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PROVINCE OF BRITISH COLUMBIA

THIRTY-NINTH REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

FOR THE

YEAR ENDED DECEMBER 31ST

1935



PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:

Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
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PROVINCIAL BOARD OF HEALTH,

VICTORIA, B.C., February 29th, 1936.

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 year ended December 31st, 1935.

G. M. WEIR,

Provincial Secretary.

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REPORT of the PROVINCIAL BOARD OF HEALTH.

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B.C., February 29th, 1936.

*The Honourable G. M. Weir,
Provincial Secretary, Victoria, B.C.*

SIR,—I have the honour to submit the Thirty-ninth Annual Report of the Provincial Board of Health of British Columbia for the year ended December 31st, 1935.

In the reports issued by the Provincial Board of Health during the past eight years we have commented on the establishment of various branches of the Department to meet the advances in the application of the principles of prevention as applied to public-health work, and have been able, from time to time, to report advances as shown by results which we have described. While we recognize that this was evidence of close application to the principles, yet the story as a whole lacked that co-ordination of the different branches of our work at which we are aiming. This year we feel that we can submit such evidence as will have justified all expenditures and effort that has been made.

The success of the work, as we have always recognized and said, must depend upon an awakened public mind. To all who are engaged in public-health work, I need not say that public education is the hardest, most onerous, and, at times, most discouraging aspect of our efforts. We can only in the practical application of our teachings keep just a step or two ahead of public opinion, and unless we can continue to stimulate this and to adduce convincing arguments, progress is slow, but we have reached the point now where we can show such results as to convince even a doubting Thomas.

We have had occasion during the past year to meet in conference the governing bodies of local organizations, particularly amongst the women. The results were such as to convince us that we have made not only solid but remarkable progress.

We were very much struck indeed, in addressing the different meetings, with the attention that was paid to us, and particularly gratified with the fact that, after closing the address and throwing the meeting open to discussion, we were bombarded with questions which showed on the part of the questioners every evidence that they had studied the subject and were not only alive to its importance, but determined that the work should be extended as rapidly as possible.

The general work of the Provincial Board of Health envisages the health of the community as a whole, the allocation of affections to particular causes, and a determination of the means of prevention.

Each one of the departments seems to be of major importance, and the difficulty is very often to prevent the attention of the staff from being focused on some particular interest to the apparent neglect of the object to be obtained by a thorough co-operation as between all branches.

We have to demonstrate results in all these branches in order to ensure the attention of the public and to demonstrate to them the fact that our general plan is not to cure particular diseases, but to so regulate the conduct of the people as to convince them that many of the ills, for which they are vainly seeking cures, can be prevented.

As we have progressed, we have in our teachings iterated and reiterated to the public the basic idea of prevention. While expression from the medical profession on this point has been delayed, yet advances being made now and given effect to in our universities show that the profession are recognizing their common interest with the public-health authorities, and both are now less interested in cures than in maintaining the general health of the community. Full and free co-operation as between the public-health authorities and the medical profession would serve the common ends of humanity, and it is becoming more apparent as we dig deeper and deeper into the problems of public health that there is a great lack of knowledge which only the medical profession could remedy. There remains much to be learned and, when it has been learned, much to be applied.

The year 1935 has been an eventful one in the public-health work in British Columbia, and particularly gratifying to those who are specially engaged in such work to be able to record the very material advances in the different departments.

Under your direction and efficient management, the proposed Act dealing with health insurance has made very striking progress. Following the introduction to the Legislature during the session of 1935, when a draft Bill was laid on the table with the intent of allowing a free discussion by the public in general and particularly by the medical profession and of organizations who would be vitally interested, a commission of investigation was appointed and meetings were held in all parts of the Province. There was a splendid response of all those interested, who presented their views, together with extensive papers dealing with the question. A unanimous expression of approval of the principle of the Bill was given by the public, and further suggestions offered, and many presented their views of how the question should be dealt with.

The mode of procedure was such as to not only create a vital interest in the question of the insurance, but it brought forward to the public the fact that the present Government had been very sincere in making a determined effort to bring to the people in a practical way all of the benefits which would accrue to them from organized public-health work administered under a trained personnel, and I am very glad indeed to show the results of that in the reports which I am publishing in this present report.

The different departments of the Provincial Board of Health are growing stronger and better, and a comparison with reports issued in previous years would indicate very clearly the fact that the underlying principles of prevention, plus public education, have been applied and we are reaping the fruits, in the fact that while we cannot personally supervise the daily life of each individual in the community, yet by directing our efforts to the end of securing better understanding and hence better support to the Health Department, we have to educate the individual so as to furnish him with a knowledge of how to protect his individual health and in this way bring to the community as a whole the underlying principles which we are endeavouring to carry out.

TUBERCULOSIS.

A particular work done during the past year stands out pre-eminently in the thoroughness of its application and the broadness of the foundation which is being laid for the handling of tuberculosis.

A special department has been created under the direction of a Tuberculosis Supervisor, Dr. W. H. Hatfield, and articles have been published, emanating from this Department, particularly a general review of the policy being adopted. The issue referred to deals with the T.B. situation as a whole, outlines a policy proposed to be carried out, and at the same time already shows great evidence of its future success.

Greater facilities are being created to deal more particularly with the contact cases, which means the point of origin in families where one or more members are affected. The Province has been divided into sections presided over by full-time medical tuberculosis officers, aided by a trained nurse. The function of these staffs is to search out all families where tuberculosis exists.

Education of the public and prevention of the disease are the key-notes of the whole plan, and the Provincial Board of Health would be very glad to forward a copy of this voluminous report to anybody asking for it. There is a report from Dr. Hatfield amongst the reports which we are publishing in this volume.

HEALTH UNITS.

Our Health Units are dealt with in two reports—one from Dr. Ootmar, in charge of the Kelowna Health Unit, and the other from Dr. G. F. Amyot, who is in charge of the North Vancouver Health Unit. A perusal of these will give you an idea of what the Provincial Board of Health is doing to meet the conditions existing in the population in general. Dr. Amyot in his report deals especially with the different branches of the work, as does Dr. Ootmar.

The success which we have obtained in our Health Units encourages us to extend this service, and I am glad to report that during the last year we established a full-time Health Unit in the northern part of the Province, known as the Peace River Health Unit, in charge of a Medical Health Officer who has a staff of six nurses, and during the summer two dentists were added to the staff.

The Peace River District is in the northern part of the Province adjoining Alberta, with a population of about 9,000, and with poor transportation to the outside world. These people were practically marooned, and the Government decided to give a full-time service initiated as a complete body. The reports from this division show that the work is being carried on in the same effective manner as in our other Units.

PUBLIC HEALTH NURSING.

Our Public Health Nurses have carried on their work in a splendid way and the particular results of their ministrations are most gratifying, more particularly in regard to the education of the public. The service is firmly established and we have constant requests to extend this work.

Our nurses are trained in the University, a five-year course—capable young women who have made a very enviable record in the application of modern public-health procedures to the community as a whole.

EPIDEMIOLOGY.

There is also appended a report from our Epidemiologist, and a perusal of this report shows the effect of the efforts of our Department as a whole as administered through our various agencies.

Typhoid and diphtheria are practically eliminated for the year. There were only twenty-seven cases of diphtheria in the whole Province. This compares very favourably with the year 1929, when we began our work of immunization, when we had at that time upwards of 900 cases of diphtheria.

The Epidemiologist's report deals with the reportable diseases at length.

A campaign for the prevention of goitre has been carried on in different schools, and during the last five years there has been a decrease of over 1,000 cases. Taking into consideration the continual addition to the school population of young children, we consider that this is a very satisfactory showing.

The figures are given as to the prevalence of contagious and infectious diseases in Table 1 of the Epidemiologist's report.

SANITATION.

The Sanitary Inspector's report shows a continuance of the close inspections made during the year, especially in regard to our lumber, fishing, and mining camps.

LABORATORIES.

During the year, Dr. H. W. Hill, who was Director of the Laboratories in British Columbia, resigned owing to ill-health, and Dr. C. E. Dolman from the University of Toronto has been appointed in his place.

The figures given in his report show an increase since we occupied our new quarters in 1932 of 33 per cent.

The distribution of vaccines and serums shows an increase in those required for preventive work and a decrease in the curative branch, as is indicated in the following table:—

	1934.	1935.
Smallpox vaccine (points)	4,650	8,631
Diphtheria antitoxin (units)	4,689,000	2,600,000
Diphtheria toxoid (doses)	1,793	2,991
Schick test for diphtheria (pkgs.)	64	58
Scarlet fever antitoxin (prophylactic) (pkgs.)	841	357
Scarlet fever antitoxin (treatment) (pkgs.)	281	151
Dick test for scarlet fever (pkgs.)	60	51
Scarlet fever toxin (for active immunization) (doses)	386	863
Typhoid vaccine (doses)	390	461
Tetanus antitoxin (units)	437,000	1,398,500
Anti-meningococcus serum 20 c.c. (pkgs.)	82	73
Pertussis (whooping-cough) vaccine (pkgs.)	126	52
Rabies vaccine (treatments)	4

VENEREAL DISEASES.

The Venereal Disease Clinics are continuing their work and we hope during the coming year to enlarge the scope of this.

The work in venereal diseases promises to make greater progress from now on; more attention is being given in the different countries of the world to arrive at standardization of treatment, with very satisfactory results. The question of treatment is practically settled; all authorities are agreed on the remedies and dosages, but the crying need now is to bring about more efficient work in regard to the point of origin.

We meet these cases only when they have become infected. Through these cases we have made an effort to locate as far as possible the point of contact. The great secrecy surrounding this disease is an incubus that prevents results that we know, with our present facilities, we are able to obtain, and until this secrecy is removed we will be handicapped. Special efforts are being made to accomplish this, and one of the main points is to take syphilis out of the category of unmentioned, whispered words and put it into every-day speech along with gall-bladders, cancer, and infantile paralysis.

This is a consummation devoutly to be wished for, which brings us back again to our plea for the adoption of all methods of

PREVENTION.

Prevention must be the key-note of all public-health work if we are to obtain results satisfactory to the terms humanitarian and economic.

I quote from an address delivered by ex-President Hoover of the United States on this subject, in which he says: "The organization of preventive measures and health education in its personal application is the province of public-health service. Such organization should be as universal as public education. Its support is a proper burden upon the taxpayer. It cannot be organized with success either in its sanitary or education phases except under public authority. It should be based upon local and State responsibility, and the Governments of the countries have an obligation of contribution to the establishments of such agencies. In the practical working-out of organization, exhaustive experiment and trial have demonstrated that the base should be competent organization of the municipality or other local unit."

We append an account of approvals for sanitary works during the year 1935:—

Cemetery-sites approved.—Fort Fraser, Sunrise Valley (Mountain View), Rutland (Roman Catholic), Sunnybrook, Sooke, Kamloops (Provincial Home), Willow River, Hornby Island, McBride, Shearerdale, Coquitlam (extension), Black Creek, and Burnaby (Forest Lawn).

Sewage-disposal Systems approved.—None.

Water-supply Systems approved.—Brooks Estates, Ltd., Powell River (Cranberry waterworks system extension), Kimberley (Blarhmont waterworks), near Trail (C.M.S. Co. extension), and Hedley (Kelowna Water Exploration Co.).

I would like, Sir, to express for myself and staff appreciation of the co-operation which we received from yourself, and to say that such interest lends greatly to our success. We feel that, backed by your help and encouragement, we will make continued progress.

I have the honour to be,

Sir,

Your obedient servant,

H. E. YOUNG,

Provincial Health Officer.

GENERAL REPORTS.

REPORT OF KELOWNA HEALTH UNIT.

KELOWNA, B.C., December 14th, 1935.

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

SIR,—The Kelowna Health Unit was established in March, 1928, the personnel consisting of a full-time City and District Medical Health Officer, one Public Health Nurse, and one Laboratory Technician. The area under general health supervision lies between Sicamous in the north and the International Boundary in the south, covering the Okanagan Valley, a distance of some 162 miles.

The District Medical Health Officer, who is also Medical Health Officer for the City of Kelowna, combines with the work of health supervision that of School Medical Officer in fifteen rural schools.

Ten rural school districts are under the able supervision of Mrs. A. Grindon, R.N., P.H.N., who divides her time between school-nursing, child-welfare work, and other public-health activities.

CONTROL OF COMMUNICABLE DISEASES.

The School Nurse, working under the direction of the Health Officer, keeps close supervision over all cases of communicable diseases. More important still, she carefully checks all contact cases. This is accomplished by regular and special inspections of children in the classroom and by home-visiting.

The spread of contagious skin-diseases, and such communicable diseases as mumps, measles, chicken-pox, whooping-cough, typhoid, etc., can only be controlled by maintaining such vigilance.

TYPHOID FEVER.

Before the Health Unit was established many cases of typhoid fever occurred. The original number of from thirty to forty yearly has now dropped, until in 1934-35 no cases were reported. This is due to the fact that twenty-eight carriers were detected and are now controlled. None are allowed to handle food; they are also visited periodically and re-instructed how to prevent infection of other people.

The last case was infected from a Hindu, who left the district five years ago when detected as a carrier. However, he returned, and, against orders given five years previously, was living with a family who had recently come to the valley, with the result that the father of the household became infected and died.

UNDULANT FEVER.

Before 1931 there were relatively few cases of undulant fever in the valley, but after the sale of a great number of cows from a certain farm the number of cases increased to such an extent that laboratory blood tests showed many patients positive for undulant fever. At the above-mentioned sale an announcement was made that, though the herd had suffered from contagious abortion, it was now safe, as many of the cows had had calves at full term. It is a pity that the idea is generally prevalent that if a cow does not abort any more she may be considered free of infection.

TUBERCULOSIS.

Two cases of bovine tuberculosis were found among children living in Kelowna. It was impossible to detect the source, as Kelowna has a milk by-law prohibiting the sale of raw milk, other than from Grade A farms. The infected milk must have been purchased at a low price from neighbours who kept cows.

The City Council immediately passed a by-law prohibiting any person keeping cows whose cows did not show a negative test for tuberculosis and in whose family there was a communicable or infectious disease.

We are very much indebted to Dr. McKay, of Kamloops, Provincial Veterinary Surgeon, for his valuable work accomplished in the testing of many cows for tuberculosis.

A most valuable work in the detection of early lesions of human tuberculosis is carried on by the Provincial Travelling Chest Clinic, which twice a year visits Kelowna and other centres in the valley. Some ninety-nine persons living in the Kelowna area attended these clinics in September, 1935, referred by their family physician or by the Health Service. Of those examined by Dr. Kincaid, 40 per cent. were found to be essentially negative, while 4 per cent. were referred to Sanatorium or hospital care; 21 per cent. were known to have been in contact with active tuberculosis; 37 per cent. were found to have increased lung-markings with no evidence of intra-pulmonary disease, and 11 per cent. had healing or healed lesions; 6 per cent. attending the clinic were classified as active cases of pulmonary tuberculosis. Of these, two were children of pre-school age, contacts of a mother who died of pulmonary tuberculosis.

The great problem in the crowded conditions of the small home is the prevention of infection. There is no doubt that when children are present every infective case of tuberculosis should either be hospitalized or the children removed from the sphere of infection. Could such conditions be brought to pass, an essential step in the control of the disease would have been taken.

MEASLES.

As there had been only 165 cases of measles and whooping-cough during the past six years in Kelowna City and District, it was naturally to be feared that many children would have no immunity should these diseases, epidemic to the south of the Health Unit, invade the district.

The first case of measles was developed by a man who came from another Province. All contacts were immediately isolated and no other fresh cases occurred, although most of the actual contacts developed the disease.

A few months later many parents and children from the south attended a Farmers' Convention in Kelowna. Soon numerous cases appeared in the city and district and it was impossible to stop the epidemic which followed. The measles was of a mild type and no deaths were reported. In the rural school areas, by vigilant control, for a time the spread was checked, but due to the mildness of the disease parents got tired of taking the necessary precautions. The fact that a mild type of measles might possibly turn to a severe type was not generally accepted by the laity.

Most fortunately, in the later period of the epidemic, the cases continued to be of the mild type, and there was every reason to give the children the benefit of immunity in later years by allowing them to have a mild attack in youth.

MUMPS.

This disease appeared in Kelowna towards the end of the epidemic of measles. The Kelowna School Board, anxious to prevent further loss of time for the school-children, asked the Medical Health Officer to place the importance of this fact before the local physicians. As a result every fresh case among the children was at once reported and the threatened epidemic was soon well in hand.

However, many adults who contracted the disease did not report until all symptoms had passed, owing to the long quarantine period involved.

Kelowna has no winter industries and most people have to save enough money during the short canning and packing season to carry them through the winter months. Long quarantine during the busy time would work much hardship.

It was therefore decided to allow adults to return to work as soon as the symptoms subsided, provided that they worked wearing mouth and nose masks of many folds of cheese-cloth.

The managers and foremen of the different packing-houses co-operated splendidly, and no case occurred which was due to contact with these still infectious people.

The fact of such good co-operation is mentioned with some pride; it proves that the people are becoming more and more "health-minded" and are willing to co-operate.

WHOOPING-COUGH.

The year 1935 will be remembered as one of communicable diseases in the Kelowna District. Soon after measles and mumps, whooping-cough made its appearance. In the rural schools a very real attempt was made to stop the progress of the epidemic. Slight colds and coughs were

immediately sent home by the School Nurse, notwithstanding protests of parents and teachers. It was certainly due to her untiring efforts that the disease did not spread more in certain school districts.

Pamphlets were distributed and an attempt made to bring home to parents the seriousness of this disease.

In one district the disease was well spread by careless parents and children during the summer vacation, with sad results when school reopened in September.

INFANTILE PARALYSIS.

A suspected case of infantile paralysis occurred in the beginning of the year. With our previous experience of September, 1934, in mind, convalescent serum was immediately given, contacts isolated, and temperatures taken for one week. At the same time a case occurred in Kaleden and serum was forwarded to the attending physician for immediate use.

Notwithstanding the generally accepted current opinion that convalescent serum has no influence on the course of the disease, we cannot say that no benefit was derived by cases coming under observation in the recent epidemic of 1934.

When considering the results observed in twenty-nine cases (including suspects), the sudden drop of temperature and improvement in the general condition which resulted from its use seem, to our mind and bedside medical experience, to prove that the serum was valuable.

May I add that in connection with the cases mentioned above the families came into contact with a man living in a city where infantile paralysis was prevalent. I am sure that in the fight against the spread of this disease the carrier question is of more importance than generally supposed.

VENEREAL DISEASES.

During the packing season, Kelowna is visited by many people from other localities, with the result that cases of gonorrhœa and syphilis increase.

HEALTH EXHIBITS.

In order to educate the people, a plan was formulated to publish an article in the local newspaper on "Secret Diseases," and to arrest attention by a pictorial exhibit showing symptoms on the face, neck, and in the mouth. Posters were also displayed calling attention to salient facts and free literature distributed.

Much interest was aroused by the newspaper article, and some 300 people visited the exhibit, which was displayed in a hall loaned free by the United Church committee for the purpose. Appreciative comments on the educational value of the article and exhibit were received from many people.

In the spring a pictorial exhibit on the effects of alcohol on health was displayed in a local store-window and secured many interested spectators.

PUBLIC HEALTH JOURNAL.

We published a Public Health Journal about the danger of drinking raw milk; a journal on smallpox vaccination; and recently one on "secret diseases."

PROVINCIAL LABORATORY.

The Laboratory has moved to more convenient quarters. There are now separate rooms for chemical and bacteriological work, also one totally isolated from the others in which sera can be prepared.

The serum for oral vaccination against typhoid proved efficient, giving earlier immunity in some types than by the subcutaneous method.

A full report on the work done in the Laboratory will be presented at the end of the year.

SCHOOLS.

Immunization Clinics.—Immunization clinics to protect against diphtheria and smallpox have been held in eighteen rural districts and in the City of Kelowna. Some 152 children were immunized on the west side of the lake, together with 182 vaccinations against smallpox.

An encouraging picture is presented in the report of the Public Health Nurse in charge of ten rural school districts on the east side of the lake.

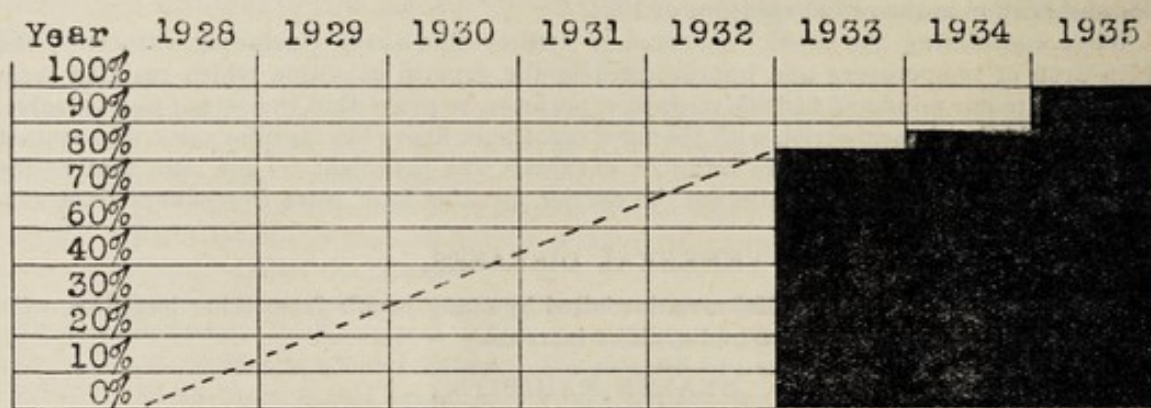
Each year since the establishment of the Health Unit in 1928 an active campaign has been organized in ten rural school districts for the protection of children against diphtheria. In 1928 there were no children protected in these rural areas, but the latest report shows 90 per cent. of the 700 school-children immunized or found to be Schick negative.

Vaccination.—Eighty-eight per cent. of these children are also protected against smallpox, together with 49 per cent. of 380 children on the pre-school register; 50 per cent. of these same pre-school children are also protected against diphtheria.

This has been accomplished by class talks in the schools, talks to local gatherings, and personal talks to mothers and children in homes and schools. A great deal of literature has been distributed on the subject of protection against diphtheria and smallpox.

Much prejudice against toxoid inoculation had to be overcome and the same may be said of vaccination against smallpox.

The progress of toxoid immunization in the rural schools is shown in the following graph:—



Toxoid immunization in Kelowna rural schools.

Goitre.—There has been an astonishing improvement in the incidence of simple goitre in the rural schools, due to the daily administration of tincture of iodine by the teaching staff for a period of six months in each school-year.

In 1932-33 an average of 66 per cent. of the children examined were suffering from enlarged thyroid gland, ranging from 1 to 3 degrees of enlargement.

At the close of the school-year in June, 1935, the incidence of simple goitre had dropped from 66 to 25 per cent. of all children examined, with the degree of enlargement of those affected reduced in the majority of cases from 2 to 3 degrees to $\frac{1}{4}$ to 1 degree.

Defective Conditions.—A discouraging feature in school-work is the number of defective conditions which are not remedied. In concluding this report about schools, I feel that I must speak of the feeling of depression which assails one when examining the children. The School Health Service always plans to have all the primary classes examined in September and to finish the regular examinations by the end of the year.

We have on file the number of new defects found, old defects improved, and old defects not improved. In the case of such a defective condition as postural scoliosis the teachers are always willing to help in overcoming this defect. But there are so many defective conditions which can only be cured with the aid of the family physician, oculist, or dental surgeon.

Tonsils.—When examining tonsils we grade them in degrees of hypertrophy from 1 to 5; grade 4 and 5 being very much enlarged tonsils which should most certainly be referred to the family physician for excision.

Towards the end of the school-year they are again regraded to note if improvement has taken place. Sometimes grade 4 turns to grade 3 or 2, but there are many cases in which grade 4 and 5 tonsils keep the same grade from year to year.

We know that much enlarged and infected tonsils obstruct the breathing, prevent the proper development of the chest, and are a constant foci of infection; nevertheless, repeated

requests to parents to have them removed fail on account of the impossibility of meeting the cost involved.

In very extreme cases a personal request from the Health Service to the family doctor is always favourably regarded, but there are many tonsils which should be removed, and we feel it is not right to trespass too often on the willingness of the family physician to give free surgical care.

With regard to this matter of infective tonsils, I have in mind six cases of children with very much enlarged tonsils combined with a defective cardiac condition. When the tonsils were removed the defective cardiac condition cleared up in five cases. What might have been the outcome of these cases if the simple treatment of removing the focus of infection had not been given?

The underweight, undernourished child with its hypertrophied tonsils is a constant burden to the community. Women's Institutes and neighbours are asked to provide milk for these children; Preventorium care is sometimes advised, all of which would be unnecessary if the diseased tonsils and other defective conditions were treated.

During the period of 1932-35 an average of 45 per cent. of the rural school-children had hypertrophic tonsils; 5 per cent. had cardiac defects; 11 per cent. were 10 per cent. underweight; and 17 per cent. had eye-defects for which it is impossible to obtain correction on account of the high cost involved in an oculist's examination and prescription for simple glasses.

Dental Caries.—During this same period a constant average of 53 per cent. of the children have suffered from dental caries of deciduous and permanent teeth. In the year 1935 the first examination disclosed 70 per cent. of the children suffering from this condition. The first small cavity disclosed by examination soon enlarges when not filled, infection takes place, an abscess is formed, and the tooth is lost, with much attendant suffering and danger of systemic infection to the child. With regard to systemic infection resulting from carious teeth, an interesting example has just come to hand. In May, 1935, a 7-year-old malnourished boy was recommended to Preventorium care because of no gain in weight during the previous nine months and a daily afternoon abnormal raise of temperature noted during the spring months by the teacher.

This child had both permanent and deciduous carious teeth which were eventually treated by the dentist who so kindly gives free dental care to all children sent to the Preventorium. In seven months' time the boy had gained 10½ lb. in weight, was eating well, and the temperature was quite normal. There is no doubt that the carious teeth were the cause of much of this child's malnourished condition, together with systematic infection causing the daily rise of temperature. During 1934-35, only 12.5 per cent. of 700 children examined had ever had any dental care given; 70 per cent. were found to need dental care and the remaining 17.5 per cent. had apparently good teeth, so far as could be disclosed by the examination of the School Nurse.

Although the School Health Service has every defective condition on file, and knows exactly how many and which children are affected, yet the number of defective conditions which are cured is very small when compared with the amount of effort put forth. Especially is this noticeable in the case of defective teeth, tonsils, and eyesight, due to the financial straits of the parents making it impossible for them to follow our advice and have the children properly treated.

Thus very much of the benefit of the School Medical Inspection Service is lost.

Free Clinics and Pre-School Welfare.—The pre-school children and infants of the rural communities have not been neglected during the past seven years since the establishment of the Health Unit. Some 162 well-baby and pre-school clinics have been held, with 876 infants and pre-school children making 1,265 attendances. Valuable assistance to the Provincial Health Service is given at these clinics by members of local Women's Institutes and other interested citizens in the various rural communities.

There are now 380 pre-school children on the child-welfare register, 50 per cent. of whom have had toxoid and 49 per cent. of whom are vaccinated.

Rachitis is now a rare disease in the children under observation. A total number of 489 free clinics have been held during this period for the benefit of adults, school-children, and pre-school children. At these clinics there have been 3,691 attending, making a total of some 8,526 attendances.

The clinics include chest examinations; Dick and Schick clinics, with active immunization against scarlet fever and diphtheria; vaccination against smallpox; passive immunization against infantile paralysis, together with well-baby and pre-school clinics; clinics for defective vision, for defective teeth, and for crippled children.

All clinics for examination of the chest, eyes, teeth, and crippled children have been conducted by specialists, while those of a strictly preventive nature, together with the well-baby clinics, by the District Medical Health Officer assisted by the Public Health Nurse.

A comprehensive report sent by the Public Health Nurse to the Department in July, 1935, will furnish all further information about school and general public-health activities in her rural districts.

THE VALUE OF PUBLIC HEALTH NURSING.

The value of the Public Health Nurse in the development of the work of a Health Unit lies in the fact that she is in close personal touch with the schools, homes, and rural communities in general.

She is thus able to interpret the objects and aims of preventive medicine to the individual and gain their sympathetic understanding and co-operation.

Although public health deals with people in the mass, yet this mass is composed of individuals, and it is the personal dealing with the unit of the mass which is so valuable in developing a well-informed public opinion, without which efforts made on a large scale are found to fail.

The type of Public Health Nurse who is well versed in her profession, with energy, tact, and organizing ability, is invaluable as an assistant in the development of any form of public-health activity.

There is much need of many more women of this type in the public-health field.

I have, etc.,

G. A. OOTMAR,

Medical Officer of Health, Kelowna City and District.

REPORT OF NORTH VANCOUVER HEALTH UNIT.

H. E. Young, B.A., M.D., C.M., LL.D.,

Provincial Health Officer, Victoria, B.C.

SIR,—The Health Unit is the official body responsible for the administration, organization, supervision, and co-ordination of all health services in the community.

The success of the Health Unit depends on three main factors: (1) The Health Board or Committee, which represents the official bodies for the management and administration of a community; (2) organization and personnel of the Health Department; (3) the people of the community.

Health is something which concerns every individual, and if the Health Department is to function satisfactorily it must have the support of the people it serves. For these reasons it is necessary that the people understand the organization, duties, successes, failures, and needs of their Health Department.

This annual report is being prepared with the hope that copies will be made and put into the hands of the influential people of the community. The future success of the Health Unit depends on the whole-hearted support of the community.

Details of programmes will not be given completely, but an attempt will be made to summarize the work that has been accomplished. Information *re* visits and other work done by the members of the staff will be included in each section of the report.

LOCATION.

The location of North Vancouver, adjacent to the large population of Greater Vancouver and the Lower Mainland, presents many of the problems of a large city. The facilities of

transportation and intercommunication between North Vancouver and Greater Vancouver, provided by the Second Narrows Bridge and the North Vancouver City ferries, were responsible for the movement of 4,534,606 people during 1935.

POPULATION.

The population of the City of North Vancouver was 8,910 in 1931 and the district was 4,782. The city is fairly thickly populated. The district is more rural in character, with six small community centres, which are more thickly settled.

The population consists chiefly of whites, the majority of which are of Anglo-Saxon descent.

There are a few Japanese, Chinese, and East Indians. These are so scattered and so few that they do not present any great health problem.

There are four Indian reserves in this area, with a population of 473. These Indians are the responsibility and are under the direct supervision of the Branch of Indian Affairs of the Federal Department of the Interior.

HISTORY.

The North Vancouver Health Unit was established in September, 1930, at the request of the School Boards and Councils of the City and District of North Vancouver, the medical profession, and the people. All matters pertaining to public health and school health were placed under the supervision of the Health Unit.

Previous to the establishment of the Health Unit, health matters were under the direction of two part-time School Medical Officers, two part-time Medical Health Officers, one part-time Sanitary Inspector in the city, and one full-time School Nurse, also in the city.

FINANCES.

In 1935 the Health Unit derived its income from the following sources:—

(a.) Until August 31st, 1935, the Rockefeller Foundation contributed one-quarter of the total budget; after this date this was discontinued. This grant was made on the inception of the Health Unit, on the understanding that it would be continued for three years. Due to the economic conditions of the two North Vancouver municipalities, this grant was continued in full for two years, making a total of five years in all. It was impossible for the Rockefeller Foundation to continue its grant for a further period, due to its other extensive activities in health-work.

(b.) The Provincial Board of Health contributed one-quarter up to August 31st, 1935, and from that time has contributed one-half of the amount formerly contributed by the Rockefeller Foundation.

(c.) The City and District of North Vancouver contributed, jointly, the remaining half of the budget, and from September 1st, 1935, also one-half of the discontinued Rockefeller grant.

The local payments are divided. Two-thirds is paid by the city and one-third by the district. This division is estimated roughly on the basis of the school population.

Late in 1932 a Commissioner was appointed to administer the affairs of the District of North Vancouver. Early in 1933 the same Commissioner was appointed to look after the affairs of the City of North Vancouver.

The Commissioner took over the duties of the two Councils and the two School Boards and had full power of administration.

The Health Unit continued as it had done, except that the Health Unit Committee members, who had formerly been eight in number, two from each of the Councils and School Boards, were reduced to four members, two representing the city and two the district.

HEALTH UNIT COMMITTEE, 1935.

E. P. Cummins, ex-Councillor, Chairman	District Representative.
W. R. Miller, ex-Councillor	District Representative.
G. H. Morden, ex-Mayor	City Representative.
G. W. Vance, ex-Mayor	City Representative.
James Chapman	Secretary to Committee.

PERSONNEL OF THE UNIT.

G. F. Amyot, M.D., D.P.H.	Director.
Norah E. Armstrong, B.A.Sc., R.N.	Supervisor.
Elizabeth Lowther, R.N., P.H.N.	P.H. Nurse.
Mabel Johnston, B.A.Sc., R.N.	Clerk.
D. A. Peers	Part-time Sanitary Inspector, City of North Vancouver.

PRENATAL PROGRAMME.

The prenatal programme is an important phase of public-health endeavour and deals with advice to pregnant women. The aim and object is to assist these women to keep the pregnancy normal and help them bring healthy children into the world. One of the important times of development of the child's body is during the prenatal period; therefore the mother should receive as much attention as possible during this time. The service provided by the Health Unit is not intended to, nor can it, replace the service that must be received from the family physician, but is a supplement to that service.

The prenatal programme is essentially an educational one and is carried out through visits made by the Public Health Nurses and the special monthly letters that are sent to the expectant mothers.

PRENATAL LETTERS.

A series of nine prenatal letters is made available through co-operation with the Canadian Council on Child and Family Welfare, Ottawa, and the Provincial Board of Health, Victoria. These letters are sent out each month to every one who applies for them. Literature dealing with particular phases of prenatal care is included with the letters.

The number of prenatal visits done by the Health Unit staff is very low for a community of this size, in which 204 births were registered during 1935, fifty of which were non-resident and twenty-three were born previous to 1935. This may be explained in two ways: (1.) As the Victorian Order Nurse attends many of the maternity cases at delivery, she naturally assists the family physician in the supervision during the prenatal period. (2.) The programme as established in the Health Unit is thought to be confined too much to school-work and should be reorganized so that more time could be spent on prenatal supervision.

A wider programme in this phase of public health could be established with more understanding and co-operation from women and women's organizations in the community.

The following are the details of the work done in 1935: Prenatal visits, 57; prenatal letters sent, 566.

INFANT-WELFARE.

The infant-welfare programme is well established at the North Vancouver Health Unit. It falls into three main groups: (1) Visits to the homes by the nurses; (2) distribution of the series of twelve post-natal letters; (3) well-baby clinics.

A Well-baby Clinic is held in the Board Room of the North Vancouver General Hospital from 2 to 4 p.m. each Wednesday. This clinic is attended by the Director and the nurses, assisted by the V.O.N. Nurse. Most of the babies attending receive a physical examination by the Director.

Only well babies are accepted at the clinic, the object being to keep well babies well.

Another clinic is conducted on the third Tuesday of each month in the Community Hall, Dollarton. This clinic was started in September, 1935.

The first letters of the post-natal series are delivered to the mother while she is still in hospital. The second letter is delivered by the nurse to the home, as nearly as possible to the day when the child is a month old. The subsequent letters are mailed monthly.

Cod-liver oil is provided by the municipalities and is distributed through the Health Unit for those who are on relief.

Infant-welfare visits	257
Post-natal letters sent	2,310
Well-baby clinics held	55
Attendance at well-baby clinics	856

PRE-SCHOOL.

There is still a wide-open field for the establishment of an adequate pre-school programme. At the present time the programme is not extensive as it only includes the following:—

- (1.) Pre-school children examined at the baby clinic.
- (2.) Advice *re* pre-school children given to parents when visits are made to the home for other purposes.
- (3.) Vaccination, toxoid, and scarlet fever toxin administered to pre-school children.
- (4.) Children who are entering school for the first time in September are examined in June or July, giving them time to have many of the defects found corrected before school opened.
- (5.) A series of letters, along the same lines as the post-natal series, is now available for the parents of children in the pre-school group.

Visits to pre-school children	96
Pre-school children entering school in September, number examined	96
Pre-school letters sent	23

Pre-school clinics should be established in the outlying communities.

SCHOOL.

The school programme is extensive and takes a great deal of time. It is felt that if part of this time were made available for prenatal, infant, and pre-school work the necessity for such an extensive programme in the schools would gradually become less.

As most of the children attending school in North Vancouver have been examined and re-examined each year, it is felt that it is not necessary nor of any great value to continue such frequent examinations. Since September, 1935, a new programme has been established, and the following children are being picked for physical examination by the School Medical Officer:—

- (1.) All beginners.
- (2.) All pupils coming from outside the district served by the Health Unit.
- (3.) All children who showed a major defect—i.e., heart, chest, etc.—at the last examination.
- (4.) All children playing on major teams.
- (5.) Any children for whom an examination is requested by the parent, teacher, or nurse.
- (6.) All children in Grades I., IV., VII., IX., XII., and Senior Matriculation.

If these groups are examined the children needing the most attention are more likely to receive it.

All the children in the schools are inspected by the nurses. These inspections include examination of the eyes, ears (hearing), mouth, teeth, tonsils, weight, and skin.

The main points of the school programme are as follows:—

- (1.) Physical examinations of the children, with clothes removed to the waist.
- (2.) Mothers invited to be present at examination and encouraged to discuss the physical condition of the child.
- (3.) Special examinations given to children playing on major teams, particularly in the High School.
- (4.) Sight and hearing of every child is tested each year.
- (5.) Periodic class-room inspections.
- (6.) Quick inspections of all members of a class that has been exposed to a case of infectious disease.
- (7.) Children are weighed and measured twice each year by the nurses and the teachers are asked to do the weighing during the intervening months.
- (8.) Home-school visits are made by the nurses in connection with: (a) Defects found at the physical examination in children whose parent was not present at the physical examination; (b) children absent from school for two or more days; (c) illness, including communicable diseases.

(9.) Proper diet and amount of sleep needed by children have been emphasized strongly. For the past five years a routine talk on the importance of a balanced diet and adequate sleep has been outlined to each child during the physical examination. Definite hours of sleep have been suggested for each age.

(10.) Health talks have been given to small groups of children during the class-room inspections.

(11.) A special class in health is conducted for girls in the High School.

(12.) Supervision of the sanitation of the school buildings and grounds.

Suggested advances that might be made in the school health programme:—

(1.) Details regarding the minimum requirements of heating and ventilation should be outlined and presented to the Superintendent of Schools. Windows in the class-rooms should be equipped with baffle-boards.

(2.) There should be closer co-operation with the Superintendent of Education and an attempt should be made to co-ordinate the Health Service more closely with the teaching programme and a definite syllabus worked out in which the teacher will have an active part.

(3.) Discussion groups in public health should be established with the teachers.

The following are the details of the work done in the schools during 1935:—

Visits to schools	1,017
Physical examinations	1,597
Mothers invited to examinations	727
Mothers present at examinations	387
Percentage of mothers present	53
Children inspected by nurses	6,780
Home-school visits	1,568
Special examinations	61
Quick inspections for contagion	4,890
Exclusions	94
Examined at office	1,593
Readmission certificates issued	1,848
Readmission certificates refused	267
Consultations with school officials	1,445
Transportations	205

EYE CLINIC.

The Eye Clinic established last year has done very good work. This clinic has provided eye examinations by a specialist, for indigents. Those on relief get an order from the City or District Clerk and the attending eye specialist is paid on the relief scale. The doctor receives no payment for those not on relief.

The glasses are procured at a very reduced rate from an optical firm in Vancouver and an optician in North Vancouver. Only the material is paid for.

The glasses have been provided by different organizations.

Number of people examined at the Eye Clinic	75
Number of examinations made	144

The following organizations have supplied glasses to the number stated below:—

Red Cross Society, twenty-six pairs for adults.
Kiwanis Club, eighteen pairs for children.
Poppy Fund, two pairs for children and one pair for an adult.
B.C. Canteen Fund, three pairs for children.
Capt. Oates Chapter, I.O.D.E., one pair for an adult.
Ridgeway school-teachers, one pair for a child.
St. John's Church, two pairs for adults.
Total pairs for children, 23; total pairs for adults, 30.

These organizations deserve great credit and appreciation for the help they have given these people. There is still a great need for contributions towards glasses for people in the City and District of North Vancouver. Any offer of help along this line would be greatly appreciated.

DENTAL SERVICE.

A new dental service is being organized to take the place of the dental service provided by the North Vancouver Kiwanis Club for children whose parents are unable to afford dental attention.

The new service is to be financed by the city and district putting up dollar for dollar with the Kiwanis Club. The Kiwanis Club have agreed to provide the sum of \$350. This money is to be divided equally among the dentists who agree to provide the service required. The dentists are asked to give three hours a week and to provide the materials required.

Children requiring dental care will be referred by the Health Unit.

Dental report-cards will be provided, in duplicate, through the Unit. These will be taken to the dentist by the child on his first visit. When the work is completed the dentist will return one of the cards to the Health Unit, where it will be filed with the child's other records. A consent-slip must be signed by the parent or guardian of each child. This is to be taken to the dentist on the first visit.

Fillings, extractions, and prophylactic treatment will be the services provided.

The plan is for children only, but will include children of pre-school age up to those of 15 or 16.

Another feature of this plan is that no clinics are being established, but the work is being done by the family dentist in his own office and the parents are allowed to choose their own dentist.

COMMUNICABLE DISEASES.

The communicable-disease programme of the North Vancouver Health Unit is well organized. It takes up a great deal of time, but it provides such an excellent opportunity for teaching and demonstration in the homes that it is felt the time is well used.

The cases of communicable disease that receive medical attention are well reported.

The teachers in the schools have been very co-operative in the control of communicable diseases. The children are watched for symptoms and anything suspicious is reported to the nurses immediately and the suspected child isolated. When the nurse is not available to the school the child is sent home.

The majority of parents co-operate well and report when they suspect any of the children have a communicable disease. Many parents isolate the child immediately any suspicious symptom appears, to prevent the infection from spreading to the rest of the family and the community. If this type of co-operation were given by *every* parent in the community the problem of the control of communicable disease would be greatly simplified. We hope some day to teach all parents, guardians, and teachers that a child who appears ill may be suffering from a communicable disease and should be treated as if he were until a diagnosis has been made by a competent authority.

Mild cases of scarlet fever and minor diseases are often unreported because the parents do not realize that, no matter how mild a communicable disease is, it still can be spread from one to another. Many of our extensive outbreaks have started by undiagnosed and uncontrolled cases of this type.

Parents of infants and pre-school children who have communicable diseases do not always realize that the health authorities are interested in and must have reported to them every case of communicable disease, no matter what group of the community it may occur in.

We feel that the support of the people on the whole has been excellent and is definitely improving from year to year.

As soon as possible after a case of communicable disease is reported, it is investigated, isolated, and the family instructed how to prevent the disease from spreading through the family and the community. An investigation is started to find the source of the infection and any persons who may have been infected by this case. Class-room inspections are made in the schools by the nurses daily until all danger of new cases developing has passed. Family contacts are isolated for the period between the minimum and maximum incubation period for the disease under consideration.

Scarlet Fever.—Mild scarlet fever has been with us all through the year. The largest number of cases were in March and in the fall months, with a few cases throughout the year. The outbreak in March, eighteen cases in all, was nearly all from one private boarding-school, where three mild cases mixed with all the children for several days before a diagnosis of

scarlet fever was made. The authorities in charge of the school and the private physician in attendance co-operated well with the health authorities.

As long as this disease remains mild, with so many atypical cases, it is going to be very difficult to control it or to stamp it out completely.

Only a few cases have developed complications, but some of these complications have been severe.

It will be noted that in spite of the seemingly large number of cases of scarlet fever in some months during 1935, the total number of cases for the year is less than for 1934.

Measles.—North Vancouver was very fortunate during the past year in regard to measles. There was a definite increase in the number of cases in the Province, particularly in the Lower Mainland, but we had very few cases. This control was possible because the first cases were reported immediately and were kept in strict isolation by the parents. The cases all received their infection outside the boundaries of our two municipalities.

Here is an example of the control that is possible with the whole-hearted co-operation of parents in reporting cases and carrying out the Health Department's instructions.

It should be realized that measles is a serious disease, particularly among children under 5 years of age. Ninety per cent. of the deaths from measles occur in this age-group. Measles is one of the four communicable diseases responsible for the greatest number of deaths of children under 5 years of age. These four diseases are diphtheria, scarlet fever, whooping-cough, and measles.

Mumps.—Although mumps is not a serious communicable disease from the point of view of deaths, it is a disease that can leave serious complications and defects in its wake, particularly among adolescents and young adults.

Of the cases reported in 1935 the majority were in an epidemic during the first two months of the year. The number of cases gradually dropped off and the disease disappeared during the summer. The few cases that appeared in the fall were all from outside sources. These were reported early and isolated before they had an opportunity of spreading the disease through the community.

Chicken-pox.—We had the usual run of this highly communicable disease during the year. Many of the cases occurred in the fall. A few of the cases were of the more severe type. These were carefully checked to differentiate them from mild smallpox. Material from two cases was sent to Toronto, to the School of Hygiene, for a special test, which confirmed the diagnosis of chicken-pox.

Whooping-cough.—Whooping-cough is a difficult disease to control, due to the appearance of mild symptoms some days before the typical cough, and the disease is highly communicable in the early stages. During this period whooping-cough is not suspected and the child is allowed, in many cases, to go about freely. This should impress upon us the fact that any sick child should be suspected of having a communicable disease until it is proved otherwise, and that he should be isolated as soon as he becomes sick.

Whooping-cough is a serious disease among children of the pre-school age-group, as it is in that age-group that most of the deaths from this disease occur.

Rubella or German Measles.—Rubella or German measles is a mild disease and is only important because of its resemblance to mild scarlet fever. Every case should be reported and diagnosed by a doctor or the Health Department.

Malaria.—One case of malaria was reported in North Vancouver during 1935, but this need not cause any concern as it was a sailor from a ship who had received his infection elsewhere and was suffering from his second attack while he was in port here.

The possibility of the Anopheles mosquito being present in North Vancouver was checked by the Provincial Entomological Laboratories at Kamloops, but no trace of it was found. The Anopheles mosquito is responsible for the spread of malaria.

We have been fortunate in not having any cases of smallpox, diphtheria, typhoid, or any of the more serious communicable diseases. Neither have there been any deaths from the acute communicable diseases during 1935.

The following is a list of the number of cases of the different communicable diseases reported during 1935:—

	1935.	1934.
Chicken-pox	183	40
Diphtheria	—	—
Malaria	1	—
Measles	7	1
Mumps	73	197
Rubella	26	34
Scarlet fever	94	113
Smallpox	—	—
Typhoid	—	—
Whooping-cough	55	17
Home-visits for communicable diseases		1,221
Investigations <i>re</i> communicable diseases		63

SPECIAL RESEARCH.

The special research started last year and noted in the annual report, to ascertain the relationship of sore throats to scarlet fever, was not continued due to lack of material.

TUBERCULOSIS.

During the year a Provincial Tuberculosis Division of the Provincial Board of Health was established under the direction of Dr. W. H. Hatfield. This has changed our programme of tuberculosis-control.

The clinics formerly held in North Vancouver by Dr. A. S. Lamb have been discontinued and the tuberculosis cases, suspects, and contacts from North Vancouver are examined in the Provincial Chest Clinic at the Vancouver General Hospital.

This new organization should do a great deal to extend tuberculosis-control throughout the Province.

Supplies of gauze and sputum-cups are received from the Tranquille Tuberculosis Society, Kamloops, and are given out to patients needing these. These supplies are purchased with the money raised by the sale of Christmas seals.

The following is a summary of the work done in tuberculosis-control:—

Number of clinics held	2
Number examined	148
Number of X-rays taken	125
Number referred to Vancouver Clinic (September 1st to December 1st) ..	31
Number of visits to T.B. cases, suspects, and contacts	55

CLINICS.

The following clinics are operated under the auspices of the Health Unit:—

(1.) Well-baby Clinic, North Vancouver General Hospital, every Wednesday from 2 to 4 p.m.

(2.) Well-baby Clinic, Dollarton, once each month, on the third Tuesday at 2.30 p.m.

(3.) Toxoid and Vaccination Clinic, every Wednesday at 4 p.m. at the Health Unit.

Number vaccinated	9
Diphtheria toxoid—	
First dose	24
Second dose	29
Third dose	21
Scarlet fever toxin—	
First dose	9
Second dose	9
Third dose	8
Fourth dose	6
Fifth dose	6

(4.) Eye Clinic.

(5.) Chest Clinic. This clinic has been discontinued for reasons stated under "Tuberculosis."

SANITATION.

Housing.—There are a number of occupied houses in the City and District of North Vancouver that do not meet the requirements of the sanitary and plumbing by-laws. Most of these houses are occupied by people on relief or in very reduced circumstances. Many of these have dry toilets, instead of having septic tanks or being connected with sewers, as is required by by-law.

Wholesale condemnation of these houses would mean the creation of a problem by excluding people from their place of residence.

The policy in the past has been to condemn these houses for human habitation when they become vacant. The condemned house must meet the plumbing and sanitary by-laws before it may be reoccupied. Many of the houses condemned are destroyed. The progress is slow, but in the course of the past five years a reasonable number of houses have been destroyed.

North Vancouver is badly in need of a large number of new simply constructed houses, with adequate accommodation for individual sleeping-quarters and proper bath-rooms with bath-tubs.

Septic Tanks.—When a septic tank is not functioning properly, repairs are required, providing the house is not situated on a sewer-line. If the house is on a sewer-line a connection with the sewer is required and the septic tank is not allowed to be repaired. In this way there is a gradual connection with the sewers.

Unused Shacks and Outbuildings.—There are many unused shacks and outbuildings in North Vancouver that are an eyesore and serve no useful purpose. These do not create a public-health nuisance, but if this city is to be made attractive an attempt should be made to do away with all these useless and unsightly buildings. Civic organizations should take an interest in this matter and assist in making our community more attractive.

Keeping of Animals.—This problem still gives a great deal of trouble. Many people who are in reduced circumstances feel that they should be allowed to keep domestic animals. Unless a special type of sanitary stable, which is expensive to build, is constructed and the grounds are large enough to provide suitable isolation from living-quarters, the keeping of these animals should not be permitted in a city, even in one of a rural nature such as North Vancouver.

Garbage-disposal.—Garbage is disposed of in the City and District of North Vancouver by the dump method. This is a very cheap and satisfactory method if under proper supervision.

Flies.—The garbage-dumps should be covered with ashes each day. Rubbish, paper, and old boxes should be burned. In the summer-time it is necessary to spray the dumps frequently with fly-poison. Flies are attracted from all over the community to the collecting-trucks and follow the trucks to the dumps. If the dumps are properly covered the flies will not find a suitable breeding-place, and when they collect on the dumps in large numbers they can be destroyed easily.

Rats.—Garbage-dumps, unless properly cared for, will also attract rats. Special poison is provided to control this menace in the City and District of North Vancouver. This poison is inserted into the runs, so that dogs and other animals do not pick it up.

Nuisance Complaints.—Many nuisance complaints are received by the Health Unit. The ones in the city are investigated by the Sanitary Inspector, who is often accompanied by the Medical Health Officer. Those in the district are investigated by the Medical Health Officer. Many of these complaints, although dealing with unsightly conditions, do not create a condition that is dangerous to the health of the community.

The following is a report of the work done in this field during the past year:—

Nuisance complaints investigated	155
Inspections of garbage-dumps	27
Inspections of public lavatories	129
Clean-up orders issued	29
Sewer connections ordered	13
Houses condemned	6
Inspections of horse-stables	7

MILK AND FOOD INSPECTION.

Supervision of Food-handling Establishments.—Owners of food-handling establishments in the City and District of North Vancouver have improved their methods, but there is still room for improvement. All food offered for sale should be covered in such a manner as to protect it from flies, dust, and the hands of prospective buyers. This can be simply and attractively done at little cost. If the people of the community would ask the storekeepers with whom they deal to pay some attention to these matters, things could be improved without a great deal of opposition.

Inspections of grocery-stores	4
Inspections of meat markets	34
Inspections of restaurants	4
Inspections of fruit and vegetable stores	14
Inspections of fruit- and vegetable-peddlers' outfits	19
Inspections of fish-peddlers' outfits	16

Milk-supply.—North Vancouver is using more milk at the present time than five years ago, but the consumption is still below what is considered the minimum for the number of people here.

Pasteurization.—Pasteurization of milk is a process developed for the purpose of destroying germs which are capable of producing disease in man, and in this way making milk safe for human consumption.

Milk provides one of the few places outside the body where disease-producing germs will multiply. Therefore milk requires rigid control. Pasteurization will make any milk safe, but the best pasteurized milk is obtained only when good clean raw milk is put through the pasteurization process.

The bulk of the milk used in North Vancouver is pasteurized, but the consumption of raw milk is still far too high for safety.

Raw Milk.—The raw milk produced and sold in North Vancouver is of a high quality, but no matter how carefully it is produced there is always a chance of contaminating this milk with disease-germs.

Certain diseases, as typhoid, septic sore throat, scarlet fever, diphtheria, diarrhoea, and summer complaint, can be spread by milk, and every year in Canada we have an example of some epidemics transmitted by raw milk.

Milk samples are taken periodically, once or twice a month. Dairies are inspected at intervals throughout the year.

The dairymen in North Vancouver have always co-operated with the Health Unit to provide as safe a raw milk as possible.

Milk samples taken	185
Inspections of dairies	64

WATER.

There are four watersheds from which North Vancouver receives its water-supply. These sheds are guarded to prevent human beings trespassing, and in this way the water is as free from human contamination as possible. The contamination must take place from discharges of the bowel or bladder of a typhoid case or carrier to cause disease.

Water samples are taken each month and are checked for the presence of fecal bacteria or germs. These reports are very excellent on the whole.

Water samples taken during 1935	64
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BIOLOGICS.

Biologic products are supplied free by the Provincial Government for the people in North Vancouver.

These products are stored in the mechanical refrigerator in the North Vancouver General Hospital, where the physicians have easy access to them twenty-four hours a day. The Health Unit replenishes this supply when required.

LABORATORY SERVICE.

The laboratory services for the North Vancouver Health Unit are provided free by the Provincial Laboratories in Vancouver. Containers for sending specimens to the Laboratory are stored in the Health Unit offices in the Hospital and are open to the physicians twenty-four hours a day. Transportation of the specimens is provided by the Health Unit to the Provincial Laboratories.

Trips to Vancouver and Laboratories 233

SOCIAL SERVICE.

Many social problems are encountered by the staff of the Health Unit. These problems are referred to the many different Vancouver and Provincial organizations which provide various types of social service. North Vancouver would be at a great disadvantage if it did not have access to these agencies.

A new Family Committee has been organized recently in North Vancouver under the local Council of Social Agencies. This Family Committee, through its affiliation with the Vancouver Welfare Federation and the Family Welfare Bureau in Vancouver, will provide a social worker on a half-time basis to handle the local family case-work. This is a great advance for our community and should produce very far-reaching results.

RECORDS.

The new record system which was developed in this Health Unit is working out satisfactorily in practice.

It is hoped that in a very short time this system will be put into use in three other centres—namely, Saanich, Duncan, and Nanaimo.

If this trial is successful, the system is to be adopted by the health services throughout the Province, thus making uniform records that can be transferred with a family which moves from one district to another. This will provide a complete health history of the family regardless of where they may go in British Columbia, and will assist the health agency in the new district by preventing repetition of work.

Requests for samples of this system have been received from many points, particularly in the United States.

OFFICE.

Location.—The Health Unit offices are situated in the North Vancouver General Hospital, which is in a central location in the community. The offices are on the ground floor, just inside the Fourteenth Street or ambulance entrance of the Hospital. This location is convenient for the schools, the physicians, and the Hospital authorities. The members of the Unit assist the Hospital staff with their problems whenever possible and in return receive a great deal of help from the Hospital.

Technical Medical Adviser.—The Director of the Health Unit was appointed Technical Medical Adviser to the Hospital Board and the Manager of the Hospital, and has definite authoritative power to control and advise on the care of communicable diseases that may develop among the patients in the Hospital. He can advise improvements in the technique of the Hospital and assist the lay manager with many of the problems dealing with the technical administration of the Hospital.

Improvements needed in the Health Unit Office.—The nurse's office is overcrowded and lacks adequate desk accommodation for the clerk. The lighting is poor. These conditions should be remedied.

Two new cupboards are being provided and will give more space for storing record forms, public-health literature, pamphlets, and stationery. This should assist in making the office more efficient and presentable.

Social Service Exchange or Central Registry.—Under the North Vancouver Council of Social Agencies a social service exchange or central registry was established in 1935. In this registry are kept records of the organizations interested in the different families and individual, and any other organization can receive, through the registry, the names of the organizations interested in the families or individuals.

The registry is under the direction of the clerk of the Health Unit, who happens to be a fully trained Public Health Nurse.

The following are the details of the office activities and miscellaneous activities:—

Visitors to office	3,209
Phone calls in	2,509
Phone calls out	2,158
Letters received	1,078
Letters sent	378
Miles travelled	20,408
Miscellaneous visits	1,385
Investigations made	29
Social-welfare visits	230
First aid given	3
Meetings attended	126
Meetings addressed	27
Professional meetings attended	67
Pieces of public-health literature distributed	4,201
Individual health talks	500
Medical boards for relief cases	5
Number boarded	6
Widals taken	7
Kahns taken	4
Blood for culture taken	1

FIELD-WORK IN PUBLIC HEALTH.

The North Vancouver Health Unit provides field-work in public health for students taking the Public Health Nursing Course at the University of British Columbia, and have also given this service to nurses who have taken their public-health training but wished some extra field-work.

An attempt is made to give a complete idea of the work undertaken by the Unit and any plans for the future. The Director acts as a part-time lecturer for the Nursing Course at the University in preventable diseases and epidemiology.

LIBRARY.

A library is established in the North Vancouver Health Unit containing books and periodicals which deal primarily with health matters. These books and many of the periodicals have been provided by members of the staff. Some have been provided by the Provincial Board of Health.

The Health Unit should set aside in its budget money to provide new, up-to-date material for the library, as it is the only available source of health information on the North Shore. This could be extended as a health reference library for teachers and the public.

The following journals and other periodicals are received by the Health Unit:—

- The Canadian Medical Journal.
- The Canadian Public Health Journal.
- American Journal of Public Health and the Nation's Health.
- The Public Health Nursing.
- The Canadian Nurse.
- Health News.
- Hygeia.
- Canadian Health.
- The Bulletin of the Vancouver Medical Association.
- Public Health Report, U.S. Treasury.
- Child Health Bulletin.
- Lesson Helps for Teachers.
- The Canadian Red Cross Junior.
- Child and Family Welfare.
- The Bulletin of the British Columbia Board of Health.

Eleven new books have been added to the library during the past year at the expense of the Director.

CO-OPERATION.

The Health Unit depends for its success not only on the personnel of the Unit, but on the support it receives from the individuals and organizations in the community it serves.

The Unit must also co-operate with other Health Departments and agencies interested in public health and social service in the adjacent municipalities and the Province.

The North Vancouver Health Unit has received very excellent help and co-operation from many organizations in its work of helping the people to know health and practise its principles. The members of the Health Unit staff wish to thank all these people and organizations who have helped in this work. The future and advance of health education and endeavours in North Vancouver depends on the co-operation and help of the people and groups of people, as each person and each group has a place in the health programme of the community.

The Unit is indebted to the support and help given by many more people and organizations than are mentioned below, and to those who are not mentioned, for lack of space, the same thanks are extended.

The Health Unit Committee, as advisers and administrators of policy and supervisors of the finances of the Unit, has given time willingly and cheerfully to assist the Health Unit staff in their work for the people of North Vancouver. The members of the Committee have encouraged and supported the endeavours of the staff and have pleaded for and procured the help of official and non-official bodies for health. Their help and advice have done a great deal to promote the success of this work in North Vancouver.

The finest help and co-operation has been received from the Commissioner and the Acting-Commissioner of the City and District of North Vancouver, the City Clerk, the District Clerk, the Consulting Engineer, the Chief of Police, the Relief Officer, and all departments and employees of the local municipal government.

The medical profession has co-operated with and assisted the Health Unit with its work. They have consistently reported cases of communicable disease.

The dental profession has always been willing and ready to assist the Unit as far as lay in its power.

The Committee and the nurse of the Victorian Order of Nurses have always given the Unit very excellent co-operation. The nurse assists at the Well-baby Clinic every Wednesday.

Vancouver Organizations.—The Family Welfare Bureau, the Children's Aid Society, the Greater Vancouver Health League, and many other organizations in Vancouver have assisted by providing services at the request of the Health Unit.

Dr. J. W. McIntosh, Medical Health Officer for the City of Vancouver, deserves a great deal of appreciation from the people of North Vancouver for services that he and his department have so unselfishly extended to this community through co-operation with the Health Unit.

The Kiwanis Club of North Vancouver deserves great praise for the work it has done to help the people of North Vancouver. The dental service and the provision of glasses, as stated elsewhere in this report, have been made possible by the help given by this small club of North Vancouver business men.

The North Vancouver Branch of the Canadian Red Cross Society has also co-operated closely with the Unit and has helped many people who were in difficulties. They have also assisted very extensively with the provision of glasses. Their help and co-operation are very greatly appreciated.

The parents and teachers deserve special mention for their support and help in carrying out the work of the Unit.

The Matron, the Manager, and the staff of the North Vancouver General Hospital have assisted the Health Unit in numerous ways throughout the year. They have always been willing and eager to do whatever they could to help along the work of the Unit.

A special note of appreciation must be given to the Rockefeller Foundation for their monetary support that made the establishment of the Health Unit possible, and for continuing this support for two years more than the time agreed, when the city and district were in serious financial difficulties. The people of North Vancouver owe a debt of gratitude to this Foundation, established and operated in a foreign country, for the interest and help that it was willing to give people in this country to establish a modern health unit to direct the work of health preservation.

The Provincial Health Officer has a supervising interest in the North Vancouver Health Unit. He and his department have always been willing and pleased to supply any help, both material and advisory, that has been required.

I have, etc.,

G. F. AMYOT, M.D., D.P.H.,
Medical Health Officer, North Vancouver.

Year.	Estimated Population.	Deaths exclusive of Still-births.	Death-rate per 1,000 Population.	Births.	Birth-rate per 1,000 Population.	Infant Deaths.	Deaths per 1,000 Living Births.	Still-births.	Still-births per 1,000 Living Births.
1931	13,692	107	7.81	175	12.78	6	34.28	5	28.5
1932	13,755	115	8.36	199	14.46	14	70.35	4	20.1
1933	13,835	117	8.45	204	14.75	8	39.21	12	58.8
1934	13,921	129	9.26	200	14.36	8	40.00	7	35.0
1935	13,985	128	9.15	204	15.44	6	29.41	5	24.5

REPORT OF TUBERCULOSIS DIVISION OF PROVINCIAL BOARD OF HEALTH.

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

SIR,—In an attempt to control the serious tuberculosis problem in British Columbia, the Provincial Government in July, 1935, inaugurated the Tuberculosis Division of the Provincial Board of Health. The first action of this division was to call a conference, which was attended by eighty-two people representing those who were directly or indirectly interested in the tuberculosis problem throughout the Province. This conference lasted three days and a very full discussion took place on all the problems relative to tuberculosis.

Following this, the work throughout the Province was completely correlated and a Central Council formed of the superintendents of various institutions and the directors of various clinics. A central administration was set up with offices located at the Vancouver Unit. The records of all the institutions were standardized and the doctors of the Province circularized in an attempt to have cases better reported. A new travelling clinic for the Interior was started on August 1st, Dr. G. F. Kincade in charge. On September 15th a clinic was opened in Victoria under the direction of Dr. Frederick Kincaid. This clinic is now open two full days a week and the tuberculosis officer spends one week a month doing travelling-clinic work up the Island. Negotiations were entered into with the Royal Jubilee Hospital in Victoria and a forty-bed unit taken over and opened as a tuberculosis unit under the Provincial Department. The necessity of increasing bed facilities and enlarging the Vancouver Clinic has been met by an addition to the Vancouver Unit which is now in the process of construction. This unit will become, when completed, the hub of the whole anti-tuberculosis drive in British Columbia. It will add two floors of beds and adequate clinic facilities for the Lower Mainland, plus offices for central administration, district nursing, social-service work, etc.

A central admitting office has been developed, allowing cases to be admitted to the various units, depending upon their proximity, coincidental social conditions, and physical condition. This is now working most satisfactorily. A central collection department was started with offices located in Vancouver and patients are now assessed upon their ability to pay. This has made for a definite increase in revenue to the various units.

It was very apparent that new methods of case-finding must be established, as the majority of patients in the Provincial institutions were in a far-advanced stage. Public-health educational work has been undertaken with the distribution of over 250,000 pamphlets. Tuberculin-testing has been started in the schools and several thousand school-children to date have been checked. Several industrial surveys have already been completed. An after-care committee was set up and a conference was held in Vancouver. Several problems loomed large before this committee and still remain unsolved. These are the foster-home problem, the problem of home-care for tuberculous patients, particularly from a nursing standpoint, plus

the proper provision for housing, food, clothing, and fuel, and the large problem of a stepping-stone back to work for those patients who have been treated in the various institutions. Suggestions have been made to the Department of Education that all school-teachers in the Province should be certified tuberculosis-free and complete co-operation has been obtained in endeavouring to establish this.

The serious problem of tuberculosis-work amongst Indians is a problem of the Department of Indian Affairs of the Dominion Government, and several conferences have been held with the Director of this Department, and the Tuberculosis Division will do all within its power to aid the Department of Indian Affairs in combating tuberculosis amongst the Indians.

Japanese and Chinese clinics have been opened in Vancouver, in co-operation with the City Health Department, in an endeavour to reach further into the Oriental groups, who have a great deal of tuberculosis.

The first steps were made in facing the social-service side of tuberculosis in linking up with the Welfare Field Service. Every effort has been made to correlate the tuberculosis-work with the various health departments, school medical services, voluntary agencies, relief agencies, pension departments, service clubs, etc. A great deal of public interest has been obtained and both financial and voluntary help have come from many sources, from organizations and individuals, thus materially aiding in the work of the division.

At the Vancouver Unit research has been started through the generosity of a city organization which is financing this work completely. At the present time three physicians are working on fellowships.

During the year 1935, 481 patients were admitted to the Tuberculosis Unit for treatment. Approximately 65 per cent. of these patients on admission had far-advanced pulmonary tuberculosis. During the year 13,868 chest examinations were made by the clinics. Detail work of the various clinics and institutions has been published in a separate report. It should herein be pointed out that, in attempting to bring about any control of tuberculosis, many factors should be taken into consideration before a real result can be accomplished. Even with the development of the new wing in Vancouver, bed facilities will not be sufficient to meet the needs, so that home-treatment service will have to be established. This means adequate nursing care, proper social-service work, adequate housing, food, clothing, and general supplies. At the present time every available bed in British Columbia is filled and many cases are scattered in smaller hospitals, and there are sixty-four applications on file in the central office at the present time, practically all of which are urgently in need of institutionalization. There are still many more patients in homes who would be better treated in an institution, but an attempt is being made to carry them with the facilities available in their own home surroundings. It is felt that this emergency should be met by the establishing of what might be termed a chronic institution. Here a long-term ambulatory case, those who present a permanent chronic disability, and those needing readjustment in order to replace themselves in community life could be handled. To-day we are not protecting the investment we are making in our patients, but are discharging them back into the community unfit to compete in the labour market, and consequently too many breakdowns are occurring needing re-treatment. Such a chronic institution would attempt to organize some rehabilitation programme, and it is urged that this institution be started at the earliest possible moment.

The key-note of the whole anti-tuberculosis programme at the present time is prevention. We are dealing with a communicable and therefore a preventable disease. The Tuberculosis Division wishes to acknowledge the great help and assistance that various groups and organizations have given to the work in the past year. Among these are the Vancouver City Health Department; the Superintendent, medical staff, and Board of Directors of the Vancouver General Hospital; the Imperial Order, Daughters of the Empire; the Vancouver Rotary Club; the Junior League; the Kinsmen Club; the Active Club; the Kiwanis Club; the Greater Vancouver Health League; the Council of Social Agencies of the Vancouver Welfare Federation; the B'nai B'rith; the various Christmas-seal Committees in the Province; the Tranquille Tuberculosis Society; the medical service of the Vancouver School Board; the many family physicians throughout the Province; and the Board of Directors of the Preventorium. Much help and assistance has come from other governmental services, such as the Department of Social Welfare, the Welfare Field Service, Provincial Laboratories, Department of Public Works, etc. There are also many individuals who have given freely of their time to aid in the work

of this division. The sympathetic consideration and untiring efforts of the Honourable Dr. G. M. Weir; Dr. Young, the Provincial Health Officer; Dr. Cassidy, the Director of Social Welfare; and Mr. Walker, the Deputy Provincial Secretary, have gone a long way towards making this work the success it has been to date. Complete harmony has existed among all members of the staff and grateful acknowledgment is made of their devotion to their work and the energy that has been displayed in keeping pace with the new development.

I have, etc.,

W. H. HATFIELD, M.B.,
Provincial Medical Director, Tuberculosis Control,
Provincial Board of Health.

EPIDEMIOLOGICAL REPORT.

VICTORIA, B.C., February 17th, 1936.

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

SIR,—I have the honour to submit the following epidemiological report for the year 1935:—

In surveying the year's work it is noted that we have passed another twelve-month period with, perhaps, no more than our expected share of communicable disease. The reported cases reached a total of 16,824, which is an increase of more than 5,000 over the previous year, which increase is to be accounted for, chiefly, by a return of measles in epidemic form, with more than 3,700 cases over the previous year, and also by appreciable increases in influenza, chicken-pox, German measles, whooping-cough, and cancer. In the table below are listed the notifiable diseases by months, as reported to this Department.

REPORTABLE DISEASE INCIDENCE BY MONTHS, BRITISH COLUMBIA, 1935.

Disease.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Cancer	75	56	39	10	30	266	79	107	62	52	131	57	964
Cerebrospinal meningitis	3	—	3	—	—	—	—	—	1	—	—	1	8
Chicken-pox	282	214	230	242	275	411	146	43	46	134	483	409	2,915
Conjunctivitis	1	—	97	42	10	5	9	2	—	9	1	8	184
Diphtheria	—	2	1	5	6	3	—	—	2	4	2	2	27
Dysentery (all forms)	—	—	—	—	—	1	1	—	1	—	—	—	3
Encephalitis	—	—	—	—	—	—	—	1	—	—	—	—	1
Erysipelas	5	9	5	2	5	5	3	4	4	7	6	7	62
German measles	17	17	74	27	34	15	9	7	37	10	119	258	624
Influenza	111	320	1,128	456	57	67	8	2	38	28	46	6	2,267
Malaria	—	—	—	1	—	—	—	1	—	—	—	—	2
Measles	82	153	203	241	248	752	453	99	144	335	600	608	3,918
Mumps	83	87	165	97	74	73	16	47	40	118	360	397	1,557
Paratyphoid fever	—	—	—	—	—	1	—	1	1	2	—	—	5
Pneumonia (lobar)	24	41	25	19	16	13	8	7	10	7	29	14	213
Pneumonia (broncho)	37	26	20	25	15	14	5	6	4	5	11	4	172
Pneumonia (unspecified)	17	9	14	2	2	1	2	3	1	—	1	1	53
Poliomyelitis	2	—	—	—	—	1	1	5	7	3	1	—	20
Puerperal septicaemia	—	—	—	—	—	—	1	—	—	—	—	—	1
Scarlet fever	110	90	121	113	111	135	38	50	63	96	146	116	1,189
Septic sore throat	10	13	14	9	11	9	13	25	20	11	29	22	186
Smallpox	—	—	—	—	—	1	—	1	5	1	2	3	13
Tetanus	—	—	1	—	—	—	—	—	—	—	—	—	1
Trachoma	2	—	4	4	5	1	2	6	23	10	9	11	77
Tuberculosis	47	62	78	58	67	78	46	77	52	51	81	31	728
Typhoid fever	—	1	7	2	2	13	12	10	13	6	3	3	72
Undulant fever	—	—	2	2	1	—	—	3	—	—	1	1	10
Whooping-cough	102	275	222	172	279	226	87	55	29	41	50	14	1,552
Totals	1,010	1,375	2,453	1,529	1,248	2,091	939	562	603	930	2,111	1,973	16,824

CANCER.

Returns regarding this disease have been more complete during the year than formerly, a total of 964 cases being reported, as against 685 for the previous year. Practically all the larger hospitals are reporting their cases of cancer to us each month, special individual forms being provided for that purpose. Persons suffering from this disease are frequently transferred from place to place, sometimes for hospitalization, sometimes for confirmation or completion of diagnosis, and sometimes for more efficient treatment. The same case may thus be reported to us from two or more centres, and a careful cross-checking of the reports is necessary in order to avoid duplication of recording.

A great deal of publicity has been carried on during the past year in regard to cancer, particularly in connection with the King George V. Silver Jubilee celebration, when efforts were made to raise large sums by voluntary subscription to be used in meeting the cancer problem. Although a considerable sum was raised in this manner, it was not sufficient to establish tumour clinics in each Province, and our dream of well-equipped diagnostic and treatment centres must still remain in the nebulous background. An active body of medical and lay members have formed the British Columbia Cancer Foundation, who recently announced in the daily press:—

"A campaign to educate the people of British Columbia to a greater knowledge of cancer, its cause and treatment . . . to substitute knowledge for fear in the public mind . . . to provide, in this Province, adequate facilities for cancer research and treatment. The British Columbia Cancer Foundation is incorporated under the laws of this Province, comprises a group of public-spirited citizens, who as governors of the Foundation are giving their time to the end that British Columbia will do its part in combating the incidence of cancer.

"Watch Your Daily Newspaper for Articles on Cancer and Treatment of Cancer."

Largely, through efforts of such organizations as this, particularly in the larger centres, it is hoped that considerable progress may be made in the prevention and treatment of this disease.

DIPHTHERIA.

The Province has continued to enjoy a low incidence of diphtheria during the past three years, or since the general use of toxoid as a prophylaxis, which was begun in 1929. The following table indicates the value of preventive measures in the reduction of this disease:—

REDUCTION IN DIPHTHERIA BY THE USE OF TOXOID, BRITISH COLUMBIA, 1929 TO 1935.

Date.	Cases.	Date.	Cases.
1929	815	1933	33
1930	380	1934	40
1931	299	1935	27
1932	83		

Of the twenty-seven cases reported during the year, fifteen were in the populous area comprised of Vancouver, Burnaby, and New Westminster, six were from Nelson and District, and the rest scattered. The need for preventive measures is indicated by the high case-fatality rate, nine deaths occurring amongst the twenty-seven cases, giving a fatality-rate of 33.3 per cent. The virulence of the infecting organism seems to have increased during recent years, and it should be recognized that the protection given by the use of toxoid has meant the saving of many lives, especially amongst the children under 5 years of age, who are particularly susceptible to diphtheria. Complete figures as to the number of persons immunized during the year are not available, but 2,991 doses of toxoid were provided by the Provincial Health Department, as compared with 1,793 for the previous year. In addition, a considerable amount of immunizing is done in the larger cities, particularly in Vancouver, in which the toxoid is supplied by the cities themselves, although at the present time we have not the exact figures at hand. With some 10,000 births each year in this Province, however, we should have a similar number of toxoid treatments administered in order to provide complete protection to our child population. Only with continued education of the profession and the public, and perhaps with the organization of the greater part of the Province into health units under full-time officials, can we expect to reach ideal conditions in regard to preventive medicine.

INFLUENZA.

It is very difficult to obtain accurate returns regarding influenza because of the lack of accuracy and the difference of opinion as regards diagnosis. Whether an attack is simply what is known as an infectious cold, or is really influenza, is always a difficult question to decide. During 1935 there were 2,267 cases of influenza reported, chiefly during the first four months of the year. The disease was experienced in epidemic form in several of the small compact communities along the coast from Powell River to Atlin, as well as in certain Interior points, notably Quesnel, Smithers, Chase, Summerland, Robson, and Coal Creek. This shows the widespread distribution, and the occurrence of over 300 cases in one week in a small town of about 800 population gives an idea as to the suddenness with which it struck some communities. Efforts were made to collect information regarding the clinical manifestations of the disease at various points, and the reports received were indicative of a serious outbreak of influenza with its customary prostration and respiratory and other symptoms. A few cases showed sign of an encephalitic nature and some had intestinal symptoms, but apparently few cases developed pneumonia.

MEASLES.

Measles in epidemic form was experienced in 1932-33, and as epidemiological studies have shown that such epidemics recur habitually in most countries every two or three years, another visitation was expected in 1935. As shown in the table of reportable disease incidence, measles reached a peak of 752 in June, then slackened off during the children's summer holiday season, to show a recrudescence in the fall to another peak of 608 cases in December. The disease has been fairly widespread, few communities having escaped, but the total of cases reported probably indicates only a fraction of those which actually occurred. Symptoms have been mild, with little tendency to complications, and no doubt in numerous cases no doctor has been consulted, and therefore the cases are not reported to this Department.

Through the Provincial Board of Health Laboratories a limited amount of measles convalescent serum was made available for use in selected cases and full information regarding its use, or the use of whole blood from recovered cases, was published in our monthly Bulletin for June. On account of the mild symptoms characterizing this epidemic, however, there has been little call for these preventive measures.

POLIOMYELITIS.

The Province, on the whole, has been remarkably free from this disease, especially when one considers that cases were fairly numerous in the adjoining Province of Alberta. We had only twenty cases reported, as compared with thirty-two for the previous year. Twelve of the twenty cases were in the Trail-Rossland area and the rest were scattered.

Infantile paralysis, as it is commonly known, is one of the diseases which is particularly feared by parents, attacking children principally, and leaving a considerable proportion of these maimed and crippled for life, who continually remind us of the ravages of this disease. The dread in which it is held frequently leads to a condition of near panic when an outbreak occurs in any community, and this usually guarantees the observance of any emergency rules and regulations required by the local Health Officer. Our knowledge regarding the epidemiology and early treatment of this disease is still so nebulous that we are not certain that the best means of checking the infection have yet been developed. We have been looking hopefully to the experiments with vaccines which have recently been undertaken in the United States, but at the present time they can only be considered as still in the experimental stage. The faith which we at one time had in the value of convalescent serum as an effective treatment in the early stages of poliomyelitis has been badly shaken by the controlled experiments of Park and others, although it is still being recommended as worthy of trial, especially in the complete absence of something better. A supply of this serum was made available through the Provincial Board of Health Laboratories and distributed free of charge to the physicians wherever needed. Obtaining a sufficient number of suitable donors and maintaining depots of supply at strategical centres for rapid delivery to any given point have been problems requiring considerable attention. A very comprehensive report on poliomyelitis was published in the Epidemiological Report of the Health Section of the Secretariat of the League of Nations, October-December, 1933, and one of the interesting observations contained therein is that serum obtained from the abortive type of case contains one hundred times as many antibodies

as the serum from a paralytic case. This knowledge increases our range of suitable donors for supply of serum, but with the abortive type of case there is the difficulty of some uncertainty in regard to the diagnosis.

SMALLPOX.

Of the thirteen cases of smallpox which were reported during the year, nine were of the mild type and occurred on Vancouver Island. Some of these cases were so mild as to make it difficult to make a diagnosis from chicken-pox, although an occasional case would be fairly severe. All were in unvaccinated individuals. Investigation failed to reveal the original source of infection, but as there was considerable passenger travel between neighbouring United States ports and Victoria, it is probable that the infection was brought in from the State of Washington, where the mild type of smallpox has been prevalent for some time.

The remaining four cases were of an entirely different type—namely, hæmorrhagic smallpox, the first three cases being members of the crew of a British freighting-vessel plying from the Orient and probably having picked up the infection at a Korean port. One man had died of the disease at sea, one died at the Quarantine Station at William Head, and a third one developed the disease in Vancouver after the ship had been fumigated at the Quarantine Station and released, the last-mentioned man showing what was taken to be an "immune" reaction when vaccinated, and being allowed to proceed with the ship. He had given a history of previous vaccination in early childhood. At time of writing there have been three secondary cases in Vancouver, with two deaths. Although two of these are not listed as 1935 cases, having occurred in January, 1936, I mention them here as a direct continuation of the same outbreak. Including the man who died and was buried at sea, there were seven cases and four deaths in this group.

This experience is just another example of how easily the virulent type of smallpox may be introduced from the Orient—a danger which we have repeatedly stressed, but our warnings apparently go unheeded and a considerable number of our citizens remain unvaccinated.

In connection with the introduction of smallpox by ocean vessels, we have taken the matter up with the Ministry of Health of Great Britain, pointing out the loss of life as well as the serious illnesses which resulted on several occasions by unvaccinated members of the crews of British ships plying to Oriental ports, and suggesting that measures be taken, if possible, to ensure vaccination and revaccination of these men not only for their own protection, but also for the protection of citizens at their various ports of call.

TRACHOMA.

That a considerable amount of trachoma has been prevalent in certain sections of the Province, especially among the Indians, has been known since Dr. Wall, under the Federal Department of Indian Affairs, made a survey of the situation within the last four years. Dr. Wall has had special training and experience in the handling of trachoma, and we are greatly indebted to him for his work in checking up on the prevalence of the disease amongst other racial groups as well as the Indians during the course of his survey of this Province. His work of instructing the local Health Officers in areas where trachoma is prevalent has been of great value, both as regards diagnosis and treatment. The result is that we are getting more cases of trachoma reported than previously, and treatment is being undertaken early in the disease, so a continued improvement in the situation is looked for. Copper citrate ointment and, in advanced cases, the use of the copper sulphate stick are the treatments chiefly recommended, and these materials are provided by the Federal Department of Indian Affairs and by the Provincial Health Department.

Of the seventy-seven cases reported during the year, fifty were white, twenty-three Indian, three Chinese, and one Japanese. The greatest number of these cases—namely, forty-four—were reported from the Williams Lake area, and these were all white. On a previous occasion we had numerous cases reported from this same area, but on further examination most of them proved to be cases of conjunctivitis resembling trachoma. There is a possibility that at least some of these cases may prove to be other than trachoma, but the situation is one that needs our most careful attention, and continued efforts will be made to clear entirely our Province from trachoma.

TUBERCULOSIS.

During the year a reorganization took place, under the Provincial Board of Health, of the activities seeking to control and lessen the incidence of tuberculosis in British Columbia.

Dr. W. H. Hatfield has been appointed as Director of Tuberculosis Control, and as full details will be found elsewhere in the Public Health Report no further comment need be given here, except that under the energetic leadership of Dr. Hatfield, and with the extra staff and equipment provided for dealing with the problem, we may expect a considerable reduction in the incidence of tuberculosis during the next few years. The economic value of treating tuberculosis similarly to other infectious diseases, by early diagnosis and by separating the sick from the well, thus limiting the spread of infection, is at last being recognized, and wherever these principles have been adopted, with sufficient staff and equipment provided to carry out an efficient system of control, these efforts have been crowned with success.

TYPHOID FEVER.

Only five places in the Province reported five or more cases of typhoid during the year, Vancouver being the highest with twenty-five cases; Enderby, Kamloops, and Nelson reported five each; and seven were reported from New Westminster and district. The rest were scattered. On account of the large number of cases which had occurred amongst the Indians between the Nass and Skeena River during 1934, when twenty cases were reported, further cases were expected to occur during 1935, especially during the salmon-fishing season, when the Indians from scattered points gather together at the canneries. These people are not noted for cleanliness in their domestic habits, and it is very easy for a carrier to transmit the infection to others under such conditions. It was somewhat of a surprise, therefore, that only four cases occurred amongst these Indians during the past year. The Vancouver cases were spread over the period from March to October and appear to have been due to various sources, although carriers were probably responsible in the majority of instances.

The type of case was so peculiar in an isolated outbreak of two cases that it deserves special mention. One of these cases showed symptoms of meningitis, and examination of the spinal fluid showed over 27,000 cells per cu. mm., and gram negative bacilli were found by direct smear. Culture of the spinal fluid and other tests proved the infecting organism to be *B. typhosus*. These details were worked out by the Provincial Board of Health Laboratories in Vancouver and efforts are being made to have full details of this unusual case published, so that they may be available for the assistance of others who may encounter similar cases. In this outbreak a carrier who had had typhoid some twenty years previously was found to be responsible, and both in the recognition of the carrier as well as in the diagnosis of the disease we have an instance of the value and indispensability of a good laboratory service in public-health work.

ENDEMIC GOITRE.

For a number of years the school medical reports have been used as an index of the prevalence of goitre, and the following table shows the amount of goitre found in the schools of the various statistical areas during the year ended June, 1935:—

GOITRE IN B.C. SCHOOLS 1934-35, ACCORDING TO STATISTICAL AREAS.

Area.	Pupils examined.	Cases of Goitre.	Per Cent. of Goitre.
1.....	3,770	109	2.89
2.....	6,797	649	9.55
3.....	6,865	979	14.26
4.....	58,781	1,889	3.21
5A.....	11,477	344	3.00
5B.....	335	3	0.90
6A.....	3,150	187	5.94
6B.....	471	14	2.97
7.....	1,459	77	5.28
8A.....	1,218	133	1.09
8B.....	1,226	134	1.09
9A.....	20	—	—
9B.....	24	—	—
9C.....	669	17	2.54
9D.....	70	—	—
10C.....	1,060	122	11.51
Totals.....	97,392	4,657	4.78

Area No. 3 (Okanagan), with 14.26 per cent., showed the highest percentage of school-children affected, although this is a reduction from the previous year, when 16.38 per cent. were reported with goitre. Area 10c (Peace River) was second with 11.51 per cent., and Area 2 (Kootenay-Revelstoke) in third place with a total of 9.55 per cent. The Peace River area showed the highest percentage of goitre during the previous year, with 18 per cent. of the pupils affected.

As mentioned in my annual report last year, we have been actively encouraging the use of iodine as a preventive measure, and have been assisting schools to procure a palatable iodine tablet at a low cost for administration to the pupils in goitrous areas on consent of the parents. We have had some very favourable comments from schools in which this treatment has been undertaken, and as the number of cases of goitre is considerably lower during the year 1934-35 than at any time since 1929, we feel quite encouraged and shall look forward to a continuous downward trend.

CASES OF GOITRE AS REPORTED BY THE SCHOOL MEDICAL INSPECTORS, 1929 TO 1935.

1929	6,473	1933	6,319
1930	4,955	1934	5,546
1931	5,403	1935	4,657
1932	5,176		

GENERAL REMARKS.

During the year 1935 your Epidemiologist was enabled to get out into the field more frequently in order to make personal investigation of various outbreaks of infectious disease, and this is always the most satisfactory way.

A trip of more than 2,000 miles was made through the lower part of the Province, visiting eighty-seven physicians and discussing with them various questions relating to preventive medicine, and at the same time doing a little epidemiological investigation as well as becoming acquainted with the country, the physicians, and the conditions under which they are required to work. It is my belief that some such contact with the outside physicians should be made more frequently if possible, bringing them the latest developments in preventive medicine and otherwise helping to interpret to them the work of the Provincial Health Department.

Attendance at the Annual Convention of the Western Branch of the American Public Health Association at Helena, Montana, provided a pleasant and instructive diversion during the first few days of July. Besides the inspiration one receives from attendance at such gatherings, considerable information was obtained from the discussion of questions of vital importance to this Province as well as to the Western States. It was learned, for instance, that plague-infected rodents had been found as far north as Oregon and even in part of the State of Washington. Owing to the danger of this disease amongst human beings, it becomes a problem of great importance to British Columbia and probably will require more attention in the near future.

Opportunity was also taken to visit the U.S. Public Health Service Laboratory at Hamilton, Mont., where a great deal of work is being done on Rocky Mountain spotted fever and tularæmia, two diseases which may become prevalent in this Province. Both diseases may be transmitted by the tick *Dermacentor andersonii*, which abounds in the lower interior parts of British Columbia. An occasional case of tularæmia has been reported, but no known case of Rocky Mountain spotted fever has ever been recorded here.

In closing, may I take this opportunity of expressing my thanks to yourself and other members of the Health Department, to the practising physicians who have reported cases of infectious disease to us regularly, and to the staff of the Provincial Board of Health Laboratories, without whose service an efficient epidemiological service would be impossible.

I have, etc.,

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



TYPICAL B.C. SALMON-CANNERY, KNIGHT INLET.



MINING CAMP, 4,000 FEET ABOVE SEA-LEVEL, HOWE SOUND.



MODERN AUTO CAMPS FOR B.C. TOURISTS.

SANITARY INSPECTION.

SANITARY INSPECTOR'S OFFICE,

VICTORIA, B.C., December 31st, 1935.

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

SIR,—I have the honour to submit the Twenty-fifth Annual Report on general sanitary conditions for British Columbia.

AUTO TOURIST CAMPS.

Commencing alphabetically, I am reminded that much has been done this year for the general improvement of auto tourist camps throughout the Province. This was the result of anonymous complaints sent in to the effect that tourist camps in British Columbia were not as good as those in the neighbouring States. Upon investigation, it was found that some justification for the reflection existed in our unorganized territory. This has been corrected and to-day our British Columbia auto camps, equipped with shower-baths, modern conveniences, and drainage, compare most favourably with any on the Pacific Coast. This improvement was effected by the co-operation of 90 per cent. of the auto-camp operators, and those few who failed to see the light closed up through lack of patronage.

There are two important factors in promoting tourist trade—good roads and good auto tourist camps. In British Columbia both are rapidly improving, with most satisfactory results. When the Hope-Princeton Highway is completed, it will stimulate tourist trade not only with visitors from afar, but will afford a valuable short-cut for our own people from South-east Kootenay and the Okanagan to the Coast and Island points.

CANNERIES.

The canning industry in British Columbia has already reached a stage of development of which every British Columbian may justly be proud. The world-famous fruit of the Okanagan has the pick of the world's markets through sheer merit in quality and precision-like care in packing and canning. Cleanliness is a byword in every British Columbia fruit and berry cannery. Our regulations governing such establishments are posted at every cannery, but no enforcement is needed.

The same can be said of the salmon-canneries on the Coast, extending from the Alaskan boundary to Esquimalt, with many very extensive inlets and rivers between, and including the Skeena and Fraser Rivers. The salmon-run on our Coast this year was a good average and steady throughout the season. Canning equipment is being constantly improved and to such an extent that the fish are caught, cleaned, gutted, and canned almost exclusively by mechanical devices in the hands of skilled operators. Every fish landed at the cannery is scrutinized by experts for its freshness and firmness. Operators are very exacting in this respect, often at the expense of fishermen. This is absolutely necessary in order to hold their much-coveted market against Japanese and Russian competitors from Siberian waters.

Whilst speaking of our fish-food products, mention must be made of our expanding oyster-cultivation. New beds on the west and east coasts of the Island and Pender Harbour are now producing this delectable and favoured food. These beds are all remote from possible contamination. They are subject to frequent inspection for test samples of water and shell-fish. The Laboratory reports on these samples are highly satisfactory. Many tons are exported annually through the medium of this Department's certificates, issued annually and accepted by the United States as a guarantee that the beds are operated under sanitary supervision and are absolutely free from foreshore pollution.

A few years ago British Columbia imported canned shell-fish to the value of \$60,000 annually. That order is now reversed. Shell-fish of a finer quality are being canned on the Saanich Peninsula and at Deep Bay under modern and sanitary methods, with a waiting market.

Aside from clams, there are three distinct varieties of oysters now grown in our shore-waters: First, the native, a small very nutritive oyster, locally known as the Olympia; second, the Eastern or Esquimalt, a medium oyster of delicious flavour, which with the consumers is most popular; and the third is the latest to be introduced here, a native of Japan, and known as the Pacific. This is a larger oyster of good flavour. It propagates here in British Columbia waters quite easily, matures about ten months quicker here than in Japan, and is said to have a finer flavour than in Japan.

Oyster-culture in British Columbia waters gives great promise. A casual survey undertaken last year by this Department revealed approximately 20,000 acres of suitable foreshore-water available for oyster-culture between Queen Charlotte Sound and the 49th parallel. The potentialities of this industry are beyond computation.

INDUSTRIAL CAMPS.

Under this heading is included what are termed "company towns," such as Powell River, Ioco, Ocean Falls, Port Alice, Tadanac, and Kimberley. These places are all known to be models of sanitation and general administration. This Department is seldom needed except in an advisory capacity, although they are inspected periodically.

The larger logging camps are also observing our regulations, plus reading-rooms, gymnasiums, and recreation halls and grounds. The smaller camps call for more action from this branch of your Department. This applies especially to the many mining camps during their early stages of development. What is now the third richest gold-mine on this continent gave the writer considerable trouble in its early struggles when they lacked funds to install lawful sanitary requirements.

Speaking of industrial-camp conditions, it does not require a "very old-timer" to attempt a description of the transformation of living conditions for the workers of to-day and what they were in 1902. This change has come surely and slowly through the introduction of health regulations for industrial plants, works, and camps throughout the unorganized part of British Columbia. Your Inspection Department does not crave the credit for the improved conditions or evolution. It was purely a matter of persuasion and co-operation between all parties concerned. I had but one Court case. During the past twenty years there has been no industrial strife through living conditions in any camp in British Columbia.

During the year just past:—

- 223 visits of inspection have been made to such camps;
- 31 canneries have been periodically visited;
- 19 auto camps visited;
- 27 nuisance complaints investigated and dealt with;
- 30 specimen samples of water and food products collected for laboratory tests.

MISCELLANEOUS.

Water-pollution has been very much in the foreground this year from various sources; foreshore contamination from industrial plants; mountain streams polluted by unauthorized house-drainage and also by industrial refuse. These have been dealt with accordingly, and with a view of preserving the purity of our streams and protecting our bathing-beaches.

Under the category of nuisances, insanitary stables, fox-farms, piggeries, and unauthorized slaughter-houses and stockyards have been dealt with and in two cases condemned and closed.

SUMMER RESORTS.

The majority of British Columbia summer resorts are located in unorganized territory and in consequence they are our responsibility. Ninety per cent. are on the coast-line and all have been well patronized during the summer of 1935. These are visited periodically and drinking-water tested. During the season just past not a single case of sickness was reported from these resorts.

The foregoing brief report is simply a skeleton of this division of your Department. The files will show details of the work which has been carried out in a thorough and systematic manner, with various sanitary problems met and dealt with as they arise, and invariably the

results have been so satisfactory as to evoke letters of thanks to the writer for skill and patience mixed with experience in bringing order out of chaos between neighbours.

In conclusion, I beg to remind you of the unstinted and valuable assistance given to this Department by our much respected Provincial Police.

I have, etc.,

FRANK DEGREY,
Chief Sanitary Officer.

REPORT OF PROVINCIAL BOARD OF HEALTH LABORATORIES.

VANCOUVER, B.C., February 25th, 1936.

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

SIR,—I beg to present the annual report for the year 1935 of the Provincial Board of Health Laboratories, Vancouver. The examinations made during the year total 55,426 and are listed in the attached table. This figure represents an increase over the corresponding total for 1934 of 4.2 per cent. and an increase over the year 1932 of 33 per cent. Specimens received from within the City of Vancouver account for 91 per cent. of the total. It is noteworthy that examinations relating to the diagnosis of syphilis comprise 42 per cent. of all those made, while 58 per cent. of the total work of the Laboratories is directly concerned with syphilis and gonorrhœa.

During the year cough-plates for the isolation of *H. pertussis* were made available to physicians within this Province. This facility, as it becomes more widely known, should play a useful part in bringing about better control of whooping-cough. Antigens for the Kahn test for syphilis and for the Widal agglutination test for typhoid and paratyphoid fevers were prepared here and distributed during 1935 to certain branch laboratories throughout the Province. The Laboratories in Vancouver have also, to an increasing degree, assumed the functions of a storehouse and distributing centre for specimen containers and packages. There has, in fact, been a considerable increase not only in the total volume of work done, but also in the variety of services performed by the Laboratories during the past year. This increased burden has, nevertheless, been efficiently borne by a staff which is numerically the same as in 1932.

In the year 1936 it is proposed to make available several additional and improved public-health procedures. For instance, a complement-fixation test for smallpox has been introduced and has already proved its efficacy as a specific diagnostic test for this disease. The macroscopic agglutination test for typhoid and paratyphoid fevers will replace the microscopic method; while the test will be made more informative by extending it to cover both "H" and "O" agglutinins. Special attention will be paid to *Br. abortus* infections (undulant fever) from the laboratory standpoint, since we have reason to believe that this disease constitutes a definite public-health problem in the Province.

The increased work of the Laboratories, already undertaken or projected, makes additional staff absolutely essential. That the efficiency and good-will of the staff have been so well maintained throughout the past few years, in spite of decreased rather than increased salaries, and in spite of the frequent necessity for unpaid overtime work, is a tribute alike to the splendid examples set by Miss D. E. Kerr, Assistant Director, and by Miss M. M. Malcolm, Chief Bacteriologist, and to the general excellence of the co-operation given by their assistants. Some tangible recognition of the conscientious good work of the staff would seem to be long overdue.

During the year Dr. H. W. Hill resigned as Director of the Laboratories, and was succeeded by Dr. C. E. Dolman, who took over duties on October 1st. Miss E. M. Allan was kept from work by injuries received in an automobile accident in August, and Miss J. McDiarmid has since temporarily filled her place in an eminently satisfactory way.

EXAMINATION OF SPECIMENS.

Examinations, 1935.	Out-of-town Specimens.	City.	Total.
Animal inoculation	7	40	47
Diphtheria virulence	—	7	7
Blood agglutinations—			
T.A.B. Bang, 3 dil. (or more)	364	2,320	2,684
T.A.B. Bang, 1 dil.	29	12	41
T.A.B.S.F. Bang, 3 dil.	12	288	300
Typhoid	2	67	69
Tularæmia	1	3	4
Dysentery	—	9	9
Cultures—			
Aerobic	56	389	445
Anaerobic	17	3	20
Spinal fluid	5	2	7
Typhoid group	20	222	242
<i>B. pertussis</i> plates	9	29	38
Diphtheria, routine	103	6,292	6,395
Diphtheria, school	—	835	835
Hemolytic streptococci	33	142	175
Smears—			
Gonococci	1,041	7,741	8,782
T.B. sputum	374	8,137	8,511
T.B. spinal fluid	5	8	13
T.B. urine	6	74	80
T.B. pleuritic fluid	5	13	18
T.B. miscellaneous	4	22	26
Vincent's angina	44	510	554
Spirochaetes	3	27	30
Direct smear for diphtheria	1	5	6
Ringworm	1	144	145
Parasites	1	46	47
Fieces for occult blood	—	17	17
Spinal fluid—			
Routine (count, globulin, Fehlings)	9	31	40
Chemical (protein, chlorides, sugar)	2	2	4
Colloidal gold	10	351	361
Kahn—			
Blood	1,909	20,046	21,955
Spinal fluid	38	752	790
Milk-counts	139	1,298	1,437
Water, <i>B. coli</i>	595	62	657
Water, count and <i>B. coli</i>	2	258	260
Convalescent serum—			
Measles	—	43	43
Polio. (No. of vials, 30 c.c. each)	36	2	38
Polio. (No. of vials, 25 c.c. each)	26	2	28
Vaccine, typhoid, paratyphoid	4	6	10
Miscellaneous	89	167	256
Totals	5,002	50,424	55,426

The accommodation provided for the Laboratories continues to give cause for anxiety and regret. I would urgently request that a thorough inspection of the buildings should be made, and that steps should be taken at the earliest opportunity to provide safer and more fitting accommodation for so vital a section of the activities of the Provincial Board of Health of British Columbia.

All of which is respectfully submitted.

C. E. DOLMAN,
Director, Provincial Board of Health Laboratories.

VICTORIA, B.C.:

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