinces—				
Anam	June 1-30	446	367	
Cambodia	do	5	3	
Cochin-China	do	137	76	
Laos	do	40	29	
Tonkin	do	1,276	775	

[1] From medical officers of the Public Health Service, American consuls, and other sources.

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

Reports Received During the Week Ended Jan. 12, 1917—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Japan:				
Yokohama	Nov. 6–12	4	2	
Philippine Islands:				
Manila	Nov. 5–18	7	2	Not previously reported: Cases, 6.
Provinces				Nov. 5–18, 1916: Cases, 855; deaths, 538.
Albay	Nov. 5–18	72	40	
Bataan	do	31	30	
Bohol	do	20	7	
Bulacan	do	21	15	
Camarines	do	23	13	
Capiz	do	11	10	
Cavite	do	54	46	
Iloilo	do	74	47	
Laguna	do	8	4	
Leyte	do	11	11	
Misamis	do	72	43	
Negros Occidental	do	379	223	
Rizal	do	9	6	
Samar	do	13	10	
Sorsogon	do	55	32	
Tayabas	do	1	1	
Zambales	do	1		

PLAGUE.

Brazil:				
Bahia	Jan. 1–Nov. 11	14	7	
Joazeiro	June 1–Nov. 6	67	51	
China:				
Kansu Province—				
Taochow	Oct. 1–24		20	Pneumonic. Reported present in other localities in Kansu Province.
India				Oct. 29–Nov. 4, 1916: Cases, 7,829; deaths, 6,036.
Bombay	Nov. 12–18	9	8	
Madras				Oct. 8–14, 1916: Cases, 1; deaths, 1. Duplicate report. Original lost, probably on steamship Arabia.
Madras Presidency	Nov. 12–18	621	425	Oct. 8–14, 1916: Cases, 534; deaths 353. Duplicate report.
Prome	Oct. 29–Nov. 4		11	
Rangoon	Nov. 5–11	5	2	
Toungoo	Oct. 29–Nov. 4		1	
Indo-China				June 1–30, 1916: Cases, 75; deaths, 53.
Provinces—				
Anam	June 1–30	27	10	
Cambodia	do	17	16	
Cochin-China	do	31	18	
Straits Settlements:				
Singapore	Oct. 29–Nov. 4	2	2	

SMALLPOX.

Austria-Hungary:				
Austria—				
Vienna	Nov. 12–18	1		
Hungary—				
Budapest	Oct. 29–Nov. 18	42		
China:				
Chungking	Oct. 28–Nov. 11			Present.
Dairen	Nov. 5–18	26	3	
Foochow	Oct. 29–Nov. 4			Present.
Hongkong	Nov. 19–25	23	16	
India:				
Madras	Nov. 12–18	3	2	Oct. 8–14, 1916: Cases, 11; deaths, 2.
Rangoon	Nov. 5–11	1		

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

Reports Received During the Week Ended Jan. 12, 1917—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Indo-China				June 1-30, 1916: Cases, 53; deaths, 11.
Provinces—				
Anam	June 1-30	4	1	
Cambodia	do	11	4	
Cochin-China	do	19	5	
Tonkin	do	19	1	
Portugal:				
Lisbon	Nov. 26-Dec. 2	1		
Valencia	Nov. 19-Dec. 2	4	1	
Tunisia:				
Tunis	Nov. 25-Dec. 1	17	9	

TYPHUS FEVER.

Austria-Hungary:				
Austria—				
Vienna	Nov. 12-18	7		
China:				
Antung	Nov. 27-Dec. 3	2		
Germany:				
Bremen	Nov. 12-18		1	
Frankfort on the Main	Nov. 12-18		1	

Reports Received from Dec. 30, 1916, to Jan. 5, 1917.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Nov. 5-11	3	3	
Calcutta	Oct. 15-28		10	
Madras	Nov. 5-11	2		
Japan:				
Taiwan Island—				
Keelung	Nov. 13-19			Present.
Taihoku	do	1		
Osaka	Nov. 16-20	4	3	Aug. 13-Nov. 20, 1916: Cases, 952; deaths, 577.
Java:				
Mid-Java	Sept. 23-29	1	1	
West Java	Sept. 29-Oct. 5	3	2	
Batavia	do	2	1	
Philippine Islands:				
Manila	Oct. 29-Nov. 4	7	1	Not previously reported: Cases, 2.
Provinces				Oct. 29-Nov. 4, 1916: Cases, 448; deaths, 290.
Albay	Oct. 29-Nov. 4	64	42	
Bataan	do	19	12	
Batangas	do	1	1	
Bohol	do	19	6	
Bulacan	do	2	1	
Camarines	do	24	15	
Capiz	do	9	6	
Cavite	do	38	25	
Iloilo	do	61	43	
Leyte	do	1		
Misamis	do	11	10	
Negros Occidental	do	145	96	
Rizal	do	13	8	
Sorsogon	do	38	21	
Zambales	do	3	4	
Straits Settlements:				
Singapore	Oct. 22-28	2	2	
Turkey in Asia	Sept. 22-Nov. 3	189	81	
Turkey in Europe:				
Constantinople	Oct. 1-29	6	1	

[1] For reports received from July 1 to Dec. 29, 1916, see Public Health Reports for Dec. 29, 1916. The tables of epidemic diseases are terminated semiannually and new tables begun.

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

Reports Received from Dec. 30, 1916, to Jan. 5, 1917—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia	Nov. 5–25	11	7	
Ceylon:				
Colombo	Oct. 28–Nov. 4	1	1	
Egypt				Jan. 1–Nov. 23, 1916: Cases, 1,698; deaths, 825.
Alexandria	Nov. 12–22	2	1	1 case on s. s. Proton, arrived Nov. 16, 1916, from Sidi Barani and Sollum.
India				Oct. 15–28, 1916: Cases, 9,165; deaths, 7,304.
Bassein	Oct. 22–28		1	
Bombay	Nov. 5–11	11	7	Oct. 8–14, 1916: Cases, 13; deaths, 7. Received out of date. Original report lost on s. s. Arabia.
Karachi	Oct 29–Nov. 4	1	1	
Madras Presidency	Nov. 5–11	508	337	
Prome	Oct. 22–28		7	
Rangoon	Oct. 28–Nov. 4	2	2	
Toungoo	Oct. 22–28		4	
Indo-China:				
Saigon	Nov. 6–19	3	1	
Java:				
East Java—				
Kediri Residency	Aug. 26–Sept. 22	12	10	
Pasoeroean Residency	do	2	2	
Surabaya Residency	do	3	3	
Straits Settlements:				
Singapore	Oct. 22–28	1	1	

SMALLPOX.

Austria-Hungary:				
Hungary—				
Budapest	Nov. 5–11	27		
Brazil:				
Bahia	Nov. 12–18	3		
Rio de Janeiro	Nov. 12–25	16	4	
China:				
Amoy	Oct. 31–Nov. 20			Present.
Hongkong	Oct. 28–Nov. 11	19	17	
Nanking	Nov. 12–25			Present.
Egypt:				
Cairo	June 11–July 1	50	20	
Port Said	June 11–17	1	1	
France:				
Marseille	Oct. 1–31		5	
India:				
Bombay	Oct. 8–14	3	3	Received out of date. Original report lost on s. s. Arabia.
Madras	Nov. 5–11	4		
Rangoon	Oct. 28–Nov. 4	1		
Indo-China:				
Saigon	Nov. 6–19	11	4	
Java:				
East Java	Sept. 16–29	17	1	
Mid-Java	do	26	3	
West Java	Sept. 29–Oct. 12	135	28	
Batavia	do	10	1	
Mexico:				
Nuevo Laredo	Dec. 10–16	1		
Portugal:				
Lisbon	Nov. 19–25	5		
Russia:				
Petrograd	Oct. 8–22	27	5	

TYPHUS FEVER.

Austria-Hungary:				
Austria—				
Vienna	Nov. 5–11	1		
Hungary—				
Budapest	do	1		
Belgium:				
Ghent	Oct. 29–Nov. 4		1	
Liege	do		1	

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

Reports Received from Dec. 30, 1916, to Jan. 5, 1917—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Hankow	Nov. 12–18	1		
Tientsin	Oct. 29–Nov. 4	1		
Cuba:				
Santiago	Dec. 7–13	1	1	
Egypt:				
Alexandria	Nov. 12–18	1		
Cairo	June 11–July 1	275	142	
Port Said	June 11–17	20	9	
Germany:				
Berlin	Oct. 15–21		1	
Bremen	Oct. 22–Nov. 4	1	1	
Königsberg	Nov. 12–18	2		
Nuremberg	Oct. 29–Nov. 11	3		
Great Britain:				
Glasgow	Dec. 3–9	3		
Greece:				
Saloniki	Nov. 7–13		7	
Java:				
East Java	Sept. 16–22	2		
Mid-Java	Sept. 16–29	11	2	
West Java	Sept. 29–Oct. 12	24	1	
Batavia	do	21	1	
Mexico:				
Mexico City	Dec. 3–9	232		
Nuevo Laredo	Dec. 10–16	4		July 1–Dec. 16, 1916: Cases, 28.
Russia:				
Petrograd	Oct. 8–14	11		
Sweden:				
Stockholm	Nov. 28–Dec. 4	1		

SANITARY LEGISLATION.

COURT DECISIONS.

NEW YORK SUPREME COURT, SPECIAL TERM, MONROE COUNTY.

Milk—Protection Against Typhoid Infection—Milk Dealers May be Required to Submit to Widal Test before License is Issued.

PEOPLE ex rel. SCHULZ *v.* HAMILTON, Comr. of Public Safety et al. (Nov. 6, 1916.)

[The following syllabus was written by the court.]

The State may make such reasonable regulations as it deems necessary to protect and preserve the public health, and may delegate that power to local authorities.

The charter of the city of Rochester (Laws 1907, c. 755) and the existing ordinance of the city relating to the sale of milk empower the commissioner of public safety to impose reasonable restrictions in the interest of public health as a condition of obtaining a license to sell milk and cream in the city, and authorize him to devolve upon the health officer the administrative duty of seeing that the requirements are given effect.

This power is not in conflict with the general statutes of the State, or with the State Sanitary Code, both of which reserve in the city the power to make reasonable regulations relating to the public health of the people of the city, not inconsistent with such general statutes or regulations.

The common council has not attempted to delegate its function with respect to the conditions under which a license to sel milk and cream may be issued by authorizing the health bureau to issue the license, but reserved in the commissioner of public safety the power to impose reasonable conditions; nor has the commissioner of public safety in this instance delegated any of his discretionary power to the health officer.

The health authorities of the city are not required to wait until an epidemic of typhoid has broken out before taking precautions against it, but in the exercise of a reasonable judgment may anticipate such a condition, and may and should make all reasonable efforts to perform the duty imposed upon them by statute and to take all reasonable precautions to protect the public health before the emergency arises.

The degree of precautions necessary to protect and preserve the public health under normal conditions, in the absence of an emergency calling for extraordinary measures, is to be determined by circumstances, and each requirement must be passed upon in the light of the circumstances and conditions existing at the time of its adoption.

The requirement of a blood test as a condition for a license to sell milk in the city is a reasonable condition, since it imposes no serious inconvenience upon the applicant, and it is a matter of common belief that typhoid is a contagious disease, and that such a test will reveal whether or not the person whose blood is examined has had typhoid and is a carrier of typhoid, and the transmission of this disease may thus be avoided by suitable precautions.

The requirement of a blood test as one of the conditions for a license, among others, is one resting in the sound discretion and good judgment of the commissioner of public safety, in the absence of an ordinance of the common council limiting his authority, and is not subject to review by the courts, where the requirement appeals to the courts as reasonable and just, necessary to protect the public health, and neither capricious, arbitrary, or unjust.

[161 New York Supplement, 425.]

The relator is a milk dealer, who has heretofore had a license to sell milk in the city of Rochester, but was denied such license for the year 1916 because he refused to submit to a blood test intended to show whether or not he had had typhoid fever and was a carrier of typhoid germs. The health officer refused to issue the license on the ground that it was necessary for the preservation of public health that all applicants for milk licenses should be required to submit to the test referred to.

The relator appealed to the commissioner of public safety, who determined that the health officer should issue licenses to those who submitted to the blood test and were found not to be carriers of typhoid, and thereupon the commissioner of public safety instructed the health officer to notify the relator to that effect. It was determined that the requirement as to inoculation should not be insisted upon by the health officer, but that the common council should be requested to pass an ordinance requiring such inoculation. Notice was given to the relator, who thereupon appeared before the commissioner of public safety and demanded that a license be issued to him, and the commissioner told him that he would not direct a license to be issued unless relator submitted to the blood test and was not found to be a carrier of typhoid. The relator refused to submit to such a blood test and this motion for a mandamus was thereupon made by him.

RODENBECK, J.: The State having the ultimate power to protect and preserve the public health has the right to impose by statute reasonable regulations to accomplish that purpose (Fischer *v.* St. Louis, 194 U. S., 361; 24 Sup. Ct., 673; 48 L. Ed., 1018; Jacobson *v.* Massachusetts, 197 U. S., 17; 25 Sup. Ct., 358; 49 L. Ed., 643; 3 Ann. Cas., 765; Lieberman *v.* Van de Carr, 199 U. S., 552; 26 Sup. Ct., 144; 50 L. Ed., 305; Matter of Viemeister, 179 N. Y., 235; 72 N. E., 97; 70 L. R. A., 796; 103 Am. St. Rep., 859; 1 Ann. Cas., 334; Matter of Walters, 84 Hun, 457, 460; 32 N. Y. Supp., 322), and may delegate that power to local authorities for its more convenient exercise in political subdivisions of the State (Fischer *v.* St. Louis, supra; Jacobson *v.* Massachusetts, supra; People ex rel. Lieberman *v.* Van De Carr, 175 N. Y., 440, 444, 445; 67 N. E., 913; 100 Am St. Rep., 781; affirmed 199 U. S., 552; 26 Sup. Ct., 144; 50 L. Ed., 305; People ex rel. Shelter *v.* Owen, 66 Misc. Rep., 24; 116 N. Y. Supp., 502; State *v.* Nelson, 66 Minn., 166; 68 N. W., 1066; 34 L. R. A., 318; 61 Am. St. Rep., 399; 17 L. R. A. [N. S.] note, 709).

In this case the State has delegated that power to the city authorities, not by the public health law or the State Sanitary Code, but by the charter of the city. The public health law and the State Sanitary Code expressly reserve in the city the powers granted to the city by the charter which are not inconsistent with that law and code. (Laws 1913, c. 559, sec. 2c.[1]) The language of the State Sanitary Code with reference to the permission to engage in selling milk and cream, which is urged as an attempted delegation by the public health council, is a mere reservation in the local authorities, there designated as the health officer, of the power vested in the local authorities to impose further conditions (Sanitary Code, c. 3, reg. 1[2]), and the code expressly provides that the health authorities of any municipality may in their discretion increase the stringency of any of its regulations, or add to them in any way not inconsistent with the provisions of the code (id., reg. 14[3]). If the local authorities do not possess that power by independent legislation, they do not secure it by the Sanitary Code, as the public health council is given no power to delegate its quasi judicial functions with reference to determining conditions upon which a license to sell milk or cream may be granted.

But the legislature by the charter of the city has expressly conferred authority, with respect to the protection and preservation of the public health of the people of the city, subject to limitations imposed by the public health law or other statutes and the Sanitary Code, upon the common council, commissioner of public safety, and the health officer. (Laws 1907 c. 755.) The common council may pass general rules and regulations on this subject, and thus control or limit the action of the commissioner of public safety and the health officer, except as they may be given specific authority by any provision of the charter. (Id., sec. 340.) If the common council does not act in the matter, or, having acted, has not expressly or impliedly limited the action

[1] Pub. Health Repts., Oct. 3 1913, p. 2081; Reprint 264, pp. 314-315.
[2] Pub. Health Repts., Nov. 27, 1914, p. 3233; Reprint 279, p. 121.
[3] Pub. Health Repts., Nov. 27, 1914, p. 3237; Reprint 279, p. 125.

of the commissioner of public safety and the health officer, the latter may take such reasonable action as they may deem the preservation and protection of the public health requires. In this instance the common council has merely authorized the health bureau to issue licenses to sell milk and cream without prescribing the conditions or indicating that any conditions are to be imposed, and the commissioner of public safety and the health officer are therefore authorized, under the power granted to them by the charter to preserve and protect the public health, to impose such conditions as may be uniform, reasonable, and just. The common council may control, limit, or prohibit the commissioner of public safety and the health officer in this respect; but it has not done so, and the latter are now required in the interest of the public health to exercise the authority vested in them by the charter.

This authority and responsibility primarily rests upon the commissioner of public safety. The charter vests in the department of public safety, limited by general rules and regulations of the common council, the jurisdiction, care, and responsibility of the health of the people of the city, subject, of course, also to any limitations or restrictions imposed by any general legislation or State regulations. It is for the commissioner of public safety, therefore, the common council not having done so, to prescribe the requirements upon which a license shall be issued, and his requirements, unless arbitrary, capricious, or unreasonable, must be observed.

The health bureau is made a part of the department of public safety, and the health officer is made its executive officer, and as such he has the active supervision and responsibility of the health of the community and the duty of seeing that the laws and regulations of the State, the ordinances of the city, and the orders of the commissioner of public safety are observed, and of making such recommendations for the preservation and protection of the public health as may seem necessary. He may be intrusted with such powers and duties, in addition to those given to him by law, as the commissioner of public safety may impose upon him; but the commissioner of public safety under this language can not relieve himself of any duties requiring his personal judgment and discretion. (City of Hudson *v.* Flemming, 139 App. Div., 327; 123 N. Y. Supp., 1065.)

In this instance the question of delegation by the common council does not arise, as the ordinance of the common council did not purport to delegate to the health bureau any discretionary power to issue licenses, but vested in it ministerial functions merely; nor does the question of delegation by the commissioner of public safety arise, as the commissioner himself required this relator to submit to a blood test, and denied him a license because of his refusal to comply with the condition imposed upon his right to sell milk and cream. The commissioner of public safety has asked him to submit a drop of his blood for microscopic examination for evidences of typhoid, as other applicants have done, in order to make sure that he is not a carrier of typhoid, and this he has refused to do, although but slight inconvenience will be occasioned to him thereby.

This test is but a part of the precautions, among many others, deemed necessary to provide for the people of the city a clean, pure, and wholesome supply of milk and cream, free from disease germs, and unless it can be said to be unreasonable and unjust it must be observed by those applying for a license to engage in the business of selling milk and cream, to their possible inconvenience but for the benefit of the health of the people of the city.

The power to impose suitable and reasonable conditions for the sale of milk and cream in the city being in the commissioner of public safety, in the absence of any restrictive ordinances of the common council, statutes of the State, or sanitary provisions of the public health council, he may act in anticipation of any emergency, and may, under normal conditions of public health, provide such measures as he may deem reasonably necessary to protect and preserve the public. He is not required to wait until an epidemic arises, but may anticipate such a condition, and may guard

against it by such reasonable precautions as he deems necessary. The duty of the commissioner of public safety to foresee dangers to public health and to provide against them is quite as important, if not more so, than that of eradicating an epidemic after it has arisen.

The character of the precautions that may be reasonably necessary in normal conditions of public health depends upon the circumstances, and each requirement must be passed upon in the light of the conditions existing at the time of its adoption. Extraordinary measures adapted to emergencies are not suitable and would not be regarded as reasonable at ordinary times. Each requirement must be adapted to the circumstances of the condition and times and must not be unreasonable or oppressive. Good judgment and common sense must be employed, and when the requirements meet this test and that of sound reason they will be upheld. It has been held, for instance, that dairy and cow stables may be prohibited within the limits of a city (Fischer *v.* St. Louis, 194 U. S., 361; 24 Sup. Ct., 673; 48 L. Ed., 1018); that it is not a denial of the equal protection of the law to single out the milk business for regulation, and that the State has the right to regulate the milk business or any occupation which may become unsafe or dangerous when unrestrained (Lieberman *v.* Van De Carr, 199 U. S., 552, 558, 563; 26 Sup. Ct., 144; 50 L. Ed., 305), that vaccination may be required as a condition of attendance in public schools (Jacobson *v.* Massachusetts, 197 U. S., 11; 25 Sup. Ct., 358; 49 L. Ed., 643; 3 Ann. Cas., 765; Matter of Viemeister, 179 N. Y., 235; 72 N. E., 97; 70 L. R. A., 796; 103 Am. St. Rep., 859; 1 Ann. Cas., 334; Matter of Walters, 84 Hun., 457; 32 N. Y. Supp. 322), that regulations may be made requiring a separate room for the storage of milk and the cleansing of utensils (People ex rel Shelter *v.* Owen, 66 Misc. Rep., 24; 116 N. Y. Supp., 502); and that a tuberculin test of cows may be required as a condition of selling milk (State *v.* Nelson, 66 Minn., 166; 68 N. W., 1066; 34 L. R. A., 318; 61 Am. St. Rep., 399). The imposition of a blood test is not unlike some of these requirements and presents no greater inconvenience or more serious interference with personal rights.

The present condition of the public health of the city with respect to typhoid is not abnormal, and still the requirement of a blood test as a condition for a license to sell milk and cream seems to be a fair and reasonable precaution to protect the public against any increase of typhoid. Milk is a particularly sensitive product, produced under conditions which, if not regulated and controlled, may carry and disseminate the germs of typhoid or other diseases and spread them in the community. It is the chief food of infants and lies at the basis of their health and strength. It may be heated, sterilized, or pasteurized; but even then contact with unclean utensils or unclean human beings may make it the carrier of disease germs. Unlike other articles of food, it can not be washed and otherwise cleansed in the home. The impurities may be hidden from sight, and thus a sense of security engendered which may render it a still more serious menace to health. Under these conditions it would seem to impose no unreasonable hardship upon a dealer in milk or cream to require him to submit to a blood test to make sure that he has not had typhoid and is not a typhoid carrier.

That typhoid is a contagious disease and may be transmitted by one afflicted with the disease is a matter of common knowledge, and the court will take notice of that fact without proof. (Hunter *v.* N. Y., O. & W. R. R. Co., 116 N. Y., 615, 623; 23 N. E., 9; 6 L. R. A., 246; People *v.* Lochner, 177 N. Y., 169; 69 N. E., 373; 101 Am. St. Rep., 773; Jones *v.* U. S., 137 U. S., 202, 216; 11 Sup. Ct., 80; 34 L. Ed., 691; Matter of Viemeister, 179 N. Y., 235, 241; 72 N. E., 97; 70 L. R. A., 796; 103 Am. St. Rep., 859; 1 Ann. Cas., 334.) The court will also take notice of the fact that an examination of a drop of blood will reveal whether or not the person from whom it has been taken has had typhoid. This may not be universally held by scientific men or universally believed by the people, but until science disproves the

value of the test it will be accepted by the courts as true. (Matter of Viemeister, supra, and other cases cited above.)

The imposition of this test with respect to this particular occupation, and the requirement of this and any other test in any other occupation which may effect the public health, rests in the sound discretion of the State or local authorities in whom the discretion to pass upon the subject has been vested. It is not an arbitrary or capricious discretion, but one which under the circumstances is reasonable and just. (People ex rel. Lodes *v.* Dept. of Health, 189 N. Y., 187; 82 N. E., 187; 13 L. R. A. (N. S.), 894; People ex rel. Cumisky *v.* Wurster, 14 App. Div., 556; 43 N. Y. Supp., 1083; People ex rel. Dow *v.* Thatcher, 42 Hun, 349; People ex rel. Shelter *v.* Owen, 66 Misc. Rep., 24; 116 N. Y. Supp., 502; People ex rel. Moses *v.* Gaynor, 77 Misc. Rep., 576; 137 N. Y. Supp., 196; 17 L. R. A. (N. S.), note 709.)

This rule does not infringe upon the civil rights of the individual. Government has been instituted among men for their mutual protection, and no man has the right to make himself or his business a menace to the public health. Take away the regulation and control of individual rights, and organized society would break up into its original elements. Under organized society all rights are subject to such reasonable regulations as may be deemed by the governing authority essential to the society, health, peace, good order, and morals of the community. It is a part of the social compact that government shall be maintained for the common good, for the protection and safety of property and the happiness of all the people, and that of any particular individual class, or group of men must give way to the welfare of all. (Jacobson *v.* Massachusetts, supra.)

It is important, therefore, to the whole community, that the supply of milk and cream should be kept clean, pure, and wholesome, and should not be contaminated with impurities, or infected with disease; and it is the duty of the health authorities to see that this is accomplished by the establishment of such reasonable regulations as may be necessary to meet existing conditions or to ward off impending dangers to the public health, and in imposing a blood test as a condition to a license to sell milk and cream in the city, the commissioner of public safety and the health officer acted within the scope of their authority, and applicants for such a license should cooperate with the public authorities, and assist, rather than oppose, reasonable efforts to provide pure and wholesome milk and cream for the people of the city. The requirement of a blood test of an applicant for a license is just a step, and a small one, in the direction of the protection of the public health; but every reasonable effort made in this direction should be encouraged, so long as it does not unreasonably infringe upon the rights of the individual.

The application is denied, with costs.

UNITED STATES CIRCUIT COURT OF APPEALS, NINTH CIRCUIT.

Opium—Importation—Federal Statute Held to be Valid.

SHEPARD *v.* UNITED STATES. (Oct. 4, 1916.)

The Federal law of January 17, 1914 (38 Stat. L., 275), which prohibits the importation into the United States of opium, except for medicinal purposes, is constitutional.

The Federal law of February 9, 1909, as amended January 17, 1914 (38 Stat. L., 275), contains the following provisions:

That after the 1st day of April, 1909, it shall be unlawful to import into the United States opium in any form or any preparation or derivative thereof: *Provided*, That opium and preparations and derivatives thereof, other than smoking opium or opium prepared for smoking, may be imported for medicinal purposes only, under regulations which the Secretary of the Treasury is hereby authorized to prescribe, and when so imported shall be subject to the duties which are now or may hereafter be imposed by law.

SEC. 2. That if any person shall fraudulently or knowingly import or bring into the United States, or assist in so doing, any opium or any preparation or derivative thereof contrary to law, or shall receive, conceal, buy, sell, or in any manner facilitate the transportation, concealment, or sale of such opium or

preparation or derivative thereof after importation, knowing the same to have been imported contrary to law, such opium or preparation or derivative thereof shall be forfeited and shall be destroyed, and the offender shall be fined in any sum not exceeding $5,000 nor less than $50 or by imprisonment for any time not exceeding two years, or both. Whenever, on trial for a violation of this section, the defendant is shown to have, or to have had, possession of such opium or preparation or derivative thereof, such possession shall be deemed sufficient evidence to authorize conviction unless the defendant shall explain the possession to the satisfaction of the jury.

SEC. 3. That on and after July 1, 1913, all smoking opium or opium prepared for smoking found within the United States shall be presumed to have been imported after the 1st day of April, 1909, and the burden of proof shall be on the claimant or the accused to rebut such presumption.

F. M. Shepard and A. C. Brown were convicted in a district court of the United States of the crime of conspiracy to import smoking opium into the United States from Mexico in violation of the above act.

Defendant Shepard appealed. In the opinion, Judge Morrow said:

The motion in arrest of judgment is based upon the objection that the last-named act is unconstitutional in so far as it attempts to make penal the keeping and transportation of opium within the limits of a State being in conflict with the police power of the State and not within the powers delegated to the United States. In Brolan *v.* United States (236 U. S., 216, 222; 35 Sup. Ct., 285; 59 L. Ed., 544) this objection to the statute, was held by the Supreme Court to be so utterly devoid of merit as to be frivolous.

The opinion is published in full in 236 Federal Reporter, page 73.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

NEW YORK.

Communicable Diseases—Notification of Cases by Physicians. (Reg. Public Health Council, Jan. 22, 1916.)

Regulation 2[1] of chapter 2 of the Sanitary Code has been amended to read as follows:

REG. 2. *Reporting cases of communicable diseases 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, except that the written notice may be omitted in cities of the first class with the approval of the State commissioner of health.

This regulation shall take effect throughout the State of New York, except in the city of New York, on the 1st day of March, 1916.

Cultures of Pathogenic Bacteria—Distribution—Approval of State Commissioner of Health Required. (Reg. Public Health Council, Feb. 4, 1916.)

The following regulation has been added to chapter 2[2] of the Sanitary Code:

REG. 43*a*. *Distribution of living cultures of disease-inducing bacteria.*—No person having in his possession the cultures of pathogenic bacteria shall sell or convey such cultures to any person or laboratory unless first approved by the State commissioner of health. This amendment shall take effect May 1, 1916.

Local Health Officers—Qualifications—Time of Taking Effect Extended.[3] (Res. Public Health Council, Nov. 21, 1916.)

Whereas the epidemic of poliomyelitis during the summer of 1916 made such demands upon the time of physicians, and especially of local health officers of the State, as to interfere with their attendance upon the preliminary courses of instruction for health officers: Therefore be it

Resolved, That the qualifications for health officers heretofore established by the public health council shall go into effect on June 1, 1917, instead of November 1, 1916.

Sanitary Code—Penalty for Violation. (Reg. Public Health Council, Jan. 22, 1916.)

Regulation 2[2] of chapter 1 of the Sanitary Code has been amended to read as follows:

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 $50 or by imprisonment for not more than six months, or by both. This regulation shall take effect throughout the State of New York, except in the city of New York, on the 1st day of March, 1916.

---

[1] Pub. Heal h Repts., June 19, 1914, p. 1658; Reprint 279, p. 112.
[2] Pub. Health Repts., June 19, 1914, p. 1658; Reprint 279, p. 111.
[3] Pub. Health Repts., Sept. 24. 1915, p. 2914; Reprint 338, p. 384.

PHILIPPINE ISLANDS.

Infant Welfare Work—Establishment of Milk Dispensaries—Appropriation. (Act No. 2633, Feb. 23, 1916.)

SECTION 1. There is hereby appropriated, out of any funds in the insular treasury not otherwise appropriated, the sum of 1,000,000 pesos, which shall not be set up in the books of the auditor until allotted administratively, for expenditure, in the discretion of the Governor General, in the Provinces organized under Act No. 83, and the Provinces of Palawan, Mindoro, and Batanes, the department of Mindanao and Sulu, and the special Provinces of northern Luzon, to assist in the campaign for the protection of early infancy, including the establishment of "Gotas de Leche" wherever it may be feasible and necessary: *Provided, however*, That in order that a Province, municipality, or township may obtain the aid herein authorized it shall be required to contribute, either by appropriation out of its own funds, or by voluntary subscription, or in any manner other than by direct or indirect aid of the insular government, a sum equal to that which the Governor General is ready to invest in such Province, municipality, or township: *Provided, further*, That the technical plan of the work contemplated shall be approved by the "Liga Nacional para la protección de la primera infancia": *And provided finally*, That in connection with such work, any officer or employee of the insular, provincial, and municipal governments shall serve gratuitously when so directed by the Governor General, and any officer or employee so directed who fails to render satisfactory service may be summarily removed.

SEC. 2. The Governor General shall include in his annual message to the Philippine Legislature a detailed report of the work for the protection of early infancy performed in accordance with the provisions of this act.

Public Health Work—Appropriation. (Act No. 2663, June 19, 1916.)

SECTION 1. There is hereby appropriated, out of any funds in the insular treasury not otherwise appropriated, the sum of 39,000 pesos for the following purposes of the public health service, except as otherwise stated, in the department of Mindanao and Sulu:

For combating epidemic diseases	₱6,000
For the construction and equipment of an operating room and the screening of windows of wards in the Lanao Public Hospital	4,000
For completing the construction and equipment of a hospital for contagious diseases at Zamboanga	13,000
For completing the construction and equipment of the Cotabato Public Hospital	6,000
For the necessary repair of the public building in which Dr. Jose Rizal was for a time confined at Dapitan and the equipment of a suitable portion thereof as a public dispensary and ward for the extension of medical and surgical relief to the public, the institution to be known as "Rizal Memorial Hospital"	5,000
For continuing the work of improvement of the Rizal Memorial Park at Dapitan	5,000
Total	39,000

SEC. 2. The sums above appropriated shall be available for their respective purposes until expended and upon the completion of the projects stated balances remaining shall be covered back into the insular treasury to the account of unappropriated funds.

×