

**FIRST BIENNIAL REPORT**

OF THE

**OREGON STATE BOARD  
OF HEALTH**

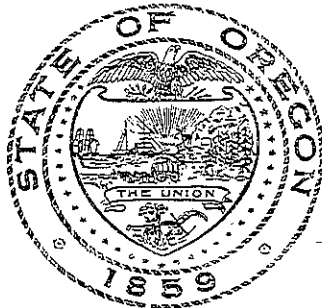
TO THE

**GOVERNOR OF OREGON**

AND THE

**TWENTY-THIRD  
LEGISLATIVE ASSEMBLY**

1905



**PUBLISHED BY AUTHORITY**

**FIRST BIENNIAL REPORT**  
OF THE  
**OREGON STATE BOARD OF HEALTH**

to the Governor and Legislative Assembly  
of the State of Oregon

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Salem, Oregon, January 1, 1905.

To the Honorable, the Governor of the State of Oregon, and the Legislative Assembly of the State of Oregon:

Gentlemen: We have the honor to submit the following report of the Oregon State Board of Health for the first biennial period of its existence, ending September 30, 1904:

The Board was created by the Legislative Assembly of 1903, and immediately thereafter, in accordance with the act creating it, the Governor appointed Drs. Andrew C. Smith of Portland; C. J. Smith, of Pendleton; E. Barton Pickel, of Medford; Harry Lane, of Portland; E. A. Pierce, of Salem, and Alfred Kinney, of Astoria, members constituting the said Board of Health.

The Board was organized on March 14, 1903, and appointed Dr. Woods Hutchinson, of Portland, its Secretary and State Health Officer, and began its work at once, as will be observed herein; but owing to the fact that the National Conference of State Boards of Health was to adopt a standard set of birth and death blanks for the entire United States in June, 1903, it was deemed advisable by the Board to wait until this standard form could be secured before beginning its formal registration; hence July was the first month covered. As will be noticed, reports of contagious diseases were begun at once, and date from May.

We are glad to be able to report that during the term covered the state has been free from the spread of any severe or fatal epidemic of disease; that such footholds as these latter may have gotten within our borders have been kept within the localities in which

they first appeared, and that in the main the amount of epidemic disease and the death rate for the same has steadily and constantly diminished.

The activities of the Board have been largely in the following fields, and will be briefly summarized in their order:

1. Contagious diseases.
2. Water supply.
3. School hygiene.
4. Milk supply.
5. Bacteriological investigation.
6. Vital statistics.
7. Licensed embalmers.
8. Special—Heppner disaster.

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#### CONTAGIOUS DISEASES.

This was the department to which the attention of the Board was first called after its creation, both from the fact that we were threatened with a possible infection of the bubonic plague, which had made its appearance in the Chinatown of San Francisco nearly three years before our organization, and that smallpox was widely spread, though in a mild form, throughout almost every part of the state.

**Bubonic Plague.**—The first danger fortunately rapidly subsided. A ten days' visit of investigation made by the Secretary of the Board to the infected district of San Francisco showed that the local authorities of San Francisco and of the State of California, in conjunction with the U. S. Marine Hospital Service, had the situation under such thorough control that no special precautions against the infection were necessary upon the part of this Board. And this confidence has been justified by the result, the disease having been confined strictly to the Chinese district of San Francisco, and while not yet exterminated, is steadily diminishing in numbers each year. Two cases of death from plague were reported in the Portland Chinatown, but prompt investigation and post-mortem examination showed the reports to have been entirely without foundation.

**Smallpox.**—This disease, though fortunately in a mild form, was found to be in existence in almost every section of the state. In the absence of any system of official records it is, of course, impossible to state what was its precise prevalence, but from reports made

by individual physicians to the Board, both officially and unofficially, we think we are not overstating it when we say that no less than 1,500 cases occurred in the state in 1902; in one district alone it was estimated by the local physicians that from 1,500 to 2,000 cases occurred in the years of 1900 to 1903.

We are glad to be able to report a marked and continuous diminution in the number of cases. As will be seen by the table on another page, there were 414 cases in 1903, beginning with May (eight months), and 190 cases in the year 1904, ending with September 30 (nine months). The best illustration perhaps of the change in the situation can be given by the state of affairs in Multnomah County. The smallpox hospital was almost constantly occupied, with the exception of a brief interval in the summer, for a period of seven years previous to our organization; in December, 1903, the hospital was closed entirely and has not been reopened since and there have been very few cases in Portland outside. We have found the condition in Portland an accurate reflex of that of the state; patients from almost any area in which the disease exists will find their way, sooner or later, to Portland, to be there discovered and isolated. The only fatal epidemic of smallpox since our organization occurred in Crook and Wasco Counties, commonly called the Shaniko-Prineville epidemic, fully reported in our Bulletin No. 1, where there were twenty-eight cases with nine deaths.

In Douglas County, in 1903, there were reported to be upward of 200 cases, but the efficient work of the health officers there has reduced it to a minimum, and the effectiveness of the systematic fumigation has been proved of value, for this year, as far as we can learn, there has not been a single case of the disease in the district covered in 1903. The same condition, we hope, will prove in Wasco County, and in Prineville and Shaniko district we are positive no recurrence is possible. The only epidemic in 1904 was in Yamhill County, which was confined to thirty cases, with no deaths, and was controlled in four weeks' time by constant and continued work on the part of the health authorities.

**Fumigation.**—We would especially call attention to the vital importance of thorough fumigation of rooms, houses and their contents at the close of the period of quarantine and isolation. It has been abundantly proved by the experience of other State Boards that the fresh outbreaks of smallpox which occur in the fall and early winter can, in a large majority of cases, be traced to the bringing out of blankets, comforts and winter garments, infected during previous epidemics, which had been stored away without thorough fumigation. Two clear cases of this form of infection have occurred in our own

experience—one at Ashland, in which an outbreak of four cases was traceable to the use of a mattress and bedding which had been in use in a house in which smallpox had occurred nearly eighteen months before. We feel we can not speak with too high an appreciation of the promptness, vigor and thoroughness with which the local health authorities have co-operated with the Board in the great majority of epidemics of this disease, and we are sure that, barring the introduction of a new and unusually virulent infection, the number of cases will continue to steadily decrease, and feel safe in saying that there is scarcely a county in the state in which any outbreak will not be promptly recognized, quarantined and fumigated out of existence.

The only difficulties which have occurred have been those inevitably due to the mild and exceedingly irregular form of the disease, rendering its immediate detection sometimes difficult. The disease has continued of the same mild type, as will be seen by the fact that the total number of deaths in the 604 cases during the period covered were only fifteen, nine of which occurred in the one small virulent epidemic above referred to.

**Typhoid Fever.**—Next in point of gravity, and far more serious in fatality, comes typhoid fever, of which 425 cases have been reported, with 103 deaths, eight times the mortality from smallpox in the same time, more than double that of diphtheria, and four times that of scarlet fever.

As it is not classed as a quarantinable disease in any of the Board of Health regulations of the United States, the returns of the actual number of cases are exceedingly imperfect. It seems difficult to induce either physicians or families to report a disease against which no quarantine precautions are to be taken. It is quite evident from an inspection of the number of deaths, compared with the total number of cases, which gives it an apparent mortality of nearly 25 per cent, while the real mortality in Oregon does not exceed 5 per cent, that the reports as yet are so imperfect, that no definite conclusions as to its increasing or decreasing prevalence in the state as a whole can be drawn from them. The only contrasts that can be drawn are between localities which either had a full system of reporting for a number of years past, or which have been under the special observation of the Board or some local member of it, on account of epidemics which have occurred there.

In the first class is Multnomah County, in which probably at least two-thirds of all cases which occur are reported, a condition into which we hope ultimately to bring the entire state. This shows that in the first eight months of our biennial period in 1903 there occurred 101 cases, while in the nine months of 1904 only fifty-three

cases were reported. This, considering that Portland is the catch-basin for infections occurring in every part of the state, is an encouraging showing.

As to localities which have been under observation on account of epidemics occurring in 1903, it can be said that as a whole the number of cases in nearly every instance has been markedly less during the past summer. A case in point is that of Salem, in which a careful investigation of the situation, by both our local member, Dr. E. A. Pierce, and the Secretary, succeeded in eliciting reports from the local physicians of ninety-three cases during the summer of 1902 and 108 cases in 1903, up to September 15. This year, during the slightly longer period, namely, from January 1 to September 30, 1904, the total number of cases, on similar personal inquiry by Dr. Pierce, was twenty, of which nine came in from other sources outside the city, six of them from outside the county. However opinions may differ as to the cause of this most gratifying decrease in the number of cases, the enormous improvement is undeniable, and fully justifies the vigorous means which the Board thought necessary to use to arouse the sanitary conscience of the locality upon the subject.

The State Biologist, Professor Albert R. Sweetser, of Eugene, in his report, calls attention to the marked bacteriologic improvement which has occurred in the city water supply, since the careful inspection by the diver and probable overhauling of the in-take pipe running across Willamette Slough from the crib of the pumping station. This was carried out in August, 1903, and by the middle of September the number of cases had begun to diminish, and by October 15 the epidemic was almost at an end. Whether this was more than a coincidence or not, there can be no doubt that the increased care in guarding well water from contamination and improving the condition at the mouth of the city sewers, in connecting up privies with the city sewers, which were sources of infection, as well as careful avoidance of Mill Creek water and wells upon its banks as a source of supply, and the increased care taken by the physicians in attendance in thoroughly sterilizing stools and urine from typhoid cases, and thus preventing further spread, have been followed by most gratifying results.

Another locality to which special attention was directed was Ashland, from which, on account of the utilization by one suburb of a contaminated source of water supply, twenty-eight cases were privately reported by Dr. Pickel in 1903. This supply was cut off, and for this year but two reports have been received.

The only region in the state in which the disease appears to have increased in Union County, though whether this be on account of

lack of reports last year with an increased attention to them this, or whether it be due to the difficult problem of the local water supply is an open question.

**Scarlet Fever and Diphtheria.**—The prevalence of both of these diseases has been distinctly low all through this term, as will be seen; a slight apparent increase has occurred in scarlet fever, and a slight decrease in diphtheria. The total number of deaths, also, from either, fifty-two from diphtheria and twenty-seven from scarlet fever, is, for a population of nearly 500,000 for a period of eighteen months, exceedingly low. There has been practically no local prevalence of either which could be dignified by the term of an epidemic, the nearest approach being sixty cases in nine months of 1904 in Washington County, thirty-seven cases in Clatsop County in 1903, and thirty cases in one vicinity, St. Paul, Marion County, in 1904. Here again taking Multnomah County, with its long established and fairly effective system of registration, as the index, an apparent diminution has occurred, 144 cases of scarlet fever in 1903 and 109 in 1904; diphtheria, 190 cases in 1903, and 100 in 1904. This is perhaps the best method of judging the actual relative prevalence in the state during the two years.

**Measles.**—The number of cases of this mild infection has been up to, if not slightly above, the average for our population, namely, 1,380 cases, 860 of which occurred in Portland. The only other epidemic of importance elsewhere being in Clatsop County, in which 220 cases occurred. The death rate, however, has been very low, even for this disease, only six cases, a striking comment upon the mildness and healthfulness of our climate, as this disease in Eastern and Middle States is usually followed by considerable mortality from pulmonary complications, due to "catching cold."

**Tuberculosis.**—The Board has published a bulletin upon the cure and prevention of this disease, a copy of which is appended, giving directions as to the best means for its prevention and avoiding the spread of the disease. It has also urged the enforcement of the anti-expectoration ordinances, and a committee of the Board, consisting of the president, Dr. Harry Lane, and the secretary, co-operating with a similar committee from the Portland Medical Society, has succeeded in organizing a Portland Open Air Sanatorium Association, consisting of some of the most prominent men and women in Portland. Through their liberality and public spirit, the sum of nearly \$4,000 has been raised or subscribed; a tract of fourteen acres of land, situated upon a beautiful bluff 200 feet high, overlooking the Willamette River, six miles above Portland, has been purchased, a pumping station and pipe line connecting it with a near-by spring

installed, and a colony of tents and cottages are in process of erection, which will have a capacity for fifteen to twenty inmates.

It is hoped that similar institutions in other localities in the state will be organized and opened; and it is earnestly urged that Oregon may follow the lead of Ohio, New York, Massachusetts and other states and appoint a commission to consider the advisability of establishing and locating a state sanatorium for consumptives. By no other means can so large an army of workers be restored to usefulness, so many valuable lives saved, and so many widows and children prevented from becoming burdens to the community. There are a number of localities in Oregon which are admirably adapted to the cure of tuberculosis, and a central establishment at moderate elevation with camps at sea level and at high altitudes, such as could easily be secured, would be productive of an incalculable amount of good.

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#### WATER SUPPLY.

The chief work of the Board during the Summer of 1903 was directed to this important subject. A careful investigation was made by personal visits of local members of the Board and of the Secretary to all the important towns in the Willamette Valley and the leading Eastern Oregon towns, with the gratifying result of finding that in the main the water supply of Oregon cities and towns is unusually pure and free from immediate danger of contamination. However, in a number of instances, as the density of population increases, and settlement presses up into the hills and mountains, from which, in many instances, this supply is derived, the source will become subject to contamination, and in some instances it is the opinion of the Board that there is grave danger of the occurrence of such pollution at almost any time. Oregon cities, with their magnificent supply of both mountain streams and snow-fed springs, ought to have the finest, purest water supply in the world, and a little enterprise and watchfulness will readily secure this.

It was found that the following towns secured their water supply from springs or mountain streams, whose watershed is uninhabited, and in some instances carefully guarded:

Portland, whose Bull Run Lake and surrounding reserve furnishes it with perhaps the most ideal and magnificent water supply of any city of its size in the world.

Astoria, whose source of supply from Bear Creek is, as yet, practically above serious danger of contamination.



Ashland, whose water supply from Ashland Creek, is included in a Government reserve, and carefully guarded.

Newberg, whose enterprise in securing from a beautiful spring three miles away on the mountains, and nearly 400 feet above it, a supply of water of absolute purity, with magnificent pressure, and proving already a most profitable investment and source of income, is to be highly commended as an example to other towns.

Marshfield, situated similarly to Ashland, having a water supply from a neighboring source, fully protected.

The Dalles, whose pumping station up in the mountains a few miles distant from the city, has an admirable supply of water of good quality.

Seaside has just installed an excellent mountain supply of pure water.

Roseburg, Baker City and Pendleton all have as yet fairly well protected water supplies.

In all these places only ordinary vigilance is required to insure a permanent supply of pure water, and the Board cannot too strongly urge all other cities not having such ideal source of supply, to avail themselves of it as soon as possible, especially as, owing to our geographical configuration, very few Oregon towns are beyond fairly easy access of such source of supply. The best investment that can possibly be made by a municipality, both from the point of view of saving time, loss in illness, and financial loss from deaths, and also as an actual source of income, is the securing of pure water.

The following towns secure their water supply from streams which, though naturally of remarkable purity, are, from the increasing density of population in their valleys, either actually contaminated or liable to become so at any time:

Salem, Corvallis, Eugene, Albany, McMinnville, Grants Pass, Oregon City, Umatilla and La Grande.

To these an easy solution of the problem is open, namely, the establishment of a modern filtration plant, either of the chemical precipitant, or slow sand variety. This has already been done by Oregon City, at an expense of less than \$30,000, and, as will be seen by the report of the State Biologist, with most gratifying results, the swarms of bacteria in the water of the open river at that point being reduced practically to the vanishing point by the process. The physicians of Oregon City are unanimous in declaring that the number of cases of typhoid fever in Oregon City has markedly diminished since its installment, and that in no instance has any case of typhoid been traceable to the filtered water.

Similar precautions have been strongly recommended to Salem, Eugene, and Corvallis, and in Eugene and Corvallis steps are being

taken looking toward the adoption of this or some similar protective measure. In McMinnville arrangements are being made for the securing of a supply from Panther Creek, up in the mountains, instead of from the Yamhill River, as at present; and similar arrangements have been set on foot in Salem.

In Umatilla and La Grande the problem still seems far from solution on account of local difficulties in each case. In Albany the removal of the pumping station to a farther distance above the city on the ditch supplying it with mountain water is being arranged for.

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#### SCHOOL HYGIENE.

The views of the Board upon this subject were early set forth in Bulletin No. 2, which was printed and distributed to all teachers in the public schools, and the medical profession of the state. In addition to this a number of lectures and addresses upon the subject have been made by members of the Board and the Secretary before audiences of teachers and parents; while a careful watch has been kept through the local authorities upon the sanitation of school buildings and the construction and ventilation of such new ones as are constructed. It is urgently desired by the Board that they may be given power to inspect and pass upon all the sanitary aspects of all plans of school buildings hereafter to be constructed in the state. This power is exercised by the Boards of Health in many of the other states. But as our own Attorney-General informs us that the wording of our present act does not clothe the Board with such power here, further legislation to this end would be most desirable, and is strongly urged by the Board. Fuller and more definite powers to declare and abate sanitary nuisances of all sorts, in sewage, in garbage disposal and in contamination of water supplies, are also earnestly requested.

A careful and systematic inspection of the schoolhouses of Portland was carried out in the Autumn of 1903 by a committee consisting of a representative from the Federation of Women's Clubs, a representative from the Portland City Board of Health and the Secretary of this Board, and a full and detailed report made to the Board as to their sanitary condition and arrangements. The matter was taken up by the Taxpayers' League and other bodies and presented before the annual school meeting, with the result that nearly \$60,000 was added to the amount to be expended for new buildings and for the sanitary improvement, in ventilation and sewerage of the old buildings, in excess of that originally recommended.

Somewhat similar inspection was carried out in Pendleton by Dr. C. J. Smith; in Medford by Dr. Pickel, and in Astoria by the Secretary.

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#### MILK SUPPLY.

After a careful study of the problem of securing clean milk, the matter was brought to a climax at the sanitary conference, hereafter referred to, held under the auspices of the Board in Portland, in March, 1904, where a thorough discussion of the question was had by dairymen, veterinarians, sanitarians and physicians, and it was decided that two plans were open, one to use influence to secure the appointment of milk, or meat and milk, inspectors in the larger cities of the state, requiring each dairyman to take out a license which should be forfeited if he failed to keep up to a certain standard prescribed by the board, and reported upon by the inspector. The other was to work from the opposite end of the scale, as it were, by offering certificates of purity of the milk to all dairymen who would agree to comply with certain standards and to submit to systematic inspections by the Board of Health; this is known as the plan of "certified milk."

As soon as a bacteriological laboratory of the Board was established this method was put in force. Two dairymen, Mr. W. W. Cotton, of Portland, and Messrs. David Bros., of Springbrook, Yamhill County, signed the required contracts with the Board agreeing to submit to inspection, and they, having complied with all requirements, certificates were issued to both early in July, 1904. The method in brief embraces an inspection of the dairy herd itself and its surroundings by a skilled veterinarian (in this case Dr. Clarence W. Loveberry, the local Inspector of the Bureau of Animal Industry, who most kindly volunteered his services). Careful grooming and cleaning of the cows at least an hour before milking, wiping of the flanks with a moist cloth, and the washing of the udder with warm water directly before milking, the wearing of washable suits by the milkers and the scrupulous attention to cleanliness in every detail. The cooling and airing of the milk immediately after milking, and the careful sterilization of all vessels and receptacles in which the milk is handled. Inspection as to the health of the cattle and their surrounding is made once a year, inspection as to the conduct of the milking and milkers once in six months.

As a final test for the effectiveness of this arrangement, the milk is submitted to a bacteriological examination, and the amount

of butter fat estimated, once in three months, or oftener, as may be required.

We are glad to say that the results of the plan have been most excellent. The standard of clean milk for market purposes was first fixed by sanitary authorities in Rochester, N. Y., at 100,000 bacteria per cubic centimetre twelve hours after milking, and that of certified milk at 25,000 per cubic centimetre, by the Pediatric Society of Philadelphia, and the high value of the precautions taken by Mr. Cotton and David Bros. may be gathered from the fact that the bacterial counts so far have ranged from the exceedingly low mark of 1,700 up to 3,000 per cubic centimetre. Ordinary market milk contains from 500,000 to 2,000,000 per cubic centimetre, or two million to eight million to the teaspoonful.

We have no hesitation in declaring that the citizens of Portland now have the opportunity of securing as absolutely pure milk as is to be had anywhere in the world.

The educational effects of the procedure have been almost equally good. The attention of the public has been excited, other dairymen have been asked why they could not show similar certificates; several of the other prominent dairymen around Portland are contemplating coming under our inspection, and inquiries to a similar effect have come in from Astoria, Baker City and other places. The general quality of the milk supply of the City of Portland shows a marked improvement already, and we believe that it has had a most valuable educational effect upon both the public and the dairymen. We are in receipt of inquiries from health authorities of Tacoma, Seattle and of leading medical men in San Francisco with reference to its adoption in those cities. It should, however, in our judgment, also be supplemented by the establishment of an inspector in all towns of more than 10,000 people, the requiring of a license and fixed minimum standard of purity and cleanliness.

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#### BACTERIOLOGICAL INVESTIGATION.

Before the close of its first year the Board found itself in financial condition to establish and equip a small clinical bacteriological laboratory, in charge of which Dr. Ralph C. Matson was appointed as Assistant Bacteriologist. Previous to that time the bacteriologic research work of the Board had been done by Professor Albert R. Sweetser, State Biologist, who was named as the Bacteriologist of the Board. To his cordial and indefatigable co-operation the Board is under many obligations, and wishes to express its high appreciation of his assistance.

The laboratory is what is known as of the Board of Health type, and necessarily limited in its scope to the examination of specimens from contagious diseases for the purpose of diagnosis and quarantine. Examinations are made free of charge in all cases. For physicians outside the City of Portland examinations are made of sputum in suspected cases of tuberculosis. For all physicians in the state (including Portland) blood serum tubes and swabs are furnished by the Board free of charge, and the culture is examined in suspected cases of diphtheria, the results reported promptly by telephone or telegraph, if desired.

The Widal test is also made upon a few drops of blood taken from a patient suspected to be suffering with typhoid fever. By the reaction of this test it can be determined promptly, and in 80 per cent of all cases with certainty, as to whether the disease be typhoid or not, and the patient can then be placed on the proper treatment and the source of the disease investigated. These facilities are beginning to be appreciated by physicians in all parts of Oregon, and we regard this as one of the most useful special functions of the Board, and earnestly hope that in due time funds may be forthcoming to enlarge the scope of the laboratory and secure the whole time of a bacteriologist. About 200 specimens of all classes have been examined in the past seven months.

The laboratory has also enabled us, as already described in a former section, to establish a system of milk inspection, and a large number of samples of milk suspected to be unwholesome or diseased have been sent in for examination.

Although not equipped for the complete chemical analysis of water, which is a very elaborate and expensive process, a number of samples of well and city water from different places have been examined for their bacteriological content, with success. Whenever it has been necessary to go into the full chemical analysis, Prof. A. L. Knisely, State Chemist, at Corvallis, has cordially assisted us, and for his services we beg to express our high appreciation.

The State Bacteriologist, Dr. E. F. Pernot, of Corvallis, has given us his cordial assistance when needed, and to his courtesy we are indebted in many instances.

Material from two cases of the interesting disease, known as Spotted Fever, or Tick Fever, whose ravages in Montana and Idaho have been attracting the attention of bacteriologists all over the world, were also secured and a considerable amount of time expended in their study by Dr. Matson, who made a special trip to Lone Rock in Gilliam County for the purpose of securing blood and other material for study. Some interesting results were obtained, but unfortunately, owing to the fact that one case was nearly recovered be-

fore it came under observation, and the other was of an exceedingly mild character; no permanent cultures were secured for prolonged study.

#### VITAL STATISTICS.

The tables of births and deaths hereto appended, causation of deaths in Oregon, deaths by section and county, and at different ages, are the best report on this subject. It only remains to add that as the requirements of the new law throw a very considerable and in some cases vexatious amount of work upon both the physician and householder, and the county judge and clerk, it will take some time to succeed in getting a full and systematic habit of reporting cases of births and deaths established. This is especially true in the case of births, for one of the requirements is the name of the child, and as this is often, in fact, usually, not given for days or weeks after birth, the proper filling out of the certificate frequently requires a second trip and special inquiry upon the part of the attending physician, or the waiting to see some member of the family.

We are, however, able to report a steady and encouraging improvement in the completeness of these reports; in the six months of 1903, 1935 births were reported, and in the nine months of 1904, 3424; while 1424 deaths were reported in the six months of 1903 and 2272 in the nine months of 1904. This increase is still more marked when the births and deaths reported from Multnomah County are disregarded. Here the system of reporting, having been in existence for fifteen years, has been brought to a high degree of perfection. Outside of this county we find the number of births reported for 1903 was 1215 and in 1904, 2113; in other words, an increase of over 20 per cent per month. Deaths, in 1903, 704 outside of Multnomah County, and in 1904, 1222, an increase of about 15 per cent per month.

As nearly as can be estimated, the proportion of deaths and births reported, to the population, is now almost the same as that in California, Washington and Iowa, states whose laws are similar to our own. It is now generally accepted by statisticians in all the Eastern States that no perfect series of reports of births and deaths is to be hoped for without some system providing for the appointment with small salary, or other method of remuneration, of local registrars in every county and precinct. This is what is known as the Michigan method, and similar laws have been adopted in several other states and are now under consideration in Pennsylvania and Iowa. Not only does the physician receive no remuneration for these reports,

but neither the county judge, health officer, or clerk, has any inducement to make the returns complete, and the only incentive they have is the fear of fine or legal proceedings if they should fail to do so. It is earnestly hoped that at the coming session means may be provided by which a system of local registrars in every township of the state can be appointed, who shall be either salaried, or receive a fee for each certificate filled out and filed.

The classification of causes of deaths is that adopted by the Federal authorities, both in the United States Census Department and the U. S. Marine Hospital Service.

#### SANITARY CONFERENCES.

In March, 1904, there was held in Portland, under the auspices of the Board, the first of a series of proposed annual conferences of health officers and sanitarians and all interested in the public health. This lasted two days and was attended by a considerable number of health officers from various parts of the state, members of the profession in the city, and the State Health Officer and Veterinarian and President of the Washington State Board of Health, the State Health Officer of California, and a large number of intelligent and public-spirited citizens of the City of Portland. The discussions entered into excited the interest of the public, and great enthusiasm was manifested from the addresses on milk supply and typhoid fever. The range of topics covered can be seen from the following programme:

#### TUESDAY, MARCH 22, 2 P. M.

"Peculiarities and Diagnosis of Present Smallpox Epidemic"  
 Opened by Dr. N. K. Foster, of Sacramento,  
 Secretary California State Board of Health  
 Dr. Sanford Whiting, Dr. Herbert Cardwell and  
 Dr. James C. Zan, all of Portland, and  
 Dr. Walter C. Culin of Coquille City

"Prevention of Diphtheria" . . . . . Dr. R. E. Pilkington, Astoria

#### TUESDAY EVENING, 8 P. M.

##### THE SANITATION OF THE DAIRY

Address—"The Production of Pure Milk" . . . . . Hon. W. W. Cotton  
 "Dangers from Animal Diseases" . . . . . Dr. S. B. Nelson  
 President Washington Board of Health  
 "Breeds and Feeding of Cows" . . . . . Mr. Richard Scott, Milwaukee  
 "Commercial Value of Cleanliness" . . . . . Mr. D. Brown, Hazelwood Creamery  
 "Dangers from Pathogenic and Filth Bacteria" . . . . . Dr. Woods Hutchinson

**WEDNESDAY, 10 A. M.**

- "Typhoid Fever and Water Supply" . . . . . Dr. Elmer E. Heg  
 Secretary Washington State Board of Health  
 Dr. Alfred Kinney of Astoria
- "Compensation of Health Officers" . . . . . Dr. E. A. Pierce, Salem  
 Hon. Thomas F. Ryan, County Judge of Clackamas County  
 Hon. Virgil E. Watters, County Judge of Benton County
- "Full Returns of Vital Statistics" . . . . . Dr. C. J. Smith, Pendleton

**WEDNESDAY, 2 P. M.**

- "Prevention of Tuberculosis" . . . . . Dr. J. R. Yocom, Seattle  
 Dr. H. S. Nichols, Portland  
 Dr. E. B. Pickel, Medford
- "School Hygiene" . . . . . Dr. Mae H. Cardwell, Portland  
 Dr. F. W. Van Dyke, Grants Pass

As one of the results of this meeting, we have received a proposal from Dr. Foster, Secretary of the State Board of Health, of California, for the formation of a Pacific Coast Sanitary Association, whose first meeting will probably be held in Portland during the Lewis and Clark Fair.

It should also be added that in addition to our local sanitary conference, the Boards of Health of the United States and America under the auspices of the U. S. Marine Hospital Service, held a conference at Washington, D. C., in June, 1903, and this Board was represented by our President, Dr. Andrew C. Smith. This representation was of great advantage to the Board and it was cordially welcomed into the sisterhood of State Boards of Health, and many congratulations were extended to the State of Oregon for having joined the column of sanitary progress.

The Board was also represented by its Vice-President, Dr. Alfred Kinney, of Astoria, at the meeting of the American Public Health Association at Washington, D. C., in October, 1903.

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**SANITARY EDUCATION.**

The chief method of arousing the public interest upon sanitary matters has been through the public press, and the Board can not too strongly express its high appreciation of and gratitude for the valuable service rendered in all its activity by the newspapers of the state from the beginning of its existence. Not only have they been most helpful in bringing our conclusions before the public in a form which is sure to attract attention, but they have



also exerted an influence, the weight of which it is hard to estimate, in supporting the various measures suggested for the protection of the public health. They have been most vigilant and energetic in both reporting to the Board cases of contagious disease, or of the existence of other menaces to the public health, and in vigorously investigating and reporting on their own account any unsanitary and dangerous conditions, and in fearlessly denouncing those responsible for their existence or continuance.

The Board regards the press and the medical profession as its most valuable and effective allies in the protection of the public health and the prevention of disease.

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#### LICENSED EMBALMERS.

Acting upon the precedent set by other boards of health, and in view of the fact that on and after January 1, 1905, bodies dead of contagious diseases can not be received for shipment in any state of the Union outside of the one in which death occurs, unless prepared by an embalmer licensed by the State Board of Health, the Board decided to hold examinations for such embalmers who wished to qualify themselves. At the first examination held in Portland on March 19, forty embalmers were examined. At the next, held in Portland on September 20, ten more were examined, and on September 23, fifteen more were examined. An examination was held in Medford by Dr. E. Barton Pickel on October 7, with three taking the examination, and another was held in Pendleton on November 2, by Dr. C. J. Smith, at which four were examined.

The embalmers of the state have co-operated cordially with the Board and were most ready and anxious to take the examination, and they have already proved intelligent and active assistants in the protection of the public health.

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#### SPECIAL.

The only great disaster with which the state has been visited since the organization of the Board, was the cloudburst and flood at Heppner, Ione and Lexington, on June 14, 1903; this afforded the Board an opportunity for exerting its protective activities and furnished incidentally a striking illustration of the value of preventive measures. The nearest local member of the Board, Dr. C. J. Smith, of

Pendleton, promptly went to the site of the calamity and took charge of the sanitary aspects of the work of clearing up and repairing for habitation the devastated town. He devoted two weeks of labor to this task, being particularly careful to insist upon the cleaning out of all cellars under houses, their disinfection with alkali from the surrounding deserts, and the thorough destruction of putrescible animal and vegetable remains left by the flood in and about the town. When Heppner had been placed in sanitary condition he prepared to devote his attention to Ione and Lexington, but was prevented from doing so from an inability to secure funds for the purpose. The results of his work was shown in a striking manner later in the season, for, in spite of the fearful damage done by the flood, the hardships, exposure and insufficient food suffered by the inhabitants, scarcely a case of typhoid fever developed in Heppner, while at Ione, the little village was simply riddled by the disease, as many as three funerals occurring on one Sunday from typhoid.

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#### FINANCIAL.

For the financial statement of the Board, we respectfully refer to the report of the Honorable Secretary of State, Exhibits 203 and 204.

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#### BULLETINS.

The following bulletins have been issued by the Board, and are attached to and made a part of this report:

- Bulletin No. 1, Smallpox in Oregon.
- Bulletin No. 2, Hints Upon School Hygiene.
- Bulletin No. 3, The Prevention of Typhoid Fever.
- Bulletin No. 4, Prevention and Cure of Tuberculosis.

Respectfully submitted,

#### OREGON STATE BOARD OF HEALTH,

Andrew C. Smith, M. D., President.  
 E. A. Pierce, M. D., Vice-President.  
 C. J. Smith, M. D.  
 Alfred Kinney, M. D.  
 E. Barton Pickel, M. D.  
 Harry Lane, M. D.

Woods Hutchinson, M. D., Secretary.

## BIRTHS IN OREGON

During period covered from July 1st, 1903, to September 30, 1904,  
as reported to the Oregon State Board of Health.

1903.	Estimated Population	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Males	Fe- males.	Total.
Baker.....	16,000	1	4	7	8	7	12	18	21	39
Benton.....	7,000	1	11	13	13	11	10	39	20	59
Clackamas....	20,000		10	13	16	12	14	32	33	65
Clatsop.....	13,000	15	1	17	13	12	6	36	28	64
Columbia....	6,300			1	5	4	9	9	10	19
Coos.....	10,500			7	19	11	18	24	31	55
Crook.....	4,000		2	7	4	3	3	8	11	19
Curry.....	2,000									
Douglas.....	15,000		1	11	9	10	4	16	19	35
Gilliam.....	3,300		3	1	6	4	4	10	8	18
Grant.....	6,000									
Harney.....	2,500		1	4	3	1	4	8	5	13
Jackson.....	14,000	4		13	20	9	4	18	32	50
Josephine....	7,600						1	1	1	1
Klamath.....	4,000		5	1				1	5	6
Lake.....	3,000		5	4	4	3	3	7	12	19
Lane.....	20,000		6	12	13	11	14	29	27	56
Lincoln.....	3,600			1	1		2	3	1	4
Linn.....	18,750	13	14	21	24	18	21	61	50	111
Malheur.....	4,200		9	5	7	4	5	16	14	30
Marion.....	28,000	1	9	27	32	24	25	55	63	118
Morrow.....	4,150				3			2	1	3
Multnomah....	150,000	109	122	115	112	128	124	377	333	710
Polk.....	10,000		1	9	7	10	8	21	14	35
Sherman.....	3,500			8	1	9	2	11	9	20
Tillamook....	4,500		1	4	8	9	4	17	9	26
Umatilla....	18,000		14	21	21	16	20	56	36	92
Union.....	16,000	23	15	17	19	18	18	67	43	110
Wallowa.....	5,600		2		2		1	4	1	5
Wasco.....	13,200	1	8	23	25	21	15	54	39	93
Washington....	14,500	1	2	7	2	3	4	8	11	19
Wheeler.....	2,500			2	1	2	3	3	2	5
Yamhill.....	13,500		1	11	9	8	7	16	20	36
<b>Totals</b> .....	<b>324,200</b>	<b>169</b>	<b>247</b>	<b>382</b>	<b>407</b>	<b>369</b>	<b>361</b>	<b>1,027</b>	<b>908</b>	<b>1,935</b>

1904.	Jan	Feb	Mch	Apl	May	Jun	Jul	Aug	Sep	Males	Fem.	Total
Baker.....	9	14	4	2	6	7	7	2	8	26	32	58
Benton.....	11	8	10	12	11	10	11	10	5	52	36	88
Clackamas....	20	19	3	5	10	9	3	9	10	41	47	88
Clatsop.....	9	4	10	9	12	9	7	10	3	33	40	73
Columbia....	8	11	14	11	6	11	12	9	11	50	43	93
Coos.....	10	10	7	13	11	14	12	14	11	37	65	102
Crook.....	1	4	3	3	6	3	1	2	5	12	16	28
Curry.....												
Douglas.....	4	4	2	2	1			2	2	8	9	17
Gilliam.....	6	4	5		1					14	2	16
Grant.....	2	2	1	2	1	1	1	2	6	9	9	18
Harney.....	7	1	1	5	1	1	1	4	5	19	6	25
Jackson.....	10	18	21	19	11	17	10	21	19	75	71	146
Josephine....			2	1						1	2	3
Klamath.....			1	1	5		2			5	3	8
Lake.....	7	5	6	6	3	2	3	3	2	14	23	37
Lane.....	20	9	8	16	15	13	18	8	9	67	57	124
Lincoln.....							1			1	1	1
Linn.....	32	22	21	22	19	16	21	25	21	107	92	199
Malheur.....	4	8		8	3	9	2	8	1	25	20	45
Marion.....	23	23	26	20	35	16	23	18	8	100	97	197
Morrow.....								1	5	5	1	6
Multnomah....	152	158	139	159	131	146	139	160	152	690	646	1,336
Polk.....	10	13	8	6	8	9	11	11	9	42	43	85
Sherman.....	3	4	4	4	5	2	2	7	7	16	22	38
Tillamook....	12	2	6	7	3	4	4	7	8	29	24	53
Umatilla....	12	18	15	8	20	7	5	26	2	76	37	113
Union.....	26	15	22	12	19	4	19	18	19	80	75	155
Wallowa.....				3			4	1		4	4	8
Wasco.....	27	26	12	11	13	11	12	12	17	70	71	141
Washington....	6	7	12	4	10	8	1	3	7	26	32	58
Wheeler.....		3		2		1				3	3	6
Yamhill.....	5	5	9	5	12	2	17	2	1	32	26	58
<b>Total</b> .....	<b>441</b>	<b>413</b>	<b>371</b>	<b>375</b>	<b>380</b>	<b>331</b>	<b>348</b>	<b>395</b>	<b>353</b>	<b>1,655</b>	<b>1,768</b>	<b>3,423</b>

## DEATHS IN OREGON

July 1st, 1903, to December 31, 1903

<i>AGE.</i>	1903.	<i>July</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>	<i>Total</i>
Under one year.....		12	29	34	29	19	26	149
One to five.....		11	6	19	9	10	14	69
Five to twenty.....		19	14	26	18	28	16	121
Twenty to forty.....		19	31	47	50	47	59	253
Forty to sixty.....		23	36	132	66	60	56	373
Sixty to one hundred.....		131	38	64	62	83	81	459
<b>Total</b> .....								1,424

### CLASSIFICATION

<i>NATIVITY.</i>		<i>COLOR.</i>		<i>SEX.</i>	
Foreign.....	445	White.....	1,420	Males.....	888
United States.....	511	Yellow.....	3	Females.....	534
Oregon.....	224	Black.....	1	Not Given.....	2
Not given.....	244				

## DEATHS IN OREGON

January 1, 1904, to September 30, 1904.

<i>AGE.</i>	1904	<i>Jan</i>	<i>Feb</i>	<i>Mch</i>	<i>Apl</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug</i>	<i>Sep</i>	<i>Total</i>
Under one year....		26	30	24	23	18	21	23	32	42	239
One to five.....		17	20	19	9	7	14	21	17	11	145
Five to twenty....		28	33	29	26	21	17	21	25	18	218
Twenty to forty...		54	56	79	62	52	57	41	52	44	497
Forty to sixty.....		49	65	63	57	57	48	28	32	40	439
Sixty to one hun'd		102	90	92	80	63	67	67	65	66	692
Not stated.....		12	4		5	9		5	6		42
<b>Total</b> .....											2,272

### CLASSIFICATION

<i>NATIVITY.</i>		<i>COLOR.</i>		<i>SEX.</i>	
Foreign.....	530	White.....	2,185	Males.....	1,334
United States.....	910	Yellow.....	56	Females.....	938
Oregon.....	569	Red.....	15		
Not given.....	263	Black.....	15		

## CAUSES OF DEATHS IN OREGON

During period covered August 1st, 1903, to September 30, 1904

1903.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Typhoid fever.....	10	14	8		6	38
Smallpox.....	11		1			12
Diphtheria.....	2	5	1	1	6	15
Scarlet fever.....	1	1		1		3
Tuberculosis.....	17	20	29	23	30	119
Other general diseases.....	15	22	15	17	19	88
Cancer (all).....	7	10	11	6	12	46
Diseases of Nervous System.....	19	28	38	28	43	156
Tetanus.....	3			1		4
Dis. Circulatory System.....	20	21	24	41	21	127
Dis. Respiratory System.....	22	14	10	29	45	120
Pneumonia.....	5	14	22	19	33	88
Dis. Digestive System.....	33	46	34	21	17	151
Dis. Genito-Urinary System.....	7	13	17	23	22	82
Bright's Dis. and Nephritis.....	4	11	8	4	10	37
Septicemia.....	2	1	3		4	10
Childbirth.....	1	2	2		1	6
Diseases of the Skin.....	1	3	1	3	2	10
Locomotor-Ataxia.....					2	2
Dis. of early infancy.....	7	9	4	4	5	29
Dis. of old age.....	3	6	8	2	7	26
Violence.....	16	14	32	21	13	96
Stillborn.....	2	1	3		1	7
Ill-defined causes.....	16	14	19	12	8	69
<b>Total.....</b>	<b>223</b>	<b>269</b>	<b>291</b>	<b>255</b>	<b>307</b>	<b>1,345</b>

1904.	Jan	Feb	Mch	Apr	May	Jun	Jul	Aug	Sep	Total
Spotted fever.....					2					2
Typhoid fever.....	7	6	12	1	5	4	3	4	4	46
Smallpox.....	2	1								3
Diphtheria.....	6	7	4	1	4	2	3	2		29
Scarlet fever.....	1	4	1		1	1	1	1		10
Tuberculosis.....	28	33	40	29	27	26	24	11	23	246
Other general diseases.....	14	14	13	12	12	11	8	5	4	123
Cancer (all).....	19	12	14	11	9	12	11	15	14	117
Diseases of Nervous System.....	36	30	34	40	33	27	20	23	28	271
Tetanus.....							2			2
Dis. of Circulatory System.....	12	6	30	10	13	15	8	10	17	121
Heart Disease.....	20	16	19	14	16	18	11	8	13	135
Dis. of Respiratory System.....	9	5	10	13	7	8	8	3	9	72
Pneumonia.....	47	52	17	24	21	11	6	14	5	197
Dis. of Digestive System.....	24	31	30	30	22	13	27	31	20	224
Dis. Genito-Urinary System.....	7	17	13	22	9	11	7	5	10	94
Bright's Dis. and Nephritis.....	10	10	8	11	9	10	6	9	7	80
Septicemia.....	2	2	1	1	1	2		1	3	13
Childbirth.....		5	2	1	1	1		2	1	13
Diseases of Skin.....							1		1	2
Locomotor-Ataxia.....	2	1				2	1	1	1	8
Diseases of early infancy.....	2	1	5	4	2	2	1	4	1	22
Diseases of old age.....	14	18	25	12	5	10	11	6	10	111
Violence.....	24	17	19	14	25	24	14	24	25	186
Stillborn.....	3	2	3	5		1	3	3	3	23
Cholera Infantum & Dysen.....	1	2	1	1	1	9	24	24	14	77
Ill-defined causes.....		5	5	6	2	4	6	13	3	44
<b>Total.....</b>	<b>288</b>	<b>297</b>	<b>306</b>	<b>262</b>	<b>227</b>	<b>224</b>	<b>206</b>	<b>219</b>	<b>221</b>	<b>2,272</b>

## CONTAGIOUS DISEASES

From May 1st, 1903, to September 30, 1904, as reported to the State Board of Health

County. From May 1, 1903 to Dec. 31, 1903	Smallpox		Scarlet fever		Diphtheria		Typhoid fever		Measles	
	Cases	D'ths	Cases	D'ths	Cases	D'ths	Cases	D'ths	Cases	D'ths
Baker	9		5				7	1	2	
Benton	1		1		6	1	4		2	
Clackamas			11		1					
Clatsop			37		1				56	
Columbia										
Coos					1		3	3		
Crook	25	5	12		1		3		2	
Curry			1		2	2				
Douglas	28		20		6	2	13	3		
Gilliam										
Grant	2									
Harney			1				2	2		
Jackson	13		1		6		9	2		
Josephine	33									
Klamath	5		2							
Lake	1				3	3	8			
Lane	19		11		19	3	2			
Lincoln								1		
Linn			1	1			2	1		
Malheur	2						2			
Marion	5		29				18	2	5	
Morrow	2		1				4	1		
Multnomah	124	3	144	10	190	19	101	28	437	1
Polk			6				9	2		
Sherman	9				1	1	1			
Tillamook										
Umatilla	13		8		2	1	5	5		
Union	12		9		6		5	5		
Wallowa	2		1		1				1	
Wasco	108	4	5		2		10	1	2	
Washington					2		2		2	
Wheeler										
Yamhill	1		4		2		10	1		
<b>Totals</b>	<b>414</b>	<b>12</b>	<b>310</b>	<b>11</b>	<b>252</b>	<b>22</b>	<b>220</b>	<b>58</b>	<b>509</b>	<b>1</b>

Jan 1 to Sep 30, 04

Baker	2		4				2		18	2
Benton	4		1		3		9		3	
Clackamas			15	1	10		9	3	25	1
Clatsop			11	1	6				164	
Columbia							4	1		
Coos							1	1		1
Crook			9		2	1	1	1	10	
Curry										
Douglas	4		5		1		3	1	10	
Gilliam										
Grant									14	
Harney	1									
Jackson	22						3	1	30	
Josephine									10	
Klamath										
Lake			2		1		7			
Lane	4		5		5	1	7	2		
Lincoln										
Linn			1		1		2	1	10	
Malheur	2		1		5					
Marion	4		33	1	45		26	2	10	
Morrow							3			
Multnomah	42	2	109	12	100	23	53	26	423	1
Polk			1		3		1	1	10	
Sherman			15				1	1		
Tillamook			2		1		2		48	
Umatilla	3		16	1	5		7		20	
Union			4		18	3	28	6	10	
Wallowa			23		1					
Wasco	51	1	7		5		17	6	36	
Washington	5		60		3	2	2		10	
Wheeler			3				3			
Yamhill	46		10		6		10	2	10	
<b>Totals</b>	<b>190</b>	<b>3</b>	<b>337</b>	<b>16</b>	<b>221</b>	<b>30</b>	<b>201</b>	<b>55</b>	<b>871</b>	<b>5</b>

# MORTALITY OF OREGON

July 1st, 1903 to September 30th, 1904.

AGE	District Classification.	
	1903	1904
Under one year.....	1	3
One to five.....	1	3
Five to twenty.....	2	1
Twenty to forty.....	5	1
Forty to sixty.....	6	1
Sixty to one hundred.....	7	1
Ages not given.....	2	2
<b>Totals.....</b>	<b>22</b>	<b>16</b>
<b>SEX.</b>		
Males.....	12	11
Females.....	10	5
<b>SOCIAL RELATIONS.</b>		
Married.....	7	7
Single.....	6	7
Widowed.....	7	12
Not stated.....	2	2
<b>AGE.</b>		
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1
<b>Totals.....</b>	<b>25</b>	<b>43</b>
<b>SEX.</b>		
Males.....	13	31
Females.....	12	12
<b>SOCIAL RELATIONS.</b>		
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE	1903	1904
Under one year.....	1	3
One to five.....	1	3
Five to twenty.....	2	1
Twenty to forty.....	5	1
Forty to sixty.....	6	1
Sixty to one hundred.....	7	1
Ages not given.....	2	2
<b>Totals.....</b>	<b>22</b>	<b>16</b>

SEX.	1903	1904
Males.....	12	11
Females.....	10	5

SOCIAL RELATIONS.	1903	1904
Married.....	7	7
Single.....	6	7
Widowed.....	7	12
Not stated.....	2	2

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
Single.....	13	19
Widowed.....	13	15
Not stated.....	2	1

AGE.	1903	1904
Under one year.....	2	7
One to five.....	3	5
Five to twenty.....	4	4
Twenty to forty.....	5	4
Forty to sixty.....	6	5
Sixty to one hundred.....	3	18
Ages not given.....	2	1

SEX.	1903	1904
Males.....	13	31
Females.....	12	12

SOCIAL RELATIONS.	1903	1904
Married.....	10	14
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