# PUBLIC HEALTH REPORTS

VOL. 29. JUNE 5, 1914. No. 23

## INDUSTRIAL INSURANCE.

### MEDICAL EXAMINATION OF EMPLOYEES AND PREVENTION OF SICKNESS ITS PROPER FOUNDATION.[1]

By J. W. SCHERESCHEWSKY, Surgeon, United States Public Health Service.

It is a far cry from prehistoric times, when each human being had to fend for himself, to our present social era. The most striking and important aspect of man's social evolution is the gradual growth of appreciation of the consequence to and interdependence upon each other of the individual members of society. In the past, man's chief aim was that his own lot and that of his immediate family groups might be relatively pleasant. That his own fate or social status could be adversely affected by the misery of an unrelated social unit was entirely beyond the scope of his outlook upon his life. The bitter lessons taught by the ravages of devastating epidemics, the concentration of population in cities, the high degree of specialization in manufactures, and similar conditions have all increasingly emphasized man's dependence upon his fellow and shown us how properly to assess the value of the individual unit to society at large.

It is a truism that the efficiency of the social unit is conditioned more by his physical status than by any other one factor. That the inefficiency due to ill health, however, constitutes a burden to be borne by the whole of society rather than the individual is a concept which has been fully recognized only of recent years.

Still, it seems plain that the citizen owes it to the State quite as much as to his own interests to see that his efficiency is not compromised by a defective state of health. If from any cause he suffers from defect or disease which reduces that efficiency it is manifestly unfair that the burden should be shouldered by society, if such defect or disease arose from causes which he himself could have prevented.

[1] Read before the National Association for the Prevention of Tuberculosis, Washington, D. C., May 7-9, 1914.

Industrial sickness insurance constitutes a logical means by which society may equitably distribute the costs resulting from physical inefficiency. No sound argument can be advanced against the propriety of establishing systems of industrial sickness insurance nor against the economic necessity for such systems.

It is not the purpose of this paper to discuss the fiscal aspects of the question. It is enough to state, briefly, that since the State, the employer, and the employee are the beneficiaries, social justice demands that the costs of industrial insurance be borne by all three on a basis of equitable representation.

It is obvious, however, no matter in what way the burden of the cost is divided, that the best scheme of industrial insurance is the one in which an adequate reserve is maintained at a minimum cost.

It is in this respect that the majority, if not all the systems now in force, are defective, in that they contemplate providing for the cost of sickness or physical disability only after these have become facts. The employee enjoys the benefits of sickness insurance only after the disease or disability has lasted some time. In other words, existing systems of industrial insurance fail to recognize adequately that great principle at the root of all our present-day campaigns in the interest of public health, namely, that of prevention. Too great attention has been paid to providing the sick employee with medical attention after he becomes entitled to it by reason of illness, too little to preventing the illness which entitled him to the benefit of the insurance. The basic principle of industrial insurance, therefore, should be to prevent illness, rather than to pay the costs of preventable diseases and disabilities.

One of the chief objections urged against compulsory industrial sickness insurance has been its cost. Such insurance must, indeed, be costly so long as the principle of prevention is not taken into account. As soon, however, as our systems of industrial insurance are placed upon a preventive basis, we may confidently look for a great reduction in the cost, with the result of a widespread adoption of such systems, greatly to the benefit of society at large.

Granted, then, that systems for industrial sickness insurance, in common with other public-health work, should rest upon a preventive basis, the primary object of such insurance would be to detect incipient defects and diseases among workers, or to prevent the development of diseased conditions by proper precautionary measures. It is evident that this object will be most readily attained by means of the frequent periodic physical examination of employees and an inspection of their environment. In no other way can the first beginnings of disease be so readily detected, or the adverse influence

of unhygienic conditions averted. It is to be understood, of course, that we are not to rest content with the mere detection of such incipient defects and diseases, or of unhygienic conditions among workers, but their discovery should go hand in hand with an earnest effort to discover the adverse factors at the root of the matter. The inquiry, therefore, is not to be terminated until the offending condition has been removed and progress has been made toward renewed health and efficiency.

It becomes evident in the course of such inquiries that not only must bad shop conditions be taken into account but the conditions of the worker's total environment be subject to scrutiny. In many instances the origin of the defective state may be the unhygienic home rather than the unhygienic workshop.

This means, in the medical organization of the industrial insurance of the future, that preventive work will greatly expand the horizon of our existing activities.

We are already beginning correctly to evaluate the importance of periodic physical examinations in maintaining a continuous state of physical efficiency. Whenever these have been carried into effect, they have resulted in the detection of numerous defects, or diseases, in their incipiency, and made it possible to apply suitable remedies before irretrievable damage has been done.

What is needed, however, for the sanitation of industries and the reduction to a minimum of the enormous annual loss to workers through preventable illnesses and disabilities is a rapid extension of such periodic physical examinations and an extension of the prophylactic work beyond the confines of the shop.

As an adjuvant, therefore, to the data obtained by the physical examination, the sanitary history of the employee, in order to be complete, will require the enlistment of the services of the social worker, or the visiting nurse, so that his entire surroundings and their effect in producing diseased states can be taken properly into account.

It is needless to say that industrial insurance, operated upon this preventive principle, should result in benefits of a far-reaching character. In the first place, it is the method, par excellence, by which the effect of industries upon individual efficiency can be properly studied. Under such a system we should not be long in getting at the basic facts underlying ill health in so many industries, and in working out appropriate preventive measures.

Moreover, an industrial insurance system, based upon the preventive work resulting from periodic physical examinations, should effect, to a notable degree, the establishment of hygienic standards of living throughout the country. The reduction in the loss of working days per employee from illness throughout the year should

be notable. In this way great economic gains with diminished cost of production would result.

Another notable result would be the formulation of minimum hygienic standards for various industries, and the promulgation of uniform industrial legislation for their enforcement throughout the country.

Still another good effect of industrial insurance based upon preventive methods would be an increase in the efficiency of local health authorities. It is plain that the periodic physical examinations contemplated, taking into account, as they do home as well as factory conditions, must reveal many insanitary conditions which must, necessarily, be brought to the attention of the local health authorities for correction, when, otherwise they might not have been detected. In this way the value of the services of local health authorities to the respective communities will be enhanced.

Finally, the cost of industrial insurance, based on preventive lines, should be far below that of a system providing benefits only after the worker has become ill. The reserve necessary to any system of industrial insurance is, of course, dependent upon the average frequency of illness. If, by preventive measures, we succeed in reducing this frequency, it follows that the reserve, and consequently the cost of the insurance, may be reduced, after proper provision has been made for the cost of the preventive work. We are, therefore, justified in coming to the following conclusions:

1. Industrial sickness insurance is an economic necessity in modern social evolution.

2. The basis upon which industrial insurance should rest is the prevention of illness and physical disabilities.

3. Frequent periodic physical examinations of workers constitute the logical means by which defects and diseases can be detected in their incipiency.

4. The scope of such examinations should be extended to include home as well as factory conditions.

5. Industrial insurance based upon preventive measures should redound greatly to the benefit of society

(a) by reducing the annual loss of time through illness;

(b) by establishing hygienic standards;

(c) by establishing minimum hygienic standards for industries;

(d) by favoring the enactment of uniform industrial legislation;

(e) by increasing the efficiency of local health authorities.

6. The cost of carrying industrial insurance based on preventive principles should be less than that of present systems.

# TRACHOMA.

## A SURVEY OF ITS PREVALENCE IN THE MOUNTAIN SECTIONS OF VIRGINIA AND WEST VIRGINIA.

By TALIAFERRO CLARK, Surgeon, United States Public Health Service.

The undue prevalence of trachoma in certain of the mountain counties of eastern Kentucky was clearly shown in the reports of surveys of that region by Dr. J. A. Stucky, of Lexington, Ky., and Surg. John McMullen of the United States Public Health Service.[1]

As soon as these reports were made the advisability of making a survey of the whole Appalachian mountain chain to determine the extent of the spread of trachoma among a population allied by blood and affected by propinquity to the people of this heavily infected territory became apparent.

### Extent of Survey.

Beginning in September, 1913, at Wheeling, W. Va., with an examination of the school children of that city for trachoma, inspections were made in 23 counties of West Virginia, during which 20,848 persons were examined, among whom 340 cases of trachoma were found, 1.63 per cent.

The survey of the mountainous sections of Virginia was ended at Staunton, Va., April 29, 1914. In the course of the survey 10 counties, contiguous to the known infected territory of Kentucky and West Virginia, were visited and 7,801 persons were examined for trachoma. Of these, 108 had the disease, 1.38 per cent.

TABLE 1.—*Showing number of persons examined and of cases of trachoma found in counties of West Virginia visited.*

| County. | Number examined. | Cases of trachoma. | Per cent of infection. |
|---|---|---|---|
| Boone | 297 | 10 | 3.36 |
| Cabell | 2,947 | 36 | 1.22 |
| Fayette | 1,638 | 9 | .54 |
| Grant | 35 | 0 | ..... |
| Greenbrier | 435 | 0 | ..... |
| Hampshire | 300 | [2] 4 | ..... |
| Hardy | 70 | 0 | ..... |
| Kanawha | 2,662 | 28 | 1.05 |
| Logan | 1,078 | 27 | 2.50 |
| Marshall | 1,195 | [2] 6 | ..... |
| Mason | 273 | 1 | .36 |
| McDowell | 703 | 20 | 2.84 |
| Mercer | 2,153 | 9 | .41 |
| Mingo | 781 | 37 | 4.73 |
| Monroe | 32 | 0 | ..... |
| Ohio | 2,224 | 1 | ..... |
| Pendleton | 45 | 0 | ..... |
| Pocahontas | 171 | 0 | ..... |
| Raleigh | 311 | 3 | .96 |
| Summers | 756 | 2 | .26 |
| Wayne | 1,001 | 59 | 5.89 |
| Wood | 1,269 | 8 | .63 |
| Wyoming | 472 | 80 | 19.94 |
| Total | 20,848 | 340 | 1.63 |

[1] Public Health Reports, vol. 27, No. 45, Nov. 8, 1912.
[2] In State institutions.

TABLE 2.—*Showing number of persons examined and of cases of trachoma found in counties of Virginia visited.*

| County. | Number examined. | Cases of trachoma. | Per cent of infection. |
|---|---|---|---|
| Augusta | 1,210 | [1] 9 | 0.74 |
| Buchanan | 261 | 34 | 13.02 |
| Carroll | 249 | 0 | ..... |
| Dickenson | 358 | 20 | 5.58 |
| Grayson | 1,060 | 3 | .28 |
| Lee | 842 | 6 | .71 |
| Scott | 504 | 5 | .99 |
| Smyth | 392 | 0 | ..... |
| Washington | 1,256 | 5 | .39 |
| Wise | 1,669 | 26 | 1.55 |
| Total | 7,801 | 108 | 1.38 |

[1] In State institutions.

A significant fact revealed by this survey is the wide distribution of trachomatous infection throughout the greater portion of West Virginia, from Parkersburg, in Wood County, on the northwestern border of the State, south and east to and including Mercer and Summers Counties.

On the other hand, no trachoma was found on the eastern edge of the State from Hampshire County in the north to and including Monroe County in the south.

In Virginia the heaviest infection was found in the counties adjoining West Virginia and Kentucky, in the southwestern part of the State. A sharp line of demarkation, represented by the Clinch Mountains, separates the infected territory from the other counties of this section of the State.

The infection, as in similar territory in West Virginia, is widespread in the counties where the disease was found to prevail. From a public health point of view this is one of the most important and significant facts brought to light by this survey. The wide dissemination throughout a large part of the population of the State of a disease so potentially damaging to vision as is trachoma, and the threatened economic loss to infected communities, should be a matter of serious concern to those in charge of the public health administration of these communities.

Examinations for trachoma were confined almost exclusively to the school population. Wherever it was practicable, however, a house-to-house inspection was made. This latter procedure was employed in addition to the examination of the school children at certain representative mining towns of the Cabin Creek, Paint Creek, Loup Creek, Coal River, and other mining districts of Kanawha, Fayette, and Raleigh Counties of West Virginia.

Two rural communities were also surveyed in like manner—one in Wayne County and the other in Wyoming County, W. Va. The

examination of adults in the course of this survey was largely confined to these house-to-house inspections. However, an examination of the school children of these same communities gave a corresponding trachoma index. The practice, therefore, of house-to-house inspections was discontinued because of the time consumed in making them and because sufficient additional information could not be gained thereby.

An exception to this general statement may be made with regard to the amount of visual damage. The greatest number of seriously damaged eyes is to be found among adults in cases of long standing and usually neglected trachoma.

### Basis of Diagnosis.

The study of trachoma is rendered more difficult because no written description may accurately portray its clinical characteristics. The cause of the disease is yet unknown, and the use of the microscope is of no avail for routine diagnosis. The whole subject of trachoma is confused because the diagnosis is based on the clinical aspects of the disease plus the experience and personal equation of the examiner.

In order that epidemiological studies of trachoma may be of value, it is necessary to have a standard. In the course of this survey no record was kept of indeterminate or suspicious cases. Only those cases presenting hyperplastic infiltration with evidences of cicatrization were counted as trachoma. Likewise, no recovered cases with the usual cicatrization and distortion of the eyelids were used in the calculation of percentages.

### Object of Survey.

The determination of the geographic distribution of infection is a prime requisite for the control of an outbreak of any communicable disease. When once the confines of an infected area have been outlined the necessary steps for the control of the disease become practicable.

The object, therefore, of this survey has not been the detection of every case of trachoma in the places visited, but to outline the limits of infected territory and to bring to the attention of local physicians, school boards, and other authorities the dangers of this disease, following its introduction into communities, and the necessity of concerted action for its eradication.

### Origin of Trachoma among the Mountain Population.

No definite information could be obtained in the course of this survey as to how long trachoma has existed among these isolated people. Many and varied speculations are entertained by different persons respecting the origin of trachoma among them.

By many it is asserted the disease was introduced by recently arrived foreigners. The disease has been in these sections too long for this to be the case. During this survey a number of trachomatous subjects were met with, who declared that their grandfathers, long dead, had been blind by reason of "granulated eyelids." Surely these grandfathers were infected long before the present-day heavy immigration to this country set in, and before there was any com munication between this remote people and alien races other than Anglo-Saxon.

According to Dr. Moore, of Huntington, W. Va., the disease was introduced by the soldiers under Garfield, whose army operated very extensively in those regions during the Civil War.

It is the writer's belief that trachoma has existed among these people since their earliest settlement, and that it has spread as the population increased, and because of the lack of sanitary precautions.

**Damage to Vision.**

The greatest number of examinations made during this survey was of school children. The amount of visual damage encountered, therefore, is not a fair index of the total amount of injury due to trachoma. An examination of a like number of adults in the same infected communities, among whom it is likely cases of long-standing trachoma exist, undoubtedly would give a higher per cent of visual injury. The longer a case of trachoma continues, the less treatment an individual case receives, the greater will be the damage to sight.

Of the 340 cases of trachoma found in West Virginia, 5.29 per cent had suffered severe visual damage. Of these, there were 10 cases of double pannus; 2 cases of pannus with blindness of one eye; 2 cases of old pannus with bare light perception; one case of blindness in a boy of 12 years with active trachoma, due to rupture of one eye, with extrusion of the contents, and to a pronounced staphyloma of the other; and 3 cases of blindness in the Institution for the Blind, which were undoubtedly caused by this disease.

Numerous cases of blindness due to trachoma were also reported by their relatives and acquaintances in the course of these examinations. The most notable was the reported blindness from trachoma of an entire family of several persons supposed to be at or near Gay, Logan County, W. Va.

In Virginia the percentage of visual damage was not found so high, due to the fact that the examinations in this State were confined almost exclusively to school children.

In the school for the blind at Staunton, Va., three cases of played-out trachoma, with marked cicatrization, were found. One of these children was undoubtedly blind from trachoma.

### Trachoma in the Negro.

It is a popular belief that the negro is immune to trachoma. In the summer of 1913, Schereschewsky, of the Public Health Service, examined for trachoma the children of the Knox County Industrial School, near Knoxville, Tenn., and found 47.5 per cent of trachoma among the white children and 10 per cent among the colored children of that institution.

TABLE 3.—*Showing number of negroes examined.*

| State and place. | Number examined. | Cases of trachoma. | State and place. | Number examined. | Cases of trachoma. |
|---|---|---|---|---|---|
| VIRGINIA. | | | WEST VIRGINIA—continued. | | |
| Bristol | 80 | 0 | Dorothy | 12 | 0 |
| Marion | 63 | 0 | Glen Jean | 82 | 0 |
| Staunton | 231 | 0 | Harewood | 57 | 0 |
| | | | Holden | 41 | 0 |
| WEST VIRGINIA. | | | Huntington | 415 | 1 |
| Bluefield | 230 | 0 | Longacre | 24 | 0 |
| Boomer | 11 | 0 | Marytown | 18 | 0 |
| Burnwell | 50 | 0 | Montgomery | 84 | 0 |
| Cabin Creek district: | | | Parkersburg | 132 | 0 |
| South Carbon | 9 | 0 | Point Pleasant | 32 | 1 |
| Wake Forest | 19 | 0 | Welch | 34 | 0 |
| Wevaco | 18 | 0 | Wheeling | 135 | 0 |
| Charleston | 536 | 0 | | | |
| Davy | 25 | 0 | Total | 2,338 | 2 |

In this survey 2,338 negroes were examined at 21 different points in the two Virginias and only two cases of trachoma were found among them. These findings agree with those of Schereschewsky to the effect that the negro is not immune to trachoma, but the amount of infection, under apparently identical conditions, undoubtedly is much less in the negro than in the white race.

In heavily infected communities visited by the writer trachoma was apparently a family disease, and seemed to be confined to certain families, while other families escaped. It does seem, therefore, that to be communicable trachoma requires an intimate contact such as is furnished by the intimacies of family life. The disease in these districts is largely confined to the white race, and the negro is probably largely protected by his inability to closely associate with whites. Furthermore, the proportionate negro population in the territory surveyed is small and may account for the comparative freedom from trachoma of this part of the general population.

### Trachoma and Nationality.

The impression is quite general, in West Virginia and elsewhere, that trachoma is very prevalent among the foreign element of the population. The belief is not confirmed by this survey. Trachoma is essentially a disease of the native population. The foreigner is a

negligible factor in the continued prevalence and spread of the disease in these two States, as is shown by the following tables:

TABLE 4.—*Showing nativity of white residents in West Virginia in counties where trachoma examinations were made.*

| County. | Population, 1910. | Native white population. | Mixed foreign-parentage population. | Foreign-born white population. | Total examined in county. | Trachoma cases found. |
|---|---|---|---|---|---|---|
| | | *Per cent.* | *Per cent.* | *Per cent.* | | |
| Boone | 10,331 | 98.0 | 0.4 | 0.1 | 297 | 10 |
| Cabell [1] | 31,161 | 87.6 | 3.8 | 2.0 | 2,947 | 36 |
| Fayette | 51,903 | 68.9 | 4.6 | 8.6 | 1,638 | 9 |
| Kanawha | 81,457 | 85.3 | 3.7 | 3.1 | 2,662 | 28 |
| Logan | 14,476 | 88.4 | 1.5 | 6.4 | 1,078 | 27 |
| McDowell | 42,794 | 52.6 | 3.6 | 13.1 | 703 | 20 |
| Marshall [2] | | | | | 1,195 | 6 |
| Mason | 23,019 | 94.8 | 2.8 | 1.0 | 273 | 1 |
| Mercer | 38,371 | 79.5 | 1.9 | 3.0 | 2,153 | 9 |
| Mingo | 19,431 | 85.6 | 1.9 | 6.2 | 781 | 37 |
| Ohio [3] | 41,641 | 53.8 | 30.3 | 14.0 | 2,224 | 1 |
| Raleigh | 25,633 | 84.3 | 1.8 | 5.9 | 311 | 3 |
| Wayne | 24,081 | 98.4 | .7 | .2 | 1,001 | 59 |
| Wood | 38,001 | 88.6 | 6.7 | 2.2 | 1,269 | 8 |
| Wyoming | 10,392 | 98.6 | .2 | .2 | 472 | 80 |
| Total | | | | | 19,014 | 334 |

[1] City of Huntington.
[2] Examination confined to inmates of State prisons.
[3] City of Wheeling.

TABLE 5.—*Showing nativity of white residents of Virginia in counties where trachoma examinations were made.*

| County. | Population, 1910. | Native white population. | Mixed foreign-parentage population. | Foreign-born white population. | Total examined in county. | Trachoma cases found. |
|---|---|---|---|---|---|---|
| | | *Per cent.* | *Per cent.* | *Per cent.* | | |
| Buchanan | 12,334 | 99.8 | 0.1 | 0.1 | 261 | 34 |
| Carroll | 21,116 | 98.5 | .1 | .1 | 249 | 0 |
| Dickenson | 9,199 | 99.8 | .1 | .1 | 358 | 20 |
| Grayson | 19,856 | 95.1 | .1 | .1 | 1,060 | 3 |
| Lee | 23,840 | 94.7 | .2 | .8 | 842 | 6 |
| Scott | 23,814 | 97.8 | .1 | .1 | 504 | 5 |
| Smyth | 20,326 | 94.4 | .6 | .2 | 392 | 0 |
| Washington | 39,077 | 90.3 | .6 | .3 | 1,256 | 5 |
| Wise | 34,162 | 85.5 | 1.9 | 4.2 | 1,669 | 26 |
| Total | | | | | 6,591 | 99 |

It was not easy to keep track of the total number examined of foreign-born persons and persons of mixed or foreign parentage. However, but four cases of trachoma were found among this element of the population examined in West Virginia, as compared with 336 cases among the native population.

Referring to Tables 4 and 5, it may be seen that the presence of trachoma among persons of foreign extraction is merely a circumstance, without relation to their number in a given community, and without any connection with the amount of trachoma found present in the resident native population.

For example, in Cabell and Kanawha Counties, where the per cent of persons of foreign birth is high, 2 per cent and 3.1 per cent, respectively, 64 cases of trachoma were found among the native population and none among the foreign.

On the other hand, in Fayette County, W. Va., with 8.6 per cent of its population foreign born, only 9 cases of trachoma were found, of which 3 cases were among foreigners, 2 of them in the family of a foreigner long resident in the county, and 1 case in the person of a Hungarian who had resided in this country for four years.

In Boone, Wayne, and Wyoming Counties, W. Va., and in Buchanan County, Va., the number of foreign-born residents is less than 0.2 per cent of the total population. Of the 183 cases of trachoma found in these four counties, all were among the resident native stock.

**Observations Concerning the Spread of Trachoma.**

*Topography and geological formation.*—In former years great emphasis was placed by writers on the influence of the local physical features of the country in the epidemiology of trachoma.

Over two-thirds of the area of West Virginia is mountainous. More than one-third of the State belongs to the Alleghany plateau. The extreme southern portion belongs to the Cumberland plateau.

In the northeastern section of the State the mountain ridges are parallel. In the southern portion the plateau has been eroded by streams, forming a succession of domes and irregular spurs extending in all directions with intervening valleys of varying width. Some of them are very narrow. These valleys are about 2,000 feet above sea level and the ridges range from 3,000 to 4,000 feet. This area is succeeded by rolling hills, in the extreme western part of the State, gradually sloping to the Ohio River, where the altitude is from 500 to 650 feet above sea level.

No possible connection could be traced, during this survey, between the physical features of the country and the amount of infection therein. The physical features of a country do, however, exert a certain influence on the customs, habits, standards of living, industries, wealth, and especially the migration of a people, and to a certain extent may bring about conditions favorable to the spread of communicable diseases.

In both the Virginias these features determine routes of travel and, therefore, the isolation of communities, both of which when applied to infected communities, are greatly concerned in the spread of trachoma. The heaviest infected communities have been found to be the most isolated in these States. From them, following routes of travel, the disease has spread widely.

*Age and sex.*—The greatest number of persons examined were children of school age. The following Table 6 shows, therefore, a

disproportionate amount of trachoma in children of 15 years of age and under.

TABLE 6.—*Showing trachoma cases according to age and sex of patients.*

| State. | Sex. | Age (years)— | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 5 to 10 | 11 to 15 | 16 to 20 | 21 to 30 | 31 to 40 | 41 to 60 | 60+ |
| West Virginia | Male | 60 | 75 | 12 | 7 | 11 | 7 | 3 |
| | Female | 62 | 68 | 12 | 12 | 4 | 4 | 2 |
| Virginia | Male | 21 | 18 | 10 | 3 | 1 | 3 | 0 |
| | Female | 28 | 19 | 3 | 1 | 2 | 0 | 0 |
| Total | Male | 81 | 93 | 22 | 10 | 12 | 10 | 3 |
| | Female | 90 | 87 | 15 | 13 | 6 | 4 | 2 |
| Grand total | | 171 | 180 | 37 | 23 | 18 | 14 | 5 |

The proportion of infection between the two sexes is fairly constant up to 30 years, at which age the number of cases in males preponderates. This is due to the fact that more males were examined in public places and on the roadsides.

The disease is more likely to be spread to distant places by males, and especially those who go to new territory in search of work, a practice stimulated by the industries of the State.

*Illiteracy and trachoma.*—An attempt was made to trace any possible connection between illiteracy and the prevalence of trachoma, assuming that illiteracy is usually associated with a disregard for and ignorance of sanitary matters.

In Logan, McDowell, and Mingo Counties, W. Va., the per cent of trachoma was high among those examined. According to the 1910 census the illiteracy rate is also correspondingly high in these counties.

In Buchanan County, Va., where the trachoma rate among those examined was 13.02 per cent, the illiteracy rate given is 34.7 per cent.

In Wyoming County, W. Va., however, where the heaviest trachomatous infection was found, 19.94 per cent of the total examined, a comparatively low illiteracy rate is given, 12.4 per cent.

The assumption was found correct, however, that illiteracy is usually associated with considerable ignorance of personal hygiene and an insanitary mode of life, and therefore with conditions favoring the spread of trachoma and other communicable diseases.

The sanitary improvement of these regions can be brought about only through education of the rising generations. Education must be an important feature among measures intended for the control of trachoma and other communicable diseases. It is pleasing to note that evidences of increasing activity in matters educational were observed in all the places visited in the course of this survey.

*Type of trachoma and other related factors.*—The type of trachoma met with among the people of the two Virginias did not, as a whole,

appear so severe as that reported by McMullen in Kentucky or found prevailing among the Indians of the United States. In many instances those examined expressed surprise that they had any serious eye affection and were apparently unaware of its presence. Yet these cases showed abundant conjunctival infiltration and so-called granulations with evidences of cicatrization.

Trachoma of this type is dangerous from an epidemiological standpoint, because the disease is neither detected nor suspected unless looked for specifically. Eyes in this condition are from time to time discharging the contents of broken-down "granulations," which may be the source of infection to others. Many of these cases undergo acute exacerbations. A severe inflammation may supervene at any time, due apparently to trifling causes, from which the time of the onset of the disease is usually referred.

Systematic eye examinations in infected territory is, indeed, not alone for the detection of these obscure cases, but in order that they may receive early treatment.

Furthermore, recruiting officers of the military services should bear in mind the possible presence of trachoma among applicants for enlistment at stations located in infected territory.

The contagiousness of trachoma is quite clearly shown by this survey. The disease is most prevalent in isolated communities, far from medical attention and indifferent to the same, except in sudden and grave infections. Until recently but little effort has been made to control the disease. As a result it is not uncommon to find instances where the infection has spread from one person to another in the same family. So assuredly is this the case that the mention of a certain creek in an infected district will suggest the name of some family dwelling thereon from which the disease has spread extensively.

In some communities every family of a common name was infected. In individual families the infection varied from two or more members to the whole family. In several instances the source of family infection had been definitely traced to a previous more or less protracted visit of some person subsequently known to have been affected with trachoma.

In a number of communities the question of poverty entered less into the consideration of the cause of the spread of trachoma than did the personal habits and mental attitude of a considerable number of the people.

In some sections of both States a number of the mountain people receive rentals for gas, oil, and mineral rights which are a source of considerable revenue. Yet the sanitary condition of the homes of some of them is quite as bad as of those without such income. The

common towel was everywhere present and overcrowding was frequently observed.

On account of the fact that transportation facilities are very poor in the remote districts and the roads are rough and mountainous, increasing the isolation of families and small communities, medical services are available only at rare intervals. Where such facilities are lacking the disease remains longer infectious, and the damage to vision is greatest. Indeed, the majority of these people do not realize that trachoma is infectious, and where intelligent medical advice is lacking it is allowed to spread among them unchecked.

This survey has revealed, with notable exceptions, a marked lack of appreciation of the gravity of the trachoma situation by local physicians of certain communities. Many physicians apparently were unable to detect trachoma except in its advanced stages, where a cure is well nigh impossible. A few physicians frankly admitted lack of knowledge of the disease, but nearly all expressed an earnest desire for information. For these reasons many trachomatous subjects travel to the larger towns for treatment by specialists they can ill afford to employ, and in so doing are liable to spread trachoma to fellow travelers on trains, in railroad stations, and in the cheaper hotels and boarding houses where the common towel is still in evidence.

*Mining industry.*—Over two-thirds of the area of West Virginia is underlaid by coal deposits, and more and more coal properties are being developed each year. The mines attract labor from their immediate vicinity and from a distance. By reason of the topography of the country mining settlements are usually congested and crowded into narrow mountain valleys, with scarcely room for the railroad, the public road, and the usual stream. The crowding together of dwellings and consequent intimate commingling of the population undoubtedly facilitate the spread of trachoma wherever introduced. Practically every adult trachoma case found in a house-to-house canvas of several mining locations originated elsewhere.

The results of the survey of Fayette, Kanawha (not including Charleston), and Raleigh Counties, 0.54 per cent, 1.96 per cent, and 0.96 per cent, respectively, are representative of the trachoma situation in mining settlements located in territory not in itself heavily infected. These results were obtained by a house-to-house inspection, in addition to the usual school examinations, in locations solely devoted to the mining industry.

The high per cent of trachoma found in Logan, McDowell, and Mingo Counties, 2.50, 2.84, and 4.73, respectively, is due to the location of the mines in a territory in which the population is already widely infected with trachoma or in locations contiguous to such infected regions.

In Wayne and Wyoming Counties, W. Va., and Buchanan and Dickenson Counties, Va., on the other hand, the extensive prevalence of trachoma, represented by 5.89 per cent, 19.94 per cent, 13.02 per cent, and 5.58 per cent, respectively, is among a distinctively rural population, in which the mining industry is but little developed.

The possibility of trachoma among the mining population is, therefore, largely a matter of location, and the degree of prevalence is determined by the amount of the disease in the territory wherein these operations are conducted.

The heterogeneous collection of miners, with their families, from all parts of the State, including infected territory and from other States may result in the dissemination of trachoma through the observed tendency of miners to drift from one location to another.

The sanitary condition of the miners' homes in most of the locations visited is no better than that of the mountain cabin whence so many of them came, and they have the additional drawback of being situated in very congested communities.

The situation, however, has distinct advantages. Cases of trachoma occurring among them are no longer isolated. Infected families, removed from remote mountain communities, are brought in touch with what is practically free medical attention. With the opening up of more and more mining locations the trachoma of the State will become more and more concentrated into communities where it can be gotten at and treated appropriately.

*School inspections.*—In all, 199 public and private schools were inspected during this survey, 68 in Virginia and 131 in West Virginia. Of these, 22 were schools for colored children. In addition, the schools for the blind and for the deaf and dumb at Romney, W. Va., and at Staunton, Va., were inspected, and also the inmates of the West Virginia State Prison, at Moundsville.

In most of the places visited this inspection was the pioneer work in this direction and excited considerable interest. It is expected these inspections will result in the establishment of a more thorough medical inspection of schools, especially in the larger cities, with particular reference to the detection of cases of trachoma for the purpose of placing them under medical supervision.

It was found in a number of places that the local authorities were unfamiliar with the best method of making examinations for trachoma. The result was that many cases of unsuspected trachoma were found in schools where a tentative medical inspection of the school children was practiced. The lesson of trachoma inspection is easily learned, and when it is applied similar conditions will no longer be met.

*Health talks to school children.*—By reason of a desire to arouse a popular interest in the subject of trachoma throughout infected ter-

ritory, 77 health talks were addressed to over 10,000 school children in the course of these inspections.

Furthermore, the children of these people will have better educational opportunities. The advantages of contact with the outside will be appreciated, in course of time, and will result in greater attention to personal hygiene and that of the surroundings. Operating along these lines, the coal mining industry, by removing the mountaineer from his isolation and placing him under medical supervision, will be indirectly instrumental in the reduction of trachoma.

### Educational Features of the Survey.

*Local physicians.*—The awakened interest of local physicians promises to be a potent factor in the control of trachoma within the State. Those physicians whose attention has been invited to the trachoma situation will be on the lookout for cases of the disease, resulting in the detection of many more cases in incipient stage and the earlier application of remedial measures, with a more reasonable hope of effecting a cure and preventing the infection of others.

### Conclusions.

Based on this survey the following conclusions are presented:

1. Trachoma is widely prevalent in West Virginia, and in sufficient amount to make it one of the serious public health problems of the State.

2. The area of heaviest rural infection is found in contiguous portions of Wayne, Lincoln, Boone, Wyoming, Logan, Mingo, and McDowell Counties, in West Virginia, and the northern portions of Buchanan, Dickenson, and Wise Counties, Va.

3. An examination of State institutions shows trachoma also prevalent in counties not visited.

4. The counties of the eastern edge of West Virginia appear to be free from trachoma, which is probably due to infrequent contact with people of infected territory because of no direct line of communication.

5. No systematic effort is being made to control the spread of the disease from infected territory or from place to place in the infected counties.

6. The necessity of concerted action for the suppression of trachoma is shown by 5.29 per cent of marked visual damage in the total of trachoma cases found during this survey in West Virginia.

7. Recent foreign immigration was not an element in the introduction of trachoma in the two Virginias.

8. The Negro race, in these two States, is practically free from the disease.

9. The mining industry, by attracting labor from infected localities, is a factor to be considered in the spread of trachoma.

10. The mining industry is potentially a means by which control may be exercised over trachoma in remote districts, through careful medical supervision of infected miners.

**Recommendations.**

1. Systematic examinations for trachoma should be made of all school children of the State.

2. All children suffering from active trachoma should be excluded from school under medical supervision until pronounced in condition to return without danger to others.

3. The expense of such medical supervision of school children should be borne by the State whenever necessary.

4. A school nurse should be employed wherever practicable, whose duty would be to visit the homes of children debarred from school by reason of trachoma and put into practice, under the physician's direction, the principles of control of the disease from the standpoint of the individual and the public.

5. A campaign of education should be instituted in infected territory through talks to school children and the distribution of printed information relative to the dangers and prophylaxis of trachoma.

6. A free hospital of inexpensive construction for the treatment of trachoma should be located at a point near the junction of Logan, Mingo, McDowell, and Wyoming Counties, W. Va.

7. A similar free hospital should be located near the junction of Buchanan and Dickenson Counties, Va.

8. The cooperation of the mining companies should be secured in order that a systematic examination of all miners may be made by their physicians, and all cases of trachoma found among them treated.

9. A systematic effort should be made to improve the sanitary condition of rural schools to the end that the dangers of school infection may be lessened.

**Details of Trachoma Prevalence in Counties Visited.**

In the following pages detailed information is presented in respect to trachoma prevalence as found in the counties visited.

*Boone County, W. Va.*—The survey of Boone County included Madison and Danville, two of the most important towns of the county; Clothier, a mining town; a circuit of 10 miles through Rock Creek Valley; and finally a drive of 15 miles from Danville to Chapmanville, Logan County.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Danville | Public school | 79 | 0 | ..... |
| Ed Hayes | ....do | 37 | 0 | ..... |
| Foster | ....do | 34 | 1 | 2.94 |
| Madison | ....do | 70 | 2 | 2.85 |
| Subdistrict No. 6 | Washington district school | 24 | 2 | 8.33 |
| Turtle Creek | Public school | 24 | 0 | ..... |
| Willow Grove | ....do | 21 | 1 | 4.76 |
| Miscellaneous | Family | 8 | 4 | 50.00 |
| Total | | 297 | 10 | 3.36 |

Boone is one of the six West Virginia counties showing the highest percentage of trachoma infection.

The greatest amount of trachoma was found in Rock Creek Valley. Here trachoma was found in two schools and four cases of the disease were also seen among five members of a family residing in this valley. Two of these latter cases suffered from severe damage to vision in spite of treatment.

It is believed a more extended survey of this county along Pond River would reveal a wide distribution of the disease with a similar high prevalence.

*Cabell County, W. Va.*—Topographically, Cabell County differs materially from the greater part of the State of West Virginia. The mountains formed by erosion of the Appalachian Plateau are here replaced by rolling hills which gradually merge into the Ohio Valley.

The city of Huntington, situated on the Ohio River, is of comparatively recent growth. It is the site of several manufacturing interests, including the shops of the Chesapeake & Ohio Railroad. Labor has been attracted to this city by reason of these industries from different sections of the State, including communities heavily infected with trachoma. In this manner trachoma has been imported and spread undetected rather uniformly through the schools.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Huntington | Buffington public school | 432 | 5 | 1.15 |
| Do | Cabell public school | 439 | 5 | 1.13 |
| Do | Douglas (colored) public school | 259 | 0 | ..... |
| Do | Ensign public school | 399 | 10 | 2.50 |
| Do | High public school | 415 | 0 | ..... |
| Do | Holderby public school | 611 | 7 | 1.12 |
| Do | Nelson Barnet colored public school | 80 | 1 | 1.25 |
| Do | Washington public school | 230 | 4 | 1.73 |
| Do | West Virginia Colored Orphans Home | 76 | 0 | ..... |
| Do | Miscellaneous | 6 | 4 | ..... |
| Total | | 2,947 | 36 | 1.22 |

One case of trachoma was found in a colored school at Huntington, in the person of a 10-year-old colored girl recently arrived from some place in Ohio.

The survey of Cabell County was confined to an examination of the school children of Huntington and the inmates of the West Virginia Orphans Home, about 4 miles distant. The number of cases of trachoma found among the school children suggests the necessity of continued systematic examination of the schools of the city and the proper control of all discovered cases.

*Fayette County.*—The survey of Fayette County was that of a mining population, or a population intimately associated with the mining industry. In this examination three elements were considered, viz: The school population, the white and colored native population, and the foreign element. The percentage of trachoma is not high—0.54 per cent of the total number examined.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Boomer | Public school | 227 | 0 | ..... |
| Do | House inspection (white) | 54 | 2 | 3.70 |
| Do | House inspection (colored) | 11 | 0 | ..... |
| Do | House inspection (foreign) | 115 | 0 | ..... |
| Clifftop | Public school | 50 | 0 | ..... |
| Glen Jean | ....do | 65 | 0 | ..... |
| Do | House inspection (white) | 28 | 0 | ..... |
| Do | House inspection (negro) | 82 | 0 | ..... |
| Do | House inspection (foreign) | 59 | 3 | 5.08 |
| Harewood | House inspection (white) | 98 | 0 | ..... |
| Do | House inspection (negro) | 57 | 0 | ..... |
| Do | House inspection (Italian) | 40 | 0 | ..... |
| Landisburg | Public school | 44 | 0 | ..... |
| Do | Lumber camp No. 11 (white) | 33 | 1 | 3.03 |
| Do | Lumber camp No. 11 (foreign) | 60 | 1 | 1.66 |
| Longacre | Public school (white) | 142 | 1 | .70 |
| Do | Public school (colored) | 24 | 0 | ..... |
| Montgomery | Public school (white) | 291 | 1 | .34 |
| Do | Public school (colored) | 84 | 0 | ..... |
| Do | University Preparatory Branch | 74 | 0 | ..... |
| Total | | 1,638 | 9 | .54 |

Including school children, 258 negroes were examined in Fayette County without finding any trachoma. On the other hand, four cases of trachoma were found among the 274 foreigners examined, 1.4 per cent. Three of these cases were in the family of a Hungarian miner, long resident in America, at Glen Jean. The other case was in the person of a Hungarian who had been in this country four years.

The examination of Clifftop and at Landisburg was of especial interest, because of the report that the surrounding native population was largely infected with trachoma by the foreign laborers of the lumber camps in that vicinity. Only two cases of trachoma were found in a survey of these workmen, one in the person of the Hungarian referred to above, the other in that of a native of Roane County. This man said his grandfather was blind of this disease and that his brother and two of his cousins also had "sore eyes."

No case of trachoma was found among the resident native population of either Clifftop or Landisburg.

*Hampshire, Hardy, Grant, Pendleton, Pocahontas, Greenbrier, and Monroe Counties, W. Va.*—The seven counties, forming the eastern boundary of West Virginia, are grouped because no trachoma was found among the public-school children. There is practically no communication between these counties and the infected territory of the State, which may account for the apparent freedom of this part of the State from trachoma.

| County. | Place and institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Hampshire | Romney public school | 107 | 0 | ..... |
| Do | Romney Deaf and Dumb School [1] | 140 | 1 | ..... |
| Do | Romney School for the Blind [1] | 53 | [2] 7 | 13.20 |
| Hardy | Moorefield public school | 70 | 0 | ..... |
| Grant | Petersburg public school | 35 | 0 | ..... |
| Pendleton | Franklin public school | 30 | 0 | ..... |
| Do | Mount Olive public school | 7 | 0 | ..... |
| Do | Cave public school | 8 | 0 | ..... |
| Pocahontas | Marlinton public school | 171 | 0 | ..... |
| Greenbrier | Lewisburg public school | 122 | 0 | ..... |
| Do | Ronceverte public school | 313 | 0 | ..... |
| Monroe | Union public school | 32 | 0 | ..... |
| Total | | 1,068 | 8 | ..... |

[1] State institutions. [2] 3 active, 4 recovered.

In the school for the blind, at Romney, Hampshire County, three active and four recovered cases of trachoma were found—13.20 per cent. Of these, three cases were from Kanawha County and one each from Braxton, Cabell, Jackson, and Pleasants Counties. The one active case found among the pupils of the deaf and dumb school was from Braxton County.

*Kanawha County, W. Va.*—In the trachoma survey of Kanawha County, an examination was made of four public schools in Charleston; a house-to-house inspection and an examination of nine public schools of the Cabin creek mining district; an examination of the public school and a house-to-house inspection at Kayford, a representative town of the Coal creek mining district; a house-to-house inspection, white and colored, at Burnwell, of the Paint creek district.

| Place. | Institution. | Number examined. | Cases of trachoma. | Percentage of trachoma. |
|---|---|---|---|---|
| Cabin Creek | Carbon, public school | 20 | 0 | ..... |
| Do | Dacota, public school | 54 | 1 | 1.85 |
| Do | House-to-house inspection | 228 | 13 | 5.70 |
| Do | Republic, public school | 33 | 0 | ..... |
| Do | South Carbon, public school (colored) | 9 | 0 | ..... |
| Do | Wake Forest, public school | 44 | 0 | ..... |
| Do | Wake Forest, public school (colored) | 19 | 0 | ..... |
| Do | West Virginia No. 2, public school | 44 | 0 | ..... |
| Do | Wevaco, public school | 35 | 0 | ..... |
| Do | Wevaco, public school (colored) | 18 | 0 | ..... |
| Charleston | Garnet, public school (colored) | 375 | 0 | ..... |
| Do | Tiskelwah, public school | 481 | 7 | 1.45 |
| Do | Union, public school | 588 | 0 | ..... |
| Do | Washington, public school (colored) | 161 | 0 | ..... |
| Kayford | Kayford public school | 97 | 2 | 2.06 |
| Do | House-to-house inspection | 203 | 3 | 1.47 |
| Paint Creek | Burnwell, house-to-house (white) | 203 | 2 | .98 |
| Do | Burnwell, house-to-house (colored) | 50 | 0 | ..... |
| Total | | 2,662 | 28 | 1.05 |

No trachoma was found in the public schools of the older sections of Charleston, but, in West Charleston 7 cases of trachoma were found among the 481 pupils of the Tiskelwah school, a ratio of 14 per 1,000.

West Charleston is separated from the older part of Charleston by Elk River. The manufacturing plants of the city are located here, and attract labor from all parts of the State. The population is not fixed, hence the infusion of trachoma. In Charleston proper the reverse conditions hold.

Twenty-one cases of trachoma, 1.9 per cent, were found among 1,057 members of the mining population of the county. Of these 18 cases, or 2.63 per cent, were among 684 persons observed in a house-to-house inspection. Only 3 cases were found among 373 school children, 0.8 per cent. This considerable difference is due to the very poor school attendance observed in these districts. The school population, therefore, was not thought to be representative of the general population, and, on this account, the house-to-house inspections were made.

*Logan County, W. Va.*—An examination for trachoma was made of 14 schools at various points in Logan County, including schools encountered en route from Madison, Boone County, to Chapmanville, Logan County, a distance of 15 miles. The schools of Logan and vicinity and those of Holden and vicinity were also examined.

| Place. | Institution. | Number examined. | Cases of trachoma. | Percentage of trachoma. |
|---|---|---|---|---|
| Arcona | Public school | 35 | 0 | ..... |
| Baisden | ....do | 74 | 0 | ..... |
| Chapmanville | ....do | 55 | 1 | 1.81 |
| Clothier | ....do | 32 | 1 | 3.12 |
| Coal branch | ....do | 36 | 1 | 2.77 |
| Copperas mine | ....do | 62 | 7 | 11.29 |
| Holden | Public school (white) | 146 | 0 | ..... |
| Do | Public school (colored) | 41 | 0 | ..... |
| Lane | Public school | 43 | 1 | 2.32 |
| Logan | ....do | 292 | 5 | 1.71 |
| Do | Public school (West Logan) | 73 | 2 | 2.73 |
| Mud Fork | Public school (Gay) | 71 | 4 | 5.63 |
| Shepherds | Public school | 13 | 1 | 7.69 |
| Whitman Junction | ....do | 50 | 1 | 2.00 |
| Yuma | ....do | 63 | 2 | 3.17 |
| Miscellaneous | | 3 | 1 | |
| Total | | 1,078 | 27 | 2.50 |

The trachoma infection in this county was found to be uniform and in considerable amount. An exceptional prevalence of the disease was found in two schools. The Mud Fork School, near Logan, had an infection of 5.6 per cent. In the Copperas Mine School, in the Holden vicinity, 11 per cent of the scholars were afflicted with trachoma.

A percentage of 5.6 of trachoma in the Mud Fork School indicates a heavy infection of the population along this branch of the Guyandotte River.

The children of the Copperas Mine School are recruited largely from native miners' families coming from the upper reaches of Trace Fork of Island Creek. The infection here is heavy, 11 per cent. These cases of trachoma are marked and of comparatively recent origin.

There is need, therefore, for prompt and energetic measures to limit the further spread of trachoma in these districts.

The infected section of Logan County thus outlined is the northern limit of an area of marked infection which includes also Wayne, Mingo, McDowell and Wyoming Counties.

*Marshall County, W. Va.*—An examination of the inmates of the State prison, Moundsville, Marshall County, was made with the idea that the existence of trachoma among the relatively few former residents of any particular county now confined in the State prison would be an index to the prevalence of the disease in certain sections of the State. An actual survey of the counties, so indicated, confirmed the value of this preliminary procedure.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Moundsville | State prison | 1,195 | 6 | 0.57 |

Of the 6 cases of trachoma found among the State prisoners, 2 were from Mingo County and 1 each from Fayette, Logan, Mercer, and Wayne Counties, respectively. Referring to Table 1, it will be seen that these counties show the highest percentages of trachoma infection of any visited.

In addition, 4 cases of old, played-out trachoma were found. Two of these cases were in foreign-born persons, 1 from Ohio, and only 1 from West Virginia. Nothing, therefore, could be learned from the study of these recovered cases concerning the past prevalence of the disease within the State. The two foreign subjects had contracted the disease and recovered before arriving in this country.

*Mason County, W. Va.*—Point Pleasant, W. Va., is one of the oldest settlements in the State. The population changes slowly and is without intimate association with that of the rest of the State. The absence of extensive manufacturing interests is responsible for the fixed character of the population. For these reasons, in part, Point Pleasant is free from trachoma.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Point Pleasant | Point Pleasant graded school | 241 | 0 | ..... |
| Do | Langston School (colored) | 32 | 1 | 3.12 |
| Total | | 273 | 1 | .36 |

One of the two cases of trachoma seen in colored persons during the survey was found at this place. The infection had been contracted in another part of the State.

*McDowell County, W. Va.*—With the exception of the Bradshaw Creek, Davis, and Wimmer schools, the trachoma survey of McDowell County was confined to mining towns. In comparison with a similar population in neighboring counties, the trachoma rate is relatively low.

| Place. | Institution. | Number examined. | Cases of trachoma. | Percentage of trachoma. |
|---|---|---|---|---|
| Bradshaw Creek | Middle Fork public school | 14 | 3 | 21.42 |
| Davis | Public school | 13 | 6 | 46.15 |
| Davy | Public school (white) | 78 | 1 | 1.26 |
| Do | Public school (colored) | 25 | 0 | ..... |
| Jaeger | Public school | 66 | 1 | 1.51 |
| Marytown | Public school (white) | 60 | 2 | 3.33 |
| Do | Public school (colored) | 18 | 0 | ..... |
| Twin Branch | Public school | 120 | 3 | 2.50 |
| Welch | High school | 93 | 1 | 1.07 |
| Do | Lincoln graded school | 159 | 0 | ..... |
| Do | Public school (colored) | 34 | 0 | ..... |
| Wimmer | Public school | 18 | 2 | 11.11 |
| Miscellaneous | ..... | 4 | 1 | ..... |
| Total | ..... | 703 | 20 | 2.84 |

The Bradshaw Creek, Davis, and Wimmer Schools, with a trachoma infection of 21.42, 46.15, and 11.11, are mountain schools and are situated along the southern limits of the heavily infected area which extends into Mingo, Wyoming, and adjacent counties.

The Davis School is near the headwaters of Panther Creek, the watershed of which extends into Buchanan County, Va., where a heavy trachoma infection is also found.

Local physicians report trachoma to have prevailed along Bradshaw Creek for many years, and a number of cases of blindness are reported to have occurred among the limited population.

No case of trachoma was found among the negro population or among the foreign born and people of foreign parentage.

*Mercer County, W. Va.*—The examinations for trachoma in Mercer County were confined to the school children of Bluefield and Princeton.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Bluefield | Brown Street public school (colored) | 230 | 0 | ..... |
| Do | Ellis Street public school | 152 | 2 | 1.31 |
| Do | High school | 155 | 1 | .64 |
| Do | Ramsey Street public school | 461 | 2 | .43 |
| Do | Stimson public school | 99 | 1 | 1.01 |
| Do | West End public school | 442 | 0 | ..... |
| Princeton | Public school (graded) | 614 | 3 | .48 |
| Total | ..... | 2,153 | 9 | .41 |

Bluefield, W. Va., is a town of rapid growth and of fluctuating population. The amount of trachoma found in the schools is relatively small and was forecasted by the lowered trachoma rate found

in the eastern part of McDowell, which is the next adjacent county to the west.

At Princeton, the county seat, 0.41 per cent of trachoma was found among the 614 school children examined there. These cases were fairly incipient and show that the disease is slowly spreading eastward.

*Mingo County, W. Va.*—The heaviest trachoma infection in Mingo County was found near the head of Jennies Creek, along Marrowbone Creek and Pigeon Creek. Jennies Creek is heavily infected throughout its extent, as shown by 35.29 per cent of trachoma in the school near its source in Mingo County, and 42.30 and 43.75 per cent of infected pupils in the Marcum and Old Fork schools in Wayne County.

The school population of Kermit is largely drawn from the Marrowbone Creek region. The large amount of trachoma in the Kermit school, 23.52 per cent, indicates a heavy infection along this creek, rounding out the infected area extending into Logan and Boone Counties.

With the exception of the Jennies Creek and Pigeon Creek schools, the examinations made in Mingo County are representative of the mining population. However, the mining population is recruited, for the most part, from the native mountain people, who doubtless brought the disease into the mining communities.

| Place. | Institution. | Number examined. | Cases of trachoma | Per cent of trachoma. |
|---|---|---|---|---|
| Chattaroy | Public school | 128 | 6 | 4.68 |
| East Williamson | do | 113 | 2 | 1.76 |
| Jennies Creek | do | 17 | 6 | 35.29 |
| Kermit | do | 51 | 12 | 23.52 |
| Pigeon Creek | Rock House High School | 35 | 3 | 8.57 |
| Williamson | Public school | 437 | 8 | 1.83 |
| Total | | 781 | 37 | 4.73 |

Trachoma prevails throughout Mingo County. Two of the six cases of this disease found among the inmates of the State prison were from this county. The infection along Jennies Creek, already noted, and 8.57 per cent of trachoma found in a school on Pigeon Creek, 10 miles from Williamson reveal a heavy rural infection also.

*Ohio County, W. Va.*—The examinations for trachoma in Ohio County were confined to the city of Wheeling.

| Place. | School. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Wheeling | Central | 460 | 0 | ..... |
| Do | Jefferson | 280 | 0 | ..... |
| Do | Lincoln (colored) | 135 | 0 | ..... |
| Do | Ritchie | 616 | 0 | ..... |
| Do | St. Alphonsus | 528 | 1 | ..... |
| Do | St. Stanislaus | 205 | 0 | ..... |
| | Total | 2,224 | 1 | ..... |

The only case of trachoma found was in the person of a small child in one of the parochial schools. This was an imported case and is without any epidemiological significance.

Not a case of trachoma was found among the 205 children of the St. Stanislaus Parochial School. These children are foreign born or of foreign parentage.

*Raleigh County, W. Va.*—Dorothy, a representative mining location of the Coal River district, Raleigh County, does not present so high a trachoma percentage as is the case in some other mining ocalities. The town is situated in a comparatively broad valley, with sufficient room for each house to have considerable ground space. Each house is separated from its neighbor by a fence. There is, therefore, less congestion of the population, with a lessened intimacy of contact. These improved living conditions are reflected in the comparatively low trachoma rate.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Dorothy | Public school (white) | 154 | 2 | 1.29 |
| Do | Public school (colored) | 12 | 0 | ..... |
| Do | House-to-house inspection | 145 | 1 | .68 |
| Total | | 311 | 3 | .96 |

Two cases of recovered trachoma were also observed at Dorothy. One of them was the half sister of a trachomatous school child and the other an adult from Boone County.

*Summers County, W. Va.*—Summers County is on the eastern border of the infected territory. The examinations in this county were limited to the school children of Hinton, because of the closure of the rural schools of the county at the time of this survey.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Hinton | Greenbrier public school | 292 | 1 | 0.34 |
| Do | High and graded school | 328 | 0 | ..... |
| Do | Old Davis School | 107 | 1 | .92 |
| Do | West End School | 29 | 0 | ..... |
| Total | | 756 | 2 | .26 |

But two cases of trachoma were found at this point. Hinton is the terminus of a railroad division, is near infected territory, and has a considerable transient population. It is very necessary, therefore, that periodic examinations be made for trachoma that the disease may be kept from spreading.

*Wayne County, W. Va.*—The trachoma survey of Wayne County comprised an examination of the schools of Ceredo and Kenova, in the

northwestern part of the county, of Wayne, East Lynne, intermediate and surrounding points in the central portion, and of Crum and Jennies' Creek region in the southern part of the county.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Bartram's Fork | Public school | 36 | 1 | 2.77 |
| Burgess | do | 34 | 1 | 2.94 |
| Ceredo | do | 277 | 1 | 0.36 |
| Crum | do | 47 | 7 | 14.89 |
| East Lynne | do | 47 | 1 | 2.12 |
| Kenova | do | 302 | 10 | 3.31 |
| Marcum | do | 26 | 11 | 42.30 |
| Old Fork | do | 16 | 7 | 43.75 |
| Stone Coal | do | 25 | 3 | 12.00 |
| Stepp | do | 15 | 0 | ..... |
| Twelve Pole Creek | House-to-house inspection | 72 | 10 | 13.88 |
| Wayne | Public school | 86 | 1 | 1.16 |
| Miscellaneous | | 18 | 6 | 33.33 |
| Total | | 1,001 | 59 | 5.89 |

Trachoma was found prevailing extensively all over the county. In the northern part the trachoma per cent, 3.31, was higher at Kenova, with a comparatively new and fluctuating population than that found at Ceredo, 0.36 per cent with its old, long resident, fixed population.

The infection along Twelve Pole Creek in the central part of the county is severe.

The heaviest infection was found in the southern portion of the county adjacent to Mingo, at Crum, 14.89 per cent, and at Marcum and Old Fork Schools on Jennies Creek with 42.30 and 43.75 per cent of infected pupils, respectively.

It is of interest to note that the destructive changes in the eyes examined in this section have been the result of acute pannus. In the vicinity of East Lynne according to a house-to-house inspection, the disease seems to have run an acute course of three or more years duration leaving less infiltration of the conjunctiva than is usual in trachoma.

On the other hand the cases found in the schools are more typical of the severer types of trachoma and are likely to run a prolonged course. Owing to peculiar local conditions, a further spread of trachoma from these cases may be expected.

*Wood County, W. Va.*—Trachoma was found in all of the public schools examined in Parkersburg with the exception of Sumner, the school for colored children. A trachoma rate of 12 per 1,000 found in the Jefferson School, approaches closely the 16 per 1,000 rate considered alarming by foreign authorities. It behooves the city school authorities, therefore, to take the necessary steps to prevent a widespread infection in this school.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Parkersburg | Garfield public school | 275 | 2 | 0.72 |
| Do | Jefferson public school | 308 | 5 | 1.25 |
| Do | Park public school | 464 | 1 | .21 |
| Do | Sumner public school (colored) | 132 | 0 | ..... |
| Total | | 1,269 | 8 | .63 |

The presence of trachoma in every one of the city schools examined, with the exception noted, is indication of a wide diffusion of trachoma in the population of Parkersburg, and indicates the necessity for active measures for its prevention in the city and vicinity.

*Wyoming County, W. Va.*—In so far as railroad connections are concerned, Wyoming is one of the most isolated counties of the State. The trachoma infection is heavy in the western portion of the county, adjoining Logan, Mingo, and McDowell Counties.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Baileysville | Public school | 36 | 6 | 16.66 |
| Cedar Creek | House-to-house inspection | 45 | 27 | 60.00 |
| Cook Fork | Public school | 9 | 0 | ..... |
| Edith | Guns Branch public school | 24 | 0 | ..... |
| Jesse | Public graded school | 38 | 2 | 5.26 |
| Keyrock | Cook public school | 27 | 2 | 7.40 |
| Lick Rock | Public school | 18 | 0 | ..... |
| Moccasin | ....do | 14 | 2 | 14.28 |
| Oceana | High school | 51 | 1 | 1.96 |
| Pineville | Public school | 71 | 10 | 14.08 |
| Reedy | Public graded school | 25 | 10 | 40.00 |
| Rock View | Public school | 27 | 0 | ..... |
| Simon | Hannah Branch School | 16 | 4 | 25.00 |
| Sun Hill | Laurel Branch School | 22 | 0 | ..... |
| Trent | Holly public school | 15 | 3 | 20.00 |
| Miscellaneous | Roadside, teachers, etc | 34 | 13 | 38.23 |
| Total | | 472 | 80 | 19.94 |

A very heavy infection was found in the school at Pineville, 14.08 per cent. Pineville being the county seat has more or less intimate communication with the rest of the county. The considerable number of cases of trachoma found here is not surprising.

From Pineville north, no marked prevalence of trachoma was encountered.

The heaviest infection was found in a house-to-house inspection along Cedar Creek. Every family living in this narrow valley, with the exception of two, was examined and 60 per cent of the population had trachoma. Only two of nine families were free from the disease.

The next heaviest infection was encountered in the Reedy Creek School, 40 per cent, which indicates a correspondingly heavy infection along this creek.

Wyoming County completes the eastern boundary of the heavily infected trachoma area included in Logan, Wayne, Mingo, McDowell, W. Va., and part of Buchanan County, Va.

*Augusta County, Va.*—The Virginia institutions for the blind and for the deaf and dumb are located in Staunton, Va. An examination of the pupils of these schools was desirable, especially of the school for the blind, to determine, if possible, the approximate amount of blindness in the State due to trachoma and localities from which cases of the disease were admitted.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Staunton | Baldwin Street public school | 184 | 1 | 0.54 |
| Do | Main Street public school | 520 | 3 | .57 |
| Do | Colored public school | 230 | 0 | ..... |
| Do | School for the blind [1] | 80 | 1 | 1.25 |
| Do | School for the deaf and dumb [1] | 195 | 4 | 2.05 |
| Total | | 1,210 | 9 | .74 |

State institutions.

In the school for the blind three recovered trachoma cases were found and one mildly active case, all of them in pupils totally blind. It can be asserted with positiveness, after a consideration of the admission histories of these cases, that trachoma was the cause of blindness in but one of them. However, the amount of structural changes in the eyelids of two others is so great and indicative of so intense trachomatous infection in the past that, in the absence of history to the contrary, they would have been considered blind from this disease. These four cases were from Giles, Warwick, Norfolk, and Campbell Counties, respectively.

Of the four cases of active trachoma found in the school for the deaf and dumb, two of them had been operated on and their eyelids were in good condition, but not recovered. These four cases were one each from King William and Sussex Counties, and two were from Wise County.

Among the school children of Staunton four cases of trachoma were observed, one in the person of a recent arrival from Maryland and the three others in natives of the town. These three cases were operated on about five years ago. The fact that no other cases of trachoma were found among 935 school children leads to the conclusion that Augusta County is not an endemic focus of trachoma infection. These cases, however, emphasize the necessity of periodic school inspections in this and other communities situated along the main routes of travel leading from infected territory.

*Buchanan County, Va.*—The survey of Buchanan County, Va., was quite extensive, but the total number of examinations was not great, because several of the larger schools were temporarily closed.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Blackey | Public school | 38 | 9 | 23.68 |
| Grundy | Presbyterian mission school | 41 | 4 | 9.75 |
| Hurley | Public school | 27 | 4 | 14.81 |
| Little Prater | do | 60 | 3 | 5.00 |
| Spruce Pine | do | 8 | 3 | 37.50 |
| Stone | do | 24 | 2 | 8.33 |
| Ward | do | 18 | 0 | ..... |
| Whitewood | do | 29 | 1 | 3.44 |
| Miscellaneous | | 16 | 8 | 50.00 |
| Total | | 261 | 34 | 13.02 |

The county was traversed, on foot and on horseback, from Height, via Whitewood on the South, to Hurley and Blackey on the northeastern border, thence to Matney by train. From Matney the survey was continued westward, via Grundy, into Dickenson county.

The heavy trachoma infection found at the Spruce Pine school and the Blackey and Hurley schools in the northeastern end of the county is evidence of the extension of the area of infection from the adjacent sections of Kentucky and West Virginia.

*Dickenson County, Va.*—The survey of Dickenson County was made in a westerly direction from Grundy, in Buchanan County, to Clintwood, the county seat, and thence southwest to Coeburn, Wise County. Schools in the vicinity of Clintwood were also examined.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Bear Pen Creek | Fairview public school | 21 | 3 | 14.28 |
| Brush Creek | do | 30 | 2 | 6.66 |
| Clintwood | do | 114 | 1 | .87 |
| Darwin | do | 26 | 1 | 3.84 |
| Fleming | do | 41 | 0 | ..... |
| Lower Lick Fork | do | 24 | 0 | ..... |
| Mort | Fallen Bridge public school | 17 | 2 | 11.76 |
| Nickols Gap | Public school | 12 | 1 | 8.33 |
| Tandy | Anderson public school | 20 | 0 | ..... |
| Vicey | Prater public school | 21 | 1 | 4.76 |
| Miscellaneous | | 32 | 9 | 27.50 |
| Total | | 358 | 20 | 5.58 |

The per cent of trachoma, 5.58, is high. The heaviest infection was found in the vicinity of Clintwood. Trachoma is very prevalent along Brush Creek, Bear Pen Creek, and Pound River, the headwaters of which are in Wise County.

Only a small proportion of the rural population is represented in the schools. Especially is this true in badly infected territory, where, it seemed, the greatest number of children of school age were not attending school. For this reason, therefore, the prevalence of trachoma among this population is believed to be higher than shown by the examination of the school children.

*Lee County, Va.*—Not as much trachoma was found in Lee County as was expected from the proximity to the infected territory of Kentucky and Tennessee. The survey of this county was extensive, from Ewing, near the Tennessee line, eastward by way of Jonesville, the county seat, to the border of Wise County.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Ben Hur | Public school | 26 | 1 | 3.84 |
| Dry Branch | do | 40 | 3 | 7.50 |
| Dryden | do | 123 | 1 | .81 |
| Ewing | Cumberland High School | 125 | 0 | ..... |
| Jonesville | Public school | 187 | 0 | ..... |
| Kane Creek | do | 30 | 0 | ..... |
| Pennington Gap | do | 187 | 1 | .53 |
| Pleasant View | do | 74 | 0 | ..... |
| Rose Hill | do | 50 | 0 | ..... |
| Total | | 842 | 6 | .71 |

The western end of Lee County is shut off from Kentucky by the Cumberland Mountains. The country is open and adapted to agriculture. The farms are extensive and the homes of this section are commodious. No trachoma was found in this portion of the county.

In a small school at Dry Branch, between Pennington Gap and Dryden, three cases of trachoma were found, but all confined to one family. The teacher also reported two other children of another family absent from school on account of "sore eyes," which was probably trachoma.

It was found that trachoma prevailed more extensively in the hilly mining section of the county, bordering Wise and Scott Counties.

*Scott County, Va.*—The prevalence of trachoma in Scott County was foreshadowed by the finding of trachomatous children in the schools of neighboring counties who had been recently residents of Scott.

The amount of infection is not great, 0.99 per cent, and seems to be localized.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Duffield | Public school | 13 | 0 | ..... |
| Gate City | do | 210 | 1 | 0.47 |
| Hortons Summit | do | 35 | 2 | 5.71 |
| Pattonville | do | 67 | 0 | ..... |
| Rye Cove | do | 128 | 1 | .78 |
| Tunnel Hill | do | 51 | 1 | 1.90 |
| Total | | 504 | 5 | .99 |

*Washington, Smyth, Grayson, and Carroll Counties, Va.*—Trachoma in southwestern Virginia seems largely confined to the counties north of the Clinch Mountains, which act as a natural barrier, directing

routes of travel. These four counties are considered as a group, and it is believed trachoma, as shown by this survey, is not endemic in them.

| County. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Carroll | 2 schools | 249 | 0 | ..... |
| Grayson | 12 schools | 1,060 | 3 | 0.28 |
| Smyth | 2 schools | 392 | 0 | ..... |
| Washington | 8 schools | 1,256 | 5 | .39 |
| Total | | 2,957 | 8 | .27 |

Three sporadic cases of trachoma were found in the public schools of Bristol and two in Abingdon, Washington County. These cases need no epidemiological consideration other than as a warning for border line counties to be on the lookout for infected cases. When discovered they should be properly treated to prevent the spread of trachoma to others.

A very complete survey of Grayson County, from west to east, revealed but three cases of trachoma. These cases were all in one family and are under medical supervision. The disease was contracted by this family in Texas.

The freedom from trachoma of these counties, in such proximity to infected territory separated only by a natural barrier which deflects the tide of travel, points very clearly to the fact that trachoma is a contact disease. These communities are not infected, it is very likely, because of lack of close contact with the people of infected regions.

*Wise County, Va.*—Trachoma is widely diffused throughout Wise County, Va. The percentage of infection ranks third among the Virginia counties visited in the course of this survey.

| Place. | Institution. | Number examined. | Cases of trachoma. | Per cent of trachoma. |
|---|---|---|---|---|
| Appalachia | Public school | 230 | 2 | 0.86 |
| Big Stone Gap | do | 294 | 6 | 2.04 |
| Coeburn | do | 344 | 7 | 2.03 |
| East Stone Gap | do | 147 | 4 | 2.78 |
| Esserville | do | 32 | 0 | ..... |
| Glamorgan | do | 75 | 1 | 1.33 |
| Norton | do | 295 | 4 | 1.35 |
| Wise | do | 252 | 2 | .79 |
| Total | | 1,669 | 26 | 1.55 |

The coal-mining industry is extensively developed and offers employment to numbers of native and foreign laborers. In addition a number of the towns are in process of evolution and are attracting residents from remote districts. We have been impressed with the

fact, during this survey, that wherever these conditions are found, conditions stimulating to frequent changes of abode on the part of many numbers of the population, a wider diffusion of trachoma has been encountered.

For example, at Wise, with a settled native population in better circumstances, but 0.79 per cent of trachoma was found.

At Glaymorgan, a mining town, and Norton, with a mixed population, native, mining, and foreign, trachoma was found to prevail to the extent of 1.33 and 1.35 per cent, respectively.

A number of cases of trachoma were found in the schools of Coeburn, Big Stone Gap, and East Stone Gap. In fact, the percentage of trachoma found therein is dangerously high, and the presence of the disease was not suspected. No better illustration of the necessity of periodic examinations of school children in infected territory for trachoma can be found than is shown here.

**Acknowledgments.**

It is a pleasure to acknowledge the marked courtesy and valuable assistance of the local physicians, principals of schools, teachers, mining superintendents, and the general public in my work throughout the States visited and their intelligent appreciation of the necessity of this survey.

Special acknowledgments are due, for courtesies extended, Dr. Ennion G. Williams, secretary Virginia State Board of Health; Dr. S. L. Jepson, secretary West Virginia State Board of Health; Mr. M. P. Shawkey, State superintendent West Virginia free schools; Prof. George Laidly, superintendent Charleston schools; Dr. Julian Ashby, Carbon, W. Va.; Dr. L. T. Vinson, Huntington, W. Va., and many others, too numerous to mention, whose services were duly appreciated.

# PREVALENCE OF DISEASE.

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

## IN CERTAIN STATES AND CITIES.

### SMALLPOX.

#### Texas—Galveston.

Surg. Bahrenburg of the Public Health Service, reported by telegraph that during the week ended May 29, 1914, 6 cases of smallpox had been notified in Galveston, Tex. Since the beginning of the present outbreak there have been 100 cases, with 3 deaths.

**New York Report for April, 1914.**

| Places. | New cases reported. | Deaths. | Vaccination history of cases. | | | |
|---|---|---|---|---|---|---|
| | | | Vaccinated within 7 years preceding attack. | Last vaccinated more than 7 years preceding attack. | Never successfully vaccinated. | History not obtained or uncertain. |
| New York: | | | | | | |
| Albany County | 1 | | | | 1 | |
| Cattaraugus County | 3 | | | | 2 | 1 |
| Chautauqua County | 7 | | 2 | 1 | 2 | 2 |
| Erie County | 3 | | | | 1 | 2 |
| Genesee County | 6 | | | | 2 | 4 |
| Niagara County | 3 | | 1 | | 2 | |
| Orleans County | 6 | | | 1 | 5 | |
| Rensselaer County | 1 | | | | | 1 |
| Seneca County | 1 | | | | 1 | |
| Steuben County | 1 | | | | 1 | |
| New York City | 5 | | | | | 5 |
| Total | 37 | | 3 | 2 | 17 | 15 |

**Ohio Report for March, 1914.**

| Places. | New cases reported. | Deaths. | Vaccination history of cases. | | | |
|---|---|---|---|---|---|---|
| | | | Vaccinated within 7 years preceding attack. | Last vaccinated more than 7 years preceding attack. | Never successfully vaccinated. | History not obtained or uncertain. |
| Ohio: | | | | | | |
| Adams County | 17 | | | | | 17 |
| Allen County | 54 | | | | 10 | 44 |
| Ashland County— | | | | | | |
| Ashland | 1 | | | | | 1 |
| Athens County | 12 | | | | 2 | 10 |

## SMALLPOX—Continued.

### Ohio Report for March, 1914—Continued.

| Places. | New cases reported. | Deaths. | Vaccination history of cases. | | | |
|---|---|---|---|---|---|---|
| | | | Vaccinated within 7 years preceding attack. | Last vaccinated more than 7 years preceding attack. | Never successfully vaccinated. | History not obtained or uncertain. |
| Ohio—Continued. | | | | | | |
| Butler County | 8 | | | | 6 | 2 |
| Carroll County | 13 | | | | 9 | 4 |
| Clark County— | | | | | | |
| Springfield | 2 | | | | 2 | |
| Crawford County— | | | | | | |
| Bucyrus | 2 | | | | | 2 |
| Galion | 3 | | | | | 3 |
| Cuyahoga County | 5 | | | | 4 | 1 |
| Darke County | 3 | | | | | 3 |
| Delaware County | 8 | | | | 7 | 1 |
| Franklin County | 33 | | | | 32 | 1 |
| Gallia County | 9 | | | | 1 | 8 |
| Greene County | 1 | | | | | 1 |
| Hamilton County | 28 | 1 | 1 | 3 | 13 | 11 |
| Hancock County | 6 | | | | 2 | 4 |
| Hardin County | 5 | | | | | 5 |
| Henry County | 14 | | | | 12 | 2 |
| Jackson County | 66 | | | | 6 | 60 |
| Lake County | 1 | | | | | 1 |
| Licking County— | | | | | | |
| Newark | 6 | | | | 6 | |
| Logan County | 3 | | | | | 3 |
| Lucas County | 104 | | 1 | 2 | 39 | 62 |
| Madison County | 21 | | | | | 21 |
| Marion County— | | | | | | |
| Marion | 2 | | | | | 2 |
| Medina County | 7 | | | 1 | 6 | |
| Mercer County | 5 | | | | | 5 |
| Miami County | 1 | | | | | 1 |
| Montgomery County— | | | | | | |
| Dayton | 1 | | | | | 1 |
| Muskingum County | 12 | | | | 12 | |
| Ottawa County | 16 | | | | | 16 |
| Paulding County | 1 | | | | | 1 |
| Perry County | 1 | | | | | 1 |
| Pike County | 14 | | | | | 14 |
| Preble County | 4 | | | | 4 | |
| Putnam County | 31 | | | 2 | 8 | 21 |
| Ross County | 10 | | | | | 10 |
| Sandusky County | 25 | | | | | 25 |
| Scioto County | 13 | | | | | 13 |
| Seneca County | 15 | | | 1 | 1 | 13 |
| Stark County | 22 | 1 | | | | 22 |
| Summit County | 12 | | | | | 12 |
| Tuscarawas County | 1 | | | | | 1 |
| Van Wert County | 6 | | | | 3 | 3 |
| Washington County | 1 | | | | | 1 |
| Wood County | 9 | | | | 2 | 7 |
| Wyandot County | | | | | | |
| Total | 636 | 2 | 2 | 9 | 187 | 438 |

## SMALLPOX—Continued.

### Miscellaneous State Reports.

| Places. | Cases. | Deaths. |
|---|---|---|
| District of Columbia (Apr. 1-30) | 3 | |
| Texas (Apr. 1-30): | | |
| Counties— | | |
| Archer | 6 | |
| Atascosa | 11 | |
| Bastrop | 2 | |
| Cameron | 1 | |
| Childress | 1 | |
| Comal | 4 | |
| Cooke | 14 | |
| Dallas | 95 | 2 |
| Galveston | 33 | 1 |
| Gregg | 19 | |
| Hale | 1 | |
| Henderson | 20 | 1 |
| Jackson | 5 | |
| Jim Wells | 19 | 1 |
| Johnson | 10 | |
| Kinney | 1 | |
| Lavaca | 6 | |
| Matagorda | 1 | |
| McLennan [1] | | |
| Mitchell | 2 | 1 |
| Palo Pinto | 1 | |
| Parker | 8 | |
| Shelby | 1 | |
| Smith | 14 | |
| Tarrant | 44 | |
| Travis | 5 | |
| Van Zandt | 8 | |
| Waller | 3 | |
| Williamson | 2 | |
| Wood | 9 | |
| Total | 346 | 6 |
| Wyoming (Mar. 1-31): | | |
| Counties— | | |
| Converse | 1 | |
| Goshen | 2 | 1 |
| Watrous | 4 | |
| Park | 2 | |
| Uinta | 1 | |
| Total | 10 | 1 |
| Wyoming (Apr. 1-30): | | |
| Counties— | | |
| Carbon | 2 | |
| Johnson | 3 | |
| Sheridan | 2 | |
| Uinta | 1 | |
| Total | 8 | |

[1] Present.

### City Reports for Week Ended May 16, 1914.

| Places. | Cases. | Deaths. |
|---|---|---|
| Altoona, Pa | 1 | |
| Baltimore, Md | 4 | |
| Butte, Mont | 8 | |
| Cleveland, Ohio | 1 | |
| Coffeyville, Kans | 4 | |
| Columbus, Ohio | 3 | |
| Danville, Ill | 1 | |
| Duluth, Minn | 6 | |
| Erie, Pa | 5 | |
| Evansville, Ind | 3 | |
| Galveston, Tex | 4 | |
| Gonzalez, Tex | 4 | |
| Kansas City, Kans | 5 | |
| Kansas City, Mo | 21 | |
| Knoxville, Tenn | 2 | |
| La Crosse, Wis | 1 | |
| Los Angeles, Cal | 1 | |
| Massillon, Ohio | 3 | |
| Milwaukee, Wis | 25 | |
| Nashville, Tenn | 7 | |
| New Orleans, La | 1 | |
| Norfolk, Va | 6 | |
| Oakland, Cal | 5 | |
| Passaic, N. J | 1 | |
| Pittsburgh, Pa | 1 | |
| Racine, Wis | 4 | |
| Richmond, Va | 3 | |
| Roanoke, Va | 4 | |
| Sacramento, Cal | 1 | |
| St. Joseph, Mo | 1 | |
| St. Louis, Mo | 5 | |
| Sandusky, Ohio | 5 | |
| San Francisco, Cal | 1 | |
| Seattle, Wash | 2 | |
| Steelton, Pa | 1 | |
| Toledo, Ohio | 2 | |
| Washington, D. C | 5 | |
| Wilmington, N. C | 1 | |

## TYPHOID FEVER.

### State Reports for April, 1914.

| Places. | New cases reported. |
|---|---|
| District of Columbia | 13 |
| Hawaii: | |
| Hawaii— | |
| Hilo | 1 |
| North Hilo district | 1 |
| Maui— | |
| Lahaina district | 1 |
| Oahu— | |
| Honolulu | 5 |
| Koolauloa district | 1 |
| Total | 9 |
| New York: | |
| Albany County | 18 |
| Allegany County | 6 |
| Broome County | 3 |
| Cattaraugus County | 2 |
| Chautauqua County | 54 |
| Chemung County | 2 |
| Chenango County | 1 |
| Columbia County | 1 |
| Dutchess County | 10 |
| Erie County | 23 |
| Fulton County | 2 |
| Greene County | 7 |
| Jefferson County | 4 |
| Madison County | 1 |
| Monroe County | 2 |
| Montgomery County | 6 |
| Nassau County | 1 |
| Niagara County | 5 |
| Orange County | 26 |
| Oswego County | 10 |
| New York—Continued. | |
| Otsego County | 2 |
| Rensselaer County | 7 |
| Rockland County | 1 |
| St. Lawrence County | 1 |
| Saratoga County | 6 |
| Schenectady County | 2 |
| Seneca County | 1 |
| Steuben County | 7 |
| Ulster County | 1 |
| Warren County | 1 |
| Wayne County | 4 |
| Westchester County | 6 |
| New York City | 127 |
| Total | 350 |
| Texas: | |
| Cameron County— | |
| Brownsville | 1 |
| Dallas County— | |
| Dallas | 4 |
| Galveston County— | |
| Galveston | 4 |
| Navarro County— | |
| Corsicana | 1 |
| Tarrant County— | |
| Fort Worth | 4 |
| Travis County— | |
| Austin | 1 |
| Williamson County— | |
| Taylor | 2 |
| Total | 17 |

### Ohio Report for March, 1914.

| Places. | New cases reported. |
|---|---|
| Ohio: | |
| Adams County | 2 |
| Ashland County | 1 |
| Ashtabula County | 1 |
| Athens County | 3 |
| Auglaize County | 1 |
| Belmont County | 4 |
| Butler County— | |
| Middletown | 1 |
| Clermont County | 1 |
| Clinton County | 2 |
| Columbiana County | 8 |
| Coshocton County | 1 |
| Crawford County | 3 |
| Cuyahoga County— | |
| Cleveland | 17 |
| East Cleveland | 1 |
| Defiance County— | |
| Defiance | 1 |
| Erie County— | |
| Sandusky | 3 |
| Franklin County— | |
| Columbus | 7 |
| Greene County | 1 |
| Guernsey County | 10 |
| Hamilton County— | |
| Cincinnati | 8 |
| Highland County | 3 |
| Jefferson County | 9 |
| Lawrence County | 2 |
| Logan County— | |
| Bellefontaine | 2 |
| Ohio—Continued. | |
| Lorain County— | |
| Lorain | 1 |
| Madison County | 1 |
| Mahoning County | 3 |
| Miami County— | |
| Piqua | 1 |
| Montgomery County— | |
| Dayton | 4 |
| Morgan County | 1 |
| Muskingum County | 1 |
| Paulding County | 2 |
| Pickaway County— | |
| Circleville | 7 |
| Portage County | 2 |
| Richland County— | |
| Mansfield | 1 |
| Sandusky County | 5 |
| Scioto County | 9 |
| Seneca County— | |
| Tiffin | 1 |
| Shelby County— | |
| Sidney | 5 |
| Stark County— | |
| Canton | 1 |
| Summit County | 4 |
| Tuscarawas County | 2 |
| Van Wert County | 5 |
| Wayne County— | |
| Wooster | 1 |
| Total | 149 |

## TYPHOID FEVER—Continued.

### City Reports for Week Ended May 16, 1914.

| Places. | Cases. | Deaths. | Places. | Cases. | Deaths. |
|---|---|---|---|---|---|
| Alameda, Cal. | 1 | 2 | Memphis, Tenn. | 10 | 5 |
| Baltimore, Md. | 5 | 1 | Milwaukee, Wis. | ..... | 1 |
| Boston, Mass. | 3 | ..... | Mobile, Ala. | 1 | ..... |
| Butte, Mont. | 1 | 1 | Montclair, N. J. | 1 | ..... |
| Camden, N. J. | 1 | ..... | Nashville, Tenn. | 1 | ..... |
| Chicago, Ill. | 10 | 2 | Newark, N. J. | 1 | ..... |
| Chicopee, Mass. | 1 | ..... | Newburyport, Mass. | 1 | ..... |
| Cleveland, Ohio. | 1 | ..... | New Orleans, La. | ..... | 1 |
| Columbus, Ohio. | 5 | ..... | Norfolk, Va. | 5 | 3 |
| Concord, N. H. | 1 | ..... | Oakland, Cal. | 2 | ..... |
| Duluth, Minn. | 1 | ..... | Philadelphia, Pa. | 14 | 2 |
| Dunkirk, N. Y. | 14 | 1 | Pittsburgh, Pa. | 3 | ..... |
| Evansville, Ind. | 1 | 1 | Plainfield, N. J. | 1 | ..... |
| Fall River, Mass. | 4 | ..... | Reading, Pa. | 4 | ..... |
| Galveston, Tex. | 1 | ..... | Roanoke, Va. | 2 | ..... |
| Hartford, Conn. | 2 | 1 | Sacramento, Cal. | 1 | ..... |
| Haverhill, Mass. | 1 | ..... | St. Louis, Mo. | 2 | 1 |
| Hoboken, N. J. | 1 | ..... | San Diego, Cal. | 1 | 1 |
| Kansas City, Kans. | 3 | ..... | San Francisco, Cal. | 6 | 2 |
| Kansas City, Mo. | 1 | 1 | Schenectady, N. Y. | 1 | ..... |
| Key West, Fla. | 4 | ..... | Seattle, Wash. | 1 | ..... |
| Jersey City, N. J. | 5 | ..... | Springfield, Mass. | 2 | 1 |
| Johnstown, Pa. | 2 | 1 | Toledo, Ohio. | 3 | 2 |
| Lancaster, Pa. | 2 | ..... | Washington, D. C. | 4 | ..... |
| Los Angeles, Cal. | 11 | ..... | Wheeling, W. Va. | 1 | ..... |
| Lowell, Mass. | 1 | ..... | Wilmington, N. C. | 2 | ..... |
| Lynn, Mass. | 1 | ..... | Worcester, Mass. | ..... | 1 |
| Manchester, N. H. | 1 | 1 | | | |

## CEREBROSPINAL MENINGITIS.

### State Reports for April, 1914.

| Places. | New cases reported. | Places. | New cases reported. |
|---|---|---|---|
| District of Columbia | 1 | New York—Continued. | |
| | | Monroe County | 1 |
| New York: | | Ontario County | 1 |
| Cayuga County | 1 | St. Lawrence County | 1 |
| Chautauqua County | 1 | Westchester County | 2 |
| Erie County | 2 | New York City | 23 |
| Greene County | 1 | | |
| Herkimer County | 1 | Total | 34 |

### Ohio Report for March, 1914.

| Places. | New cases reported. | Places. | New cases reported. |
|---|---|---|---|
| Ohio: | | Ohio—Continued. | |
| Butler County | 2 | Putnam County | 1 |
| Cuyahoga County— | | Scioto County— | |
| Cleveland | 4 | Portsmouth | 2 |
| Darke County— | | Stark County— | |
| Greenville | 1 | Alliance | 1 |
| Franklin County— | | | |
| Columbus | 1 | Total | 20 |
| Guernsey County | 1 | | |
| Hamilton County— | | | |
| Cincinnati | 6 | | |
| Norwood | 1 | | |

## CEREBROSPINAL MENINGITIS—Continued.

### City Reports for Week Ended May 16, 1914.

| Places. | Cases. | Deaths. | Places. | Cases. | Deaths. |
|---|---|---|---|---|---|
| Baltimore, Md. | | 1 | Manchester, N. H. | 1 | 1 |
| Boston, Mass. | 3 | 1 | Memphis, Tenn. | 1 | |
| Chicago, Ill. | 3 | 2 | Milwaukee, Wis. | 2 | |
| Cleveland, Ohio | 1 | 1 | Mobile, Ala. | 1 | 1 |
| Cumberland, Md. | 1 | | New London, Conn. | | 1 |
| Dayton, Ohio | | 1 | Pittsfield, Mass. | 1 | |
| Kansas City, Mo. | 1 | | St. Joseph, Mo. | | 1 |
| La Crosse, Wis. | | 1 | Waltham, Mass. | | 1 |
| Lynn, Mass. | 1 | 1 | | | |

## POLIOMYELITIS (INFANTILE PARALYSIS).

### State Reports for April, 1914.

| Places. | New cases reported. | Places. | New cases reported. |
|---|---|---|---|
| New York: | | Texas: | |
| Erie County | 1 | Erath County | 1 |
| Monroe County | 1 | Polk County | 1 |
| Otsego County | 1 | | |
| Westchester County | 1 | Total | 2 |
| New York City | 7 | | |
| Total | 11 | | |

### Ohio Report for March, 1914.

| Places. | New cases reported. | Places. | New cases reported. |
|---|---|---|---|
| Ohio: | | Ohio—Continued. | |
| Cuyahoga County | 1 | Montgomery County— | |
| Erie County— | | Dayton | 1 |
| Sandusky | 1 | Union County | 1 |
| Logan County— | | | |
| Bellefontaine | 1 | Total | 5 |

### City Reports for Week Ended May 16, 1914.

During the week ended May 16, 1914, poliomyelitis was notified by cities as follows: Bridgeport, Conn., 1 case; Buffalo, N. Y., 1 case; Chicago, Ill., 1 case; Manchester, N. H., 1 case with 1 death.

## ERYSIPELAS.

### City Reports for Week Ended May 16, 1914.

| Places. | Cases. | Deaths. | Places. | Cases. | Deaths. |
|---|---|---|---|---|---|
| Bayonne, N. J. | 1 | | Los Angeles, Cal. | | 1 |
| Boston, Mass. | | 1 | Milwaukee, Wis. | 1 | |
| Bridgeport, Conn. | 2 | | Norristown, Pa. | 1 | |
| Buffalo, N. Y. | 10 | 1 | Philadelphia, Pa. | 13 | 3 |
| Chicago, Ill. | 37 | 3 | Pittsburgh, Pa. | 5 | |
| Cleveland, Ohio | 6 | 1 | Reading, Pa. | 2 | |
| Cumberland, Md. | 1 | | Rochester, N. Y. | 1 | |
| Duluth, Minn. | 1 | | Rutland, Vt. | 1 | |
| Erie, Pa. | 1 | | St. Joseph, Mo. | 1 | |
| Harrisburg, Pa. | 1 | | St. Louis, Mo. | 6 | 1 |
| Hartford, Conn. | 2 | | San Francisco, Cal. | 6 | |
| Jersey City, N. J. | 1 | | Springfield, Mass. | | 1 |
| Johnstown, Pa. | 1 | | Wilkes-Barre, Pa. | 1 | |

## PELLAGRA.

During the week ended May 16, 1914, 10 deaths from pellagra were notified at Savannah, Ga.

## PLAGUE.

### California—Washington—Rats Collected and Examined.

Rats have been collected and examined on the Pacific coast as follows: San Francisco, Cal., week ended May 9, 1914, collected 488, examined 319; week ended May 16, 1914, collected 571, examined 380. Seattle, Wash., week ended May 16, 1914, collected 149, examined 116. No plague-infected rat was found.

### California—Squirrels Collected and Examined.

Ground squirrels have been collected and examined in California as follows: Week ended May 9, 1914—Alameda County, 175; Contra Costa County, 558; Merced County, 19; Monterey County, 35; San Benito County, 119; San Joaquin County, 68; Santa Clara County, 4; Santa Cruz County, 149; Stanislaus County, 59.

Week ended May 16, 1914—Alameda County, 131; Contra Costa County, 470; Merced County, 33; Monterey County, 26; San Benito County, 180; San Joaquin County, 67; Santa Cruz County, 116; Stanislaus County, 90. No plague-infected squirrel was found.

## PNEUMONIA.

### City Reports for Week Ended May 16, 1914.

| Places. | Cases. | Deaths. | Places. | Cases. | Deaths. |
|---|---|---|---|---|---|
| Beaver Falls, Pa | 1 | ..... | Manchester, N. H | 1 | 1 |
| Binghamton, N. Y | 9 | 2 | New Castle, Pa | 1 | ..... |
| Chicago, Ill | 136 | 98 | Newport, Ky | 2 | 2 |
| Cleveland, Ohio | 24 | 11 | Philadelphia, Pa | 18 | 58 |
| Dunkirk, N. Y | 2 | 2 | Pittsburgh, Pa | 20 | 26 |
| Duluth, Minn | 3 | 3 | Rochester, N. Y | 5 | 11 |
| Erie, Pa | 1 | ..... | Sacramento, Cal | 1 | 1 |
| Fall River, Mass | 7 | 7 | San Francisco, Cal | 8 | 4 |
| Kansas City, Mo | 4 | 8 | Wilmington, N. C | 3 | 2 |
| Los Angeles, Cal | 8 | 5 | York, Pa | 1 | ..... |

## RABIES.

### Washington—Seattle—Rabies in Animals.

Surg. Lloyd, of the Public Health Service, reported by telegraph that during the week ended May 30, 1914, 3 cases of rabies in dogs had been notified in Seattle, Wash.

## ROCKY MOUNTAIN SPOTTED FEVER.

### Montana—Lo Lo District.

Surg. Fricks, of the Public Health Service, reported that during the week ended May 23, 1914, 1 case of Rocky Mountain spotted fever had been notified in the Lo Lo district, Mont.

## TETANUS.

During the week ended May 16, 1914, tetanus was notified by cities as follows: Key West, Fla., 1 death; Los Angeles, Cal., 1 case with 1 death; Memphis, Tenn., 2 deaths; Mobile, Ala., 1 death; Wilmington, N. C., 1 death.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

### Pittsburgh, Pa.—Scarlet Fever.

Surg. Stoner, of the Public Health Service, reported by telegraph that during the week ended May 30, 1914, 95 cases of scarlet fever, with 4 deaths, had been notified in Pittsburgh, Pa., making a total of 3,600 cases, with 170 deaths, reported since the beginning of the outbreak, August 1, 1913.

### State Reports for April, 1914.

| States. | Cases reported. | | |
|---|---|---|---|
| | Diphtheria. | Measles. | Scarlet fever. |
| District of Columbia | 35 | 72 | 16 |
| Hawaii | 20 | 22 | ..... |
| New York | 1,853 | 7,703 | 2,356 |
| Texas | 24 | ..... | 113 |

### Ohio Report for March, 1914.

| State. | Cases reported. | | |
|---|---|---|---|
| | Diphtheria. | Measles. | Scarlet fever. |
| Ohio | 642 | 2,552 | 750 |

### City Reports for Week Ended May 16, 1914.

| Cities. | Population as of July 1, 1914 (estimated by U. S. Census Bureau). | Total deaths from all causes. | Diphtheria. | | Measles. | | Scarlet fever. | | Tuberculosis. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. |
| Over 500,000 inhabitants: | | | | | | | | | | |
| Baltimore, Md | 579,590 | 183 | 8 | ..... | 19 | ..... | 11 | ..... | 35 | 20 |
| Boston, Mass | 733,802 | 208 | 36 | 3 | 114 | 5 | 94 | 1 | 77 | 17 |
| Chicago, Ill | 2,393,325 | 687 | 111 | 8 | 231 | 4 | 86 | 7 | 162 | 94 |
| Cleveland, Ohio | 639,431 | 159 | 25 | 1 | 54 | 2 | 12 | 3 | 30 | 16 |
| Philadelphia, Pa | 1,657,810 | 498 | 37 | 4 | 274 | 1 | 40 | 4 | 141 | 54 |
| Pittsburgh, Pa | 564,878 | 143 | 24 | ..... | 33 | 1 | 97 | 3 | 21 | 13 |
| St. Louis, Mo | 734,667 | 219 | 45 | 2 | 201 | 1 | 47 | 1 | 35 | 17 |
| From 300,000 to 500,000 inhabitants: | | | | | | | | | | |
| Buffalo, N. Y | 454,112 | 146 | 15 | ..... | 44 | ..... | 9 | ..... | 9 | 12 |
| Los Angeles, Cal | 438,914 | 113 | 30 | 1 | 12 | ..... | 10 | ..... | 44 | 25 |
| Milwaukee, Wis | 417,054 | 105 | 27 | 2 | 27 | ..... | 22 | 2 | 22 | 17 |
| Newark, N. J | 389,106 | 124 | 27 | 3 | 108 | 1 | 62 | ..... | 51 | 17 |
| New Orleans, La | 361,221 | 135 | 15 | 3 | 13 | ..... | 8 | ..... | 37 | 20 |
| San Francisco, Cal | 448,502 | 120 | 8 | 3 | 201 | 1 | 5 | ..... | 28 | 13 |
| Washington, D. C | 353,378 | 129 | ..... | ..... | 15 | 1 | 5 | 1 | 19 | 16 |

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

### City Reports for Week Ended May 16, 1914—Continued.

| Cities. | Population as of July 1, 1914 (estimated by U. S. Census Bureau). | Total deaths from all causes. | Diphtheria. | | Measles. | | Scarlet fever. | | Tuberculosis. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. |
| From 200,000 to 300,000 inhabitants: | | | | | | | | | | |
| Columbus, Ohio | 204,567 | 63 | 4 | ..... | 97 | ..... | 5 | ..... | 15 | 10 |
| Jersey City, N. J | 293,921 | 94 | 13 | ..... | 20 | ..... | 18 | ..... | 27 | ..... |
| Kansas City, Mo | 281,911 | 87 | 11 | 1 | 16 | ..... | 7 | ..... | 1 | 18 |
| Rochester, N. Y | 241,518 | 79 | 4 | ..... | 54 | ..... | 9 | 1 | 4 | 5 |
| Seattle, Wash | 313,029 | 49 | 2 | ..... | ..... | ..... | 4 | ..... | 18 | 9 |
| From 100,000 to 200,000 inhabitants: | | | | | | | | | | |
| Bridgeport, Conn | 115,289 | 28 | 5 | ..... | 2 | ..... | 3 | ..... | 9 | 3 |
| Camden, N. J | 102,465 | ..... | 1 | ..... | 12 | ..... | 2 | ..... | 6 | ..... |
| Dayton, Ohio | 123,794 | ..... | 8 | ..... | 5 | ..... | 3 | ..... | 3 | 2 |
| Fall River, Mass | 125,443 | 39 | 2 | ..... | 2 | ..... | 3 | ..... | 10 | 5 |
| Hartford, Conn | 107,038 | 38 | 9 | ..... | 4 | ..... | 3 | ..... | 3 | 4 |
| Lowell, Mass | 111,004 | 29 | 2 | ..... | 23 | ..... | 1 | ..... | 3 | 2 |
| Memphis, Tenn | 143,231 | 59 | ..... | ..... | 26 | ..... | 1 | ..... | 10 | 5 |
| Nashville, Tenn | 114,899 | 48 | ..... | 1 | 2 | ..... | 6 | ..... | 1 | 3 |
| New Bedford, Mass | 111,230 | 32 | ..... | ..... | ..... | ..... | 6 | ..... | 8 | 7 |
| Oakland, Cal | 183,002 | 40 | 2 | 1 | 37 | ..... | 2 | ..... | 3 | 3 |
| Reading, Pa | 103,361 | 25 | 1 | ..... | 4 | ..... | 6 | ..... | 2 | 3 |
| Richmond, Va | 134,917 | 39 | ..... | ..... | 8 | ..... | 2 | ..... | 4 | 3 |
| Springfield, Mass | 100,375 | 21 | 8 | 1 | 5 | ..... | 3 | ..... | 3 | 1 |
| Toledo, Ohio | 184,126 | 62 | 4 | 1 | 74 | ..... | 8 | ..... | 23 | 10 |
| Trenton, N. J | 106,831 | 28 | 3 | 1 | 3 | ..... | 9 | ..... | 4 | ..... |
| Worcester, Mass | 157,732 | 47 | 8 | ..... | 12 | ..... | 3 | ..... | 7 | 3 |
| From 50,000 to 100,000 inhabitants: | | | | | | | | | | |
| Altoona, Pa | 56,553 | 11 | 1 | ..... | 5 | ..... | 6 | ..... | ..... | ..... |
| Atlantic City, N. J | 53,952 | 8 | ..... | ..... | 18 | ..... | 2 | ..... | 1 | ..... |
| Bayonne, N. J | 65,271 | ..... | 2 | ..... | 22 | ..... | 1 | ..... | 2 | ..... |
| Binghamton, N. Y | 52,191 | 30 | 1 | 2 | 25 | 2 | 1 | ..... | 2 | 2 |
| Duluth, Minn | 89,331 | ..... | 3 | ..... | 7 | ..... | 11 | 1 | 3 | 2 |
| Erie, Pa | 72,401 | 34 | ..... | ..... | 12 | ..... | 3 | ..... | 5 | ..... |
| Evansville, Ind | 71,284 | 15 | ..... | ..... | 31 | ..... | 2 | ..... | 1 | 1 |
| Harrisburg, Pa | 69,493 | 22 | ..... | ..... | 17 | ..... | ..... | ..... | 6 | ..... |
| Hoboken, N. J | 74,984 | ..... | 2 | ..... | 12 | ..... | ..... | ..... | 3 | ..... |
| Johnstown, Pa | 64,642 | 28 | 7 | 3 | 11 | ..... | ..... | ..... | ..... | 2 |
| Kansas City, Kans | 94,271 | ..... | ..... | ..... | 2 | ..... | 2 | ..... | 2 | ..... |
| Little Rock, Ark | 53,811 | 21 | ..... | ..... | 2 | ..... | ..... | ..... | 1 | ..... |
| Lynn, Mass | 98,207 | 22 | 5 | ..... | 1 | ..... | 9 | ..... | 1 | 3 |
| Manchester, N. H | 75,635 | 31 | 4 | ..... | 19 | ..... | 6 | 3 | 2 | 2 |
| Mobile, Ala | 55,573 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 1 | 3 |
| Norfolk, Va | 86,540 | .. | ..... | ..... | 10 | ..... | 1 | ..... | 5 | 3 |
| Passaic, N. J | 66,276 | 13 | ..... | ..... | 6 | ..... | 1 | ..... | 4 | 1 |
| Pawtucket, R. I | 56,901 | ..... | 1 | ..... | 1 | ..... | 1 | ..... | ..... | ..... |
| Saginaw, Mich | 53,988 | 8 | 1 | ..... | ..... | ..... | 2 | ..... | ..... | ..... |
| St. Joseph, Mo | 82,712 | 30 | ..... | ..... | 1 | ..... | ..... | ..... | 6 | 5 |
| Savannah, Ga | 67,917 | 29 | ..... | ..... | ..... | ..... | ..... | ..... | 2 | 2 |
| Schenectady, N. Y | 90,503 | 18 | ..... | ..... | 2 | ..... | 8 | ..... | 1 | 1 |
| South Bend, Ind | 65,114 | 9 | ..... | 3 | ..... | ..... | 1 | ..... | ..... | ..... |
| Springfield, Ill | 57,972 | 18 | ..... | ..... | 2 | ..... | 1 | ..... | ..... | 5 |
| Wilkes-Barre, Pa | 73,660 | 19 | 9 | 1 | 55 | ..... | 12 | ..... | 1 | ..... |
| Yonkers, N. Y | 93,383 | 23 | 8 | 1 | 1 | ..... | 12 | 1 | 6 | 1 |
| From 25,000 to 50,000 inhabitants: | | | | | | | | | | |
| Alameda, Cal | 26,330 | 7 | 1 | ..... | 115 | ..... | 2 | ..... | 1 | ..... |
| Aurora, Ill | 33,022 | 8 | ..... | ..... | ..... | ..... | 3 | ..... | ..... | ..... |
| Austin, Tex | 33,218 | 6 | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... |
| Brookline, Mass | 31,138 | 6 | 2 | ..... | 9 | ..... | 1 | ..... | 4 | ..... |
| Butte, Mont | 41,781 | 14 | ..... | ..... | 3 | ..... | 1 | ..... | 3 | 3 |
| Chicopee, Mass | 28,057 | 15 | 1 | ..... | ..... | ..... | 5 | ..... | ..... | 2 |
| Danville, Ill | 30,847 | 6 | ..... | ..... | 2 | ..... | 1 | ..... | ..... | ..... |
| East Orange, N. J | 39,852 | ..... | 1 | ..... | 12 | ..... | 1 | ..... | 3 | ..... |
| Everett, Mass | 37,381 | 4 | 1 | ..... | ..... | 20 | ..... | ..... | ..... | ..... |
| Fitchburg, Mass | 40,507 | 15 | 1 | ..... | 2 | ..... | 1 | ..... | 2 | 2 |
| Galveston, Tex | 40,289 | 15 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 |
| Haverhill, Mass | 47,071 | 19 | ..... | ..... | 3 | ..... | 2 | ..... | 4 | 1 |
| Kalamazoo, Mich | 45,842 | 12 | ..... | ..... | 74 | ..... | 1 | ..... | 2 | 1 |
| Knoxville, Tenn | 37,924 | ..... | ..... | ..... | 3 | ..... | ..... | ..... | ..... | ..... |
| La Crosse, Wis | 31,367 | 10 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Lancaster, Pa | 49,685 | ..... | 1 | ..... | 1 | ..... | ..... | ..... | 3 | ..... |
| Lexington, Ky | 38,819 | 21 | ..... | ..... | 10 | ..... | ..... | ..... | 2 | 1 |
| Lynchburg, Va | 31,830 | 6 | ..... | ..... | 10 | ..... | ..... | ..... | 3 | 2 |

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

### City Reports for Week Ended May 16, 1914—Continued.

| Cities. | Population as of July 1, 1914 (estimated by U. S. Census Bureau). | Total deaths from all causes. | Diphtheria. | | Measles. | | Scarlet fever. | | Tuberculosis. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. |
| From 25,000 to 50,000 inhabitants—Continued. | | | | | | | | | | |
| Malden, Mass | 48,979 | 10 | 2 | | 2 | | 8 | | 2 | |
| Medford, Mass | 25,240 | 9 | 4 | | 1 | | 6 | | | |
| Newcastle, Pa | 39,569 | | 1 | | | | | | | |
| Newport, Ky | 31,517 | 10 | | | | | 3 | | 1 | 1 |
| Newton, Mass | 42,455 | 15 | | | 35 | | 3 | 1 | | |
| Norristown, Pa | 30,265 | 7 | 2 | | 8 | | 3 | | | |
| Orange, N. J | 31,968 | 9 | 2 | | 7 | | 1 | | 2 | 1 |
| Pasadena, Cal | 40,880 | 4 | | | 9 | | 2 | | 6 | |
| Pittsfield, Mass | 36,531 | 13 | 1 | | | | 8 | | 1 | 2 |
| Portsmouth, Va | 37,569 | 5 | | | 14 | | | | | 1 |
| Racine, Wis | 44,528 | 18 | | | | | 3 | 1 | 1 | 1 |
| Roanoke, Va | 40,574 | 7 | 1 | 1 | 25 | | 1 | | 2 | |
| Sacramento, Cal | 62,717 | 14 | | | 3 | | | | 1 | 1 |
| San Diego, Cal | 48,900 | | 3 | | 3 | | | | 1 | 1 |
| South Omaha, Nebr | 28,368 | 10 | | | | | 1 | | | |
| Superior, Wis | 44,344 | 18 | 1 | | | | 3 | | | |
| Taunton, Mass | 35,631 | 18 | 1 | | | | 3 | | 2 | 2 |
| Waltham, Mass | 29,688 | 9 | | 1 | 8 | | | | 2 | 2 |
| West Hoboken, N. J | 40,647 | | 5 | | 10 | | 1 | | 3 | 1 |
| Wheeling, W. Va | 42,817 | 14 | | | 1 | | | | | |
| Wilmington, N. C | 27,781 | 13 | | | 2 | | | | | |
| York, Pa | 49,430 | | | | 1 | | | | 1 | |
| Less than 25,000 inhabitants: | | | | | | | | | | |
| Ann Arbor, Mich | 14,948 | 8 | | | 1 | | | | 4 | |
| Beaver Falls, Pa | 13,100 | 0 | 2 | | | | 1 | | | |
| Braddock, Pa | 20,935 | | 1 | | 1 | | 1 | | | |
| Cairo, Ill | 15,392 | 7 | | | | | | | | 2 |
| Cambridge, Ohio | 12,640 | | | | 90 | | | | | |
| Clinton, Mass | 13,075 | 2 | | | | | 2 | | | |
| Coffeyville, Kans | 15,982 | | | | | | 1 | | | |
| Columbus, Ind | 9,103 | 4 | | | | | | | | 1 |
| Concord, N. H | 22,291 | 8 | | | | | | | | |
| Cumberland, Md | 23,846 | 6 | 1 | | 7 | | 5 | | 3 | |
| Dunkirk, N. Y | 19,607 | 4 | | | | | 2 | | | |
| Galesburg, Ill | 23,570 | | | | | | 1 | | | |
| Kearny, N. J | 21,967 | 7 | 1 | | | | 1 | | 1 | |
| Key West, Fla | 21,150 | | 1 | | | | | | | |
| Kokomo, Ind | 19,694 | 7 | 1 | | 2 | | 4 | | | |
| Marinette, Wis | 14,610 | 3 | | | 5 | | | | | |
| Massillon, Ohio | 14,912 | 3 | | | 7 | | | | | 2 |
| Melrose, Mass | 16,887 | 7 | 2 | | 1 | | 3 | | | 2 |
| Montclair, N. J | 24,782 | 6 | | | 22 | | | | 3 | 1 |
| Morristown, N. J | 13,033 | 6 | | | | | | | 2 | 1 |
| Muncie, Ind | 24,969 | 3 | | | | | 5 | | | |
| Muscatine, Iowa | 17,074 | 3 | | | | | | | | |
| Nanticoke, Pa | 21,756 | 6 | | | 1 | | | | | |
| Newburyport, Mass | 15,147 | 4 | | | | | | | | |
| New London, Conn | 20,557 | | | | 1 | | 1 | | 2 | 4 |
| North Adams, Mass | 22,019 | | | | | | | | | |
| Northampton, Mass | 19,766 | 10 | | | 35 | | | | | 1 |
| Palmer, Mass | 8,955 | 2 | | | | 1 | | | | |
| Palo Alto, Cal | | | | | 1 | | | | | |
| Plainfield, N. J | 22,755 | 6 | | | 13 | | | | 2 | |
| Portsmouth, N. H | 11,538 | | | | | | 6 | | | |
| Pottstown, Pa | 16,408 | 3 | | | 1 | | | | | |
| Rutland, Vt | 14,417 | 4 | 1 | | 1 | | 1 | | | |
| Sandusky, Ohio | 20,127 | 3 | | | 1 | | | | | 1 |
| Saratoga Springs, N. Y | 12,813 | 3 | | | | | | | | |
| Steelton, Pa | 15,126 | 4 | | | 2 | | | | 1 | |

# FOREIGN REPORTS.

## CHINA.

### Plague—Destruction of Rats—Amoy.

Plague was reported present at Amoy during the two weeks ended April 20, 1914. The destruction of rats has been begun in the city, the number collected amounting to about 400 daily. The use of traps has been made compulsory by police regulations and a bounty of 1 cent (Mexican) is paid for each rat.

### Plague—Hongkong.

During the week ended May 29, 1914, 218 cases of plague were notified at Hongkong. The total number of cases notified from January 4 to April 20, 1914, was 611, with 438 deaths.

### Plague-Infected Rats Found—Hongkong.

During the two weeks ended April 20, 1914, 5,516 rats were examined at Hongkong. Of this number, 178 were found plague infected.

## JAMAICA.

### Quarantine Against Habana, Cuba.

According to information received from the vice consul at Kingston, Jamaica, dated May 20, 1914, quarantine has been imposed by the island of Jamaica against arrivals from Habana.

## JAPAN.

### Plague—Typhus Fever.

During the week ended June 1, 1914, plague and typhus fever were notified in Japan as follows: Tokyo, plague, 3 cases; typhus, 99 cases; Yokohama, plague, 3 cases with 2 deaths; typhus, 5 cases with 2 deaths.

### Communicable Diseases.

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

MONTH OF MARCH, 1914.

| Diseases. | Cases. | Deaths. | Diseases. | Cases. | Deaths. |
|---|---|---|---|---|---|
| Diphtheria | 1,766 | 474 | Smallpox | 40 | 9 |
| Dysentery | 65 | 12 | Typhoid fever | [1] 1,947 | 408 |
| Paratyphoid fever | 323 | 40 | Typhus fever | 1,487 | 143 |
| Scarlet fever | 152 | 6 | | | |

[1] Tokyo, 1,482; Hokkai-do, 4; Chiba, 1.

## JAVA.

### Plague.

Plague has been notified in east Java as follows:

MONTH OF MARCH, 1914.

| Districts. | Cases. | Deaths. | Districts. | Cases. | Deaths. |
|---|---|---|---|---|---|
| Kediri | 217 | 199 | Surakarta | 1 | 1 |
| Madioen | 112 | 101 | | | |
| Pasoeroean | 736 | 687 | Total | 1,148 | 1,051 |
| Surabaya | 82 | 63 | | | |

## SENEGAL.

### Plague—Dakar.

An outbreak of plague was reported at Dakar, Senegal, May 13, 1914.

## TURKEY IN ASIA.

### Plague—Jaffa.

Plague was reported present at Jaffa June 3, 1914.

### Typhus Fever—Jerusalem.

During the month of April, 1914, 115 cases of typhus fever with 27 deaths were notified in Jerusalem.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

### Reports Received During Week Ended June 5, 1914.

CHOLERA.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| India: | | | | |
| Bombay | Apr. 19–25 | 3 | 2 | |
| Calcutta | Apr. 12–18 | ..... | 119 | |
| Rangoon | Mar. 1–31 | 9 | 7 | |
| Indo-China: | | | | |
| Saigon | Apr. 6–13 | 1 | 1 | |
| Straits Settlements: | | | | |
| Singapore | Apr. 5–11 | 2 | 2 | |
| Turkey in Europe: | | | | |
| Adrianople | May 7 | 11 | ..... | |

PLAGUE.

| | | | | |
|---|---|---|---|---|
| Ceylon: | | | | |
| Colombo | Apr. 12–18 | 4 | 2 | |
| China: | | | | |
| Hongkong | Apr. 5–18 | 255 | 184 | May 23–29: Cases, 218. |
| Swatow | Apr. 19 | ..... | ..... | Still present in Chaochow and in the Puning district. |
| Cuba: | | | | |
| Habana | May 29 | ..... | 1 | |
| Dutch East Indies: | | | | |
| Java— | | | | |
| Provinces | Mar. 1–31 | ..... | ..... | Total: Cases, 1,148; deaths, 1,051. |
| Kediri | do | 217 | 199 | |
| Madioen | do | 112 | 101 | |
| Pasoeroean | do | 736 | 687 | |
| Surabaya | do | 82 | 63 | |
| Surakarta | do | 1 | 1 | |

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

### Reports Received During Week Ended June 5, 1914—Continued.

#### PLAGUE—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| India: | | | | |
| Bombay | Apr. 19–25 | 306 | 268 | |
| Calcutta | Apr. 12–18 | | 27 | |
| Karachi | Apr. 19–25 | 63 | 62 | |
| Madras | do | 1 | 1 | |
| Rangoon | Mar. 1–31 | 260 | 254 | |
| Indo-China: | | | | |
| Saigon | Apr. 7–20 | 12 | 2 | |
| Japan: | | | | |
| Taiwan— | | | | |
| Kagi | Apr. 12–18 | 22 | 19 | |
| Tokyo | May 19–June 1 | 6 | | |
| Yokohama | May 26–June 1 | 3 | 1 | |
| Peru: | | | | |
| Trujillo | | | | Apr. 18, 5 cases in the hospital. |
| Senegal: [1] | | | | |
| Dakar | May 13 | | | Present. |
| Turkey in Asia: | | | | |
| Jaffa | June 3 | | | Do. |

#### SMALLPOX.

| | | | | |
|---|---|---|---|---|
| Brazil: | | | | |
| Rio de Janeiro | Apr. 12–18 | 27 | 7 | |
| Canada: | | | | |
| Montreal | May 17–23 | 1 | | |
| Ceylon: | | | | |
| Colombo | do | 2 | | |
| Chile: | | | | |
| Talcahuano | Apr. 12–May 2 | 8 | | |
| China: | | | | |
| Amoy— | | | | |
| Kulangsu | Apr. 12–18 | 1 | | |
| Antung | Apr. 19–26 | 2 | | |
| Hankow | Mar. 2–8 | | 1 | |
| Hongkong | Apr. 5–18 | 16 | 13 | |
| Shanghai | Apr. 13–26 | 10 | 3 | |
| Tsing Tau | Apr. 19–25 | 2 | 1 | |
| Egypt: | | | | |
| Alexandria | May 1–6 | 1 | | |
| Cairo | Apr. 16–29 | 51 | 12 | |
| Port Said | Apr. 16–22 | 1 | | |
| France: | | | | |
| Marseille | Apr. 1–30 | | 1 | |
| India: | | | | |
| Bombay | Apr. 19–25 | 28 | 17 | |
| Calcutta | Apr. 12–18 | | 48 | |
| Karachi | Apr. 19–25 | | 1 | |
| Madras | do | 4 | 3 | |
| Rangoon | Mar. 1–31 | 44 | 7 | |
| Italy: | | | | |
| Turin | May 4–10 | | 1 | |
| Japan: | | | | |
| Taiwan | Apr. 12–18 | 4 | 1 | Total Mar. 1–31: Cases, 40; deaths, 9. |
| Mexico: | | | | |
| Juarez | May 3–9 | 1 | | |
| Monterey | May 11–17 | 2 | | |
| Nogales | May 17–23 | 2 | | |
| Russia: | | | | |
| Libau | May 4–10 | 1 | | |
| Moscow | May 30–Apr. 4 | 27 | 9 | |
| St. Petersburg | Apr. 19–May 2 | 26 | 2 | |
| Warsaw | Jan. 4–24 | 12 | 5 | |
| Turkey in Europe: | | | | |
| Saloniki | Apr. 27–May 2 | | 5 | |

[1] From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, May 20, 1914.

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

### Reports Received from Dec. 27, 1913, to May 29, 1914.

#### CHOLERA.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Austria-Hungary: | | | | |
| Bosnia-Herzegovina— | | | | |
| Brod | Nov. 13-18 | 2 | | |
| Kostjnica | do | 1 | | |
| Novigrad | Oct. 26-Nov. 5 | 1 | | |
| Sjekocac | Nov. 6 | 1 | | |
| Travnik, district | Dec. 10-16 | 6 | | |
| Vranduk | Nov. 20 | 1 | | |
| Zenica | Oct. 20-Nov. 19 | 9 | 2 | |
| Croatia-Slavonia— | | | | |
| Pozenga | Nov. 18-Dec. 1 | 2 | | |
| Syrmien— | | | | |
| Adasevci | do | 6 | 2 | |
| Semlin | do | 1 | 1 | |
| Vitrovica— | | | | |
| Dobrovic | do | 2 | 2 | |
| Hungary | | | | Total, Sept. 1-Dec. 29: Cases, 729; deaths, 372; Dec. 29, free. |
| Bacs-Bodrog, district | Nov. 9-Dec. 29 | 52 | 31 | |
| Jasz-Nagy-Kun - Szolnok— | | | | |
| Szolnok | Nov. 9-15 | 2 | 2 | |
| Maramaros | Nov. 30-Dec. 6 | 1 | 1 | |
| Pest Pilis— | | | | |
| Soroksar | Nov. 9-22 | 2 | 1 | |
| Szabolcs— | | | | |
| Nyiregyhaza | Nov. 9-15 | 1 | 1 | |
| Temes— | | | | |
| Varasliget | do | | 1 | |
| Torontal | Nov. 9-Dec. 13 | 27 | 19 | |
| Ung— | | | | |
| Jasza | Nov. 9-15 | 1 | 1 | |
| Ceylon: | | | | |
| Colombo | Nov. 9-Jan. 17 | 33 | 19 | |
| Galle | Feb. 9-Mar. 28 | 12 | | |
| China: | | | | |
| Hongkong | Nov. 9-Mar. 22 | 10 | 4 | |
| Dutch East Indies | | | | Jan. 1-31: Cases, 91; deaths, 74 |
| Java— | | | | |
| Batavia and Tanjong Priok. | Nov. 9-Feb. 14 | 47 | 35 | |
| Do | Jan. 18-24 | 1 | 1 | |
| Pamanoekan | do | 1 | 1 | |
| Samarang | Nov. 30-Dec. 27 | 47 | 25 | |
| Do | Jan. 1-31 | 8 | 5 | |
| Sumatra— | | | | |
| Padang | Dec. 1-Jan. 24 | 136 | 101 | Total. |
| Baros | Jan. 15-31 | 55 | 46 | |
| Sorkam | Jan. 1-17 | 22 | 17 | |
| India: | | | | |
| Bassein | Feb. 1-Mar. 7 | 15 | 13 | |
| Bombay | Nov. 10-Apr. 18 | 34 | 17 | |
| Calcutta | Nov. 9-Apr. 11 | | 1,368 | |
| Madras | Nov. 16-Mar. 7 | 14 | 5 | |
| Moulmine | Jan. 4-Feb. 28 | 23 | 23 | |
| Negapatam | Jan. 4-Mar. 14 | 108 | 89 | |
| Rangoon | Nov. 1-Dec. 31 | 5 | 1 | |
| Do | Jan. 1-Feb. 28 | 6 | 4 | |
| Indo-China | | | | Year 1913: Cases, 432; deaths, 13. Total, Jan. 1-Feb. 10: Cases, 16; deaths, 13. |
| Cholon | Jan. 21-31 | 1 | | |
| Laos (Shan States) | Jan. 1-10 | 10 | | Along the upper Mekong River. |
| Phanri | Jan. 1-Feb. 10 | | 3 | |
| Saigon | Jan. 13-Feb. 23 | 3 | | |
| Philippine Islands | | | | The last instance of cholera was on Panay Island Mar. 18. Apr. 14, free. |
| Manila | Nov. 9-Mar. 14 | 86 | 56 | Total, Aug. 23-Jan. 24: Cases, 186; deaths, 124. Third quarter, 1913: Cases, 14; deaths, 6. Fourth quarter, 1913: Cases, 107; deaths, 104. Jan. 3, 1 fatal case on s. s. Sigismund from Rabal, New Guinea. At the necropsy, pathological lesions of cholera and beriberi were found. |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

#### CHOLERA—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Philippine Islands—Contd. | | | | |
| Provinces | | | | Total, Aug. 23-Dec. 27: Cases, 148; deaths, 94. |
| Bulacan— | | | | |
| Bulacan | Dec. 14-20 | | | Present in vicinity. |
| Meycauayan | do | | | Present. |
| Capiz | | | | Total, Dec. 17-23: Cases, 26; deaths, 18. Feb. 21, still present. |
| Banga | Dec. 17-20 | | | Present. |
| Capiz | Jan. 28 | | | Do. |
| Calivo | Dec. 17-Jan. 24 | | | 1 death daily. |
| New Washington | do | | | Present. |
| Cavite— | | | | |
| Santa Cruz | Nov. 13-19 | | | Do. |
| Cebu— | | | | |
| Cebu | do | | | Do. |
| Opon | Nov. 19 | 1 | | On Mactan Island. |
| Pampanga | Dec. 7-Jan. 28 | | | Present in Guagua, Macabebe, San Fernando, and other places. |
| Pangasinan | Dec. 19-29 | | | Present in Dagupan, Lingayen, San Carlos, and Urdaneta. |
| Rizal— | | | | |
| Las Pinas | do | 1 | | |
| Pasig | Nov. 19 | | | Present. |
| Pateros | Jan. 28 | | | Do. |
| Rizal | do | | | Do. |
| Roumania | | | | Total, Nov. 14-Dec. 7: Cases, 18, deaths, 15. |
| Russia: | | | | |
| Bessarabia— | | | | |
| Ismail | Oct. 26-Nov. 8 | 6 | 1 | |
| Ekaterinoslav | do | 1 | | |
| Kherson | do | 6 | 9 | |
| Taurida— | | | | |
| Dneiper district | do | 1 | 2 | |
| Servia | | | | Nov. 10-24: 8 cases with 2 deaths in the districts Podrigne and Pojarevatz. |
| Siam: | | | | |
| Bangkok | Nov. 2-Mar. 21 | | 168 | |
| Straits Settlements: | | | | |
| Singapore | Nov. 2-Mar. 28 | 42 | 22 | |
| Kedah, Province | Feb. 4 | | | Present. |
| Turkey in Asia: | | | | |
| Aivali | Jan. 10-23 | 9 | 6 | |
| Beirut | Dec. 23 | 2 | 1 | From among troops on the s. s. Bahr Amer from Rodosto. |
| Smyrna | Dec. 16-Jan. 8 | 11 | 4 | |
| Trebizond | Dec. 9-Jan. 24 | 22 | 16 | Dec. 9-16: 6 cases among troops from s. s. Guldjemal. Jan. 17, 1 case in the city. |
| Turkey in Europe: | | | | |
| Adrianople | Feb. 28-Mar. 28 | 99 | 38 | Among the military. |
| Constantinople | Nov. 25-Feb. 15 | 141 | 56 | Total, Aug. 2-Feb. 15: Cases, 216; deaths, 96. Total, Jan. 1-Mar. 21: Cases, 30; deaths, 14; Mar. 24, 1 fatal case. |
| Dardanelles | Jan. 9-20 | 10 | 9 | |
| Gallipoli | Jan. 1-3 | 2 | 2 | |
| Kirk Kilisse | Mar. 16 | 2 | 2 | |
| Pera | Jan. 3-10 | 5 | | |
| Rodosto | Dec. 21-Jan. 9 | 22 | | |

#### YELLOW FEVER.

| | | | | |
|---|---|---|---|---|
| Brazil: | | | | |
| Bahia | Nov. 23-May 2 | 34 | 43 | May 2: Diminishing. |
| Ceara | Nov. 1-30 | | 2 | |
| Pernambuco | Mar. 1-15 | | 17 | |
| Ecuador: | | | | |
| Guayaquil | Nov. 1-Dec. 31 | 9 | 6 | |
| Do | Jan. 1-Mar. 31 | 18 | 8 | |
| Milagro | Jan. 1-Feb. 28 | 6 | 4 | |
| Naranjito | Jan. 1-31 | 3 | 2 | |
| Mexico: | | | | |
| Merida | Dec. 10-11 | 1 | 1 | From Campeche. |
| Do | Jan. 4-10 | 1 | 1 | Do. |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

#### YELLOW FEVER—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Southern Nigeria: | | | | |
| Lagos | Oct. 20–Dec. 28 | 5 | 1 | Among Europeans from a vessel. Feb. 26, present. |
| Do | Feb. 13–Mar. 8 | 3 | ..... | Case Mar. 8, a European. |
| Omitsha | Jan. 24 | 1 | ..... | |
| Togo: | | | | |
| Lome | Sept. 12 | 1 | ..... | |
| Trinidad: | | | | |
| Brighton | Dec. 30 | 1 | ..... | Total, Nov. 22–Dec. 30: Cases, 10; deaths, 3. Mar. 26, 1 case, 3½ miles distant. |
| Labrea | Mar. 27 | 1 | ..... | |
| Venezuela: | | | | |
| Caracas | Feb. 1–28 | ..... | 3 | |

#### PLAGUE.

| | | | | |
|---|---|---|---|---|
| Arabia: | | | | |
| Debai | Mar. 7 | ..... | ..... | Present. |
| Australia: | | | | |
| Thursday Island Quarantine Station. | May 21 | 5 | ..... | Pestis minor from s. s. Taynan from Hongkong to Townsville. |
| Azores: | | | | |
| Terceira— | | | | |
| Angra-Heroismo | Dec. 21 | ..... | 1 | |
| Brazil: | | | | |
| Bahia | Nov. 23–May 2 | 27 | 20 | |
| Pernambuco | Dec. 16–31 | ..... | 1 | |
| Do | Jan. 1–Feb. 28 | ..... | 2 | |
| Rio de Janeiro | Nov. 16–22 | 1 | 1 | |
| British East Africa: | | | | |
| Kisumu | Sept. 12–Oct. 13 | 2 | ..... | Jan. 14–Nov. 15, 1913: Cases, 20; deaths, 22. |
| Mombasa | Sept. 12–Dec. 15 | 31 | 16 | Feb. 6–Dec. 15: Cases, 200; deaths, 173, including previous reports. |
| Nairobi | ....do | 3 | 3 | |
| Ceylon: | | | | |
| Colombo | Jan. 25–Apr. 11 | 96 | 82 | Total Jan. 25–Mar. 25: Cases, 100; deaths, 88; of which 71 fatal cases were septicemic and 29 cases, with 17 deaths, bubonic. |
| Kandy | Jan. 25–Feb. 7 | 1 | ..... | From Colombo. |
| Chile: | | | | |
| Iquique | Nov. 9–Jan. 31 | 18 | 9 | |
| Do | Jan. 11–Mar. 28 | 19 | 12 | |
| Santiago | Mar. 11–Apr. 18 | ..... | 4 | |
| China | ..... | ..... | ..... | Mar. 14, present in Ampo and Tah-tau-po. Jan. 17–Mar. 1, present in localities 15 miles from Chaoyang and in Chin Khoi, Hak Is, Hweilai, Ko Khoi, Khoi Tau, Kun Pau, Sua Ming Sia, and Toa Phau. |
| Amoy | Feb. 18–Mar. 28 | 3 | 5 | Present in the island. |
| Chao-Chowfu | Mar. 29–Apr. 4 | ..... | ..... | Present. |
| Hongkong | Nov. 2–Apr. 4 | 383 | 281 | May 15–21: Cases, 241. |
| Hweian | Apr. 6 | ..... | ..... | About 4 deaths daily per week. 30 miles from Amoy. |
| Shanghai | Apr. 13–22 | 1 | 1 | Oct. 1–7, 1 case. |
| Cuba: | | | | |
| Artemisa | Apr. 23 | 1 | ..... | |
| Habana | Mar. 5–May 27 | 20 | 3 | |
| Dutch East Indies: | | | | |
| Java | ..... | ..... | ..... | Total in East Java, year 1913: Cases, 11,218; deaths, 10,556. |
| Provinces— | | | | |
| Kediri | Nov. 1–Dec. 31 | 547 | 481 | |
| Do | Jan. 1–Feb. 28 | 406 | 380 | |
| Madioen | Nov. 1–Dec. 31 | 151 | 140 | |
| Do | Jan. 1–Feb. 28 | 284 | 251 | |
| Pasoeroean, including Malang. | Nov. 1–Dec. 31 | 1,550 | 1,463 | |
| Do | Jan. 1–Feb. 28 | 1,481 | 1,295 | |
| Surabaya | Nov. 1–Dec. 31 | 93 | 93 | |
| Do | Jan. 1–Apr. 4 | 104 | 90 | Mar. 29–Apr. 4: 24 cases, with 1 deaths in the vicinity. |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

**PLAGUE—Continued.**

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Ecuador: | | | | |
| Babahoyo | Nov. 1–Dec. 31 | 1 | | |
| Duran | Dec. 1–31 | 1 | | |
| Do | Jan. 1–31 | 1 | 1 | |
| Guayaquil | Nov. 1–Dec. 31 | 349 | 157 | |
| Do | Jan. 1–Mar. 31 | 79 | 36 | |
| Manta | Dec. 1–31 | 8 | | |
| Milagro | Nov. 1–Dec. 31 | 2 | 1 | |
| Naranjito | do | 3 | 1 | |
| Yaguachi | Nov. 1–30 | 2 | 2 | |
| Do | Jan. 1–31 | 1 | 1 | |
| Egypt | | | | Jan. 1–Dec. 24, 1913: Cases, 654; deaths, 304. Jan. 1–Apr 30: Cases, 34; deaths, 17. |
| Alexandria | Feb. 19–May 2 | 2 | 2 | |
| Cairo | Feb. 13–22 | 2 | | |
| Port Said | Feb. 10–Apr. 26 | 7 | 4 | |
| Provinces— | | | | |
| Assiout | Jan. 5–May 2 | 4 | 4 | |
| Assouan | Dec. 10 | 1 | | |
| Do | Jan. 5 | 1 | 1 | |
| Dakahlia | Mar. 23 | 1 | | |
| Fayoum | Feb. 10–Apr. 30 | 5 | 1 | |
| Garbieh | Dec. 11 | 1 | | |
| Do | Jan. 15–Apr. 27 | 9 | 3 | |
| Menouf | Mar. 31–Apr. 2 | 2 | 2 | |
| Minieh | Dec. 9–24 | 3 | 1 | |
| Do | Jan. 8–Apr. 16 | 4 | 2 | |
| German East Africa: | | | | |
| Dar-es-Salaam | Mar. 13 | 1 | 1 | Pneumonic. |
| Hawaii: | | | | |
| Honokaa | May 16 | 1 | 1 | |
| Kukuihaele | Apr. 18 | | 1 | |
| India | | | | Total Jan. 1, 1913–Jan. 3, 1914: Cases, 238,198; deaths, 198,875. Jan. 4–Mar. 31: Cases, 147,995; deaths, 123,362. |
| Bassein | Jan. 4–Mar. 15 | 161 | 136 | Total Jan. 1, 1913–Jan. 3, 1914: Cases, 304; deaths, 283. |
| Bombay | Nov. 9–Apr. 18 | 1,466 | 1,263 | Apr. 1–18, epidemic. |
| Calcutta | Nov. 2–Apr. 11 | | 149 | |
| Karachi | Nov. 9–Apr. 18 | 835 | 720 | |
| Madras | Nov. 16–Apr. 11 | 6 | 3 | |
| Moulmine | Jan. 4–24 | | 18 | Jan. 1, 1913–Jan. 3, 1914: Cases, 574; deaths, 576. |
| Negapatam | Feb. 1–Mar. 14 | 41 | 41 | |
| Rangoon | Oct. 26–Dec. 31 | 74 | 68 | |
| Do | Jan. 1–Feb. 28 | 328 | 311 | |
| Indo-China | | | | Year 1913: Cases, 4,038; deaths, 3,805. Jan. 1–Feb. 10: Cases, 330; deaths, 303. |
| Saigon | Nov. 11–Apr. 6 | 41 | 3 | |
| Japan | | | | Total Jan. 1–Dec. 31: Cases, 27; deaths, 20; exclusive of Taiwan. Apr. 18–20: 11 cases in Komikawa Cho, and Katori-Gun Chiba, near Tokyo. |
| Kobe | Dec. 1–7 | 1 | | |
| Taiwan— | | | | |
| Kagi | Feb. 1–Apr. 12 | 107 | 89 | |
| Tokyo | Apr. 18–May 18 | 27 | | Apr. 18: 5 cases in the vicinity. |
| Yokohama | Jan. 4–10 | 1 | 1 | Total Sept. 19–Jan. 10: Cases, 22; deaths, 18; May 25: Cases, 2. |
| Mauritius | Jan. 1–Apr. 2 | 42 | 23 | Total year 1913: Cases, 305; deaths, 183. |
| Morocco: | | | | |
| Casablanca | Jan. 7 | 1 | 1 | |
| El-Arish (Larache) | Sept. 17 | 1 | | Among the military. |
| Fedala | Mar. 16–Apr. 4 | 5 | 1 | |
| New Caledonia: | | | | |
| Bourail | Sept. 1–Oct. 14 | 8 | 2 | In a school of the tribe of the Azaren. |
| Persia: | | | | |
| Lingah | Mar. 25 | 1 | | |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

#### PLAGUE—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Peru | | | | Deaths not reported. Total year 1913: Cases, 869; deaths, 459. |
| Ancachs— | | | | |
| Casma | Feb. 9–Mar. 22 | 2 | | Dec. 1–Feb. 8, present. |
| Chimbote | Feb. 23–Mar. 22 | | | Present. |
| Nepena | Nov. 1–Jan. 18 | | | Do. |
| Arequipa— | | | | |
| Mollendo | Dec. 1–Mar. 22 | 17 | | Apr. 11, 5 cases present. |
| Cajamarca— | | | | |
| Contumaza | Jan. 19–24 | 12 | | Feb. 8, present. |
| Callao— | | | | |
| Callao | Jan. 19–Feb. 22 | 7 | | |
| Lambayeque— | | | | |
| Chiclayo | Dec. 1–Mar. 22 | 84 | | |
| Ferrenaje | Dec. 1–Feb. 8 | 18 | | |
| Guadalupe | Dec. 1–Mar. 22 | 27 | | |
| Pacasmayo | Jan. 25–Mar. 22 | 6 | | |
| Libertad— | | | | |
| San Pedro | Dec. 1–Mar. 22 | 37 | | |
| Salaverry | Feb. 16–Mar. 22 | 7 | | Mar. 17–25: Cases, 3; deaths, 1. |
| Santiago de Coa | Feb. 23–Mar. 22 | | | Present. |
| Trujillo | Dec. 1–Feb. 22 | 73 | | Apr. 21: 10 cases in hospital. |
| Lima | Dec. 1–Jan. 18 | 6 | | |
| Lima | Dec. 1–Mar. 22 | 51 | | |
| Pisco | Dec. 1–Jan. 18 | 2 | | |
| Monsefu | do | 2 | | |
| Piura— | | | | |
| Catacaos | Dec. 1–Mar. 22 | 18 | | |
| Piura | Dec. 1–Jan. 24 | 10 | | Feb. 8, present. |
| Philippine Islands: | | | | |
| Manila | Nov. 23–Apr. 25 | 16 | 15 | Third quarter, 1913: Cases, 2; deaths, 1. Fourth quarter, 1913: Case, 1; death, 1. |
| Russia: | | | | |
| Saratov | Feb. 11 | 1 | | |
| Ural territory | | | | Total Oct. 20–Nov. 10: Cases, 212; deaths, 170; and 2 fatal cases from Issum Tube. |
| Djakisabevsk district | Mar. 2–13 | 16 | 16 | |
| Djumarta | Nov. 9–10 | 5 | 1 | |
| Djantayu | Nov. 8–10 | 2 | 2 | |
| Kizilu | Nov. 8 | 1 | 1 | |
| Fourteenth village | Nov. 7–9 | 6 | | |
| Sarbas | Nov. 8–10 | 13 | 7 | |
| Kaziljar district | Nov. 5–10 | 39 | 24 | In Assaukurt, Baitchurek, Biskuduk, and Djamankuduk. |
| Lbistchensky district | Mar. 2–13 | 16 | 15 | |
| Issum Tube | Oct. 20–Nov. 10 | 138 | 127 | |
| Kaimikov | Nov. 4–10 | 6 | 6 | |
| Siam: | | | | |
| Bangkok | Nov. 2–Mar. 21 | | 26 | |
| Tripoli: | | | | |
| Bengazi | Jan. 31 | | | Present. Apr. 15, free. |
| Turkey in Asia: | | | | |
| Beirut | Dec. 10–23 | 2 | 2 | |
| Jiddah | Feb. 2–Mar. 11 | 5 | 2 | |
| Venezuela: | | | | |
| Caracas | Apr. 7 | | 1 | Of case reported Apr. 12. |
| Miranda, State | May 19 | 1 | 1 | |
| Zanzibar | Dec. 31–Jan. 21 | 5 | 3 | On s. s. President from Dar-es-Salaam. |

#### SMALLPOX.

| | | | | |
|---|---|---|---|---|
| Algeria: | | | | |
| Departments— | | | | |
| Algiers | Sept. 1–Dec. 31 | 10 | | |
| Do | Jan. 1–Feb. 28 | 3 | | |
| Constantine | Oct. 1–Dec. 31 | 15 | | |
| Do | Jan. 1–Feb. 28 | 1 | | |
| Oran | Sept. 1–Nov. 30 | 216 | | Feb. 1–28: Cases, 5; deaths, 4. |
| Do | Jan. 1–Feb. 28 | 117 | | |
| Arabia: | | | | |
| Aden | Nov. 25–Mar. 9 | 6 | 6 | |
| Maskat | Nov. 30–Dec. 6 | 10 | | Dec. 20, present. |
| Matarah | Dec. 23–Jan. 10 | 9 | | Nov. 30, present; Mar. 7, still present. |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

SMALLPOX—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Argentina: | | | | |
| Buenos Aires | Nov. 1-30 | | 1 | |
| Rosario | Dec. 1-31 | 1 | | |
| Australia: | | | | |
| New South Wales | | | | Total July 1, 1913-Jan. 31, 1914; Cases, 1,078. |
| Singleton | Feb. 1.-Mar. 13. | 15 | | |
| Sydney, metropolitan area | | | | July 1, 1913-Jan. 8, 1914: Cases, 1,032. Feb. 1-Apr. 2: 27 cases in the metropolitan area of Sydney and 10 cases in the country districts. |
| Western Australia— | | | | |
| Fremantle | | | | Dec. 2: 1 fatal case on R. M. S. Malwa, from London via Port Said, Aden, and Colombo. |
| Victoria— | | | | |
| Melbourne | | | | At Point Napean quarantine station, Jan. 19: 1 case from F. M. S. Caledonian from Noumea via Sydney. |
| Austria-Hungary: | | | | |
| Coastland— | | | | |
| Trieste | Jan. 25-31 | 3 | | |
| Galicia | Feb. 15-21 | 1 | | |
| Krain | Mar. 1-14 | 4 | | |
| Lower Austria— | | | | |
| Vienna | Jan. 4-24 | 6 | | |
| Moravia | Jan. 18-Feb. 21 | 5 | | |
| Silesia | Feb. 15-18 | 1 | | |
| Tyrol and Vorarlberg | Nov. 23-Feb. 21 | 6 | | |
| Upper Austria | Dec. 14-Feb. 21 | 20 | | |
| Belgium: | | | | |
| Liege | Mar. 1-7 | | 6 | |
| Brazil: | | | | |
| Bahia | Nov. 23-Apr. 11 | 83 | 1 | |
| Para | Dec. 1-Apr. 11 | 80 | 85 | |
| Pernambuco | Nov. 1-Feb. 28 | | 78 | |
| Rio de Janeiro | Nov. 9-Apr. 11 | 586 | 121 | |
| Canada: | | | | |
| British Columbia— | | | | |
| Vancouver | Apr. 19-25 | 1 | | |
| Manitoba— | | | | |
| Winnipeg | Feb. 14-May 2 | 26 | | |
| Ontario— | | | | |
| Cornwall | Feb. 26-Apr. 4 | 1 | | |
| Fort William | Feb. 24-Mar. 2 | 1 | | |
| Hamilton | Jan. 1-Apr. 30 | 33 | | |
| Ottawa | Dec. 7-May 2 | 25 | | |
| Toronto | Dec. 7-May 8 | 15 | 1 | |
| Windsor | May 3-16 | 2 | | |
| Quebec— | | | | |
| Montreal | Dec. 7-May 9 | 94 | | |
| Quebec | Jan. 24-31 | 1 | | |
| Canal Zone: | | | | |
| Panama | | | | Nov. 1-30: Santo Tomas hospital, 1 case from a vessel from Callao. |
| Ceylon: | | | | |
| Colombo | Nov. 30-Dec. 6 | 1 | | |
| Do | Mar. 22-Apr. 11 | 6 | | |
| Chile: | | | | |
| Talcahuano | Apr. 5-11 | 3 | | |
| China: | | | | |
| Amoy | Dec. 14-Jan. 10 | | | Present |
| Antung | Jan. 4-Mar. 29 | 5 | 2 | |
| Chefoo | Feb. 22-Mar. 7 | 2 | 1 | |
| Dairen | Dec. 7-Apr. 11 | 32 | 10 | |
| Hankow | Nov. 2-Feb. 28 | 14 | 1 | |
| Hongkong | Dec. 14-Mar. 29 | 32 | 21 | |
| Mukden | Mar. 8-15 | 3 | 1 | |
| Nanking | Jan. 24 | | | Do. |
| Shanghai | Dec. 8-Apr. 5 | 20 | 30 | Deaths among natives. |
| Tientsin | Nov. 9-15 | | 1 | |
| Ting Chow | Jan. 5 | | | Epidemic, 130 miles from Amoy. |
| Tsingtau | Jan. 15-Apr. 11 | 13 | 1 | |
| Tong An | Dec. 27 | | | Present, 20 miles from Amoy. |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

**SMALLPOX—Continued.**

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Dutch East Indies: | | | | |
| Java | | | | Dec. 13-Apr. 4: 1,083 cases with 266 deaths in the western part, and 100 cases with 63 deaths in the interior |
| Batavia | | | | Nov. 27-Dec. 27: Cases, 51; deaths, 13. |
| Do | Jan. 11-Apr. 4 | 106 | 48 | |
| Besoeki | Oct. 19-29 | 227 | 47 | |
| Cheribon | Mar. 7 | | | Epidemic. |
| Madioen | Oct. 19-28 | 36 | 12 | |
| Surabaya | Oct. 28-Jan. 31 | 6 | | |
| Surakarta | Oct. 19-Dec. 6 | 481 | 91 | |
| Sumatra— | | | | |
| Padang | Jan. 1-31 | | | Present |
| Egypt: | | | | |
| Alexandria | Nov. 26-Apr. 29 | 36 | 15 | |
| Cairo | Nov. 19-Apr. 15 | 271 | 105 | |
| Port Said | Dec. 3-Apr. 15 | 9 | 2 | |
| France: | | | | |
| Bordeaux | Mar. 8-14 | | 1 | |
| Marseille | Nov. 1-Mar. 31 | | 118 | |
| Nantes | Feb. 1-May 2 | 9 | 2 | |
| Nice | Nov. 1-Dec. 31 | 2 | | |
| Paris | Nov. 23-May 2 | 55 | | |
| St. Etienne | Nov. 16-Mar. 14 | 12 | 4 | |
| Toulon | Jan. 1-31 | | 1 | |
| Germany | | | | Dec. 7-May 9: Cases, 59. |
| Berlin | Feb. 8-14 | 2 | | |
| Bremen | do | 1 | | |
| Breslau | do | 1 | | |
| Hamburg | Dec. 11-25 | 4 | | |
| Kehl | Jan. 1-31 | | 1 | |
| Lubec | Feb. 15-21 | 1 | | |
| Plauen | Mar. 1-31 | 11 | | |
| Strassburg | do | 1 | 1 | |
| Gibraltar | Dec. 1-Mar. 22 | 6 | | |
| Great Britain: | | | | |
| Aberdeen | Feb. 22-Mar. 21 | 6 | 1 | |
| Cardiff | Feb. 16-21 | 1 | | |
| Edinburgh | Mar. 1-7 | | 1 | |
| Liverpool | Mar. 15-21 | 1 | | From a vessel. |
| London | Jan. 18-Mar. 22 | 6 | | |
| Nottingham | Dec. 21-27 | 28 | | |
| Southampton | Feb. 2-28 | 1 | | |
| Greece | | | | Jan. 28-Feb. 12: Present in the barracks at Athens and in the surrounding country. |
| Achaia and Elis, Province | Mar. 8-14 | 7 | 5 | Jan. 29, present. |
| Hermopolis (Syros) | Mar. 16 | 6 | | |
| Piraeus | Jan. 18-Feb. 12 | 19 | 11 | |
| Grenada | Mar. 18 | 3 | | In St. Andrews Parish, 20 miles from St. Georges. |
| St. Georges | Mar. 22-28 | 4 | | |
| Guadeloupe: | | | | |
| Pointe a Pitre quarantine station, Islet a Cosson. | Feb. 16-23 | 10 | 1 | From among returned troops from s. s. Perou from Havre via Bordeaux and Santander. |
| Guatemala: | | | | |
| Guatemala | Apr. 21 | | | Present. |
| Honduras: | | | | |
| Puerto Cortes | Apr. 1-30 | 3 | | |
| India: | | | | |
| Bombay | Nov. 23-Apr. 18 | 153 | 65 | |
| Calcutta | Nov. 2-Apr. 11 | | 255 | |
| Karachi | do | 26 | 6 | |
| Madras | Nov. 2-Apr. 18 | 60 | 20 | |
| Rangoon | Jan. 1-Feb. 28 | 18 | 1 | |
| Indo-China | | | | Total Jan. 1-31: Cases, 160; deaths, 16. |
| Saigon | Nov. 11-24 | 1 | 1 | |
| Italy: | | | | |
| Genoa | Mar. 1-15 | 1 | 1 | |
| Leghorn | Dec. 21-27 | 1 | | |
| Milan | Feb. 1-28 | 1 | | |
| Naples | Jan. 3 | 1 | | |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

SMALLPOX—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Italy—Continued. | | | | |
| Turin | Dec. 22–28 | 1 | | |
| Do | Apr. 29–May 3 | 2 | | |
| Japan | | | | Total Jan. 1–Dec. 31, 1913: Cases, 108; deaths, 39, exclusive of Taiwan. Total Jan. 1–Feb. 28: Cases, 17; deaths, 3. |
| Fukuoka ken | Dec. 1–31 | 2 | | |
| Nagasaki | Jan. 1–Mar. 22 | 3 | 1 | |
| Taiwan | Mar. 22–Apr. 11 | 3 | | |
| Tokyo | Nov. 1–Mar. 7 | 10 | | |
| Yokohama | Jan. 6–12 | 1 | 1 | |
| Mauritius | Oct. 2–25 | 60 | 4 | |
| Mexico: | | | | |
| Acapulco | Dec. 6–Apr. 18 | 5 | 6 | |
| Aguascalientes | Dec. 1–Mar. 29 | | 112 | |
| Chihuahua | Dec. 29–May 3 | | 24 | |
| Cruz | Apr. 2 | | | Epidemic in vicinity. |
| Durango | Apr. 1–May 31 | | 77 | |
| Guadalajara | Jan. 11–Feb. 14 | 89 | 46 | |
| Imuris | Dec. 29–Jan. 4 | 5 | | |
| Juarez | Feb. 15–Apr. 4 | 1 | 4 | |
| Llano | Jan. 17 | 8 | | |
| La Paz | Jan. 16–22 | 3 | 1 | |
| Manzanillo | Mar. 21–27 | 2 | | |
| Mexico | Oct. 26–Jan. 17 | 129 | 40 | |
| Monterey | Nov. 17–May 3 | 12 | 10 | |
| Nogales | Apr. 27–May 9 | 8 | | |
| Salina Cruz | Jan. 18–Apr. 15 | 3 | 1 | Present in vicinity. |
| San Luis Potosi | Nov. 2–Jan. 24 | 4 | 7 | |
| Tampico | Dec. 24–Mar. 10 | 200 | 58 | May 19: 50 cases present. |
| Vera Cruz | Dec. 6–Apr. 25 | 73 | 30 | Apr. 25: 2 cases among refugees. |
| Morocco: | | | | |
| Casablanca | Mar. 7 | | | Present. |
| Tangier | Apr. 11 | | | Do. |
| Netherlands, The | Feb. 8–14 | 1 | 1 | |
| New Zealand | | | | Apr. 8, 1913, to Jan. 7, 1914: Cases, 2,000, including report, p. 2863, vol. 28. |
| Norway: | | | | |
| Trondhjem | Nov. 1–Apr. 30 | 35 | | |
| Peru: | | | | |
| Callao | Jan. 26 | | | Still epidemic, Mar. 7, improving. |
| Lima | do | | | Do. |
| Philippine Islands: | | | | |
| Manila | | | | Third quarter, 1913: Cases, 15. Fourth quarter, 1913: Cases, 18. |
| Portugal: | | | | |
| Lisbon | Nov. 16–May 9 | 32 | | |
| Russia: | | | | |
| Moscow | Dec. 14–Mar. 21 | 67 | 18 | |
| Odessa | Nov. 16–Apr. 4 | 43 | 2 | |
| Riga | Jan. 1–Feb. 28 | 63 | 16 | Apr. 25, 5 cases. |
| St. Petersburg | Nov. 23–Apr. 18 | 103 | 32 | |
| Vladivostok | Dec. 22–Jan. 28 | 5 | | |
| Warsaw | Oct. 5–Jan. 3 | 73 | 43 | |
| Servia: | | | | |
| Belgrade | Nov. 7–Mar. 28 | 142 | 50 | |
| Siam: | | | | |
| Bangkok | Jan. 25–Mar. 22 | | 4 | |
| Spain: | | | | |
| Almeria | Nov. 1–Jan. 31 | | 9 | |
| Barcelona | Nov. 30–May 9 | | 131 | |
| Madrid | Nov. 1–Apr. 30 | | 103 | |
| Seville | do | | 2 | |
| Valencia | Dec. 1–May 9 | 44 | | |
| Straits Settlements: | | | | |
| Penang | Nov. 2–Dec. 6 | 13 | 1 | |
| Singapore | Nov. 2–22 | 2 | | |
| Sweden: | | | | |
| Malmo | Mar. 22–28 | 13 | | |
| Switzerland: | | | | |
| Canton— | | | | |
| Aargau | Apr. 12–25 | 10 | | |
| Basel | Nov. 23–Apr. 25 | 146 | | |
| Genoa | Nov. 23–29 | 3 | 1 | |

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

### Reports Received from Dec. 27, 1913, to May 29, 1914—Continued.

#### SMALLPOX—Continued.

| Places. | Date. | Cases. | Deaths. | Remarks. |
|---|---|---|---|---|
| Turkey in Asia: | | | | |
| Adana | Jan. 10–24 | 2 | | Dec. 28, epidemic. |
| Beirut | Nov. 23–May 2 | 360 | 153 | |
| Jaffa | Dec. 6–Apr. 11 | 39 | 7 | |
| Jerusalem | Feb. 1–Apr. 11 | 10 | | |
| Mersina | Jan. 4–Mar. 7 | 3 | 3 | |
| Smyrna | Nov. 16–Mar. 14 | | 176 | |
| Tarsus | Dec. 28–Feb. 8 | | | Still present. |
| Trebizond | Jan. 11–Apr. 25 | | | Present. |
| Tripoli | Jan. 25–Apr. 4 | 110 | 8 | |
| Turkey in Europe: | | | | |
| Constantinople | Nov. 20–Apr. 25 | | 25 | |
| Saloniki | Dec. 1–Apr. 25 | | 99 | |

# SANITARY LEGISLATION.

## COURT DECISIONS.

### CALIFORNIA DISTRICT COURT OF APPEAL—FIRST DISTRICT.

**Vaccination May be Required Before Admission to the University of California.**

WILLIAMS *v.* WHEELER (138 Pac. Rep., 937. Decided Dec. 31, 1913).

The history of the legislation on the subject shows that the State of California stands committed to the policy of requiring vaccination as the best preventive means known to medical science for lessening the liability to infection with a dreaded and dangerous disease.

The board of regents of the University of California has the right to make and enforce reasonable rules requiring vaccination as a condition of admission to the university.

The general health is one of the subjects over which the State legislature has control through the police power, and in the exercise of that control it has the power to pass general laws, in the nature of health regulations, requiring that persons admitted to educational institutions shall be vaccinated.

The rules of the board of regents of the University of California required vaccination as a prerequisite to the admission of students to the university. A general State law required that students entering educational institutions in the State must be vaccinated, but a provision of the law made an exception in cases where the students or their parents or guardians were conscientiously opposed to vaccination. The court held that this provision of the law was not a health regulation and not within the general police powers of the legislature, and that, in view of the broad powers given to the board of regents of the State university by the constitution, the provision in the State law did not nullify or alter the rule of the board of regents.

RICHARDS, J. This is an appeal from a judgment of the superior court of the county of Alameda, denying the application of the appellants for a writ of mandate.

The facts are briefly as follows: The plaintiff, Alan Frank Williams, a young man of the age of 18 years, applied to be enrolled as a student at the University of California. The rules of the board of regents of the university require that every person in attendance as a student, or applying for enrollment as such in the university, shall produce evidence satisfactory to the authorities thereof that he has been successfully vaccinated within seven years prior to such attendance or application, or else be vaccinated. The plaintiff had not been successfully vaccinated within such period, and refused to be vaccinated, but presented to the authorities in charge of the university a statement in writing, signed by his parents, stating that such parents were conscientiously opposed to the practice of vaccination, and would not consent to the vaccination of said plaintiff. The authorities of the university still refusing him admission as a student therein, the plaintiff, by his guardian ad litem, applied to the superior court for a writ of mandate to compel such admission. The application was heard upon stipulated facts, and was denied, whereupon plaintiff prosecutes this appeal.

It is the contention of the appellant that, having met the requirements of the general law as set forth in the statutes of 1911, prescribing the conditions with respect to vaccination to be complied with for admission as a student to the educational institutions of the State, he is entitled to enrollment in the university. The act of 1911 (Stats. 1911, p. 295) provides that within five days after any child or person shall be received, enrolled, entered, or employed in any school, college, university,

academy, or other educational institution within the State of California, such child or person shall file with those in authority over such institution: (a) A certificate showing that such child or person has been successfully vaccinated within seven years prior to the date thereof; or (b) a statement in writing signed by his or her parent, or guardian if such child or person be a minor, or by himself in other cases, stating that such parent or guardian or person is conscientiously opposed to the practice of vaccination, and will not consent to the vaccination of such child or person; or (c) a certificate of a duly licensed and practicing physician, stating that the physical condition of such child or person is, at the time, such that vaccination would seriously endanger the life or health of such child or person. The act further provides that any child or person failing, neglecting, or refusing to file either the certificate showing successful vaccination within the prescribed period, or the statement or certificate required to work an exemption of the child from the requirement of vaccination, shall be excluded from admission to the institution until he or she complies with the law.

The appellant, having presented to the authorities in charge of the university the statement of his parents in proper form, to the effect that they were conscientiously opposed to the practice of vaccination and would not consent to his vaccination, insists that he thereby, being otherwise qualified, became entitled to admission to the university, and is now entitled to a writ of mandate to compel his enrollment as a student therein.

The respondents oppose this contention of the appellant upon several grounds: (1) That the board of regents of the University of California have been invested by the constitution and statutes governing its foundation and control with full power over the matter of the admission of students to the university, and with exclusive authority to make and enforce rules for its government, and to prescribe the terms upon which students may exercise the right to enter or be enrolled therein, and that the power and authority with which the regents are thus invested is independent of legislative action, and is not subject to legislative control; that in the exercise of this power and authority the board of regents have adopted a rule that no person shall be admitted or enrolled as a student in the university unless he shall either produce satisfactory evidence that he has been successfully vaccinated within the period of seven years next preceding his application for admission, or else that he be vaccinated; (2) that the act of 1911, in so far as it attemps to interfere with the power and authority with which the regents of the university are thus invested, or with the rule which they have adopted, is inoperative as to them, for the reason that it is not in that respect a health regulation; and (3) that the act of 1911, in that it undertakes to exempt those persons who are conscientiously opposed to vaccination from the other requirements of the act, is not a general law, and hence is unconstitutional and void. We shall consider these several contentions in the order of their presentation.

The University of California looks for its foundation as a State institution to the act of the legislature of March 23, 1868, entitled "An act to create and organize the University of California." (Stats. 1867–68, p. 248.) By the provisions of this act the university was established and declared to be under the charge and control of a board of directors, to be known and styled the "Regents of the University of California"; and to this body was intrusted the general government and superintendence of the institution, with the power to prescribe rules for its government and to fix the qualifications for the admission of students thereto. The act also provided that: "Any resident of California, of the age of 14 years or upward, of approved moral character, shall have the right to enter himself in the university as a student at large * * * on such terms as the board of regents may prescribe." The act of 1868 was subjected to one unimportant amendment in 1871–72, and the general subject and terms of the act were carried into the Political Code adopted in 1872, where they remain without material change, as to the matters involved in this inquiry, to the present time. (Pol. Code,

secs. 1385 to 1477.) By the constitution of 1879 the University of California was raised to the dignity of a constitutional department or function of the State government, by the provisions of section 9 of article 9 thereof, which reads as follows:

"SEC. 9. The University of California shall constitute a public trust, and its organization and government shall be perpetually continued in the form and character prescribed by the organic act creating the same passed March 23, 1868 (and the several acts amendatory thereof), subject only to such legislative control as may be necessary to insure compliance with the terms of its endowments and the proper investment and security of its funds."

Whether or not the framers of the constitution intended by the terms of the above section that the organic act of 1868, and the substance of that act as embraced in the political code adopted in 1872, and in being when the constitution was framed, were to be so far read into the constitution itself as to place the university thereafter, in respect to the details of its internal government, beyond all future legislative interference or control it is not necessary at this time to determine; but it would seem to be very plain that it was the intention of the framers of the constitution to invest the board of regents with a larger degree of independence and discretion in respect to these matters than is usually held to exist in such inferior boards and commissions as are solely the subjects of legislative creation and control. This would seem to be a necessary conclusion from the fact of the elevation of the university to the place and dignity of a constitutional department of the body politic, and from the express terms of the constitution itself, to the effect that its organization and government should be perpetually continued in the form and character prescribed by the act of its foundation, and that in those respects it should not be subject to legislative control. The investment of the authorities of the university with this amplitude of power and discretion in the management of its affairs must be held to include the power to make reasonable rules and regulations relating to the health of its students, and especially to make and enforce such reasonable regulations as would tend to prevent the introduction and spread of contagious disorders amongst the student body. In the making of such rules and regulations they might doubtless adopt whatever preventive means had met the approval of medical science and experience. The practice of vaccination as a means of preventing the infection and spread of smallpox has had the approval of both science and experience for more than a century in the Old World and in the older States of our Republic, and has been an approved method of inoculation for more than 60 years in the State of California, as will appear from our egislation on the subject dating as far back as 1852. In the absence of any express legislative action looking to the adoption of a general law requiring vaccination as a condition of admission to a public educational institution, we think it undeniable that the board of regents had the right to make and enforce a reasonable rule upon that subject.

That the foregoing rule which the board of regents did adopt, and are still seeking to enforce, is a reasonable rule would seem to have been determined by the Supreme Court and the appellate courts of this State with respect to a similar rule enacted by the State Legislature in 1889, and which has been passed upon approvingly in the following cases: Abeel *v.* Clark (84 Cal., 226, 24 Pac., 383) French *v.* Davidson (143 Cal., 658, 77 Pac., 663), and State Bd. of Health *v.* Bd. of Trustees (13 Cal. App. 514, 110 Pac., 137). In the leading case of Abeel *v.* Clark, supra, the language of the supreme court is enlightening and instructive upon the point under present consideration. The court says: "The act referred to is designed to prevent the dissemination of what, notwithstanding all that medical science has done to reduce its severity, still remains a highly contagious and much dreaded disease. While vaccination may not be the best and safest preventive possible, experience and observation—the test of value of such discoveries dating from the year 1796, when Jenner disclosed it to the world—have proved it to be the best method known to medical science to lessen the liability

to infection with the disease. This being so, it seems highly proper that the spread of smallpox through public schools should be prevented and lessened by vaccination, thus affording protection both to the scholars and to the community."

In the light of this long-held attitude of the law toward the practice of vaccination as a preventive of smallpox, we are of the opinion that the board of regents of the University of California had power to adopt and enforce the rule requiring vaccination as a prerequisite to the admission of a student to the university, in the absence of legislation lawfully limiting the exercise of that power.

This brings us to the question as to what, if any, power remains with the legislature to pass laws controlling the matter of the admission of students to the University of California, or limiting the operation of a rule of the regents of the university with respect to the terms of admission of students thereto, in the light of the foregoing provision of the constitution that as to such matters the authorities in charge of the university shall not be subject to legislative control. It is undoubtedly true, as conceded by the respondents, that there are certain subjects affecting the general welfare over which the legislature has been wisely invested with ultimate control. These subjects are those embraced within the general police powers of the state, and among them is the subject of the general health. It is admitted that over this subject the State Legislature has the ultimate control, and that in the exercise of that control it has power to pass general laws, in the nature of health regulations, upon the subject of vaccination prescribing the extent to which persons seeking entrance as students in educational institutions within the State must submit to its requirements as a condition of their admission; and it is also conceded by the respondents that in so far as such an act of the legislature comes within the definition of a general law, and as such also comes within the general police powers of the State as a health regulation, the rules and regulations of the board of regents of the university must give way before it.

The appellant herein contends that the act of the legislature of 1911 relating to vaccination is such a law. The respondents contend that the act of 1911, in so far as it provides for the general vaccination of those seeking admission as students in educational institutions, is a reenactment of the rule of the university, and hence that the appellant is not aided by it; but that in so far as it undertakes to provide that those persons seeking admission to educational institutions who aver themselves to be conscientiously opposed to vaccination, need not comply with the provisions of the act requiring vaccination, it is not a health regulation; and hence that the authorities in charge of the university are not subject to its control. The respondents further contend that the act of 1911, in that it contains the aforesaid exemption, is not a general law, and is therefore unconstitutional and void.

As has been heretofore seen, the State of California stands committed to the policy of requiring vaccination as the best preventive means known to medical science for lessening the liability to infection with a dreaded and dangerous disease. The act of 1889 (St., 1889, p. 32) upon that subject was entitled "An act to encourage and provide for a general vaccination in the State of California," and the act of 1911, which replaces the former act, is also entitled "An act to encourage and provide for a general vaccination for all public and private schools of California," etc.

If, as the titles of these two acts indicate, it is the policy of the State of California to encourage and provide for a general vaccination as the most effective method known to medical science for preventing the spread of an infectious and dangerous disease, and as such is a reasonable and proper health regulation, how can a provision of the law be also held to be a health regulation which exempts from vaccination all those who are conscientiously opposed to that means of prevention? Vaccination is a surgical operation and medical treatment addressed to the physical system of the individual patient, and effectuating his inoculation from the contagious disease of smallpox, without regard, so far as medical science teaches, to the mental attitude of the patient toward the law requiring submission to it, and more certainly regardless

of what the mental attitude of his parents or guardians may be. It would rather seem to be the very opposite of a health regulation for a law whose title declares its purpose to be "To encourage and provide for a general vaccination," to have embraced within it a proviso exempting from such vaccination those whose mental attitude is that of opposition to the avowed object of the law. To take an extreme illustration: Suppose that a law requiring the quarantine of persons actually afflicted with smallpox should contain a proviso exempting from its operation those who should declare themselves conscientiously opposed to being quarantined, would such an exemption be valid as a health regulation? Clearly not. The object and effect of such an exemption in such case as in this, would be to defeat the very intent of the law itself by an exception not founded upon considerations of health, destroying that generality within the sphere of its operation which would be essential to its effectiveness as a health regulation.

In our opinion, therefore, the provision of the act of 1911 which seeks to exempt those persons who are conscientiously opposed to the practice of vaccination from the operation of the law, otherwise general in its terms, requiring vaccination of persons seeking admission to educational institutions is not in the nature of a health regulation, and that being so, it is not such a proviso as would come within the general police powers with which the legislature is invested, and hence that it can not be availed of by those seeking enrollment in the University of California to nullify and avoid the operation and effect of the existing rule of the authorities of the university upon the subject of vaccination.

These views make it unnecessary in this case to decide whether the act of 1911, considered in its entirety and with reference to its effect upon other educational institutions which do not stand in the same relation to it or to the State as the University of California, and which are not before the court, is or is not a general law.

The judgment is affirmed.

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

## NEW BRUNSWICK, N. J.

### Definitions of Terms. (Reg. Bd. of H., Mar. 20, 1913.)

ARTICLE 1. *Definitions.*—That the definitions enumerated in this article shall be held to apply whenever and wherever such words or terms may occur in the ordinances, rules, and regulations of the board of health of New Brunswick.

The terms "board," "this board," and "said board" shall be held to mean "the board of health of the city of New Brunswick"; that the words "person," "owner," "agent," "tenant," "lessee," "occupant," "contractor," "party," "manager," and "officer" shall respectively be held to apply and to include, both jointly and severally, each and all owners, part owners, lessees, occupants, managers, contractors, parties in interest, persons, boards, and corporations who may sustain the relations, or be in like position, or any one or more thereof referred to in any ordinance or city regulation. The words "city," "this city" or "said city," wherever used, shall be held to mean the city of New Brunswick. The word "permit" or the word "license" shall mean the permission in writing of this board issued according to its ordinances, rules, and regulations.

The word "street," when herein used, shall be held to include avenues, sidewalks, gutters, and public alleys; and the words "public place" shall be held to include parks, piers, docks, and wharves, and water and open spaces thereto adjacent, and also public yards, grounds, and areas and all open spaces between buildings and streets and in view of such streets; the word "ashes" shall be held to include cinders, coal, and everything that usually remains after fires; the word "rubbish" shall be held to include all the loose and decayed material and dirt-like substance that attends dirt or decay, or which accumulates from building, storing, or cleaning; the word "garbage" shall be held to include every accumulation of both animal and vegetable matter, liquid or otherwise, or which attends the preparation and decay of, dealing in, or storage of meats, fish, fowls, birds, or vegetables, and the word "dirt" shall be held to mean natural soil, earth, or stone.

### Nuisances. (Reg. Bd. of H., Mar. 20, 1913.)

ART. 2. *Nuisances.*—SECTION 1. In addition to the nuisances specifically enumerated in the ordinances, rules, and regulations of the board whatever is dangerous to human life or health, and whatever renders the ground, air, food, or water unwholesome and an injury to human health is hereby declared to be a nuisance and is prohibited.

SEC. 2. That any pool, ditch, gutter, water course, privy, urinal, cesspool, drain, or ash pit on any lot of land within said city near any inhabited dwelling house or any public highway so foul or in such a state as to breed mosquitoes, flies, or other insects, or to cause the air in said public highway or such dwelling house by reason of offensive, noxious odors, emitted therefrom to be corrupted, offensive to the senses, or injurious to the public health, all full or overflowing privies, sinks, or cesspools, heaps of manure, garbage, offal, rags, unclean pens, carcasses or parts of dead animals upon any lot, garden, yard, street, lane, alley, within the corporate limits of the city of New Brunswick shall be deemed, and is hereby declared, to be a nuisance.

SEC. 3. That the casting, throwing, draining, or discharging or causing to be cast, thrown, drained, or discharged into any public street or highway, gutter, alley, or other public place within said city, and slops, kitchen water, laundry water, sewage, waste water, or other liquid so foul or of such a character as to breed mosquitoes, flies, or other insects, or cause the air in such public street or highway or other public place to be corrupted, offensive to the senses, or injurious to the public health shall be deemed, and is hereby declared to be, a nuisance.

SEC. 4. That any accumulation or deposit of offal or any decaying animal or vegetable substance in or upon any lot of land near any inhabited dwelling house or any public or private place within said city, which shall cause the air in such dwelling house, or in such public street or highway to become and be noxious and offensive, or in such a state as to breed flies, mosquitoes, or other insects, or otherwise become injurious to public health shall be deemed, and is hereby declared, to be a nuisance.

SEC. 5. Any accumulation of sewage, waste or stagnant water in or upon any lot of land, gutter, public street or highway, alley, or other private place within said city which shall breed mosquitoes, flies, or other insects, or shall render the air noxious and offensive, or which shall be injurious to the public health shall be deemed to be, and is hereby declared to be, a nuisance.

SEC. 6. No person, whether the owner, lessee, tenant, or occupant of any house or other building in this city, shall allow any water or other liquid to run from or out of his building or land upon or across any sidewalk or curbstone, and if such substance is allowed to pass upon any street it must reach the same by a passage, to be kept at all times adequate and in repairs by such person, under or through such flagstones or curbstones; and no such water or other liquid or ice therefrom shall be allowed to gather or remain on the upper surface of each curb, flagstone, or passage; nor shall such person allow any accumulation of such water or liquid or the ice thereform upon any street or place, but shall at all times cause the same to be removed or pass along the gutter or such proper passage to a sewer or other proper outlet.

SEC. 7. Every person creating or maintaining or aiding in the creation or maintenance of any nuisance shall forfeit and pay a penalty of $25 for every such offense, and in the case of a continuing offense shall be liable to a further penalty of $10 for each day after a written notice of the offense by this board.

ART. 3. *Nuisances on public places.*—SECTION 1. No person shall cast, throw, dump, or deposit, or cause to be cast, thrown, dumped, or deposited, any offensive matter in or on any public highway, road, street, avenue, or alley within this city. The owner, lessee, or occupier of any lot fronting, adjoining, or abutting on any public highway, road, street, avenue, or alley within this city shall forthwith, after written notice to that effect from this board or from the health officer, remove any offensive matter lying in or being on such public highway, road, street, avenue, or alley adjoining such premises.

SEC. 2. No person shall maintain any sunken land or marshland on which mosquitoes, flies, or other insects breed or from which, by reason of stagnant water therein or thereon, there shall arise an offensive gas, odor, or smell, and all sunken land or marshland shall be drained or otherwise so cared for as not to breed mosquitoes or to be or become a nuisance.

SEC. 3. Every person who shall violate any of the provisions of this article shall forfeit and pay a penalty of $25 for every such offense, and in the case of a continuing offense shall be liable to a further penalty of $10 for each day after written notice of the offense from this board.

**Flies—Prevention of Breeding of. (Reg. Bd. of H., Mar. 20, 1913.)**

ART. 4. *Fly-breeding places.*—SECTION 1. Any place or condition where flies or other insects may breed is hereby adjudged and declared a nuisance, injurious to public health.

SEC. 2. It shall be unlawful for any person, firm, or corporation to suffer or permit, or have upon their premises, whether owned or occupied by them, either one or more of the following unsanitary fly-producing, disease-causing conditions, to wit:

First. Manure which is not securely protected from flies.

Second. Any privy, vault, cesspool, sink, pit, or like place which is not securely protected from flies.

Third. Garbage which is not securely protected from flies.

Fourth. Vegetable waste, trash, litter, rags, or refuse of any kind, nature, or description in which flies may breed or multiply.

SEC. 3. Every act or thing done, made, permitted, allowed, or continued in violation of sections 1 and 2 of this article shall be deemed a nuisance.

SEC. 4. In order to better carry out the provisions of this article, the health officer may serve a notice in writing upon the owner, occupant, or agent of any lot, building, or premises, in or upon which any nuisance, declared to be such in sections 1 and 2 of this article, may be found, or upon him who may be the cause of such nuisance, requiring him to abate the same in such manner as the health officer may direct, and within a reasonable time, to be fixed in the notice; but failure to give notice, as provided herein, shall not relieve the author of any nuisance from the obligation to abate such nuisance or from the penalty provided for the maintenance thereof.

SEC. 5. In case of neglect or refusal of any person to abate any nuisance defined by this article, after notice in writing has been served upon him, as provided in section 4 of this article, and within the time in said notice specified, it is hereby made the duty of the health officer to abate or procure the abatement thereof, and the expense of such abatement shall be collected from the person or persons so offending.

SEC. 6. Any person or persons violating any of the provisions of this article shall forfeit and pay a penalty of $25 for every such offense, and in case of a continuing offense, shall be liable to a further penalty of $10 for each day after written notice of the offense from this board.

**Domestic Animals—Keeping in City. (Reg. Bd. of H., Mar. 20, 1913.)**

ART. 5. *The keeping of animals.*—SECTION 1. No person shall have or keep on any premises in the city of New Brunswick any cattle, sheep, goats, or swine without a permit from the board of health, which permit shall be renewed annually on or before the 1st day of January in each year, and revokable at the pleasure of the board; and for each and every permit so granted the sum of 25 cents for each animal shall be paid: *Provided*, That no such registry shall be made or permit issued until it shall be shown, upon inspection, that such place and premises are kept in good sanitary condition.

SEC. 2. It shall be the duty of the owner of any such cattle, sheep, goats, or swine to make registry thereof at the office of the board of health on or before the 1st day of January in each and every year hereafter, under a penalty of $10 for any neglect to make such registry hereunder.

SEC. 3. That any animal kept within said city in such a manner that noxious and offensive odors are created and sent forth, rendering the air offensive and injurious to the public health, or which is kept in such a condition that flies, mosquitoes, or other insects are bred therein, shall be deemed and is hereby declared to be a nuisance.

SEC. 4. Any person violating any of the sections of this article shall forfeit and pay a penalty of $25 for every such offense, and in case of a continuance of the same shall be liable to a further penalty of $10 for each day after written notice of the offense from this board.

**Stables and Manure—Care of. (Reg. Bd. of H., Mar. 20, 1913.)**

ART. 6. *Stables, manure pits, etc.*—SECTION 1. Every owner, lessee, or occupier of a building or premises wherein or whereon any horse, cattle, swine, or other live stock may be kept within this city shall provide, in connection with such building or prem-

ises, a suitable receptacle for dung, manure, soil, filth, or other offensive or noxious matter which may from time to time be produced in the keeping of any such animal in such building or upon such premises.

SEC. 2. A suitable receptacle for manure, dung, or other offal, as required in the section next preceding, shall be constructed as the board may direct with the following as a minimum requirement:

(*a*) Constructed of brick or concrete and in such a manner as to be water and liquid tight, and to prevent any escape of the contents thereof.

(*b*) To be provided with a cover which will exclude at all times access of flies, mosquitoes, and other insects, and which will prevent the escape therefrom of noxious odors or emanations.

(*c*) If located within 50 feet of any dwelling or other building occupied as a store, shop or factory, shall be ventilated by a shaft 12 inches square, inside dimensions carried 2 feet above such adjoining building.

SEC. 3. That every owner, lessee or occupier of a building or premises wherein or whereon any horse, cattle or other live stock may be kept within this city, shall once in every 30 days, or oftener, if required by the board, cause to be removed from the receptacle hereinbefore provided for, all dung, manure, soil, filth, or other offensive and noxious matter produced in or upon such building or premises and deposited in such receptacle.

SEC. 4. Every owner, lessee or occupier of a building or premises wherein or whereon any horse, cattle, swine, or other live stock may be kept within this city, shall keep the same at all times free from any solid or liquid discharge or excrement dung, soil or filth; and free from any condition where noxious odors or offensive odors may be present or emanate; and free from any condition which may breed flies or other insects.

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

**Privies, Cesspools, and Manure Pits—Construction, Care, and Removal of Contents. (Reg. Bd. of H., Mar. 20, 1913.)**

ART. 7. *Permits for cesspools, vaults, and manure pits.*—SECTION 1. No privy vault, cesspool or manure pit shall hereafter be constructed or reconstructed within the city of New Brunswick without a permit for that purpose being first had and obtained from the board of health. The fee for such permit shall be $1.

SEC. 2. No permit for the construction of any privy vault, cesspool or manure pit shall be issued as required in the above section until there shall be filed in the office of the board of health a plan, or drawing (in ink) and written description thereof, signed by the owner or lessee of the premises upon which such privy vault, cesspool or manure pit is to be located, showing in detail the proposed construction of the same, and said description explaining all portions of the proposed construction not clearly set forth in the plans or drawings and the said plans or drawings and written description thereof properly approved by the health officer in writing.

SEC. 3. Said permit shall be revokable by this board for cause such as a violation of any ordinance regulation or order for the control of such a cesspool, privy vault or manure pit: *Provided*, That all permits granted for the construction of privy vaults or cesspools shall expire by limitation upon the construction of a public sewer upon any street or section of street abutting on or adjacent or accessible to the premises for which permit was granted; and upon expiration or cancellation of such permit, the said privy vault or cesspool shall be abandoned, emptied of its contents, and filled to the top with earth or other material approved by this board.

SEC. 4. All work upon any privy vault, cesspool, or manure pit hereafter to be constructed or reconstructed in the city of New Brunswick shall be strictly in accordance with the approved plan or drawing and with the written description thereof as hereinbefore required to be filed.

SEC. 5. No privy vault, cesspool, or underground receptacle for filth shall be hereafter erected or built on any street in which a public sewer is laid, but proper water-closets, school sinks, latrines, or some means approved by this board shall be provided, which shall discharge into said sewer; and no such water-closet, school sink, or latrine shall be allowed unless provided with a flow of water sufficient to wash all filth into the public sewer.

SEC. 6. Every person who shall violate any of the provisions of this article shall forfeit and pay a penalty of $25 for every such offense.

ART. 8. *Cesspool and privy-vault construction.*—SECTION 1. Every person who shall construct a privy vault or cesspool within this city shall construct such privy vault or cesspool at a distance of 15 feet at least from a dwelling house or public building, or any building in which any person may be or may be intended to be employed, in any manufacture, trade, or business, and at least 5 feet distant from the line of every adjoining property, street, alley, court, or public or private passageway, except by permission from the board of health.

SEC. 2. Every person who shall construct a privy vault or cesspool within this city shall not construct such privy vault or cesspool within the distance of 50 feet from any stream of water or well which is used for domestic purposes or otherwise in such a position as to cause the pollution of such water.

SEC. 3. Every person who shall construct a privy vault or cesspool within the city shall construct such privy vault or cesspool in such position as to afford ready means of access thereto for the purpose of cleansing such privy vault or cesspool and of removing filth therefrom.

SEC. 4. Every person who shall construct a cesspool within this city shall construct such cesspool of good brickwork or cement or other approved material properly laid in cement at least 4 inches thick, sides and bottom water-tight, and shall cause such cesspool to be arched with brick or covered with flagstone or flagstones, so that the same shall be properly and tightly covered in such a manner as to prevent emanations or odors therefrom, and be screened to prevent access of flies and other insects thereto.

SEC. 5. Every person who shall construct a privy vault within this city shall construct such privy vault of good brick, or other material approved by the board, with sides and bottom at least 8 inches thick, not less than 6 feet in depth, properly rendered inside with cement and made water-tight, and so constructed that odor and emanations do not issue therefrom, and so covered and screened as to prevent access of flies and other insects thereto.

SEC. 6. In the case of existing privy vaults which are not in accordance with the foregoing sections, the owner of the property shall not be required to reconstruct the privy vault, unless in the opinion of the health officer or board of health, said privy is a menace to health, but all privy vaults whether new or old shall comply with the following minimum requirements:

(*a*) The roof shall be water-tight and shall not discharge rain water into the box or vault.

(*b*) The house shall be without openings or cracks through which flies or insects may enter. It shall be provided with a tight, self-closing door. It shall have an opening or openings for light and ventilation, which opening or openings shall be screened for the exclusion of flies or other insects.

(*c*) The seat shall have a hinged cover of sufficient size to completely cover the opening or openings in the seat.

(*d*) Failure to meet any of the above minimum requirements is hereby declared to constitute a public nuisance and a menace to public health.

SEC. 7. All alterations or repairs which shall hereafter be made on any privy vault or cesspool in the city of New Brunswick shall be made in accordance with the requirements of this article, and whenever it shall become necessary to reconstruct or to change the location of any existing privy vault or cesspool, the new privy vault or

cesspool shall be constructed throughout in conformity with the requirements of this article.

SEC. 8. Whenever in the opinion of the health officer or the board of health, the condition of the privy vault or cesspool is such that it can not be put in sanitary condition, the health officer or board of health shall order a new privy vault or cesspool constructed throughout in conformity with the requirements of this article. These rules and regulations apply only to property for which no sewer is available. When a sewer is available connection must be made with the same and proper water-closet must be installed, the old privy or cesspool to be removed at once.

SEC. 9. Every person who shall violate any of the provisions of this article shall forfeit and pay a penalty of $25 for every such offense, and an additional penalty of $10 per day for every day that an offense against this article shall continue after a written notice from this board.

ART. 9. *Maintenance of cesspools and privy vaults.*—SECTION 1. The owner, lessee, or occupier of any premises within this city shall not allow the contents of any cesspool or privy vault belonging to such premises to rise within 2 feet of the top thereof.

SEC. 2. The owner, lessee, or occupier of any premises within this city shall cleanse every cesspool or privy vault belonging to such premises and remove the contents therefrom upon notice in writing to that effect from this board; and every such occupier or owner, or lessee, who shall neglect or refuse to cleanse any such cesspool or privy vault for three days after the time specified in such written notice to that effect, shall be adjudged as committing a separate and distinct offense for each day of such continuance.

SEC. 3. The owner of any privy vault or cesspool in the city of New Brunswick, situated on premises abutting on a street of said city in which a public sewer is laid, shall clean, remove, and fill up all privy vaults or cesspools on said premises and connect the premises with said sewer, whenever in the judgment of the board of health of said city it shall be necessary for them so to do, within 30 days after notification in writing or printing by the board of health, through the health officer, and in case such owner shall reside out of the city or can not be found, the posting of said written notice upon said house or building shall be considered sufficient notice.

SEC. 4. Whenever the use of any privy vault or cesspool is discontinued such privy vault shall be cleaned of its contents and filled with earth or other suitable material in a manner to be approved by the health officer or this board.

SEC. 5. Every person, firm, or corporation who shall violate any of the provisions of this article shall forfeit and pay a penalty of $25 for each offense.

ART. 10. *Scavengers.*—SECTION 1. No person shall clean, empty or remove the contents of any privy vault, sink or cesspool within the city without a written permit from the board of health, and no person shall engage in the business of cleaning, emptying, and removing, or shall clean, empty, or remove the contents of any privy vault, sink or cesspool in the city of New Brunswick except by a written permit from the board of health and under the supervision and control of the board of health.

SEC. 2. The permit to be granted as set forth in the next preceding section shall continue for the term of one year from the date of the granting of the same; and a fee of $10 shall be paid therefor: *Provided*, That if any person licensed as aforesaid, or any of his employees, servants or agents shall violate any section of this code, or rule of the board of health, in cleaning any cesspool or privy vault, or in removing the contents thereof, such license may, at the discretion of the board, be revoked.

SEC. 3. Every person engaged in the business of removing the contents of privy vaults, sinks or cesspools in this city, where such contents are to be carried through any public street or highway of said city, shall use in such business a suitable conveyance for the carrying of such contents, provided with water-tight tanks or boxes,

with close-fitting lids or covers, or some other suitable conveyance to be first approved for such use by this board.

SEC. 4. Every scavenger shall make a return in writing to the health officer at least once each week on blanks provided for the purpose of each privy vault, cesspool or sink emptied and cleaned by him, giving the name, location of the premises wherein such work has been performed, and such other data as may be required by this board.

SEC. 5. Every scavenger, or person so licensed or engaged in the business and employment of cleaning and emptying privy vaults, sinks, and cesspools, and removing the contents thereof, shall, upon receipt of an order signed by the health officer, stating the necessity for the immediate cleaning or emptying of any privy vault, sink, or cesspool in this city and the removal of the contents thereof, perform such work within 48 hours after the receipt of such order: *Provided*, That the owner, lessee, or occupant of said premises on which such privy vault, sink, or cesspool is situated, or the board of health, shall express willingness to pay for such services the usual fee allowed for such work.

SEC. 6. Any person, firm, or corporation who shall violate any of the provisions of this article shall forfeit and pay the sum of $25 for every such offense.

**Garbage, Refuse, and Ashes—Care and Disposal.** (Reg. Bd. of H., Mar. 20, 1913.)

ART. 11. *Garbage and refuse.*—SECTION 1. The term "garbage" used herein or elsewhere in these ordinances and regulations is intended to include all kitchen refuse, waste material, or offal, of animal or vegetable nature, which is decayed, decaying, or liable to decay.

SEC. 2. All garbage shall be kept and stored separate from other waste material in liquid-tight, covered receptacles, which receptacles shall be kept clean from offensive odors or emanations. All ashes shall be kept separate from other refuse and stored in suitable receptacles for removal by the city collectors. All waste paper shall be tied in bundles or otherwise secured to prevent scattering. All waste not otherwise enumerated herein shall be kept separate from garbage and stored in suitable containers for removal by the city collectors.

SEC. 3. No garbage shall be deposited anywhere within the corporate limits of the city of New Brunswick, except by permission and under direction of the board of health, and only then when the garbage so dumped shall be covered once in 48 hours with a layer of clean ashes or earth, on the top and sides, not less than 24 inches deep.

SEC. 4. Every owner, lessee, or occupier of any meat, vegetable, or oyster stall, or place in any market in this city where meat, fish, or oysters are exposed or kept for sale, shall cause such place to be kept thoroughly clean and purified, and all offal, blood, fat, garbage, and other refuse and unwholesome matter kept in air and liquid-tight receptacles, which receptacles shall be kept clean and free from offensive odors and emanations, and the contents shall be removed therefrom at least once in every 24 hours.

SEC. 5. The removal, upsetting, or interfering with the contents of any receptacle in which garbage or other refuse may be placed for removal by the city collectors is hereby prohibited.

SEC. 6. Any person or corporation found guilty of violating any of the provisions of this article shall forfeit and pay a penalty of not less than $10 nor more than $25 for every such offense, and in case of a continuing offense, shall be liable to a further fine of $10 for each day after notice from this board.

ART. 12. *Collection of garbage and swill.*—SECTION 1. No person or persons shall collect or convey through the streets of the city of New Brunswick any garbage, swill, offal, or dead animals without first obtaining a permit so to do from the board of health.

SEC. 2. All applications for permits to collect or remove garbage, swill, offal, or dead animals shall be made in writing addressed to the board of health and shall state the number and kind of wagons or other vehicles to be used in such collection or removal, the disposition to be made of the material collected or removed, and such other information as the board of health may from time to time require.

SEC. 3. Each permit to be granted under the provisions of this article shall expire on the 1st day of January next following the granting of the same: *Provided*, That if any person granted a permit as the aforesaid, or any of his employees, servants, or agents shall violate any ordinance or rule of the board of health relating to the collection or removal of garbage, swill, offal, or dead animals, such permit may at the discretion of the board of health be revoked.

SEC. 4. No permit as required in the sections preceding shall be issued until there shall have been paid to the said board of health for such permit the sum of $1. (The corporation of the city of New Brunswick excepted.)

SEC. 5. Every person, firm, or corporation who shall collect, remove, or convey or cause to be collected, removed, or conveyed through or along any street within this city any garbage, swill, or offal, shall use a water-tight metal or metal-lined wagon with metal or metal-lined covers, or water-tight metal cans provided with tightly fitting metal covers. Said wagons or cans must at all times while in the city, except when being loaded or unloaded, be tightly covered. Every wagon or vehicle used in the business of the collection or removal of garbage, swill, offal, or dead animals shall have permanently painted on both sides the name of the person using the same and holding a permit under this article and the number of his permit.

SEC. 6. No wagon or vehicle used for the collection or removal of garbage, swill, offal, or dead animals shall stand in the streets or other public places within the limits of the city of New Brunswick at any time, except when being loaded or unloaded.

SEC. 7. Any person, firm, or corporation who shall violate any of the provisions of this article shall forfeit and pay a penalty of $10 for every such offense.