

SECOND BIENNIAL REPORT

OF THE

STATE BOARD OF HEALTH

TO THE

GOVERNOR OF OREGON

AND THE

TWENTY-FOURTH LEGISLATIVE ASSEMBLY

1907



SALEM, OREGON
J. R. WHITNEY, STATE PRINTER
1906

REPORT.

SALEM, Oregon, January 1, 1907.

*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 second biennial period, ending September 30, 1906.

Since the last biennial report the following changes have occurred in the personnel of the Board, namely, the resignation of Dr. Woods Hutchinson as secretary, and the appointment of Dr. Robert C. Yenney to the position, and the resignation of Dr. Harry Lane as member of the Board, and the appointment of W. B. Morse, of Salem, Oregon, to fill the vacancy thus created.

The work of the Board has been directed during the last two years to the collection and classification of vital statistics, to a general supervision of the health affairs and sanitary conditions throughout the State, especially with regard to water supply and sewage, has taken a direct interest in the sanitary conditions of the State schools and other State institutions, has endeavored to interest more deeply the public school teacher in school sanitation and hygiene, the detection of contagious diseases, care of children, etc., and has instituted an active campaign against tuberculosis, both in the field of its prevention and its cure.

The application of the State Board of Health law has been found in some particulars not to be as effectual as desired or intended, and it is earnestly hoped that the next session of the Legislature will remedy these conditions, especially in the following particulars:

1. An efficient quarantine law.
2. Amendment to the State Board of Health law, giving to the Board the powers intended in the original act; but which

have been held by the Attorney General to be inactive in that they delegate legislative powers to the Board. This refers especially to quarantine, the transportation of bodies, especially those dying of infectious or contagious diseases, the duties of undertakers and others in regard to the disposal of the dead, and the duties of the State, county, and municipal stock inspectors, relative to the diseases of animals or their products directly deleterious to man. This refers especially to tuberculosis in animals and to dairy products from tubercular animals. The Board would strongly urge that all matters relating to the purity of food stuffs of all kinds, whether animal or other, be placed directly under the supervision of the State Board of Health. This could easily and effectively be done by making all food, dairy and stock inspectors directly under the control of the State Board of Health and experience has proved that only by this means can successful results be accomplished. Bacteriological and chemical examinations of food stuffs are so intimately associated in many of the examinations of food stuffs as to make it most desirable to have these laboratories in direct conjunction with each other and under a single control.

3. The Board would urge the appointment of a State Sanitary Engineer, also attached to the State Board of Health, who shall approve all plans for the construction of all public buildings, so far as their sanitation is concerned, and who shall approve all water or sewer systems before they are installed by any city or town. Enormous sums are annually expended by cities in installing a water or sewer system, only to find them to be utterly worthless or inadequate. Sufficient investigation has been made by the Board to warrant the assertion that the cities throughout the State are anxious for such an adjunct to the Board.

4. Tuberculosis is at present the great scourge of the human race, more than one out of every seven deaths being due directly to its ravages. It is a preventable, and in its earliest stages, a curable disease, and active warfare is being waged against it by the general Government and by very many of the States and practically all of the cities throughout the country, by direct legislation and municipal aid. To provide

for the successful control of this disease, the Board would recommend the establishment of a suitable sanitarium or sanatoria for the treatment of those so afflicted, both for the benefit which they themselves would derive and for the enormous benefit that would accrue to all other members of the community by the removal of those who are spreading the contagion. Such an institution has been maintained near Portland in great part by private subscription with most gratifying results, as will be detailed later in this report.

PUBLIC SCHOOL WORK.

The Board realizes that the most important adjunct it possesses as health officers are the teachers in the various schools throughout the State, and with this end in view has endeavored to supply the various institutes with literature relative to school hygiene and school sanitation. Besides this, when possible, either a member of the State Board or local health officer has endeavored to be present at such institutes as possible, to give an address on some subject connected with school hygiene. So far, this plan has proved successful and has had the hearty co-operation of the teachers, who realize the vast importance of this branch of school work. A plan is now on foot to prepare and distribute with the sanction of the Board of Public Instruction additional pamphlets for the aid of both teacher and scholar on such subjects as ventilation, disposal of sewage, water supply, contagious diseases, exercise, care of the body, etc.

COLLECTION OF VITAL STATISTICS.

A decided and steady improvement is being shown in this very important branch of the Board's work, and it is believed that in a short time full and accurate reports will be received from all parts of the State. Local county and city health officers are for the most part active and efficient, and the physicians throughout the State with but few exceptions have cheerfully complied with the requirements of the law. In these few exceptions, however, the efficiency of the law has been demonstrated. A statistical table of the births,

deaths, and contagious diseases will be found at another place in this report.

LABORATORY WORK.

As stated in the last biennial report, the Board installed a laboratory for the bacteriological examination of water, milk, and for the diagnosis of typhoid, tuberculosis, diphtheria, and other detectable, communicable diseases, such examination being made free of charge by the Board. Additional apparatus has been added from time to time, until at present the Board possesses a very well equipped laboratory, under the direct supervision of Dr. Ralph C. Matson. The important work of the laboratory during the past year especially has been directed to the examination of water supplies, with most successful results. No city or town should install a water system without first having a careful bacteriological examination made, and it has been urged upon the various cities and towns throughout the State by the Board that they send samples of their city water at stated intervals to be examined by the Board as to its purity. This method if taken advantage of would diminish to a great extent the danger of epidemics arising from contamination of water supplies. The following is a resume of the examinations made in the laboratory during the biennial period covered by this report.

	<i>Sputum.</i>	<i>Diphtheria.</i>	<i>Water.</i>	<i>Blood.</i>	<i>Miscellaneous.</i>
	47	16	13	12	27
	105	11	9	5	33
	15	45	0	12	16
	50	13	29	22	28
	65	25	10	10	16
	57	5	7	9	13
	45	4	0	14	17
	78	11	0	5	21
	42	10	8	12	27
	29	7	0	5	31
	20	12	9	22	19
	37	7	7	5	23
	45	20	2	9	21
	23	15	8	8	23
	20	12	9	22	19
	30	14	10	56	7
Total	618	227	114	228	341

CONTAGIOUS DISEASES.

Diphtheria, scarlet fever, measles, and smallpox have at no time during the past two years appeared with any unusual severity throughout the State, local endemic cases being readily eradicated by prompt quarantine and thorough disinfection. This efficient control of these diseases is undoubtedly due to the prompt manner in which they are reported to the local county and city health officers, who are thus enabled to trace up the cases, find the source, and institute thorough quarantine.

TYPHOID FEVER.

Of the acute infectious diseases this, with the single exception of measles, has been most prevalent and most serious in its results, and the Board has devoted a great deal of time to its control and prevention. This has been done through circulars issued by the Board, through warnings in the public press, and inspection of infected areas by members of the Board or by local county or city health officers to locate the focus of infection, and by thorough bacteriological examination of water supplies, as being the most frequent source of the disease. The most serious outbreak of this disease that has probably ever occurred in the history of the State visited Eugene, Oregon, in February, 1906, a detailed report of which follows, in the form of a report of the State Board of Health, who investigated the situation, and of Dr. J. W. Harris, county health officer.

REPORT OF STATE BOARD OF HEALTH.

PORTLAND, Oregon, March 15, 1906.

To the Honorable Mayor and City Council, Eugene, Oregon:

GENTLEMEN: On March 5 and 6, 1906, members of the Oregon State Board of Health visited your city for the purpose of investigating the typhoid fever situation and to make such recommendations as to them seemed best to remedy the present situation and to guard against a future similar condition.

The Board desires to thank the city and county officials, the various business associations represented, and the citizens of Eugene for the uniform courtesy extended to them while in their city and to compliment them on the zeal and activity and success with which they have met the

most severe epidemic probably of any infectious disease that has occurred in any locality during the history of the State.

After a careful consideration of the entire subject the Board submits the following as facts regarding the situation:

1. That the source of the epidemic has been through contamination of the city water supply, and especially through the well situated at the power house near a main sewer. It is the belief of the Board that the contamination of this well resulted from seepage from the sewer, the other possible source being seepage from the adjoining mill race, which is in a most filthy condition.

2. That the well situated nearest the river is also contaminated. That this well exists in name only, as it has direct communication with the river through a pipe, and that the well (so called) is but a culture ground for bacteria, more unsafe by far than would be the securing of water from the stream itself directly.

3. That the water system itself has been grossly at fault in that numerous dead ends existed which were not flushed in many cases for years, and that these dead ends furnished suitable media for the growth of disease producing micro-organisms. That so far as the Board was able to determine this condition existed through fault of the owners themselves and also through fault of the city officials in not exercising the necessary supervision of the same as guardians of the people's interest and health. Also that the water company deserves the severest censure for maintaining a well and using water therefrom, for distribution to the city, in a locality in which the most superficial examination must have disclosed the certainty of the water being infected from either the sewer or mill race, or both. And that the city officials have been negligent and deserving of censure in not maintaining, or at least attempting to maintain, a strict supervision of the water system; the unfortunate condition that has existed at Eugene being primarily the fault of the water company and the city officials.

4. That the sewer system is not adequate and that a large proportion of houses are not connected with any sewer whatever. Also, that the sewer emptying into the river at the mouth of the mill race is faulty in that it empties with gradual slope, almost at right angles into the stream, which conditions interfere with its proper outflow, prevents the sewage from being carried sufficiently down the river below the city, and during high water is backed up by the river to such an extent as to force sewage into houses connected with it. That the sewage from the University building is emptied directly into the mill race, which is a slow, stagnant stream, favorably situated for contamination.

RECOMMENDATIONS.

The Board recommends the following:

1. That the city exercise a strict supervision of its water supply and sewage system under such conditions as shall be authoritative, and if

such authority does not at present exist that immediate steps be taken to secure it. And until such ordinances shall be passed as shall give the city proper authority, that the city or county health officer be called upon to immediately enforce these recommendations.

2. That all houses, wherever practicable, be compelled to connect with the city sewer at an early date, before the advent of the hot, dry season, during which time contamination is more apt to be spread by flies from open vaults, and that all open vaults be frequently and thoroughly disinfected with chloride of lime.

3. That the University building connect as soon as possible with the city sewer, and that further contamination of the mill race from any source be prohibited. The locality of the mill race and its use for boating makes this imperative.

4. That either a septic tank be constructed at the outlet of the sewer emptying near the mouth of the mill race, or that it be extended so as to effectually carry the sewage further down the river so as to free it from the city and prevent backflow.

5. That the city secure its water supply by sinking a well or wells of sufficient size across the river from the present well (the one nearest the river) and that the water so obtained be subjected to an approved process of filtration before being furnished to the city, and that before this filtered water is used the reservoir shall be thoroughly cleaned and disinfected, and so constructed as to prevent contamination from surface water or outside sources. That the city mains and house pipes be thoroughly flushed, and that so far as relates to mains and house pipes, this process repeated with filtered water before using.

The decision of the Board to recommend a well or wells in this place is based on the following reasons:

(a) The only practical source of water supply at the present time must come from wells.

(b) Very deep wells are not practicable.

(c) The location two and one-third miles east of the city, on a piece of high ground, visited by the Board, is not thought as suitable as a source of water supply for the reason that the Board believes that only surface water can be secured at this place.

(d) Water secured from the vicinity designated by the Board will consist of water that has been filtered through large amounts of sand and gravel, which filtration process will render it practically a pure water. This to be subjected to a subsequent process of filtration will produce a water supply absolutely pure and wholesome, under proper supervision.

(e) This will be the quickest solution of the problem and the near advent of another summer makes time a very important element.

6. That the water company construct these wells under the supervision of the State Engineer, and that the city health officer furnish the

State Board of Health with samples of the city water at least once a month for examination as to its bacterial content.

7. That at the installation of a new water system the old wells be severed absolutely from the new water system by filling or otherwise.

Respectfully submitted,

OREGON STATE BOARD OF HEALTH,
By C. J. SMITH, *President*,
ROBT. C. YENNEY, *Secretary*.

REPORT OF DR. J. W. HARRIS,

County Health Officer.

EUGENE, Oregon, July 30, 1906.

PRELIMINARY REMARKS.

The epidemic of typhoid fever prevailing here during January, February and part of March of this year, was remarkable for the number infected and becoming sick in a very short time, and for the sudden manner of its ending.

HISTORY.

For years there have been occasional cases of typhoid fever in the city and surrounding country. In 1888 there was so large a number sick with this fever that it almost amounted to an epidemic. Since then there have been a few cases each year. The fall of 1905 seemed to bring with it rather an unusual number of patients in different parts of the county. There were eleven cases at Cottage Grove, some of them beginning as early as September, then through October, November, and December.

In November and December there were four cases appearing forty-eight miles up the Willamette River in the mountains. There were two cases about twelve miles east of Eugene in September and October, also a few in and near Springfield in the fall and early winter. The first cases occurring in Eugene were in October, November, and December, but only a very few cases appeared.

SOURCE OF INFECTION.

There is no question in my mind in regard to this matter. I am sure the city water was responsible for nearly all the cases in Eugene.

MANNER IN WHICH THE WATER BECAME CONTAMINATED.

The water may have been contaminated in several ways. The cases at Cottage Grove, twenty-two miles south of us, afforded an excellent opportunity. The Cottage Grove sewer system empties into the Coast Fork of the Willamette, and into this sewer the excreta of those patients was emptied. Again, Cottage Grove has a private hospital with its toilet emptying over and immediately into the river, and in this hospital some of the patients were treated, thus affording another

opportunity for contaminating the water. The cases forty-eight miles above on the main river, though remote, still, in my judgment, affords possible chance.

The water closets of the Booth-Kelly mill at Springfield empty directly into the river, and several cases of typhoid fever occurred in the men working in this mill, this providing another good opportunity of infecting the water.

The sewer from the State University empties directly into the mill race within a mile of the city well on its bank.

Last, but not least, in my judgment, the direct source of epidemic is explained in the following facts:

A new eighteen inch sewer was opened up on High Street in December. This sewer passes within eighty feet of the city well from which the people were supplied with water. The old sewer on Eleventh Street where the early cases of typhoid fever were, was emptied into the new, and the excreta of those patients passed down this new sewer to the location of the city well, where it no doubt leaked, and as the soil at this location is of very coarse, gravelly character, admitting of its flowing freely through the adjacent territory and reaching the well, thus contaminating it to that extent that the most of the people drinking the water were infected almost all at once. This is evident from the fact that two-thirds of the cases reported for January, seventy-eight in number, came in in one day, and in twenty days more, the 190 cases for February were reported. After this month the reports were few, only twenty-nine for March, reported early in the month, and four in April.

MEANS USED TO SUPPRESS THE DISEASE.

Early in January it became evident to me that an epidemic was imminent, and I caused to be published in the daily papers of Eugene notices calling the attention of the people to the fact and urging them to boil all the water and pasteurize all the milk they used, to clean up their premises, make sewer connections, and to use every means possible to prevent the spread of the disease. The various dairies supplying milk to our citizens were carefully investigated and measures were promptly instituted to make the supply satisfactory in every point of view. Several special meetings of the Lane County Medical Society were called to discuss the situation and to institute special measures in behalf of the people, and each physician took special pains to educate the people in the proper care of themselves and their homes, thus eliminating every possible chance of further infection.

During the epidemic, the State Board of Health acted in conjunction with the county health officers and used every effort to determine and eliminate the cause of the trouble. The assistant bacteriologist visited the city, made an exhaustive study of the conditions and surroundings, and reported accordingly.

Several members of the Board also visited us and made a thorough investigation of the situation, called public meetings, discussed the matter fully, and made a suitable report.

The number reported sick of typhoid fever during the epidemic was 301, but several of this number were patients in the country some twenty-five miles distant from the city and of this number there were about twelve who were not victims of the fever and were not ill more than a few days. The number of deaths was fourteen, less than 5 per cent of those afflicted. At this date there are about a dozen cases of typhoid fever in Lane County.

On account of the presence of typhoid fever to a greater extent than in previous years, and also on account of the evident unsanitary conditions of that city, the secretary of the Board visited Klamath Falls and submitted the following report:

REPORT OF THE SECRETARY.

PORTLAND, Oregon, October 25, 1906.

To the Oregon State Board of Health:

At the request of Mr. Alexander Martin, mayor of Klamath Falls, I visited that city on October 5 for the purpose of investigating the water supply, disposal of sewage and general sanitary conditions of the place, and have to report as follows:

Klamath Falls has a population of probably 2,500, the business portion of the town being situated directly along the edge of the lake, extending practically as one street for a distance of about half a mile. The rear of all of the buildings on this main street are within from fifty to 100 feet of the water's edge. The ground in the rear of the buildings is very low and practically at the water level. I was also informed that the fall from Klamath Falls to Keno, twelve miles below, is only about six feet. Practically all the level ground between the rear of the buildings and the lake front, and in many places beneath the buildings, is strewn with all kinds of refuse, in many instances including kitchen slops and refuse from restaurants, as well as the manure from one large stable which is piled up in an immense heap at the rear of the stable. Another stable situated on the lake front dumps its manure into the lake, which is more or less carried in by the winds to the town edge of the lake. Besides this, several sewers open either directly into the edge of the lake or onto the vacant ground between the edge of the lake and the rear of the buildings.

There are also large ponds of stagnant water in several places, which are offensive, and form favorable breeding places for mosquitoes. Quite a number of open privies are also to be found in the rear of the buildings, none of which are protected in any way from flies nor have they the least attention towards disinfection. In none of them did I notice

that dry earth, chloride of lime, or any other disinfectant was placed in them to prevent the swarms of flies from settling on their contents.

Not only in the rear of these buildings bordering on the lake, but also in other portions of the city, manure heaps are allowed to accumulate with apparently no attempt to remove them. The old Ankeny irrigating ditch which runs through a portion of the city has been drained and quite a number of closets which were built out over the ditch now deposit their contents directly into the bottom of the dry ditch.

As an example of conditions found, noted that the sewer from one of the prominent buildings in the city had been stopped up during the entire summer and its contents had oozed out into a stagnant pool of water adjoining the livery stables. Also noticed that in one of the newest buildings the sewage pipes have been connected directly with an open ditch in the street, and it is presumed that the sewage will be deposited in this ditch when the building is occupied.

The city had an engineer at the time I visited it, looking over the ground with the idea of devising some means of disposing of the sewage, which on account of the small amount of fall in the lake and the flatness of the ground bordering the lake, will be a very difficult proposition. It was not considered advisable to empty the sewage directly into the lake from the fact that it would be probably swept back to the city again by the winds. A septic tank was spoken of, but any method of sewage disposal for Klamath Falls will be a serious problem and involve the expenditure of quite a sum of money. However, from the fact that the city is rapidly growing and has all evidences of a large increase in population, some method on a large scale will become absolutely necessary before the city can be rendered absolutely clean. This, however, I believe is realized by the people themselves and I have no doubt will be taken up as soon as possible.

In order to meet existing conditions, the following was recommended to the council, and I believe, if carried out vigorously, would result in making the city practically clean and healthful for the present. This was, that all open closets should be converted into dry earth closets and be emptied at regular intervals, and all garbage should be segregated and disposed of by hauling to some place outside of the city. The worst places in the rear of the city should be filled in, as they are so saturated with filth as to be beyond any possibility of cleaning. All manure should be hauled off at regular intervals. Whether or not this will be attended to remains with the people of Klamath Falls themselves, but I am sure that unless something is done at once, a serious condition will arise on the influx of the large number of people, which will undoubtedly happen during the next summer.

WATER SUPPLY.

The water supply comes from bubbling springs along the edge of the Klamath River a few hundred yards from the outlet of the river into

the lake, and is pumped into a large reservoir on the top of a hill and from there supplied to the city. The surroundings of the spring seem to be favorable for a water supply, and so far as could be told from observation the water should be pure. Report of analysis of this water is herewith appended, and it will be noticed from this that all of the specimens taken by Dr. Maston showed no impurities, while those that I collected showed gas producing organisms in the water from the reservoir and from the tap. I would therefore recommend that the reservoir be thoroughly cleaned and the pipes flushed, not that the water in itself is capable of producing disease, but simply from the fact that it contains gas producing organisms which are not present in the water as originally taken from the spring. From observation and bacteriological analysis I regard the water at the present time suitable for domestic use.

While at Klamath Falls I also took the opportunity of visiting the camps of the men who are employed on the Government works, and found that they were remarkably free from disease. Each camp is supplied with an ordinary open privy vault, in which dry earth is regularly scattered, and so far as I was able to determine from a close inspection everything was done that could be done to prevent disease among the employees. I had the opportunity of visiting these camps through the courtesy of Drs. Steiner and Cartwright, who have charge of the men employed in the works.

WATER SUPPLIES.

One of the most serious problems that confronts many of the cities and towns throughout the State is that of securing an adequate supply of pure water. Wherever the city or town can secure its supply from mountain streams the question is one of finance only. But in many localities this is practically prohibitive, since the entire watershed must be controlled to be absolutely safe. Experience teaches, however, that a water supply from a stream that is pure and can be kept so far surpasses any other, and every effort should be made to secure this by assuming any adequate indebtedness. The marked beneficial results of this method have been notably shown in the city of Portland, in which there has not been a single case of typhoid fever traceable to its water supply since its installation. Where it is impossible to secure water from sources as noted above, other methods are being used with apparent success. Thus, at Oregon City, Eugene, and Albany, water is filtered, and at Salem a crib has been

constructed in the river which acts as a natural sand filter. With efficient, trustworthy supervision these produce pure wholesome water.

Other of the smaller cities use wells, which, if properly constructed, can furnish excellent water. Wells, however, have the great disadvantage of being constantly in danger of severe and sudden contamination, and their use is to be condemned if a natural water supply is available. The same is true in general of springs.

Of sixty-seven cities and towns reporting to the Board, forty-two secure their water from springs or rivers, and twenty-five from wells.

SEWAGE AND ITS DISPOSAL.

It is to be regretted that but very few of the cities and towns of the State have adequate facilities for the disposal of sewage, and in the vast majority of cases no provision whatever is made. Thus of sixty-seven cities reporting to the Board, only twelve reported an adequate sewer system. Eleven reported that the city was from one-half to three-quarters sewered, while in forty-four cities and towns no provisions were made for the disposal of waste. These, of course, represent for the most part the smaller cities, and as inadequate water systems or private wells are most prevalent among these, they occupy a dangerous position from two sources. Where closets and wells abound in the same locality, contamination almost invariably occurs, since wells as usually constructed, are but receptacles for surface drainage. This is especially true throughout the Willamette Valley.

There is another question of vital importance associated with the disposal of sewage, and that is the contamination of the streams of the State by cities emptying their sewers directly into them, and it is to be hoped that in the near future suitable laws will be enacted compelling cities and towns to treat sewage before emptying it into the streams out of which other cities or towns must secure their water supply. This is an especially essential matter with cities or towns located near the source of streams in which a marked dimin-

ution of the volume of water occurs during the summer months, often insufficient to properly dilute the sewage received, which is carried in concentrated form to contaminate the water supply of cities below.

Another class of cities which are meeting with difficulties in the disposal of sewage are those located on tide water, necessitating the emptying of their sewage directly into the ocean. The work of the Board in this direction has been directed especially to those cities and towns that are recognized as health resorts and to which large numbers of people go during the summer season. Justice to those visiting such resorts demands that adequate measures for the protection of their health shall be provided, and the Board feels it a duty of paramount importance that such provisions shall be amply made, or that only such number shall be received as can be provided for without danger to the city itself or the visiting public. No more favorable conditions exist for the widespread dissemination of disease throughout the entire State than in a health resort with an inadequate water or sewer system, or both.

INVESTIGATIONS AT YAQUINA.

The following report of the secretary of the Board will serve to illustrate the conditions referred to and the difficulties of correcting them:

PORTLAND, Oregon, July 7, 1906.

To the State Board of Health:

GENTLEMEN: In accordance with the instructions from the Board at its regular meeting at Medford June 29, 1906, visited Newport for the purpose of investigating the sanitary conditions of the city, and have to report as follows:

Newport contains a population throughout the year of about five to six hundred. The business part is mostly situated on the bay side, while the ocean side is made up almost exclusively of cottages and hotels.

GENERAL CHARACTER OF THE SOIL.

The soil consists of a layer of sand of varying depth averaging from ten to fifteen feet, below which is a layer either of clay or sandstone, the surface being covered with pine and underbrush and is irregularly cut up by small gulches, some of which mark the site of small streams fed by numerous springs.

WATER.

Along the banks on both the bay and ocean side are numerous streams which follow the above mentioned layer of clay or sandstone. Several of these springs uniting often form small streams, and in the case of Nye Creek, which is formed by numerous springs, quite a good size stream. Nye Creek flows into the ocean and is formed by the union of four smaller streams, the three main ones uniting at about the site of Mr. Irwin's hotel two hundred yards from the beach. On the bay side Fall Creek and the stream which issues at Olsonville are the largest, though they are mere riverlets.

In quite a number of places small marshes are formed and to the south of Nye Creek there is a extensive marshy area due no doubt to the superficial placement at these places of the clay sub-stratum. All the water at Newport is without doubt surface water, which filters its way through the sand to the clay or sandstone stratum and is there held as in a basin, finally issuing as a spring either along the water frontage or into the small gullies. Wells dug at nearly any place will yield water at a depth of fourteen to thirty-five feet, depending on the depth of the clay or sandstone layer beneath.

The water supply of Newport at the present time is obtained from these streams, springs, and wells. No special effort or facilities are made to supply campers.

NYE CREEK.

This stream, as before stated, rises from four smaller streams, three of the main ones joining at Irwin's hotel, the other small branch joining mid-way between the hotel and beach and there, united, outflow discharged into the ocean at the bathing site. The Irwin hotel is supplied from one of these branches which Mr. Irwin states he protects as far as possible. The Irwin hotel septic tank empties into this stream. So far as I could determine this tank was properly constructed and I detected no odor at the outlet though I was informed at times it was present. This septic tank and one from the residence of Mr. Thomas are the only sewage emptying into Nye Creek. A short distance above the mouth of Nye Creek a small creek empties coming from the north which supplies some drinking water to a hotel and other buildings and is the chief source of water supply for campers. This stream is outside of the city limits except for a short distance near its mouth.

SEWERS.

The city has no sewer system. On the bay side those buildings nearest the bay have closets extending over the water. Those across the street along the floor of the bluff either have ordinary privies or in a very few cases run the sewage into the bay. Messrs. Irwin, Thomas, Sheffield, Reeves, Stimpson, and McDonald have septic tanks. All others use ordinary privies except as will be stated hereafter. Campers are ex-

pected to use ordinary privies although there is no efficient control of this and it is likely that surface contamination exists to a great extent at Nye Creek, and especially outside of the city limits at this place.

REMEDIES PROPOSED.

After conferring with Dr. Carter, county health officer, the mayor, Mr. Irwin, Councilmen Thomas, Olson, Graves, and Williams, besides citizens of the place, I find the general trend of opinion for correction of these evils to be a long one or two lines:

1. To prevent absolutely contamination of the soil and utilize the springs, creeks, and wells for drinking water.

2. To secure a water supply from a distance and either install a sewer system or employ as now either ordinary privies or septic tanks.

With regard to the first proposition a rather feeble attempt is being made to bring this about by installing dry earth closets and having them emptied as needed. About seventy-five have been contracted for and are being placed. The city employs a man to attend to this, paying him \$25 per month and allowing him to charge a fee of 50 cents for each closet emptied. Also to do away with the ordinary privy by having its contents taken out and then filled.

The city has an ordinance making it compulsory on all to do this, but its success remains to be seen. The boxes are to be emptied on vacant land outside of the city limits, scattered on the ground and eventually turned under as a fertilizer. Just where the dump was to be located I did not learn.

THE OBSTACLES TO THIS PLAN ARE MANY.

1. If the streams are to be used this plan of earth closet must be enforced all along the length of the stream as is evident from the fact that all streams as well as the springs and wells represent surface water.

2. It will require constant, vigilant supervision, as a solitary privy may become the possible source of infection.

3. It will be difficult to control the campers. Dr. Carter stated that 5,000 was a conservative estimate of the number camping each year.

In regard to the second proposition, namely, to secure a water supply from a distance, many difficulties must be overcome and it will require the services of an expert engineer to decide as to its feasibility. Several places for obtaining water were suggested by various persons. Mr. Thomas, one of the councilmen, thought that a well could be dug on the top of some of the neighboring high hills. Mr. Olson another councilman thought that a sufficient supply could be furnished from springs on his property. Others that water could be brought from the falls on Big Creek, some four to six miles distance. While others thought to go to the Siletz, which is twelve to fifteen miles distance. As a matter of course, these entire watersheds must be protected.

The chief difficulty is in the matter of securing funds for any of these proposed schemes. Sufficient water could be secured no doubt from Big Creek or the Siletz. As to the other sources I am unable to judge though from observation I think them to be rather doubtful. A point raised by certain of the people was as to whether or not the city could compel all to use city water and abandon their springs and wells. It was stated that not to exceed 100 connections could be made of those taking city water.

DISPOSAL OF SEWAGE BY SEWERS.

This question is also of importance. Some seem to think that a cut should be made from the ocean to the bay side and all sewage run into the bay, a piece of work I believe to be not only expensive but impracticable. The bay side can easily dispose of its sewage into the bay, where it is carried out by the tide. The ocean side would have to run its sewage into the ocean on the bathing beach. This is also a question for a sanitary engineer to decide upon. Another question of vital importance also is evident lack of harmony between the bay and ocean side residents.

PUBLIC HEALTH ASSOCIATIONS.

The Board desires to call attention to the value of public health associations, whether composed of members of the medical profession, health officers, or of laymen organized for the public good, and strongly urges the formation of such associations in every community of the State. As an educational factor along lines of sanitation and hygiene they are invaluable, and through their efforts accomplish an amount of genuine good that can be accomplished in no other way. They arouse public sentiment, are educational to themselves and to the public, and above all by indicating the limits of their knowledge on subjects that of necessity belong to those directly interested in such work, increase the facility of supplying them with the needed information, and in a form capable of being understood and therefore of being applied.

In but comparatively few instances has the Board been able to find that conditions prejudicial to the public health were persisted in save through excusable ignorance, and that individuals and the public generally are as interested in proper sanitary conditions as are the boards of health.

In order to increase the efficiency of the State, county, and local boards of health, an organization was formed as follows:

On May 14, 1906, a meeting was held at Portland, Oregon, for the purpose of organizing a Health Association of State, County, and City Health Officers.

The following physicians were present: Doctors Geary, Pickel, Cole, Pierce, Pernot, Harris, Bailey, Norris, Robinson, Wheeler, and Yenney. As a result of this meeting a State Health Association was formed and the following constitution and by-laws adopted:

CONSTITUTION.

NAME OF THE ASSOCIATION.

The name of the Association shall be the "Oregon State Health Association."

PURPOSES OF THE ASSOCIATION.

The object of this Association shall be to organize more compactly the various health officers of the State for the purpose of the general benefit of the State along sanitary lines.

MEMBERSHIP.

The membership of this Association shall consist of active and honorary members. Active members shall be all State, county, and municipal health officers. Honorary members shall be the county judge of each county, the mayor of each incorporated city or town, and members of the Army, Navy, and Public Health and Marine Hospital Service, stationed in Oregon. Active members only shall have the power of voting and holding office.

OFFICERS.

The officers shall consist of a president, vice president, and secretary-treasurer, who shall be elected by ballot at each annual meeting, and an executive committee of five members to be appointed by the president.

QUORUM.

A quorum shall consist of five members.

TIME OF MEETING.

The time of meeting shall be the time and place of meeting of the State Medical Society.

AMENDMENTS.

All proposals for amendments shall be submitted in writing to the secretary at least four weeks before any annual meeting.

The secretary shall at once present such proposals to the executive committee, who shall report upon it at the annual meeting following, when it may be voted upon by the society.

BY-LAWS.

DUTIES OF OFFICERS.

The president shall preside at all meetings and in conjunction with the secretary shall constitute a permanent committee on program.

In the absence of the president the vice president shall perform the duties of the president.

The secretary-treasurer shall have charge of all records and funds of the Association and perform such other duties as may be assigned by the Association.

The officers elected for the ensuing year were: President, Dr. E. P. Geary; vice president, Dr. Esther Pohl; secretary-treasurer, Dr. R. C. Yenny; executive committee (appointed by the president), Drs. Pierce, Wheeler, Robinson, Norris, and Pickel.

It is believed that through this organization much will be accomplished, and it is hoped that each county will organize similar societies to bring into closer relationship the various health officers of each county.

PUBLIC PRESS.

The Board desires to express its appreciation for the aid it has received from the press throughout the State, and especially from the press in the city of Portland in the way of printing articles relative to the general welfare of the public. There is no other method so efficient for the immediate distribution of matters relating to public health and hygiene as the press, and there is no more potent factor for the success of our health laws than the active support of the public newspaper.

REPORT OF THE PORTLAND OPEN AIR SANATORIUM.

Dr. E. A. Pierce, physician in charge, reports as follows concerning the work of this institution:

The Sanatorium was opened on January 8, 1905. From that date to November 1, 1905, the whole number of cases treated was: Males, 63; females, 54; total, 117.

I have performed the duties of attending physician since November 1, 1905.

Number of cases treated from November 1, 1905, to September 30, 1906—Males, 57; females, 69; total, 126.

Average number days in Sanatorium—Males, 48.71; females, 50.05.

Number of patients under treatment September 30, 1906—Males, 11; females, 13; total, 24.

Number died, 0.

Entire number days of treatment—Males 2,777; females, 3,490; total, 6,267. Those under treatment less than thirty days not reported.

Condition on admission—Females, incipient 7, advanced 11, far advanced 29; males, incipient 7, advanced 7, far advanced 26.

Number of females reported on, 47.

Number males reported on, 40.

Apparently cured, males 2, females 6; arrested, males 12, females 10; improved, males 16, females 15; unimproved, males 11, females 16; died, males 0, females 0.

Number whose sputum contained tubercle bacilli—Males, 30; females, 43; total, 73.

FINANCIAL.

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

BULLETINS.

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

Bulletin No. 5, Method of Sewage Disposal by Means of Septic Tank System.

Bulletin No. 6, The Problem of Tuberculosis Among the Poor.

MORTALITY

<i>Classification of diseases.</i>	<i>Baker.</i>	<i>Benton.</i>	<i>Clackamas.</i>	<i>Clatsop.</i>	<i>Columbia.</i>	<i>Coos.</i>	<i>Crook.</i>	<i>Curry.</i>	<i>Douglas.</i>	<i>Gilliam.</i>	<i>Grant.</i>
<i>I. General Diseases.</i>											
Typhoid fever	2	3	3		1	2	6		3	2	5
Measles	1	1					1		1		
Scarletina											
Whooping cough						1			2	4	
Diphtheria	1		1						2	4	
Influenza	1					1	2		7		1
Erysipelas	1	1				1			1		
Other epidemic diseases											
Purulent infection and septicemia	2	5	1	2	1	2					
Tuberculosis of the lungs	9	15	7	8	3	15	3	1	22	3	2
Tuberculosis of the meninges		2	3						1		2
Tubercle, abdominal		1				2			2		
Syphilis						2					
Cancer and other malignant tumors of the stomach and liver	2	1	2	2		2	1		9		1
Cancer and other malignant tumors of the peritoneum, intestines, and rectum		1		1		1					
Cancer and other malignant tumors of the breast		1	1	1							
Cancer and other malignant tumors of the skin	1					2					
Cancer and other malignant tumors of other organs or of organs not specified	2			2	2	2	1		6		1
Other tumors (tumors of the female genital organs excepted)				1							
Acute articular rheumatism			1				1		1		
Chronic rheumatism and gout					1				1		
Diabetes	1	3	1			1	1				2
Leukaemia							1				
Anemia, chlorosis		1	1								
Acute and chronic alcoholism				2					1		
Other forms of tuberculosis						2			1		
Total	23	35	21	19	8	36	17	1	60	13	14
<i>II. Diseases of the Nervous System and Organs of Special Sense.</i>											
Encephalitis	3		1	1	1	3	3		1		
Meningitis, simple				1			1				
Locomotor ataxia, progressive											
Other diseases of the spinal cord							1		1		1
Cerebral congestion and hemorrhage	3	4	6	5	1	5			17		1
Cerebral softening	4	1				1					1
Paralysis without specified cause	2	2	3			1	2		5		
Other forms of mental alienation		1									
Epilepsy			1	2							
Convulsions in children		1		1			1				
Other diseases of the nervous system		2	1	2		1	1				
Diseases of the ear											
Total	12	11	12	12	2	11	9		24		3
<i>III. Diseases of the Circulatory Apparatus.</i>											
Endocarditis, acute		1				1					
Organic disease of the heart	16	13	10	5	5	8			17	2	3
Angina pectoris	2	2		1		1	3				
Affections of arteries—atheroma, aneurism	1								1		
Embolus and thrombosis				1		2					
Affections of the veins											
Hemorrhages											
Other affections of circulatory system						3			1		
Total	19	16	10	7	5	15	6		19	2	3

IN OREGON.

Harney.	Jackson.	Josephine.	Klamath.	Lake.	Lane.	Lincoln.	Linn.	Mathew.	Marion.	Morrow.	Multnomah.	Folk.	Sherman.	Tillamook.	Umatilla.	Union.	Wallowa.	Wasco.	Washington.	Wheeler.	Yamhill.	Total.
2	3	1	2	1	11		3	3	7		74	1		1	18	10		13	1	1	5	184
		1					3		1		8				1	1					1	20
1					1		2				6	3							2			14
	1	1			1				6		6		2		1	1			1			20
	1	1			1		5		6	2	39	1		5	6	3		1	1	9	1	90
	1	1	1	1			3		10		14	1			1	1	1	1				50
	2						1	1	5		10		1		1	1		1	2		1	31
	2						2	1	1		8				2	2	1	2	1	1	4	12
	4	1	2				2	6	1	1	55	2			2	1	1	2	1	1	4	98
1	23	7	3		12	2	31	2	67	3	335	4	2	3	17	7	1	19	12	1	25	665
	1				2		4		1		28	1		1	1			3	2			54
							1		2		29	1						2	1			42
							2		2		16		1					2				25
	8	3			8	2	10		10		90	4	1		4	1	2	5	8		3	179
	1		1				1		1		15	2						2			1	27
					2						9				1	3		1			1	20
											2								1			6
	4	2			2		2	1	16	2	101		1		3	2		4	2		5	163
	1					1	1		1		1				1	1						3
	1				1		1		1		10			1	1	1				1		21
	3				4		5		2		2							2	1		1	11
	2	1			4		5		3	1	38			1					1		2	69
	1				1		1		3		11	1			1				1		1	22
									2		8											10
	1	2							2		22				5	3		1	3			42
									1		7	1						1				18
7	62	20	9	2	45	5	78	7	145	9	942	22	8	12	63	38	5	60	47	4	54	1891
									2		4											6
	6		1				4		5		67			1	2	2	1	4	3		2	111
	2										3	1		1						1	1	10
					2	1	16		31	1	5	1	1	1	1	5		10	4	1	14	280
	9	4	1	1	8	2	2		27		124	5	1	1	1	1						52
	1	1			1		2		17	1	13				1							125
	3	4			1		6	1	30		45	4		4	4	1		2	7		10	38
									9		5				1							29
	1				1	1	1		3	1	8				1			2	1			47
	1				4				3	1	32							1	1		1	62
	2	1			3		1		7		29	1			1			5			4	62
			1								2	1			1							5
	23	11	4	1	19	4	30	1	131	4	337	13	2	8	9	11	1	24	16	1	33	779
											11							1				15
	3	17	6	1	8	4	25	3	61	4	325	7	1	7	11	8	5	15	19	1	27	641
	2						1		2		22			1		1			2			40
	1						2		1	2	13							2			2	30
											11				1							15
									1		1											1
									1		23					1			1			26
											36	1							1			42
3	20	6	3		8	4	28	3	65	6	447	8	1	8	12	10	5	19	22	1	29	810

MORTALITY IN

<i>Classification of diseases.</i>	<i>Baker.</i>	<i>Benton.</i>	<i>Clackamas.</i>	<i>Clatsop.</i>	<i>Columbia.</i>	<i>Coos.</i>	<i>Crook.</i>	<i>Curry.</i>	<i>Douglas.</i>	<i>Gilliam.</i>	<i>Grant.</i>
<i>IV. Diseases of the Respiratory System.</i>											
Affections of the larynx											
Bronchitis, Acute	1		1	1	1	1					
Bronchitis, Chronic				1							
Broncho-pneumonia			1		1	1	1		1		
Pneumonia	4	5	11	4	2	15	7		15	1	3
Pleurisy						1					
Pulmonary congestion and apoplexy						2			2		
Asthma				1					1		
Other diseases of the respiratory system • (phthisis excepted)		1			1	2	1		3		
Total	5	6	13	7	5	22	9		22	1	3
<i>V. Diseases of the Digestive System (Cancer and Tubercule excluded).</i>											
Diseases of the mouth and its adnexa			1	1		1	1				
Diseases of the pharynx						2	1		2		
Ulcer of the stomach	1	1									
Other diseases of the stomach (cancer excepted)		1		1	1		2		1	1	
Diarrhea and enteritis (under 2 years)	4	3	9	5	1	7	7		3		1
Diarrhea and enteritis (2 years and over)		1	1	3	1	2	2		4		
Hernia and intestinal obstructions	1			3	2	2			5		
Other diseases of the intestines									1		
Cirrhosis of the liver			1	3		1			5		1
Other diseases of the liver	3	1	2	2		1			3		
Simple peritonitis (nonpuerperal)	2		2			3			1		
Appendicitis and abscess of the iliac fossa	4	1	2								
Total	15	8	18	18	5	19	13		25	1	2
<i>VI. Diseases of the Genito-Urinary Apparatus and its Adnexa.</i>											
Acute nephritis			1	1		3					
Bright's disease	3	6	7	2	1	3	6		11	2	6
Other diseases of the kidneys		1									
Diseases of the bladder											1
Diseases of the prostate											
Uterine tumor (noncancerous)											
Cysts and other tumors of the ovary											
Total	3	7	8	3	1	6	6		11	2	7
<i>VII. The Puerperal State.</i>											
Accidents of pregnancy					1	1					
Other accidents of labor					1	1	2		1		
Septicaemia puerperal	2					1					1
Albuminuria and puerperal eclampsia		1									
Total	2	1		1	2	3	2		1		1
<i>VIII. Diseases of the Skin and Cellular Tissue.</i>											
Gangrene		1									
Abcess			1								
Total		1		1							
<i>IX. Diseases of Organs of Locomotion (Non-tuberculous.)</i>											
Affections of the bones											
Total											
<i>X. Malformations.</i>											
Hydrocephalus						1			1		
Congenital malformations of the heart							1				
Total						1	1		1		

OREGON—Continued.

Harney.	Jackson.	Josephine.	Klamath.	Lake.	Lane.	Lincoln.	Linn.	Malheur.	Marion.	Morrow.	Multnomah.	Polk.	Sherman.	Tillamook.	Umatilla.	Union.	Wallowa.	Wasco.	Washington.	Wheeler.	Yamhill.	Total.
						1				2	2											2
	2										18											2
	2		1						2		11	1										30
	6				1				4		38	3	1									19
	24	4	2	1	5	2	5	3	26	4	217	12	1	3	6	5	3	20	13	1	20	470
1							1				1			1	1			3				3
		1									21	1										34
											8											13
	1				1		1				7											20
4	35	5	3	1	8	3	33	3	32	6	323	17	2	4	8	13	3	25	13	1	23	663
					2				1		3				1	1						7
	2								2		1											13
	3								2		6			1	1					1		15
	1	2	4		4	2	2	1	12	1	25	4	2	1	6	1	1	12	4		9	38
	7	1	1		7	1	4	2	7	1	86	2		2	2	2	1	4	1		8	197
	1				1		2		4		49	2					2	2			3	114
	1								1		38											67
	1									1	16				1							19
	1	1	1		3				7		20			1	1			2				41
	2						2				16	1			1	3	2	2				50
	2	1	1						3		62	1			1	1	2	1	2			83
1	4	1				1			6		18	1			1	2	2	1	3		10	56
1	26	5	7		17	3	12	3	43	3	340	10	2	5	11	15	6	23	11		33	700
									2		26		1		2			1				1
	1	1	3	2	7		19		21	1	114	5		3	7	5	1	15	9	2	9	42
							1		1		12			1		1		1			1	292
		1							1		4											11
											1											20
											1											7
											1											1
											1											2
1	22	5	2	1	8		22		33	1	158	5	1	4	9	6	1	19	9	2	12	375
											3				1	1						8
	1								2		7					1						16
	1		1					2	2		8				1	1		1	1		2	25
	1										9											12
	3		2					2	4		27				2	3		1	2		2	61
	4	1						1	4		6	1			1	1					1	21
											4											5
	4	1						1	4		10	1			1	1					1	26
											4											4
											4											4
									2		2											6
1	1										10	1				2		3			3	21
1	1								2		12	1				2		3			3	28

MORTALITY IN

<i>Classification of Diseases.</i>	<i>Baker.</i>	<i>Benton.</i>	<i>Clackamas.</i>	<i>Clatsop.</i>	<i>Columbia.</i>	<i>Coos.</i>	<i>Crook.</i>	<i>Curry.</i>	<i>Douglas.</i>	<i>Gilliam.</i>	<i>Grant.</i>
<i>XI. Early Infancy.</i>											
Congenital debility.....	2	2	3	2		3	1		1		1
Total.....	2	2	3	2		3	1		1		1
<i>XII. Old Age.</i>											
Senility.....	2	2	4	1	2	6	1		16		1
Total.....	2	2	4	1	2	6	1		16		1
<i>XIII. Affections Caused by External Causes.</i>											
Suicide by poison.....	1			1						1	
Suicide by asphyxia (gas).....											
Suicide by hanging or strangulation.....				1			1		2		
Suicide by firearms.....	1	2				1			1	1	
Suicide by cutting instruments.....							1				
Other suicides.....		1		1		3					
Fractures.....	1	3		2	2	4	1		2		1
Other accidental injuries.....	8	2	2	5	8	8	2		4	1	
Burns and scalds.....		1		1					2		
Electrical disturbances.....	1										
Accidental drowning.....				8	4	12		1	1		1
Inhalation of poisonous gases (suicide excepted).....						2			1		
Other acute poisoning.....				1		2					
Other external causes.....						2	1				
Total.....	12	9	2	20	14	34	6	1	13	3	2
<i>XIV. Ill-defined Diseases.</i>											
Dropsy.....									1		
Inanition, Marasmus (over 3 months) and Unspecified.....	7	9	1	12	1	34	2		13		3
Total.....	7	9	1	12	1	34	2		14		3
<i>Death from All Causes. (General summary.)</i>											
I. General diseases.....	23	35	21	19	8	36	17	1	60	13	14
II. Diseases of nervous system and organs of sense.....	12	11	12	12	2	11	9		24		3
III. Diseases of circulatory apparatus.....	19	16	10	7	5	15	6		19	2	3
IV. Diseases of respiratory system.....	5	6	13	7	5	22	9		22	1	3
V. Diseases of the digestive apparatus.....	15	8	18	18	5	19	13		25	1	2
VI. Diseases of the genito-urinary system.....	3	7	8	3	1	6	6		11	2	7
VII. The puerperal state.....	2	1		1	2	3	2		1		1
VIII. Diseases of skin and cellular tissue.....		1		1							
IX. Diseases of the organs of locomotion.....											
X. Malformations.....						1	1		1		
XI. Early infancy.....	2	2	3	2		3	1		1		1
XII. Old age.....	2	2	4	1	2	6	1		16		1
XIII. External causes.....	12	9	2	20	14	34	6	1	13	3	2
XIV. Ill-defined causes.....	7	9	1	12	1	34	2		14		3
Total.....	102	107	92	103	45	190	73	2	207	22	40

OREGON—Continued.

Harney.	Jackson.	Josephine.	Klamath.	Lake.	Lane.	Lincoln.	Linn.	Malheur.	Marion.	Morrow.	Multnomah.	Polk.	Sherman.	Tillamook.	Umatilla.	Union.	Wallowa.	Wasco.	Washington.	Wheeler.	Yamhill.	Total.
	6	4				1	6		7	10	78	2	4	1	4	8	2	4	4		5	161
	6	4				1	6		7	10	78	2	4	1	4	8	2	4	4		5	161
	16	7	1		8	3	13		59	1	126	3		2	2	5		8	10		24	323
	16	7	1		8	3	13		59	1	126	3		2	2	5		8	10		24	323
									3		21					1					1	29
									5		15							2				15
									1		7							1				18
	3	2					3		1		14		1		3			1			2	36
											3											4
							2		3		2			1	2	1		1			1	18
	2	1	1		4				4	1	69	1			1	1		4			1	106
	13	8	2	2	12		11		7	2	12	2			7	5	1	21			8	154
					3		3		1		20		1					3	3		2	40
											4											5
	1	1			7		1		5		49			1	2			4	1		4	103
											23							1	2	1		26
	5						3		2	1	7				1		1	2	1		2	28
	1	1			4				1		71		1	2	1	1		1	1			88
1	25	13	3	2	30		23		32	4	317	3	3	4	17	9	2	39	6		21	670
		2			1				2		2									1		10
3	29	8	1		13	2	10	1	28	1	95	6	3	4	14	18		23	6	1	44	392
3	29	10	1		14	2	10	1	30	1	97	6	3	4	14	18		23	7	1	45	402
7	62	20	9	2	45	5	78	7	145	9	942	22	8	12	63	38	5	60	47	4	54	1891
	23	11	4	1	19	4	30	1	131	4	337	13	2	8	9	11	1	24	16	1	33	779
3	20	6	3		8	4	28	3	65	6	447	8	1	8	12	10	5	19	22	1	29	810
4	35	5	3	1	8	3	33	3	32	6	323	17	2	4	8	13	3	25	13	1	28	663
1	26	5	7		17	3	12	3	43	3	340	10	2	5	11	15	6	23	11		33	700
1	22	5	2	1	8		22		33	1	158	5	1	4	9	6	1	19	9	2	12	375
	3		2				2		4		27				2	3		1	2		2	61
	4	1					1		4		10	1			1	1					1	26
											4											4
1	1								2		12	1				2		3			3	28
	6	4				1	6		7	10	78	2	4	1	4	8	2	4	4		5	161
	16	7	1		8	3	13		59	1	126	3		2	2	5		39	10		24	323
1	25	13	3	2	30		23		32	4	317	3	3	4	17	9	2	39	6		21	670
3	29	10	1		14	2	10	1	30	1	97	6	3	4	14	18		23	7	1	45	402
21	272	87	35	7	157	25	258	18	587	45	3218	91	26	52	152	139	25	147	248	10	290	6893

MORTALITY IN

<i>District Classification, October 1, 1904, to September 30, 1906.</i>		<i>Baker.</i>	<i>Benton.</i>	<i>Clackamas.</i>	<i>Clatsop.</i>	<i>Columbia.</i>	<i>Coos.</i>	<i>Crook.</i>	<i>Curry.</i>	<i>Douglas.</i>	<i>Gilliam.</i>	<i>Grant.</i>
<i>Age.</i>												
Under one year	13	13	17	18	2	29	10	14	3	3		
One to five	3	5	6	7	13	6	7	3	2			
Five to twenty	4	7	6	12	6	19	6	17	4	1		
Twenty to forty	23	23	9	28	15	36	13	35	3	7		
Forty to sixty	19	19	16	19	8	26	8	29	4	5		
Sixty to one hundred	23	36	36	17	14	56	22	98	4	20		
Ages not given	17	4	2	2	11	8	1	7	1	2		
Totals	102	107	92	103	45	190	73	207	22	40		
<i>Sex.</i>												
Males	68	55	52	74	26	119	45	123	13	28		
Females	34	52	40	29	19	71	28	84	9	12		
<i>Social Relations.</i>												
Married	37	45	35	30	26	69	31	86	5	13		
Single	36	41	29	34	15	92	32	67	10	18		
Widowed	15	20	18	6	4	22	3	39	2	8		
Not stated	14	1	10	33	7	7	7	15	5	1		
<i>Nativity.</i>												
Oregon	25	41	26	27	9	70	21	52	11	9		
United States	42	50	42	21	23	61	22	100	6	15		
Foreign	15	14	20	26	13	45	6	20	3	12		
Not stated	20	2	4	29	14	24	24	35	2	4		
<i>Color.</i>												
White	101	107	91	100	44	181	71	205	22	39		
Yellow	1			1		7						
Black						1	1					
Not stated			1	2	1	1	1	2		1		

BIRTHS IN

During period covered from October 1, 1904, to September 30, 1906,

<i>Births.</i>	<i>Baker.</i>	<i>Benton.</i>	<i>Clackamas.</i>	<i>Clatsop.</i>	<i>Columbia.</i>	<i>Coos.</i>	<i>Crook.</i>	<i>Curry.</i>	<i>Douglas.</i>	<i>Gilliam.</i>	<i>Grant.</i>
Males	80	155	108	105	93	176	56	130	24	27	
Females	49	114	107	99	95	167	60	111	24	24	
Total	129	269	215	204	188	343	116	241	48	51	

OREGON—Continued.

Harney.	Jackson.	Josephine.	Klamath.	Lake.	Lane.	Lincoln.	Linn.	Malheur.	Marion.	Morrow.	Multnomah.	Polk.	Sherman.	Tillamook.	Umatilla.	Union.	Wallowa.	Wasco.	Washington.	Wheeler.	Yamhill.	Total.
1	27	8	6	1	7	1	52	3	40	16	405	9	8	4	16	22	6	33	17	1	32	804
1	8	1	4	1	14	4	14	1	21	2	174	7	2	3	6	12	1	14	12	2	12	366
4	31	4	4	1	13	1	22	3	34	3	210	7	3	7	24	13	1	23	14	1	26	531
1	37	15	8	2	26	2	31	1	105	2	712	9	3	6	41	29	4	53	17	2	49	1,352
3	40	18	7	3	34	8	62	4	107	7	793	18	4	10	26	20	6	56	26	1	49	1,455
11	120	34	6	2	57	9	68	5	240	9	870	40	5	22	31	32	6	61	55	3	115	2,127
	9	7			5		9	1	40		54	1	1		8	11	2	8	6		7	225
21	272	87	35	7	157	25	258	18	587	45	3,218	91	26	52	152	139	25	147	248	10	290	6,893
14	161	56	25	4	99	16	137	9	379	26	1,994	52	17	37	90	68	17	159	74	4	162	4,205
7	111	31	10	3	58	9	121	9	208	19	1,224	39	9	15	62	71	8	89	73	6	128	2,688
8	112	31	11	1	59	10	115	8	195	15	1,521	33	6	24	59	45	10	95	62	3	138	2,938
8	93	27	21	4	61	8	77	8	226	17	1,317	33	15	18	64	64	11	85	60	5	88	2,685
4	59	15	3	2	32	6	56	1	93	4	207	24	3	9	19	20	3	33	22	2	56	811
1	8	14			5	1	10	1	73	9	173	1	2	1	10	10	1	35	3		8	459
5	72	12	14	2	45	7	87	4	124	23	798	26	13	17	52	48	11	74	47	5	89	1,867
14	149	32	9	3	66	14	115	10	227	18	1,258	53	8	21	71	66	10	103	57	3	155	2,845
1	28	6	5	1	18	3	42	2	134	1	1,021	11	4	11	5	12	4	40	33	2	38	1,596
1	23	37	7	1	23	1	14	2	102	3	141	1	1	3	24	13		31	10		8	585
21	270	86	35	7	156	23	257	18	558	45	3,059	90	25	51	148	134	25	242	145	10	286	6,654
	1					1	1		5		134	1			1	1		2			1	157
						1			2		19			1		2		1	1			30
	1	1			1				22		6			1	1	3		3	1		3	52

OREGON.

as reported to the Oregon State Board of Health.

Harney.	Jackson.	Josephine.	Klamath.	Lake.	Lane.	Lincoln.	Linn.	Malheur.	Marion.	Morrow.	Multnomah.	Polk.	Sherman.	Tillamook.	Umatilla.	Union.	Wallowa.	Wasco.	Washington.	Wheeler.	Yamhill.	Total.
32	186	67	24	43	179	20	244	40	283	58	1,917	161	43	74	164	213	73	252	138	12	112	5,295
39	184	46	35	23	162	18	249	34	208	44	1,778	114	30	79	166	188	45	234	126	16	103	4,773
71	370	113	59	66	341	38	493	74	491	102	3,695	275	78	153	330	401	118	486	264	28	215	10,068

CONTAGIOUS DISEASES.

From October 1, 1904, to September 30, 1906, as reported to the State Board of Health.

	<i>Diphtheria.</i>	<i>Measles,</i>	<i>Typhoid Fever.</i>	<i>Scarlet Fever.</i>	<i>Smallpox.</i>	<i>Tuberculosis.</i>
Cases -----	702	2,042	1,227	551	270	95
Deaths -----	90	20	184	14	4	774