PROVINCE OF BRITISH COLUMBIA

THIRTY-SIXTH REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

FOR THE

EIGHTEEN MONTHS ENDED DECEMBER

1932

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1933.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., January 31st, 1933.

To His Honour J. W. FORDHAM JOHNSON,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Report of the Provincial Board of Health for the last six months of the year 1931 and for the calendar year 1932.

S. L. HOWE,
Provincial Secretary.

REPORT *of the* PROVINCIAL BOARD OF HEALTH.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., December 31st, 1932.

The Honourable S. L. Howe,
Provincial Secretary, Victoria, B.C.

SIR,—I have the honour to submit the Thirty-sixth Annual Report of the Provincial Board of Health of British Columbia for the period ended December 31st, 1932.

This Report, owing to a change in the date of issue and the deletion of the Medical Inspection of Schools Report, which has been published separately, will represent a brief report of the health conditions existing in the Province for the past eighteen months.

British Columbia has made, during the past ten years, a remarkable progress in health-work. This is particularly evidenced by the co-operation of the people in helping us to carry out our policies and plans. Our efforts, during the past ten years, have been devoted largely to the education of the public by the inauguration of full-time health units presided over by a trained personnel, which enabled us to give practical demonstrations of the policies that we were advocating. The results of these have been remarkable, and we feel now that the present examples that we can point to in British Columbia, confirm all our messages to the people both in regard to the improvement of the health of the population, and particularly in regard to the reduction of costs.

The economic conditions existing for the past three years have tried the resources of the Province, and an enormous amount of work has involved the different departments in the carrying-out of the efforts of the Government to meet the distress and to provide for the enormous population who have been obliged to apply for relief. This has necessitated curtailment of budgets, which prevented any hope of making further progress in the development of our work, and the amount retained in the budget has been barely sufficient to maintain our work.

It is to be regretted that the very essential work of the health departments has been considered on a par with all other departments, and has suffered accordingly. This is due to the fact that the public have not as yet grasped the fact that the human asset exceeds in value by five times the amount of the value of the material assets of the country, and in the present emergency our duty is, more than anything else, to spread amongst the people, and especially amongst the leaders, the true importance of public health in the social economy of the nation, and to point out that a greater investment should be made in order to conserve the enormously valuable human asset. A *per capita* cost of about 15 cents, representing the expenditure for public-health purposes, is a sad commentary on the lack of knowledge in the minds of the public of the real value of the work when so much can be done for small cost. It is a pity that they do not realize that the maintenance of the public health at high levels is vital to public welfare.

The present tendency to cut public-health expenditures is of grave concern to all interested in the nation's welfare. It is true that during the past two years the health conditions that have prevailed throughout Canada have been very favourable, and it is gratifying to know this. By and large, the health of the people, as represented by the reports of sickness and deaths, is good, despite the fact that this is the third year of serious economic depression. It should be pointed out, however, that these records referred to throw no light on the mental health of the people, which must be anything but good, and this is a condition that, should present conditions continue, we will see the effect of, and in addition we will soon become aware of the consequence of malnutrition in terms of disease and mortality records.

There is no doubt that the most important factor in the condition as reported above, during the past two years, is due to the continued and effective functioning of the health departments, the medical profession, and the social service agencies.

The above points have been clearly set forth in a speech by Dr. Dublin, the President of the American Public Health Association, during 1932.

In British Columbia the conditions that prevailed have been satisfactory when we consider the circumstances under which the people have been living, but the mental effect upon the people, as the result of so many people being forced upon relief, must bear its toll. While I am not pessimistic as to the future of the people of British Columbia, still I have not any false hope that we will escape the effects on the general health of the people.

It is not my intention to review the work of the different branches of the Department, as we are publishing in this Report reports bearing on our activities, which go into details.

I would like to point out, however, as one evidence of the past teachings of the health authorities is the fact of an increase in the number of our specially trained health nurses, and that, in spite of curtailments of different departments in connection with the schools, there has not, as yet, come to the Department the request for the withdrawal of the nursing service. On the other hand, we have requests coming in asking us for a service which they see has shown itself of such benefit in other places where it is in active force.

We have carried on our immunization campaign in regard to diphtheria with surprisingly good results. In fact, so much so that isolation hospitals have not been used at all for such cases. This is well illustrated by the fact that in our largest isolation hospital the floor set aside for diphtheria was closed as such and used for tuberculosis patients. In another place we have been able to discontinue the use of the isolation hospital altogether owing to the immunization against diphtheria, scarlet fever, and typhoid fever, thus enabling us to use greater space for the enlargement of our laboratory.

As an instance of the effect of immunization-work in connection with scarlet fever, I am appending a report from Dr. Haszard, the local Medical Health Officer at Kimberley, B.C. It makes very interesting reading.

We have had to assume the charge of the relief-work in so far as medical service and sanitation is concerned, which has added enormously to our work, but we have not, during the past eighteen months, had any evidence of infectious diseases in these relief camps amongst thousands of men. We were alarmed, however, in January of 1932 by an outbreak in our largest city, Vancouver, of cases of hæmorrhagic smallpox. Fifty-six cases developed, with sixteen deaths. We were sending out men constantly from this city to the camps, and we expected a holocaust. Fortunately, and immediately following the recognition of the type of disease, we made an appeal to the people through the newspapers for vaccination; they responded away beyond our expectations. In the whole Province we vaccinated over 90,000 people. Men were being sent out to the camps at the same time, but there was not a case developed in the relief camps. The first case appeared at the end of January and the last case during the first week in April, but no cases developed outside of the city and surrounding district.

A special bulletin was issued giving a history of the smallpox outbreak. We had a number of these cases in the isolation hospital, and were able to secure photographs of them which were unique and which have been asked for by medical schools and health authorities in different parts of the country.

We have been able to add another laboratory, making five, which are situated at strategic points in the Province. There will be within the next year a sixth in the northern part of the Province. The necessity for these is evidenced by the fact of the continued increase in the work. We have had to enlarge all of them. As noted in our Report of last year, the public-health laboratory-work was taken from the laboratory of the Vancouver General Hospital and established by itself. The result of this has been a continued growth in the laboratory-work, which has been carried out in a most satisfactory manner. Report for Vancouver Laboratory follows.

In connection with the laboratory-work, vaccines and antitoxins are sent out free on request, and for the eighteen months ended December 31st, 1932, the following have been furnished: 48,562 points smallpox vaccine, 11,581,000 units diphtheria antitoxin, 4,120 doses diphtheria toxoid, 84 packages Schick test for diphtheria, 336 packages 2 c.c. (prophylactic) scarlet fever antitoxin, 196 packages 15 c.c. (curative) scarlet fever antitoxin, 56 packages Dick test for scarlet fever, 547 doses scarlet fever toxin (for active immunization), 366 doses typhoid vaccine, 628,000 units tetanus antitoxin, 79 packages 20 c.c. anti-meningococcus serum, and 102 doses pertussis (whooping-cough) vaccine.

The work of our venereal clinics has been increased owing to the influx of men from different parts of the country who have come here under relief. It was necessary to relieve the situation by the establishment of a relief camp for V.D. cases especially, but we have been able to handle the work in a satisfactory manner.

During the past year we have had, owing to the influx of men, many questions arise which required immediate inquiry, and this has been carried out in a splendid way by the Provincial Police. We have had occasion in previous reports to mention our appreciation of this splendid body of men. They have certainly demonstrated their usefulness during the past year. The

co-operation that we have received is all that could be desired, and I can assure the Commissioner that we feel very much indebted for the promptness and courtesy that meets any requests which we may make. Under the present conditions, these men have a very trying work, but they are never too busy to neglect a request from our Department. We wish to thank them.

We append an account of approvals for sanitary works during the past eighteen months:—

Cemetery-sites approved.—Trail, Crawford Bay, and Qualicum Beach.

Sewage-disposal Systems approved.—Trail (extensions), Burnaby Municipality (extensions), North Vancouver City (extensions), Prince Rupert (extensions), New Westminster (extensions), Kelowna (extensions), Vancouver (extensions), Chemainus, Revelstoke (renewals), Nelson (alteration of outlet), and Vernon (extensions and alterations).

Water-supply Systems approved.—Vancouver (extensions), Fernie (extensions), Coquitlam Municipality (extensions), Revelstoke (renewals), Port Hammond (extensions), and Natal.

Water-supplies approved for Mineral-trading Purposes.—Canoe River and Lakelse Hot Springs.

I would like, Sir, to express for myself and staff appreciation of the co-operation and encouragement that we receive from yourself, and I wish to thank my whole staff for the work they have been doing. The work has more than doubled and fresh duties and responsibilities have been thrust upon us, but in the splendidly trained staff that I have, there has never been any objection to the increased work; they have also worked overtime when necessary. I would like, Sir, to draw this to your attention.

I have the honour to be,
Sir,
Your obedient servant,

H. E. YOUNG,
Provincial Health Officer.

GENERAL REPORTS.

VANCOUVER LABORATORY.

VANCOUVER, B.C., December 31st, 1932.

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, Victoria, B.C.

SIR,—We beg to submit herewith annual report for the year 1932 for the Provincial Board of Health Laboratories.

The staff consists of Director (part time), Assistant Director, Chief Bacteriologist, three technicians, two record clerks, a media-maker, two women cleaners, and a janitor.

The total number of specimens done during the year are tabulated below:—

Examinations, 1932.	Out-of-town Specimens.	City.	Total.
Animal inoculation	10	18	28
Diphtheria virulence	.....	19	19
Blood agglutination—			
T.A.B. Bang, 3 dil. (or more)	261	935	1,196
T.A.B. Bang, 1 dil.	40	26	66
T.A.B.S.F. Bang, 3 dil. (or more)	72	308	380
Typhoid, 1 dil.	23	336	359
Cultures—			
Aerobic	28	21	49
Anærobic	.....	.....	.....
Spinal fluid	6	.....	6
Typhoid group	13	126	139
Diphtheria, routine	289	7,150	7,439
Diphtheria, school	.....	699	699
Hæmolytic strep	49	323	372
Smears—			
Gonococci	231	4,798	5,029
T.B. sputum	201	1,217	1,418
T.B. spinal fluid	7	3	10
T.B. urine	5	14	19
T.B. pleuritic fluid	3	13	16
T.B., miscellaneous	9	14	23
Vincent's angina	17	391	408
Spirochæta pallida	2	38	40
Ringworm	.....	155	155
Fæces for parasites	2	20	22
Fæces for occult blood	.....	5	5
Direct smear for diphtheria	2	4	6
Spinal fluid—			
Routine, count, globulin, Fehling's	11	23	34
Protein	.....	.....	.....
Chlorides	7	1	8
Sugar	3	1	4
Colloidal gold	3	113	116
Kahn—			
Blood	1,754	18,242	19,996
Spinal fluid	35	537	572
Milk-count	138	2,282	2,420
Milk, *B. coli*	.....	.....	.....
Milk-count and *B. coli*	.....	.....	.....
Water-count	.....	.....	.....
Water, *B. coli*	171	.....	171
Water-count and *B. coli*	10	229	239
Convalescent serum—			
Measles (treatments sent out, 5 c.c. each)	4	59	63
Measles (treatments on hand, 24)	.....	.....	.....
Polio (treatments sent out, 90 c.c. each)	8	5	13
Polio (treatments on hand, 14⅓—1,290 c.c.)	.....	.....	.....
Vaccine, typhoid-paratyphoid	.....	2	2
Malarial smear	1	1	2
Miscellaneous	21	15	36
Totals	3,436	38,143	41,579

Besides the routine work, the staff has been engaged in the following special investigations:—

Miss M. Malcolm: "Scarlet fever streptococci" and "Experiments with B. diphtheria and K. media."

Miss V. Hudson: "Bacillus coli in milk" and "Isolation and identification of the organisms in pin-point colonies in milk."

Miss E. Allan: "Dysentery group agglutination tests."

Miss J. Grant: "Cultural methods for diagnosis of Bacillus tuberculosis."

Miss D. Kerr: "Colloidal gold solutions" and "Colloidal gold and mastic tests on spinal fluid."

Miss E. Allan and Miss D. Kerr: "Isolation of B. typhosus group from fæces."

I have, etc.,

H. W. Hill, M.D.,
Director, Provincial Board of Health Laboratories.

EPIDEMIOLOGICAL REPORT, JULY TO DECEMBER, 1931.

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, Victoria, B.C.

Sir,—I have the honour to submit herewith a report on the epidemiological work for the six months ended December 31st, 1931.

As it has been decided to change our public-health year to correspond with the calendar year instead of ending June 30th as formerly, this will give us a much better basis of comparison with most of the other Provinces, and also will bring our morbidity statistics into a parallel position with our mortality statistics, the latter having been compiled according to the calendar year since 1921.

With this proposed change in view, the incidence of infectious diseases was shown in my last report according to the various calendar months. The same plan is being followed in this report, so that it will be a simple matter to rearrange the monthly figures so as to give the incidence of the various diseases according to the calendar year, and thus form a basis of comparison for succeeding years.

MORBIDITY AND MORTALITY.

The total cases of infectious diseases—namely, 3,434—reported during the six months is considerably lower than for the corresponding six months of 1930 with a total of 4,210. Most of this reduction is accounted for by a lower incidence of whooping-cough, only 311 cases being reported, as against 1,109 for the same period of 1930. Chicken-pox and scarlet fever also showed fairly substantial decreases. Tuberculosis, measles, and German measles, on the other hand, all showed substantial increases. The figures do not represent an actual increased incidence of tuberculosis, however, as better reporting of cases, especially from the City of Vancouver, accounts for most, if not all, of the increase shown.

TABLE No. 1.—INFECTIOUS DISEASES AND DEATHS, WITH MORBIDITY AND MORTALITY RATES, BRITISH COLUMBIA, FOR THE YEAR 1931.

Diseases.	Cases.	Morbidity Rate per 100,000 Population.	Deaths.	Mortality Rate per 100,000 Population.
Anthrax	1	0.14	.....	.....
Cerebrospinal meningitis	16	2.31	11	1.59
Chicken-pox	2,725	392.65	2	0.29
Conjunctivitis	59	8.50	.....	.....
Diphtheria	299	43.08	18	2.59
Dysentery (bacillary)	16	4.61	5	0.72
Dysentery (unspecified)	16			
Encephalitis	1	0.14	.....	.....
Erysipelas	137	19.74	7	1.01
German measles	81	11.67	.....	.....
Influenza	1,697	244.53	204	29.39
Leprosy	.....	.....	2	0.29
Malaria	2	0.29	1	0.14
Malignant œdema	1	0.14	.....	.....
Measles	456	65.71	1	0.14
Mumps	1,122	161.67	.....	.....
Paratyphoid fever	5	0.72	.....	.....
Pneumonia (lobar)	107	44.24	294	42.36
Pneumonia (broncho)	140			
Pneumonia (unspecified)	60			
Poliomyelitis	42	6.05	11	1.59
Puerperal septicæmia	1	0.14	.....	.....
Scarlet fever	602	86.74	5	0.72
Septic sore throat	146	21.04	.....	.....
Smallpox	23	3.31	.....	.....
Tetanus	1	0.14	3	0.43
Trachoma	11	1.59	.....	.....
Tuberculosis	888	127.95	642	92.51
Typhoid fever	76	10.95	7	1.01
Undulant fever	7	1.01	.....	.....
Whooping-cough	1,210	174.35	28	4.03
Totals	9,948	1,433.43	1,241	178.82

Rates are based upon a population of 694,000 for 1931.

ANTHRAX.

In August, 1931, there was a case of anthrax reported from the City of Kamloops. The patient was a girl baby 5 months old, who had not been out of the city, and the only contact with animals that could be traced was that one or two members of the family worked in a dairy close to town.

Information received from the Health of Animals Branch of the Federal Department of Agriculture is to the effect that there has been no anthrax reported amongst animals in the interior part of the Province during the last eleven years, and none anywhere in the Province during the last eight years. The spores apparently had retained their vitality for at least eleven years. The attending doctor mentioned a former case he had known in which the spores had caused anthrax in a human after a lapse of thirty years.

The baby is alleged to have fallen while playing in the yard, probably causing an initial abrasion above the left ear, where the anthrax lesion later developed. Large doses of anti-anthrax serum were given and the baby made a remarkable recovery after a severe illness.

DIPHTHERIA.

There were 161 cases of diphtheria during the six months, 57 of these being in Trail, an industrial city of about 8,000 population, where, for about a year, several cases of diphtheria had been occurring each month, and altogether three deaths resulted.

The local Health Officer had advocated toxoid for immunization purposes and had tried to carry on a campaign to have susceptible persons immunized. The response, however, was poor, partly due to the fact that a few well-meaning but misguided citizens carried on a campaign simultaneously to force improvement of the general sanitation in certain build-

ings and areas, claiming that these places were spreading the disease, and that if these were cleaned up diphtheria would vanish.

By a personal visit your Epidemiologist was able to explain to the local Board of Health that diphtheria was probably being spread by healthy carriers which would be difficult to detect amongst the general population. They were encouraged to clean up any unsanitary conditions, but it was explained that this would have no effect on their diphtheria, and they were strongly advised to increase their campaign to immunize as many as possible without delay, especially amongst the children.

This advice was carried out, and before the end of the year diphtheria had disappeared.

To other communities I would like to cite this as a lesson, and to urge that there be no delay in waiting till deaths have occurred or health permanently impaired by this disease which can so easily and surely be prevented.

POLIOMYELITIS.

During the latter six months of 1931 there were 33 cases of poliomyelitis, 26 of which occurred in Greater Vancouver, and the rest as single cases in various parts of the Province. August showed the highest number of cases (15), after which there was a gradual tapering-off, only one case being reported during December.

Human convalescent serum collected and prepared by the Provincial Board of Health Laboratories at Vancouver was supplied to physicians on request. Very favourable comments have been received from physicians who used the serum, and its use as a therapeutic measure seems to have been of definite value.

Table No. 2 shows the monthly incidence of the various infectious diseases occurring within the Province.

TABLE NO. 2.—CASES OF INFECTIOUS DISEASES AS REPORTED BY MONTHS FOR THE PROVINCE OF BRITISH COLUMBIA FOR THE SIX MONTHS, JULY TO DECEMBER, 1931, AND FOR THE CORRESPONDING PERIOD OF 1930 (INDIANS INCLUDED).

Disease.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total Cases.	Total Cases for Corresponding Six Months of 1930.
Anthrax	.....	1	.....	.....	.....	.....	1	.....
Cerebrospinal meningitis	1	1	2	1	.....	.....	5	13
Chicken-pox	90	43	98	215	250	227	923	1,052
Conjunctivitis	3	6	6	5	7	5	32	19
Diphtheria	25	19	29	32	28	28	161	148
Dysentery (amœbic)	.....	.....	.....	.....	.....	.....	.....	15
Dysentery (bacillary)	1	3	2	9	1	.....	16	7
Dysentery (unspecified)	.....	8	2	2	.....	.....	12	33
Encephalitis	.....	.....	.....	.....	.....	.....	.....	1
Erysipelas	11	9	6	12	7	5	50	75
German measles	.....	2	4	1	14	33	54	19
Influenza	7	8	15	35	33	102	200	201
Malaria	.....	.....	.....	.....	.....	1	1	.....
Malignant œdema	.....	.....	1	.....	.....	.....	1	.....
Measles	7	6	2	17	77	282	391	267
Mumps	6	28	67	41	32	96	270	239
Paratyphoid fever	1	.....	.....	1	.....	.....	2	5
Pneumonia (lobar)	3	7	6	4	7	7	34	81
Pneumonia (broncho)	4	10	4	8	6	25	57	45
Pneumonia (unspecified)	2	3	.....	1	.....	.....	6	26
Poliomyelitis	3	15	9	3	2	1	33	28
Puerperal septicæmia	.....	.....	.....	.....	.....	.....	.....	1
Scarlet fever	12	7	17	72	42	37	187	380
Septic sore throat	8	5	12	30	19	28	102	93
Smallpox	4	3	1	.....	2	.....	10	24
Tetanus	.....	.....	.....	1	.....	.....	1	.....
Trachoma	.....	5	1	2	1	1	10	1
Tuberculosis	57	115	82	87	82	87	510	209
Typhoid fever	5	7	11	18	3	4	48	118
Undulant fever	2	3	.....	1	.....	.....	6	1
Whooping-cough	21	19	26	54	92	99	311	1,109
Totals	273	333	403	652	705	1,068	3,434	4,210

It should be noted here that cases of influenza, pneumonia, septic sore throat, and conjunctivitis are not being reported from the Cities of Vancouver and Victoria, with a combined population considerably more than one-third of the total population of the Province.

GOITRE.

Continuing the study of endemic goitre in British Columbia, the figures taken from the annual reports of the School Medical Inspectors for the year ended June 30th, 1931, show a slight general increase of this disease. Of the 103,294 children examined, 5,403, or 5.23 per cent., had goitre, as against 4.98 per cent. for the previous year.

In 248 of the schools 10 per cent. or more of the pupils were reported as having goitre, and 133 of these schools showed 20 per cent. or more, while in 43 schools 50 per cent. or more, and in a few schools 90 to 100 per cent. of the pupils were affected with goitre.

As in previous years, the districts showing the highest incidence were the Kootenay-Revelstoke, Okanagan-Salmon Arm, and the Central Interior areas of the Province, although some of the schools at the Coast showed a fairly high percentage, notably those situated in mountainous areas at or near the head of long narrow inlets of the sea. Of all the Coast areas, Bella Coola showed much the highest goitre incidence, 66 per cent. of the 97 pupils examined in the five schools of this area being affected with goitre—nearly 100 per cent. increase over the previous year, when 34 per cent. were affected.

I have, etc.,

A. M. MENZIES, M.D., D.P.H.,
Acting-Epidemiologist.

REPORT OF EPIDEMIOLOGIST.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., December 31st, 1932.

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, Victoria, B.C.

SIR,—I have the honour to submit herewith a report of the epidemiological work for the year 1932.

We have every reason for gratification over the results accomplished in the control of infectious diseases during the year; for, even though the figures show a considerable increase in the total number of cases reported, most of the diseases really show a decrease. Out of a total of 22,323 cases of reportable diseases during 1932, there were 16,497 of these, or 74 per cent., due to two diseases—namely, measles and influenza. If we eliminate these two diseases from our totals for the years 1929 to 1932, we find that there has been a considerable decrease in 1932 from the previous three years, even though we have had greater efficiency in reporting, and though cancer has been added to the list of reportable diseases.

Influenza and measles are two diseases for which no practical method of control has yet been found, and with our present-day rapidity of travel they sweep through a susceptible population at a rapid rate.

Considerable apprehension was felt during this, our fourth year of serious economic depression, lest a lower standard of living conditions necessitated in many homes might create a greater susceptibility to disease, as well as provide more favourable conditions for the spread of communicable disease within small areas.

Our figures show, however, that in some of the diseases, notably in diphtheria, typhoid fever, and poliomyelitis, there has been a considerable reduction in incidence, and although final figures are not available, preliminary figures would indicate that in practically all infectious diseases the death-rate has been no higher than usual. One of the exceptions was smallpox, a very virulent type of which made its appearance early in the year with a case mortality rate of 28.6 per cent. Further details of these diseases will be found elsewhere in this report.

There is no doubt that preventive measures have played a great part in lowering our incidence of communicable diseases, and while our figures may seem high when compared with

those of a few years ago, I would like to point out that we are now getting much better reporting than formerly, and the increases shown by some of these diseases is more apparent than real.

I would like to express here our appreciation of the interest shown by the physicians in practically all parts of the Province in reporting regularly to this Department. During 1932 approximately 93 per cent. of the report-cards which are mailed from this Department weekly to physicians were returned, with a list of the diseases occurring during the week specified on the card.

It is to be regretted, however, that up to the present time the reports received from the larger cities do not give an accurate and complete return of all reportable diseases occurring within these more populous centres. Inquiry would indicate that in many cases there is failure on the part of the citizens to call in a physician, or report their cases to their local health departments. Also there is probably a laxity on the part of many city physicians in informing the City Health Officer regarding the cases of reportable diseases which occur in their practices.

When one considers the fact that practically all control measures, and preventive medicine in general, are based upon morbidity and mortality statistics, one can realize the importance of obtaining full, accurate, and prompt reports regarding disease incidence by the Department of Health. And it is hoped that our larger cities may soon develop some system whereby satisfactory morbidity statistics regarding all reportable diseases may be available.

On account of the need to economize wherever possible, your Epidemiologist has done comparatively little travelling during the year. It has been necessary to do things in the least expensive way, even though this has not always been the most satisfactory. Assistance in the way of advice and information has been rendered to numerous physicians and other health-workers, and for the distribution of such information we have found the monthly bulletin of the Provincial Board of Health to be of very great assistance.

Certain diseases are considered in detail below, but our statistical tables have been cut to a minimum in the interests of economy.

The rates as given in our report for the year ended June 30th, 1931, were based upon an estimated population of 597,000, whereas the actual population as shown later by the 1931 census returns was 694,263, so that for a fair comparison of rates there should be a revision on the basis of a corrected population. The rates as shown in that report are considerably higher than should actually be the case.

In conformity with the plan to change the public-health year to end December 31st instead of June 30th as formerly, our tables have been arranged according to the calendar year. For the purposes of comparison, the infectious diseases for the three preceding years have been rearranged according to the calendar year instead of according to the year ending June 30th as in previous published reports, and Table No. 1 shows how the disease incidence in each of those years compared with 1932.

TABLE NO. 1.—INFECTIOUS-DISEASE INCIDENCE IN THE PROVINCE BY CALENDAR YEARS 1929–32.

Disease.	1929.	1930.	1931.	1932.
Actinomycosis	.....	.....	.....	1
Anthrax	.....	.....	1	.....
Cancer	*	*	*	72
Cerebrospinal meningitis	29	23	16	10
Chicken-pox	1,411	2,639	2,725	1,700
Conjunctivitis	*	333	59	22
Diphtheria	815	380	299	83
Dysentery (all forms)	*	70	32	7
Encephalitis	5	2	1	1
Erysipelas	118	165	137	60
German measles	45	191	81	156
Influenza	862	1,296	1,697	7,836
Malaria	1	1	2	.....
Malignant œdema	.....	.....	1	.....
Measles	5,036	860	456	8,861
Mumps	3,292	1,122	1,122	798
Paratyphoid fever	*	17	5	5

* Not reportable.

TABLE NO. 1.—INFECTIOUS-DISEASE INCIDENCE IN THE PROVINCE BY CALENDAR YEARS 1929–32 —*Continued.*

Disease.	1929.	1930.	1931.	1932.
Pneumonia (lobar)	*	.....	107	101
Pneumonia (broncho)	*	.....	140	101
Pneumonia (unspecified)	*	482	60	47
Poliomyelitis	43	34	42	5
Psittacosis	.....	7	.....	.....
Puerperal septicæmia	*	3	1	7
Scarlet fever	554	699	602	466
Septic sore throat	*	235	146	67
Smallpox	431	107	23	57
Tetanus	.....	1	1	2
Trachoma	6	6	11	113
Tuberculosis	267	425	888	872
Typhoid fever	65	139	76	49
Undulant fever	2	2	7	2
Whooping-cough	388	2,516	1,210	822
Totals	13,370	11,755	9,948	22,323

* Not reportable.

The monthly incidence of reportable diseases for 1932, with morbidity rate, is shown in Table No. 2.

TABLE NO. 2.—INFECTIOUS-DISEASE INCIDENCE BY MONTHS AND MORBIDITY RATE FOR THE PROVINCE OF BRITISH COLUMBIA, 1932.

Disease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Morbidity Rate per 100,000 Population.
Actinomycosis	.....	.....	.....	....	....	....	....	....	....	1	.....	.....	1	0.14
Cancer	7	8	4	8	11	8	2	3	3	7	7	4	72	10.23
Cerebrospinal meningitis	1	.....	.....	2	2	....	2	....	2	....	1	.....	10	1.42
Chicken-pox	259	145	98	102	145	203	153	30	32	104	234	195	1,700	241.48
Conjunctivitis	2	.....	1	5	1	4	2	2	1	....	1	3	22	3.12
Diphtheria	17	11	12	13	4	4	7	5	....	....	4	6	83	11.79
Dysentery (bacillary)	.....	1	.....	....	....	....	....	....	....	....	.....	.....	1	0.99
Dysentery (unspecified)	2	.....	.....	....	....	....	....	....	....	....	.....	4	6	
Encephalitis	.....	.....	.....	....	1	....	....	....	....	....	.....	.....	1	0.14
Erysipelas	8	6	6	4	3	3	9	4	1	4	4	8	60	8.52
German measles	30	48	33	18	10	3	....	2	1	3	5	3	156	22.16
Influenza	35	37	46	39	49	5	34	4	10	46	3,959	3,572	7,836	1,113.07
Measles	3,501	2,660	1,132	433	261	243	278	37	23	175	63	55	8,861	1,258.66
Mumps	228	92	65	95	91	93	32	7	16	42	17	20	798	113.35
Paratyphoid fever	.....	.....	1	1	1	....	1	....	....	1	.....	.....	5	0.71
Pneumonia (lobar)	8	18	14	9	3	3	5	3	4	7	14	13	101	35.37
Pneumonia (broncho)	21	12	9	9	2	4	3	6	1	7	13	14	101	
Pneumonia (unspecified)	7	2	6	3	....	....	2	....	....	3	6	18	47	
Poliomyelitis	.....	.....	.....	1	....	....	.....	1	2	....	1	.....	5	0.71
Puerperal septicæmia	1	.....	.....	....	....	....	1	....	....	3	2	.....	7	0.99
Scarlet fever	44	23	25	27	11	27	32	24	35	87	68	63	466	66.19
Septic sore throat	11	10	2	8	6	6	12	2	....	1	4	5	67	9.52
Smallpox	15	27	12	2	....	1	....	....	....	....	.....	.....	57	8.10
Tetanus	.....	1	.....	1	....	....	....	....	....	....	.....	.....	2	0.28
Trachoma	1	.....	2	2	....	....	2	10	4	76	5	11	113	16.05
Tuberculosis	89	67	67	91	95	76	42	55	70	81	50	89	872	123.86
Typhoid fever	6	4	3	2	3	4	4	5	10	2	3	3	49	6.96
Undulant fever	.....	1	.....	....	....	....	....	....	1	....	.....	.....	2	0.28
Whooping-cough	88	51	54	67	95	119	54	18	29	59	91	97	822	116.76
Totals	4,381	3,224	1,592	942	794	806	677	218	245	709	4,552	4,183	22,323	3,170.88

Rates for 1932 are based upon an estimated population of 704,000.

Beginning with 1932, some slight changes were made in the reporting of diseases according to racial and age groups.

Our chief racial groups in British Columbia being White, Chinese, Japanese, and Indian, diseases are now reported according to these groups, and the Negro group is not considered separately, as there are so few Negroes in the Province. During the last public-health year there was only one case of infectious disease reported in a Negro.

The ages have been divided into five groups instead of four as formerly, and are now being reported according to these groups. The new groups are as follows:—

A. Under 1 year, infant.
B. 1 to 5 years, pre-school child.
C. 6 to 14 years, school-child.
D. 15 to 19 years, adolescent or youth.
E. 20 years and over, adult.

A few details regarding certain of the reportable diseases are worth recording.

ACTINOMYCOSIS.

The one case of this disease which occurred during the year was a case of actinomycosis of the lung in a woman who had been in the habit of handling horses.

CANCER.

As cancer is reported to be increasing alarmingly in practically all parts of the civilized globe, an effort is being made to obtain statistics in regard to its occurrence in this Province. During 1931 is was placed on our list of reportable diseases, and whenever a case was reported to this Department a short questionnaire was sent out to the attending physician, asking for a few details regarding the case. The degree of co-operation on the part of physicians in the smaller centres has been most gratifying. The larger population centres, however, in which, partly on account of the better hospital facilities available and partly because of the number of people of the cancerous age who retire to the cities, the greater number of cancer cases are expected to occur, have not yet furnished us with any figures or details in regard to this disease for 1932.

Our series is as yet too small from which to draw conclusions, but a significant fact is that almost one-half of the cases investigated, reported to their physician too late for remedial measures to be of value.

DIPHTHERIA.

The record in regard to diphtheria is particularly encouraging, only 83 cases being reported during the year, as compared with 815 during 1929. This marked reduction is no doubt due to the widespread use of toxoid as an immunizing agent. For the first time in many years, two whole months went by—namely, September and October—with not a single case of diphtheria reported in the Province. With a more widespread use of immunization, it is not too much to hope for a whole twelve-month period without a case of diphtheria.

INFLUENZA.

This disease has a habit of recurring at periodic intervals, and with varying severity, the last serious visitation being in the winter of 1926–27, until it again became epidemic in November, 1932, continuing on into 1933, although the peak was reached during the week ending November 26th. During the two months, November and December, 1932, there were reported over 7,500 cases out of a total of 7,836 for the year, and none of these were from the larger cities, although numerous cases were known to have occurred in these centres.

From opinions expressed by various physicians, the disease was generally mild in type, although quite disabling for a few days, and in a few cases it is reported to have been of the virulent type, similar to that of 1918. Preliminary figures show that the deaths from influenza rose quite appreciably, 83 being reported for the months of November and December, 1932, as compared with 14 for the same months of the previous year.

Influenza was epidemic in the Territory of Hawaii from June to September, 6,423 cases being reported during the month of July, and apparently the infection spread from that point to the Pacific Coast of North America. It became epidemic in the Pacific Coast States at about the same time as in British Columbia, appearing slightly later in the Eastern areas.

MEASLES.

The year 1932 was a measles-year, more cases being reported than of any other single disease. It flared up first in Vancouver early in January, and practically every area of the Province was invaded more or less severely during the course of the year.

As it takes about two years for a sufficient number of non-immune children to be produced, we may look forward to another wave, probably less severe, about the latter part of 1933 or during 1934.

POLIOMYELITIS.

We were extremely fortunate in having only 5 cases of poliomyelitis reported during 1932, and in some of those the diagnosis was more or less uncertain. As there had been from 34 to 43 cases during each of the past three years, this represents a very marked reduction.

For some as yet unexplained reason, poliomyelitis has a tendency to increase during the late summer and early fall months, and to disappear with the onset of cold weather. The summer of 1932 was colder than usual, with very little warm weather, and it is probable that this had some bearing on the low incidence of polio.

SCARLET FEVER.

Scarlet fever shows a reduction from the three previous years, but was epidemic at several points, notably Kimberley and Port Alberni. In general the disease is reported to be very mild in form, with few complications, although preliminary figures show 5 deaths from scarlet fever.

In Kimberley the epidemic was brought under control by the use of scarlet fever toxin in an immunization campaign—some 225 children being given the 5 doses of toxin.

SMALLPOX.

Beginning early in January, smallpox of a very virulent type broke out in Vancouver, the infection becoming fairly widespread before it was discovered, and a total of 56 cases with 16 deaths resulted.

Fifteen out of these 16 deaths had never been vaccinated prior to infection, and in the remaining case thirty-five years had elapsed since vaccination.

No one took smallpox who had been successfully vaccinated within the fifteen years preceding infection.

The epidemic was quickly controlled by wholesale vaccination, some 90,000 persons having been vaccinated throughout the Province.

The effectiveness of vaccination is further shown by the fact that not a single case of smallpox has occurred within the Province during the latter six months of 1932, the first time in years that the Province has been free of smallpox for such a lengthy period.

A detailed report of the 1932 epidemic was published in the May supplement of The Bulletin of the Provincial Board of Health.

TRACHOMA.

Our report this year shows an enormous increase in the number of cases of trachoma reported, with a total of 113, as compared with an average of about 8 for each of the three preceding years.

Approximately 85 per cent. of the cases were among Indians, and the increase in reported cases is due to the fact that a special survey has been carried on by Dr. Wall, under the Federal Department of Indian Affairs.

TUBERCULOSIS.

It is pleasing to note a slight decrease in the number of cases of tuberculosis, 872 being reported, as compared with 888 for the year 1931. On the basis of an estimated population of 704,000 for 1932, this means a lowering of the tuberculosis morbidity rate by 4.09 per 100,000 population.

TYPHOID FEVER.

During 1932 there were only 49 cases of typhoid fever, as compared with an average of 93 for the three preceding years.

In this disease, as in poliomyelitis, climatic conditions may have had some influence, as with the cooler weather there was a notable reduction in the number of flies.

WHOOPING-COUGH.

There has been a gradual lowering in the number of cases of whooping-cough from the peak year of 1930, when 2,516 cases were reported. In 1932 there were 822 cases.

ENDEMIC GOITRE.

Further investigation has been carried on regarding the incidence of endemic goitre amongst the school-children of British Columbia.

Figures taken from the reports of the School Medical Inspectors show a slight decrease in goitre throughout the Province, although many schools showed a considerable increase. A total of 5,176 cases were reported for the school-year 1931–32, as compared with 5,403 for the previous year, or 5.03 per cent. of the pupils examined, as compared with 5.23 per cent. for the year 1930–31.

The same two districts, as formerly, show the highest incidence for the Province—namely, the Okanagan-Kamloops area and the Kootenay-Revelstoke area. These areas were formerly known as Districts Nos. 4 and 5 respectively, but since our last report have been changed to be known as Registration Areas Nos. 3 and 4 respectively.

Reporting by large areas, however, does not give a true picture of the situation in regard to endemic goitre, as in certain small localities the local conditions seem particularly favourable for the production of goitre, even though the larger area may show a low incidence of the disease.

For instance, at Glenora and Koksilah, on Vancouver Island, the goitre incidence was 37 and 50 per cent. respectively, and for the whole area (No. 5A) in which these places are included the goitre incidence was only 1.70 per cent. Similarly, in Area No. 7, which is the Mainland Coast area from Jervis Inlet north to just beyond Ocean Falls, the per cent. of goitre is 6.45, and yet in the four schools of the Bella Coola region of this area 75 per cent. of the pupils are affected with goitre.

What the peculiar conditions are which cause a high goitre incidence in these small circumscribed areas would make an interesting and instructive study, as soon as financial conditions may permit the expense of a survey of this kind.

With a system of goitre prophylaxis inaugurated during the autumn of 1932, however, in which palatable iodine tablets are provided at very low cost, there should be a marked lowering of goitre incidence during succeeding years.

I have, etc.,

A. M. MENZIES, M.D., D.P.H.,
Acting-Epidemiologist, Provincial Board of Health.

REPORT ON A SCARLET FEVER OUTBREAK.

KIMBERLEY, B.C., November 16th, 1932.

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, Victoria, B.C.

SIR,—Beginning September 6th, from contact with a convalescent case from a neighbouring town, there have been thirty-seven cases of scarlet fever in Kimberley; the last case having been reported on November 1st.

AGE DISTRIBUTION.

Most of the cases have been pre-school age and school age, the only outstanding fact being the high proportion of adults, six out of thirty-seven.

One death occurred in the first three cases; this was before treatment antitoxin was available. The fatal case was given two injections of treatment antitoxin only after complications had set in and hope of recovery very slight. This case was a typical severe purulent rhinopharyngitis, with massive cervical adenitis and otitis media in the terminal stage.

MEASURES OF CONTROL.

Quarantine of all houses was strictly enforced, the father of a family being allowed to live in a bunk-house and go to work. After two of these workers had developed the disease we made it a rule to give all those exposed an injection of prophylactic serum before allowing any liberty.

Prophylactic serum was given to all house contacts, except those giving a definite history of scarlet fever. None of those receiving prophylactic serum developed the disease.

TREATMENT ANTITOXIN.

This has a most marked effect not only on the disease, but on the incidence of complications. Not one of the cases receiving antitoxin has developed any of the usual ear, kidney, or heart complications.

One maternity case developed the disease on the sixth day in hospital, having been exposed to an unreported case before leaving home. The antitoxin rendered this usually serious combination a harmless one.

One very sick child, discovered on the third day with a purulent rhino-pharyngitis, responded very well to treatment and made an uneventful recovery. Given on the first day of the disease, the antitoxin has its most spectacular effect, the rash and sore throat practically disappearing in twenty-four hours.

TOXIN IMMUNIZATION.

This was offered gratis to all children of 12 and under. Two hundred and twenty-five completed their five injections at weekly intervals. Beyond a stiffness of the arm for a day or so, a few transient attacks of vomiting and headache, no untoward results were observed. None of the children receiving the injections developed scarlet fever.

We feel that the development of this comparatively large group of immunized children in a small community had a great deal to do with the limitation of the epidemic.

SCHOOLS.

The schools were not closed, but careful watch was kept by the teachers for any apparent case of illness, particularly sore throat; these cases were promptly sent for medical inspection. It was found that better check could be kept on the children by not closing the schools and sick children could not be so easily hidden away to escape quarantine. Immunization protected all who desired protection.

TERMINAL DISINFECTION.

This was limited to current disinfection and thorough domestic house-cleaning afterwards. No fumigation was carried out and the results were quite satisfactory.

We are now in hope that the epidemic in this area is over.

I have, etc.,

J. F. Haszard,
Medical Health Officer.

SANITARY INSPECTION.

Victoria, B.C., December 31st, 1932.

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, Victoria, B.C.

Sir,—I have the honour to submit my Twenty-second Annual Report on general sanitary conditions for the Province of British Columbia.

During the past eighteen months we have shared, with the rest of the civilized world, a period unparalleled in history for unemployment and embarrassing social problems, and in spite of our abundant natural resources much want exists in our midst. Our natural undeveloped wealth and climatic conditions have aggravated these local problems through the attraction from the East and elsewhere of thousands of men seeking to better their living conditions. Employers have been generous to an embarrassing degree in their sympathetic co-operation for relief, but through the lack of markets for raw and finished products their efforts have been curtailed. The word "depression" is, however, becoming tabooed and there are signs of slowly but surely improved conditions. Mining development is taking on rapid strides with splendid and surprising results.

Logging, which has been much curtailed, is now showing signs of increased output; in fact, the majority of our staple industries are gradually recovering.

Salmon fishing and canning during the past season was much better than anticipated. The quality delivered to the canneries was the finest in years, due possibly to the fact that the runs seemed to be continuous and steady, without glut. This also ensured the most desirable conditions for canning. Every cannery complied strictly with our regulations, the only fly in the ointment being the disposal of fish cuttings or offal. Owing to the lack of a conveniently located fish-meal and oil plant, thousands of tons of fish-offal were dumped into the sea.

Another sea product engaging the serious attention of this Department is the increasing development of shell-fish propagation for local and export consumption. At this writing, the demand exceeds the production of a certain type of oyster which evidently thrives better in British Columbia waters than elsewhere. The favourable geographical, climatic, and salinity conditions existing at scores of already known and isolated parts of the southern part of British Columbia's 6,000-mile coast-line offers vast potentialities for this most desirable food product, absolutely free from pollution, usually contiguous to centres of civilization. The supervision of these areas brings about extra work for this Department, but fortunately we have the necessary transportation and laboratory facilities to carry on without additional expense. Regulations governing the operation in a sanitary manner have already been put into effect, and I am glad to report that all our shell-fish growers endorse these regulations and are co-operating in the enforcement. Each operator must procure an annual certificate, and no foreshore is leased or permitted to be used for shell-fish cultivation unless the site is approved by the Provincial Board of Health.

FRUIT- AND VEGETABLE-CANNING ESTABLISHMENTS.

The majority of these plants are located in the sunny Okanagan, and the year just closed was a bumper one for growers, canners, and processors, and any reward accruing to them is more than deserved for their painstaking work to produce delicious food which has won unstinted praise from all parts of the world. Our regulations governing these plants were strictly adhered to, both as to condition of product canned and also to sanitary conditions of premises.

I have used the word "processors" to embody the constantly increasing plants used for processing, glacing, or drying of fruits, also for wineries. Every manager takes a pride in the conduct of the establishment under his charge. Visitors are always welcome, and this welcome has often proved to be effective advertising.

NUISANCES.

We have not been immune from nuisances in 1932. The worst offender, a fish by-product factory located near the shopping district of a city, was closed after considerable and annoying delay. We have numerous fox-farm, piggery, and drainage nuisances being dealt with at this moment. The nuisance branch of this Department calls for more patience and tact than any other work in the field of sanitation. Occasionally the health of a community is involved, but more often peevish or petty spite is the guiding star, and it is sometimes necessary to have laboratory results as the deciding factor.

SUMMER RESORTS.

In spite of the 1932 depression, the summer camps were patronized to capacity. Our "warning notices" were conspicuously posted at the most populous resorts. Water-supplies were tested and general sanitary conditions observed. No infectious trouble was reported and general health conditions were excellent.

WATERSHEDS.

During the past year British Columbia has been immune from water-borne disease. Due credit must be given to the observance of our Watershed Regulations now in force in our principal cities and municipalities. West Vancouver is about to have them applied to Hollyburn Ridge, which supplies the major part of the municipal water system.

The pollution of several village and private water-supply systems have been dealt with and corrective measures taken.

CAMPS IN GENERAL.

Auto and tourist camps are visited periodically, and attention is chiefly directed to the supply of pure, wholesome drinking-water, and proper sanitary conveniences and drainage. The same may be said of all our camps in British Columbia, and it is gratifying to report that in nearly every case we get welcome co-operation. It is the small camp only where we find a tendency towards carelessness, and occasionally drastic measures are needed to protect the health of those using such camps.

The relief camps comply fully with our regulations and are under special medical supervision, with a periodical visit of inspection by the writer.

In conclusion to this brief report, I would respectfully remind you that the office files show the work of this branch of your Department has been carried out in a systematic manner, with sanitary problems met and dealt with as they arise. In nearly every case results have been satisfactory; this in a great measure being due to the unstinted assistance and co-operation of the Provincial Police, municipal officials, and the staff of the Provincial Board of Health Laboratory.

I have, etc.,

FRANK DEGREY,
Chief Sanitary Officer.

COMBINED REPORT OF TRAVELLING MEDICAL HEALTH OFFICER AND INSPECTOR OF HOSPITALS.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., December 31st, 1932.

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, Victoria, B.C.

SIR,—I have the honour to submit my Ninth Annual Report as Travelling Medical Health Officer and Inspector of Hospitals for the Province.

This report, instead of being a truly annual report, covers the period from August 1st, 1931, to December 31st, 1932, thus bringing the report-year into conformity with the calendar year. The statistical part of the report consists then of the annual report from August 1st, 1931, to July 31st, 1932, and a supplemental statement covering period from August 1st to December 31st, 1932.

In previous reports there has usually been some outstanding event in the year's work to be described. In the present period there has been no such happening, and yet I believe we can look back upon a period of real achievement in the fight against tuberculosis in this Province.

CLINICAL WORK.

As in every year since this clinic was established in 1923, I again have pleasure in reporting a considerable increase in the total number of cases examined, in spite of the fact that last year it seemed the saturation-point must have been reached, considering the extent of territory to be covered.

This, as formerly, has only been made possible by the hearty co-operation of all parties in any way connected with the work. This includes, first, the medical profession as a whole, as practically all cases are referred to the clinics through the family physician; the local Medical Health Officers; the Public Health Nurses, whether district or school; and I should specially mention the Superintendents and other staff of the public hospitals, who have always been ready to do all in their power, often at considerable inconvenience to themselves, to provide us with accommodation for the clinic itself, as well as fresh developing solutions for the better preparation of our X-ray films.

Special mention should also be made of the work of the Travelling Nurse, Miss J. B. Peters, whose services are made possible out of funds obtained from the sale of the Christmas seals by the Tranquille Publishing Society. To her falls a great deal of the work, both general and detail, meeting and taking the history of patients, taking and developing of the X-ray films,

taking dictation of interpretation of films, and this followed by typewritten reports of each individual case to the doctor concerned. It has been necessary to have the part-time service of one of your office staff in recording and filing reports.

It will be seen from the statements below that while the increase in total new cases examined has been considerable, there has been a greater proportionate increase in the number of re-examinations. This latter is partly, at least, the inevitable result of the present policy of our Sanatorium of discharging patients as early as possible to their homes in order to give a greater number of individuals the benefit of Sanatorium treatment and, more especially, training. The more rapidly cases are discharged from the Sanatorium, the more cases there are for supervision by the Travelling Clinic.

COMPARATIVE REPORT.

Year.	New Cases.	Re-examinations.	New T.B.'s, Pulmonary and Hylus only.
1923–24	240	.....	114
1924–25	342	40	82
1925–26	390	36	77
1926–27	478	40	109
1927–28	377	178	110
1928–29	701	290	117
1929–30	1,222	557	186
1930–31	1,629	694	222
1931–32	1,915	1,074	242
Totals	7,294	2,909	1,259

Total number of new cases	7,294
Total number of new cases, hylar and pulmonary tuberculosis	1,259
Total number of examinations, old and new	10,203

We thus have a record in our nine years' work of 7,294 citizens of British Columbia, with the physical findings of each at time of examination and including 1,259 (less those who have died) pulmonary T.B. cases, many of whom have been re-examined many times; the reports of these re-examinations also are on file. When one considers that this work does not deal with conditions in Vancouver, where are found at least half of all the tubercular cases of the Province, we must have a registration of a rather high percentage of the cases in the Province. With our 1,074 re-examinations last year, you will understand that many of these cases are being followed up in a manner that could not be accomplished in any other way than through a clinic.

In a further study of our records this year, it is found that out of the total number of cases examined in this nine-year period, 1,023 gave a history of pleurisy at some time in their lives, either at time of examination or a few months or many years previously. The earliest recorded date is 1898 and one or more representatives in nearly every year since then. Of these 1,023 cases, 238, or a little over 23 per cent., either had an accompanying pulmonary T.B. lesion at time of examination or subsequently developed pulmonary T.B. Thirty-three cases developed empyema, most of which were not of T.B. origin. In a number of cases pleurisies cleared up leaving no aftermath after years. Many have remained chronic pleurisies over years, without as yet showing pulmonary lesions. Undoubtedly, others will later develop pulmonary T.B. lesions, especially amongst the later cases, but if so we hope to get them earlier than is often the case. Much other information will be available from this study, which space will not permit enclosing here. It is my intention to make a further study of these at some future time for the benefit of the profession.

As an illustration of the benefits of the clinic in searching out the source of infection, I would like to quote the following:—

A case of tuberculous meningitis appeared in one of our rural communities, positively diagnosed by the finding of the bacilli in the spinal fluid. This case recovered, by the way. The parents were negative on examination, but the maternal grandmother was found to be an unsuspected chronic case of pulmonary tuberculosis.

Also referring to the tables below, it will be found that 358 cases were examined at the clinics not because of any known disease, but because they were known to have been in contact with open cases of T.B. Of these, 25 were found to have definite pulmonary T.B.; 6 hylus T.B., sufficiently severe to require supervision; and 32 others classed as suspects, so that they may be followed up. This is surely sufficient justification for such a service and a sufficient answer to any criticism of the work.

As our report covers not only one year, but the period above mentioned, up to end of 1932, I might mention the amount of time given to chest conditions on our Summer School programme in Vancouver. True, it was mostly the surgical aspects of these diseases, but while formerly the non-pulmonary forms of T.B. were often surgically treated, now these are treated medically and pulmonary T.B. is coming to be more and more a surgical condition.

Believing that the proper relation between sun treatment and pulmonary tuberculosis was not being fully understood, and after discussing with Dr. Vrooman the best way to deal with the matter, it was arranged that one meeting of the Vancouver Medical Association would be devoted to tuberculosis in its various phases.

Dr. J. S. Burris, of Kamloops, dealt with the surgical side, while it was my privilege to prepare and present a paper on "The Home Treatment of Tuberculosis," and in which I stressed what appeared to me the proper relation of above subject. This was well received and later published in full in The Bulletin of the Vancouver Medical Association. Dr. Lapp, who also was on the programme, unfortunately was unable to be present.

As further evidence of the many contacts made in our T.B. work, I wish to state that at the B.C. Hospital Association meeting in Vancouver in September, one of the luncheon addresses given by Dr. W. B. Burnett dealt exhaustively with the situation as regards this disease amongst nurses-in-training, the causes and the methods of prevention. For the latter he stressed the recommendations of the Canadian Tuberculosis Association as passed at Tranquille in 1931. Because of the great importance of this resolution, I am having it reinserted in this report, as follows:—

"Moved, seconded, and *Resolved*, That the Canadian Tuberculosis Association, assembled in annual convention at Tranquille, B.C., having had reports from all Provinces of Canada, and having discussed from all angles the various present-day phases of the campaign against tuberculosis, wish to place before the people of Canada the following unanimous conclusions:—

"In almost every part of Canada beds for the treatment and isolation of tuberculous people are far too few. Waiting-lists for the admission of tuberculous patients are larger than ever before in the history of Canada, and the tuberculosis death-rate increased during 1930.

"This Association unanimously reaffirms its firm belief in the absolute basal necessity in the campaign against tuberculosis of ample sanatorium and hospital beds for the treatment and isolation of patients.

"Any means, such as clinics, for the finding of cases makes the need of beds not less, but greater.

"In some parts of the country the need is so very great that Provincial Governments are urged to find means for the increase of beds immediately.

"We are strongly of the opinion that in all general hospitals all kinds of patients on admission should have an examination of sputum for tubercle bacilli as much a routine as examination of the urine, and that, if possible, a single X-ray chest-plate should be made of all patients admitted.

"These measures we consider necessary because tuberculosis is not infrequently an uncomplained-of, unrecognized, and undiagnosed background to more active disease, and as such is a dangerous source of infection, especially to young pupil nurses.

"We further recommend the routine examination of pupil nurses at the beginning of their training in general hospitals, and as necessary during their training, the examination to include tuberculin tests and stereo X-ray plates.

"This routine might very well be applied to medical internes also.

"The portion of the motion referring to undergraduate nurses in general hospitals was adopted as a result of reports received of clinical examinations revealing a much higher incidence of tuberculosis developing in these nurses than in nurses of a similar age and nursing experience serving in tuberculosis sanatoria."

As the work of the Travelling Clinic is complementary to that carried on in Vancouver, a word may not be amiss about the added endeavours being put into operation there. All

preventive work, including the Rotary Clinic, has been placed directly under the direct control of the City Medical Health Officer, and supervision of the active treatment has also been so placed. Increased bed accommodation is being provided in more or less temporary quarters, in order to isolate as well as treat greater numbers of their cases, thus preventing spread of the infection. They hope in time to take care of nearly all their own city cases in Vancouver. This, if it materializes, will release a number of beds at Tranquille for other than Vancouver cases, a consummation very much to be desired, as even with the more rapid turn-over of cases the Sanatorium always has a considerable waiting-list.

This waiting-list is not so regrettable as it was a few years ago, as the people are gradually absorbing our teaching that T.B. can be treated anywhere if only the patient can be made to rest, and also that climate is not an important factor.

This rearrangement of the work in Vancouver should make for closer co-operation between the work there, the Sanatorium, and our own work, a condition we all believe much to be desired.

While Vancouver is making strenuous efforts to provide more hospital accommodation for her tuberculous, Victoria is ceasing to use what beds she has at her disposal, and this without any marked diminution in the number of active cases as proven by death-rate, and also by number examined at the Spencer Clinic or otherwise reported to the Department. I fear the only result of this retrograde movement must inevitably be a greater spread of the infection.

The total number of examinations made during the year ended July 31st, 1932, was 2,989. Of these, 1,915 were new cases and 1,074 re-examinations.

The 1,074 cases returning for re-examination may be classified as follows: Pulmonary and hylar tuberculosis, 372; T.B. bones, 2; suspects, 118; 303 as various non-tuberculous findings (the most important of which are pleurisy, mixed infection (peribronchitis), bronchitis, bronchial asthma, pneumonia, mediastinitis, empyema, silicosis, cervical adenitis, lung abscess, emphysema, etc.); and 279 as negative. Many negative cases were contacts returning for check-over.

The 1,915 new cases may be classed as follows: 263 as positively tuberculosis, of which 242 were pulmonary tuberculosis and 21 non-pulmonary tuberculosis; 119 as suspects; 579 as other chest conditions; 218 other diagnosis; and 736 negative findings.

Of the above 1,915 cases, 358 were examined on account of contact only with open cases of tuberculosis (but who were not ill). Of these 358 cases, 31 were classed as positively pulmonary tuberculosis; 32 as suspects; bronchitis, 9; bronchial asthma, 1; pleurisy, 2; mediastinitis, 2; hylus infection, 6; other diagnosis, 21; and negative findings, 254. The proportion of definite cases of tuberculosis is about as last year, a total of 31 in 358 cases.

Classifying the new positive T.B. cases (pulmonary and hylus T.B. only) according to nationality, making 242 in all, gives us the following: Born in British Columbia, 67, of whom 21 were Indians; other Canadian Provinces, 44; British Isles, 73; other European countries, 29; United States of America, 10; Japan, 5; China, 5; and doubtful, 9.

Of the 242 positive cases of T.B. diagnosis, 18, or 7.4 per cent., had resided in British Columbia less than three years. The origin of these is as follows:—

Under 1 year—		
Other Canadian Provinces	2	
British	2	
Foreign	2	
		— 6
From 1 to 2 years—		
Other Canadian Provinces	....	
British	3	
Foreign	2	
		— 5
From 2 to 3 years—		
Other Canadian Provinces	1	
British	2	
Foreign	4	
		— 7
Total		18

For the five-month period, August 1st to December 31st, 1932, the total number of examinations made was 1,122. Of these, 703 were new cases and 419 re-examinations.

The 419 cases returning for re-examination may be classified as follows: Pulmonary and hylar tuberculosis, 172; suspects, 32; 100 as various non-tuberculous findings (the most important of which are pleurisy, mixed infection, bronchitis, bronchial asthma, bronchiectasis, pneumonia, mediastinitis, empyema, cervical adenitis, lung abscess, emphysema, etc.); and 115 as negative. Many negative cases were contacts returning for check-over.

The 703 new cases may be classed as follows: 102 as positively tuberculosis, of which 87 were pulmonary tuberculosis and 15 non-pulmonary tuberculosis; 48 as suspects; 185 as other chest conditions; 94 other diagnosis; and 274 negative findings.

Of the above 703 cases, 87 were examined on account of contact only with open cases of tuberculosis (but who were not ill). Of these 87 cases, 4 were classed as positively tuberculosis, of which 3 were pulmonary tuberculosis and 1 non-pulmonary tuberculosis; 16 as suspects; bronchitis, 4; pleurisy, 1; mediastinitis, 1; other diagnosis, 10; and negative findings, 51.

Classifying the new positive T.B. cases (pulmonary and hylus T.B. only) according to nationality, making 87 in all, gives us the following: Born in British Columbia, 24, of whom 5 were Indians; other Canadian Provinces, 24; British Isles, 20; other European countries, 11; United States of America, 4; Japan, 2; China, 1; and Newfoundland, 1.

Of the 87 positive cases of T.B. diagnosis, 6, or 7 per cent., had resided in British Columbia less than three years. The origin of these is as follows:—

Under 1 year—Other Canadian Provinces		2
From 1 to 2 years—		
Other Canadian Provinces	2	
Foreign	2	
		— 4
Total		6

NURSING AND X-RAY SERVICE.

As with the total number of patients, so the total number of X-ray films is markedly increased, the total for the year ended July 31st, 1932, being 2,467; and for the five-month period, August to December, 1932, being 931. This has added considerably to our expense, but we are trusting that the response through the Christmas-seal sale will be sufficiently generous to cover this. Also from this fund goes supplies of gauze and sputum-boxes to those unable to obtain them in any other way.

Mention should also be made of a health exhibit put on and supervised by our Health Nurse at the Vancouver Exhibition at considerable expense.

COMPARATIVE REPORT.

	1928–29.	1929–30.	1930–31.	1931–32.	Aug. to Dec., 1932.
Total examinations	991	1,779	2,323	2,989	1,122
Re-examinations	290	557	694	1,074	419
New cases	701	1,222	1,629	1,915	703
Positive T.B. (new)	117	186	222	242	82
T.B. other organs	10	34	25	21	15
Suspects	93	137	137	119	48
Non-tuberculous	479	863	1,245	1,533	553

Our tables, printed below, revised as to population after the last census, show our Province in a much more favourable light as regards our death-rate from T.B. when computed on a basis of a population of 694,000 rather than one of 570,000. We are not particularly proud of it, however, and feel it should be reduced. The rate for 1931 was 0.92 per 1,000.

Chinese, British Columbia.

Year.	Deaths from Tuberculosis.	Deaths, all Causes.	T.B. Rate per Cent., all Deaths.	Population.	T.B. Rate per 1,000 Population.
1922	64	232	27.58	23,600	2.71
1923	44	228	19.29	23,900	1.84
1924	40	211	18.95	24,400	1.63
1925	44	195	22.56	24,700	1.77
1926	59	224	26.34	25,100	2.35
1927	50	211	23.69	25,500	1.96
1928	45	224	20.08	26,000	1.73
1929	43	258	16.66	26,400	1.62
1930	38	210	18.09	26,900	1.41
1931	52	210	25.00	27,391	1.89

British Columbia Indians.

1922	99	370	26.76	25,694	3.85
1923	133	432	30.79	25,694	5.18
1924	125	457	27.35	25,694	4.86
1925	155	436	35.55	24,316	6.37
1926	145	416	34.85	24,316	5.96
1927	151	524	28.81	24,316	6.20
1928	175	497	35.21	24,316	7.19
1929	170	540	31.48	25,107	6.77
1930	164	491	33.40	25,107	6.58
1931	165	512	32.22	25,107	6.57

Japanese, British Columbia.

1922	22	190	11.58	15,806	1.38
1923	24	158	15.19	16,004	1.49
1924	23	150	15.33	17,418	1.32
1925	33	195	16.92	18,226	1.81
1926	28	161	17.39	19,048	1.47
1927	35	209	16.74	19,660	1.78
1928	27	170	15.88	20,300	1.33
1929	39	191	20.41	21,000	1.85
1930	26	169	15.38	21,600	1.20
1931	38	173	21.96	22,205	1.71

Races other than Chinese, Japanese, and British Columbia Indians.

1922	322	4,115	7.82	475,900	0.67
1923	324	4,179	7.75	489,402	0.66
1924	339	4,186	8.09	503,488	0.67
1925	306	4,119	7.42	520,758	0.58
1926	300	4,673	6.42	536,536	0.55
1927	315	4,806	6.55	553,524	0.56
1928	386	5,019	7.69	570,384	0.67
1929	363	5,408	6.71	586,493	0.61
1930	392	5,530	7.08	602,393	0.65
1931	387	5,219	7.41	619,560	0.62

British Columbia, all Races included.

1922	507	4,907	10.33	541,000	0.93
1923	525	4,997	10.50	555,000	0.94
1924	527	5,004	10.53	571,000	0.92
1925	538	4,945	10.87	588,000	0.91
1926	532	5,474	9.72	605,000	0.87
1927	551	5,750	9.58	623,000	0.88
1928	633	5,910	10.79	641,000	0.98
1929	615	6,397	9.61	659,000	0.93
1930	620	6,400	9.68	676,000	0.91
1931	642	6,114	9.58	694,263	0.92

THE EDUCATIONAL PART OF THE WORK.

Educationally, outside of the great amount of information that is being continually handed on by personal interviews with patients and friends, together with literature being continuously distributed, the following addresses have been given: Public meeting at Anyox under auspices of I.O.D.E.; addresses before the Rotary Clubs at Nelson and Prince Rupert, Gyro Club at latter place; one lecture to the Public Health Nursing class at the University of British Columbia; two lectures to undergraduates at Tranquille; and numerous lectures to undergraduate nurses in the various hospital training-schools.

The following meetings intimately related to the work were attended: Two with the North Vancouver Hospital staff; two with Victoria Medical Association; two with Vancouver Medical Association; two visits to Tranquille, with interviews with the Bursar regarding accounts from municipalities; interview with Mr. Falk, of Social Welfare; two with Dr. McIntosh, Medical Health Officer of Vancouver, *re* T.B. programme, also meeting *re* the same with the Hospital Board of the Vancouver General Hospital, representatives of the City Council and Rotary Clinic and Medical Society; meeting of Tranquille Publishing Society; interview with Dr. Ootmar *re* Preventorium; with Health Bureau of Vancouver Board of Trade; two meetings with Kinsman Club of Chilliwack *re* Christmas-seal sale funds; two clinics before Fraser Valley Medical Association at New Westminster, also two similar ones were held at Prince Rupert, one at Powell River, Trail, and Cranbrook; the meeting of the B.C. Medical Association at Kelowna; and three meetings of the Dominion Appeal Board as witness on cases examined.

Many films have been sent in from distant districts for interpretation.

Examinations of the boys at the Boys' Industrial School were made as last year.

I may state here for your encouragement the very favourable comments of many of the profession on the bulletin issued by the Department as to the amount of very timely information contained therein, particularly the one devoted to T.B.

HOSPITAL INSPECTION.

The hospitals, like every other branch of public service, are seriously handicapped by the depression, but the Hospital Boards are showing a wonderful public spirit in endeavouring to reduce expenditures in every direction without in any way impairing the efficiency of their service to the public.

Twenty-one public hospitals have been officially inspected. In addition, I have been in contact with others at various times in connection with my clinics. Seventeen private hospitals have been inspected and two private mental hospitals.

Seven applications for new private hospital licences have been received. Five have been refused for various reasons.

A number of private hospitals have discontinued, due to financial stringency.

Eight meetings were held with Hospital Boards and twenty meetings with committees of Boards.

A complete inspection of Marpole was made at the request of the Department.

Two interviews were held with the Provincial Fire Marshal; one with Mr. Warburton *re* Corbin Hospital; attended annual meeting of the Crippled Children's Hospital in Vancouver; had numerous interviews with Dr. Haywood and Miss Randall; two annual meetings of Hospital Association were attended, one in Victoria in 1931 and one in Vancouver in 1932.

No questions of sufficient importance for a formal meeting of the Board of Arbitration were submitted, but some informal discussions were held between the Inspector of Municipalities and myself.

Once again I would like to express to you my keen appreciation of the cordial co-operation and helpful assistance at all times of yourself and staff in this particular line of health-work; also for much timely advice in connection with hospital-work.

I have, etc.,

A. S. LAMB,
Travelling Medical Health Officer and Hospital Inspector.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1933.

825-333-2636