PROVINCE OF BRITISH COLUMBIA

FORTY-SECOND REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

FOR THE

YEAR ENDED DECEMBER 31ST

1938

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1939.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., November 27th, 1939.

To His Honour E. W. HAMBER,
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, 1938.

G. M. WEIR,
Provincial Secretary.

REPORT *of the* PROVINCIAL BOARD OF HEALTH.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., November 27th, 1939.

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

SIR,—I have the honour to submit the Forty-second Annual Report of the Provincial Board of Health of British Columbia for the year ended December 31st, 1938.

Previous Annual Reports of the Provincial Board of Health 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." This report will continue this procedure in the form of a commentary on the major highlights of the work.

Formerly it has been the custom to include complete reports of many of the Divisions but this year, because of length and technical detail which accompany such reports, only summary extracts will be included herein. The year 1938 has been one of continuous activity and constant reorganization to meet new problems, and a perusal of some of the reports referred to below will convince one of the many advances which have been made.

The Division of Vital Statistics continues to be perhaps one of the most important Divisions of the Health Department. It has been fittingly called "the workshop of public health," inasmuch as all phases of our work are interrelated to a greater or lesser degree with the work of this Division. By having all records of all Divisions supervised by this Branch, marked economies are possible as well as a uniform standardization. The summary report will show some of the major activities in so far as administration of the Division of Vital Statistics is concerned.

The Division of Tuberculosis Control has continued to function in an efficient and thorough manner, and I would particularly commend a reader to Dr. Hatfield's complete report in regard to the tuberculosis situation in British Columbia. In this particular field "every attempt has been made to co-ordinate the Division's work with other health and welfare activities, and new health and welfare developments throughout the Province, such as the Greater Vancouver Metropolitan Health Board, the Welfare Field Service, the Vancouver Social Service Department, etc." In regard to Indian work, a co-operative plan is in effect between the Division of Tuberculosis Control and the Indian Affairs Branch, whereby the Division of Tuberculosis Control undertakes work for the Indian Affairs Branch on requisition from that Branch. So far this has been mainly diagnostic work, with a few beds within the Division being used for the treatment of Indians. This is a definite advance in relation to the tuberculosis problem, and it is sincerely hoped that this plan may be followed up and enlarged upon in the near future. The complete report of the Division of Tuberculosis Control is published separately and copies are available to any one who desires them.

The Division of Venereal Disease Control has made marked progress during the past year. An Advisory Council on Venereal Disease was formed in May, under the chairmanship of the Director, and consisted of representatives of related health and welfare services. This Council has been of definite benefit in assisting to outline the policies and co-operative plans of the Division. New legislation and some internal reorganization have gone a long way to promote efficiency in the carrying-on of this phase of the work. Accurate and useful records are an essential in any public-health programme and to this venereal disease is no exception. As a result we now have a collection of statistics which helps to show the problem of venereal disease as it exists in British Columbia to-day. Dr. Williams's complete report, of which copies are available, is published separately, but the extract below gives some of the interesting highlights. It is needless to say that it is of vital importance that the work of this Division continue unabated.

The Division of Laboratories, although heard about much less frequently, still forms one of the basic pillars on which all public-health work is founded. Dr. Dolman, with his able and capable staff, has built up a reputation in research-work which is international in scope. The complete report of this Division is also published separately and I would particularly point out the tremendous volume of work which is done. The extract below gives one some

idea of the variety and types of tests which are carried on by the laboratory staff in their overcrowded quarters. It is hoped that the latter condition may be remedied in the near future.

The complete report of the Chief Sanitary Inspector is included and shows a continuance of the close inspections which have been carried out in relation to the lumber, mining, and fishing industries, as well as auto tourist camps and summer resorts. The shell-fish industry has been the subject of continued attention this year, as it is realized that only by constant and careful supervision, as well as education, of all people engaged, will a safe product result.

A table is included herein showing the number of reported cases of notifiable diseases. The year 1938 was characterized by a small number of such diseases, there being only 13,869 reported for the calendar year. The effectiveness of the programme of immunization against preventable diseases, such as diphtheria, is shown by the continued decline in the number of cases. Only seventeen cases of diphtheria occurred last year. Poliomyelitis showed an increase from twenty-six cases in 1937 to forty-three in 1938. Fortunately, however, paralysis, when it did occur, was quite limited in extent in the majority of cases.

The public-health nursing-work has continued with excellent results. There have been a number of changes of staff during the year, but in each case of a vacancy we have been able to supply qualified personnel. The policy determined upon, in British Columbia, that only trained personnel will be employed has at times given some difficulty in securing new staff, but in general the results have shown the value of the procedure adopted. During the year we were fortunate in having a Public Health Nursing Service established at Port Alberni, and plans are under consideration for the developing of a similar service in the Quesnel District and also the South Kootenay District.

The annual Refresher Course for Public Health Nurses was held in April. The majority of the Public Health Nurses were able to attend and all derived much benefit from it. An interesting programme was presented and the talks and addresses given were provocative of much stimulating discussion.

As in previous years, the Department has given financial assistance in the matter of dental care for school and pre-school children in certain of the rural and more remote areas of the Province. During 1938 assistance in various ways was given to thirty-three centres in the Province and more than 5,000 school and pre-school children received the benefits of dental care. If it were not for such assistance the majority of such children would receive little or no dental attention, with consequent detrimental effects on their health. It is indeed gratifying to see the improved health which results when these deserving youngsters are given the benefits of modern dental hygiene.

Each year that goes by serves to further emphasize the value of full-time health-work. Only as the different areas of the Province become supervised by full-time Health Units will the complete benefits of health-work and preventive medicine be realized. A complete report of the work of the Fraser Valley Health Unit for 1938 is included. This report is typical of the work that is going on in several districts throughout our Province.

The Greater Vancouver Area is one such district, in which almost 50 per cent. of our population enjoys the benefits of full-time public health administration. The organization of the Greater Vancouver Metropolitan Health Board and the local health services provided have been described before. The work has been going steadily forward with the results becoming more evident all the time. It is anticipated that a complete report will be available in the near future. Included herein is an extract from the Annual Report of the Senior Medical Health Officer, which gives a general idea of the scope of the work. It is a matter of pride to the Department to be able to state that this unique health administration experiment has been favourably commented upon by a number of health administrators both in Canada and the United States.

We are particularly pleased to be able to say that the spring of 1938 saw the beginning of a Sylvatic Plague and Rocky Mountain Spotted Fever Survey in British Columbia, the need for such a survey in our Province had been becoming more evident all the time. The work was in the nature of a co-operative effort between the Provincial Board of Health and the Dominion Department of Pensions and National Health. The Board was assisted by a grant from the International Health Division of the Rockefeller Foundation. Valuable assistance was also provided by the Entomological Branch of the Dominion Department of Agriculture. A specially trained field crew was employed and the bulk of the work carried

out in the Southern Okanagan and Kootenay Districts. This survey will be continued during 1939 and it would appear that the results so far have justified the expense and effort involved. Over 4,000 rodents and more than 6,000 rodent fleas were examined during the season's work. During the months of August and September the survey crew carried out rat collections in the seaports of Vancouver and New Westminster. Plague infection was not found in any of the rodents or rodent fleas examined; and while this is encouraging it does not warrant a relaxation of vigilance, since failure to encounter infection during any one season or seasons does not preclude the presence of the plague bacillus.

I would like to take this opportunity of expressing to you, Sir, the thanks of all members of the Board for the support which you have given to all of us in our work. Your encouragement has been a pleasure, indeed, and has gone a long way to assist in the advances which are being made.

Thanks must also be expressed to the Commissioner of the Provincial Police. The unfailing efforts of his staff to assist us in the rural areas of the Province has been of tremendous help and is much appreciated.

I have the honour to be,

Sir,

Your obedient servant,

J. S. CULL,

Acting Provincial Health Officer.

The distribution of vaccines and sera by the Provincial Board of Health continues to show an increase in those required for preventive work and a decrease in the curative branch, as is indicated in the following table:—

	1934.	1935.	1936.	1937.	1938.
Smallpox vaccine (points)	4,650	8,631	5,817	10,321	12,634
Diphtheria antitoxin (units)	4,689,000	2,600,000	4,181,000	3,719,000	2,606,000
Diphtheria toxoid (doses)	1,793	2,991	3,767	6,934	6,814
Schick test for diphtheria (pkgs.)	64	58	89	70	98
Scarlet fever antitoxin (prophylactic) (pkgs.)	841	357	880	378	444
Scarlet fever antitoxin (treatment) (pkgs.)	281	151	324	230	272
Dick test for scarlet fever (pkgs.)	60	51	248	179	302
Scarlet fever toxin for active immunization (doses)	386	863	2,637	2,087	4,251
Typhoid vaccine (doses)	390	461	1,044	1,426	4,090
Tetanus antitoxin (units)	437,000	1,398,500	774,000	691,500	920,000
Anti-meningococcus serum 20 c.c. (pkgs.)	82	73	117	112	65
Pertussis (whooping-cough) vaccine (pkgs.)	126	52	46	74	460

We append an account of approvals for sanitary works during the year 1938:—

Cemetery-sites approved.—Lillooet, Hatzic, Kamloops, Telkwa, Quesnel, Burnaby (Oak View Burial Park extension), Naramata (private cemetery on Paradise Ranch), and Bella Bella (Meadow Island cemetery).

Sewage-disposal Systems approved.—Burnaby (extensions) and Trail (extensions).

Water-supply Systems approved.—Revelstoke (renewals) and Summerland (renewals).

GENERAL REPORTS.

EXTRACT FROM ANNUAL REPORT OF THE DIVISION OF VITAL STATISTICS, 1938.

POPULATION.

The population of the Province for the census year 1931 was 694,263. Estimates by the Dominion Bureau of Statistics for the following years are: 1934, 725,000; 1935, 735,000; 1936, 750,000; 1937, 751,000; and 1938, 761,000.

REGISTRATIONS.

The total registrations filed in the Division of Vital Statistics for the year 1938 numbered 28,465—an increase of 323 over 1937 and an increase of 6,247 over 1934.

Table A summarizes the total number of registrations of births, deaths, marriages, still-births, adoptions, and divorces for the five-year period 1934 to 1938, inclusive:—

Year.	Births.	Deaths.	Marriages.	Still-births.	Adoptions.	Divorces.	Total.
1934	10,616	6,393	4,821	230	158	.....	22,218
1935	10,987	6,927	5,020	232	183	264*	23,613
1936	11,186	7,254	5,465	236	80	451	24,672
1937	13,033	7,981	6,232	254	109	533	28,142
1938	13,812	7,455	6,158	259	134	647	28,465

* Act in force May 1st, 1935.

DOUKHOBOR REGISTRATION.

In accordance with instructions received in May, 1937, the Division has carried out the registration of Doukhobor births in co-operation with the Provincial Police. During 1937, 1,241 births were registered—being 631 males and 610 females, while during 1938, 802 births were registered—being 395 males and 407 females, making a grand total of 2,043 registrations filed, after full investigation by the Provincial Police and a special officer appointed for the purpose of investigating these births.

ORGANIZATION OF THE DIVISION OF VITAL STATISTICS.

In September, 1938, an agreement regarding vital and public health statistics was reached between the Department of the Provincial Secretary and the Department of Trade and Industry and an Order in Council was drafted which preserves and defines the rights and responsibilities of both Departments.

In order to allow the Bureau of Economics and Statistics to proceed with its plans of organization the Order in Council was given effect as and from the 1st day of October, 1938. The mechanical equipment, together with six members of the staff trained in its operation, was immediately transferred to the Bureau. The bulk of the punch-cards which were created from the record system, although the property of the Provincial Board of Health, are kept by the Bureau of Economics and Statistics. In this way the interests of the Provincial Board of Health were protected while the wishes of the Government in having its statistics centralized were also given effect.

With the transference of the responsibility for the Government's statistical service—including mechanical tabulation—to the Bureau of Economics and Statistics, the Division of Vital Statistics will be able to give its undivided attention to statistical analysis, preparation of tables, charts, and other material for special studies, and annual reports for the various Divisions of the Provincial Board of Health; to the registration of births, deaths, and marriages, and to the administration of the "Vital Statistics Act" and the "Marriage Act."

Reorganization within the Division of Vital Statistics will be completed by the middle of April.

The Director of Vital Statistics carries the additional title of Supervisor of Medical Records within the Provincial Board of Health. As such he hopes to bring about a closer

correlation of the various record systems and further the work of reducing costs thereof to the minimum of requirements.

LEGISLATION.

The amendments to the "Vital Statistics Act" provided for several major changes, notably:—

(*a.*) The creation of a Marine Registry in British Columbia of births and deaths occurring on board ships registered in British Columbia ports while the ships were on the high seas.

(*b.*) The creation of a Division of Vital Statistics and the position of Director of Vital Statistics; and the abolition of the office of Registrar of Births, Deaths, and Marriages, and the titles of Registrar and Deputy Registrar.

(*c.*) The preservation of secrecy of registrations of births of illegitimate and adopted children.

(*d.*) A search fee of 50 cents which covers the Province for a three-year period, instead of for one district only, as previously obtained for 25 cents. The $2 search fee was limited to searches of indefinite periods of time and place.

(*e.*) The extension of time for making a prosecution under the "Vital Statistics Act" upon summary conviction to ten years.

The amendments to the "Marriage Act" also provided for several distinct changes, notably:—

(*a.*) That District Registrars of Births, Deaths, and Marriages be notified of the publication of banns by the minister or clergyman.

(*b.*) The reduction of the waiting period between the application for and the issuance of a marriage licence, or between the application for and the solemnization of a civil marriage, from eight to three clear days. The residence period remains unchanged.

(*c.*) That the waiting period of three days in the case of civil marriages might be waived in cases of emergency or necessity.

(*d.*) A further safeguard for the marriage registers in churches.

(*e.*) The production of a birth certificate or other proof of age in the case of all minors contemplating marriage.

(*f.*) Reduction of the fee for a marriage by civil contract from $10 to $7.50.

(*g.*) That a marriage licence shall only be issued or a ceremony performed upon production by both parties to the intended marriage, to the issuer of marriage licences, marriage commissioner, or other person authorized to solemnize marriage, a certificate in the prescribed form showing:—

"(*a.*) That a standard laboratory test has been made in a laboratory approved by the Provincial Board of Health of the blood of the party to the intended marriage with a view to the determination of syphilis:

"(*b.*) That the blood specimen was taken by a medical practitioner registered under the 'Medical Act' within twenty days prior to the issuance of the marriage licence or the solemnization of the marriage:

"(*c.*) That the result of the blood test has been made known to both parties to the intended marriage."

Provision was included that, in the case of extreme urgency or need, the Registrar might, upon obtaining the approval in writing of the Provincial Health Officer, authorize the issuance of a marriage licence without production of the above certificate.

NOTE.—The provisions for premarital blood tests for syphilis in the "Marriage Act" do not come into force until proclaimed by the Lieutenant-Governor in Council.

EXTRACT FROM ANNUAL REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL, 1938.

GENERAL POLICY.

All new cases, all deaths from tuberculosis, all tuberculin tests are reported regularly to the central office, together with all details of work being done in each institution, stationary clinic, travelling clinic, and rural pneumothorax centre. Complete statistical information on all phases of tuberculosis is compiled monthly, showing death rates for each area,

new cases found, ratio of new cases to deaths, known cases to deaths, occupational incidence, age incidence, racial incidence, hospital days, bed turnover, etc. A continuous epidemiological study is thus carried on.

Standardization of Records.—All records used in the institutions, clinics, district nursing, and social service departments are standardized. These, together with the X-ray plates, can be transferred with the patient from one unit to another.

Reporting of Cases.—Physicians in the Province are required by the "Health Act" to report every case of tuberculosis, irrespective of type.

Case-finding.—Case-finding methods being extensively used by the Division are as follows: (1.) All known contacts to every case of tuberculosis are examined as soon as possible after diagnosis of tuberculosis is made on the patient and are then followed up for a period of years. (2.) Tuberculin testing surveys are carried out in both primary and high schools, with concentration on the high-school students. University students, undergraduate nurses are tested annually. All positive reactors are X-rayed. (3.) Industrial surveys—all underground workers in the Province must have a chest X-ray annually under the "Metalliferous Mines Regulation Act." This allows the Division to be assured that all cases of tuberculosis are rapidly removed from the mines. All films taken are referred to the Workmen's Compensation Board for careful examination for possible silicosis. (4.) An attempt has been made to X-ray all school-teachers in the Province to make sure that no person is teaching any group of children unless he has been pronounced tuberculosis free. Where several cases of tuberculosis may arise in any specific industry, an attempt is made to see that all people working in that industry are carefully checked. (5.) Special groups, such as families on relief, those in receipt of mothers' allowances, those in children's homes, etc., are surveyed from time to time.

Pooling of Beds.—All beds in the various institutions under direction of the Division of Tuberculosis Control are considered as if they were all existing under the one roof. The bed facilities of the Division are as follows: Vancouver Unit, 186; St. Joseph's Oriental Hospital, 52; Florence Nightingale Convalescent Home, 28; Tranquille Unit, 332; Victoria Jubilee Unit, 40; Victoria St. Joseph's, 20. Total beds available for the treatment of tuberculosis under the Division of Tuberculosis Control are 658, a ratio of 1.23 beds per death.

Diagnostic Facilities.—There are three stationary clinics, situated at Vancouver, Victoria, and Tranquille. These are open six days a week. Wherever necessary, bronchoscopic examination is done. Genito-urinary service, eye, ear, nose, and throat examinations, orthopædic and dental services are available. These services are more readily available at the Vancouver Unit where specialists' services are more readily obtainable. When a case of tuberculosis is diagnosed, a Public Health Nurse in the district visits the home as soon as possible after diagnosis. In urban areas the rule is to visit within forty-eight hours and in the rural areas as soon as possible after the nurse receives the report. A detailed social service investigation is made immediately upon diagnosis and an attempt is made to correct the social conditions of the family, and to follow this up so that when the patient is discharged he will go to surroundings that will be conducive to maintaining his health. Contacts are immediately sent to one of the clinics for examination and these contacts are followed up over a period of years. There are four travelling clinics consisting of a doctor, a nurse, and a portable X-ray machine. These clinics visit seventy centres throughout the Province at regular intervals, examining cases referred by physicians and doing surveys in the rural areas. In practically all areas there is either a Public Health Nurse or a Welfare Field Service visitor who does the follow-up work between the visits to the clinic.

Rural Pneumothorax.—The previous preventive and treatment centres of the Division of Tuberculosis Control have been discontinued and the rural pneumothorax service instituted. Wherever a physician has received training in pneumothorax work he is given a pneumothorax machine. For those patients who cannot afford to pay anything for treatment he is paid by the Division of Tuberculosis Control for each pneumothorax refill. At the end of the year approximately forty centres were equipped to carry out this work. This permits earlier discharge from institution.

Home Treatment.—As far as possible all new cases are admitted to an institution. The cases after discharge continuing treatment at home are supervised by the public-health nursing service, patients coming to one of the clinics at regular intervals for examination or treatment. Medicine and supplies are given free where required.

Occupational Therapy, Vocational Training, and Rehabilitation.—Occupational therapy is carried out in all institutions under the direction of the Division of Tuberculosis Control. An attempt is made to give major attention to the vocational aspect of this work. Two experiments on a voluntary basis are being carried out at the present time, one in Vancouver and the other in Victoria. In each instance voluntary organizations have provided a workshop where patients after discharge may go and obtain work on a part-time basis, on a monthly salary schedule. Since the inception of this work both these units have grown and are proving invaluable in preventing breakdowns, building up the morale of patients and reuniting families.

Educational Work.—The Division carries on a continuous educational public-health campaign amongst the general public. Pamphlets are published and distributed regularly to schools, service clubs, and other organizations. Considerable literature is obtained through the Canadian Tuberculosis Association and is widely used. The British Columbia Tuberculosis Society publishes a magazine each month called "Your Health." This is distributed free to every tuberculous patient and has gradually been built up into a very worth-while means of education. In the Division there is a large library of lecture material, including diagrams, statistics, maps, charts, lantern-slides, and moving-picture films relating to all phases of tuberculosis. This library is at the disposal of any member of the Division for the purpose of public addresses. Exhibits are held at the various exhibitions throughout the Province annually, and at the Vancouver Exhibition alone as many as 10,000 people are contacted during the short period of that exhibition.

The Family Physician.—In all undertakings of the Division, every co-operation has been received from the practising physicians throughout the Province. Wherever possible, patients attending any of the diagnostic clinics are asked to bring a note from their family physician, and a report on the result of the examination is sent to the physician. Examination at all of the clinics is free. In every case cared for in institution, the patient's doctor is kept informed as to the patient's condition, and is notified when the patient is to be discharged. Physicians throughout the Province are encouraged to make tuberculin tests in their routine practice from day to day. Tuberculin is provided free to any physician.

Travelling Clinics.—One new clinic was added to the Interior, greatly facilitating the diagnostic work in the rural areas. The Division now has four travelling clinics—one covering Vancouver Island, another covering the Lower Mainland and Coast, a third clinic centered at Kamloops covering the Okanagan area and the Cariboo, and the fourth centered at Nelson, covering the Kootenays. A change in organization was made towards the end of the year in making one travelling clinic officer senior to the others. The officer now acts as supervisor for all travelling clinics. This travelling clinic officer is stationed at Vancouver and carries on the work through the Lower Mainland and Coast as far north as Prince Rupert.

Specialists' Services.—Full specialists' services are now available to tuberculosis patients in institutions of the Division. It is apparent that surgery is playing an increasing rôle in the treatment of pulmonary tuberculosis, and every attempt has been made to bring this service to the highest possible level.

New Facilities.—A new operating-room was officially opened at the Tranquille Unit by His Honour Lieutenant-Governor E. W. Hamber, on September 7th, 1938. This new room brings greatly added facilities to this unit. The need is quite apparent from the use to which this room has been put since its formal opening.

On February 23rd a new bronchoscopic room was formally opened at the Vancouver Unit, this being built and equipped by the Municipal Chapter of the Imperial Order of the Daughters of the Empire. Some very fine new equipment was added to both the Vancouver and Tranquille Units, supplied by the B.C. Tuberculosis Society.

Rehabilitation.—Progress has been shown both in Vancouver and Victoria. In Victoria through the interest of the Kiwanis Club the workshop has been improved and a salesroom has been opened in the down-town area. In Vancouver a new addition has been planned for the Vancouver Occupational Industries which, when completed, will allow the accommodation of seventy-five patients. Plans in both centres are working along the same lines—namely, to give the ex-patients a definite job on a monthly salary—placing the whole scheme on a commercial basis and removing as far as possible the charitable aspect.

Tuberculosis Amongst Indians.—In March, 1938, the Provincial Medical Director attended a meeting at Ottawa called by the Hon. Mr. Crerar to discuss the problem of tuberculosis

amongst Indians throughout Canada. Every Province was represented. Some new funds were made available for this work, but it is felt that insufficient money is available to carry on an adequate tuberculosis-control programme amongst this group of the population. Approximately 25 per cent. of all the Indians of Canada reside in British Columbia. The death-rate from this group of the population remains very high.

Handbook for Nurses.—A handbook for nurses on diseases of the respiratory system and special points in relation to tuberculosis control has been published by the Division and copies distributed to nurses throughout the Province. Copies of this handbook may be obtained from the Central Office of the Division of Tuberculosis Control, corner of Tenth and Willow Street, Vancouver, B.C.

SOCIAL SERVICE SECTION.

During the past two years there has been an influx of families coming to this Province from other countries and other Provinces. These families come in the hope of establishing themselves financially, but unfortunately a great number are forced to apply for assistance and are found to be tuberculous and to require free treatment and hospitalization. Considerable thought has been given to this matter since the cost to the Province has become almost prohibitive. There is the example of one family of five who arrived from the Prairies and within one year the parents were both in hospital and three children in the Preventorium. Over a period of sixteen months this family cost the Province $3,500 in hospitalization, free treatment, and relief alone, and are likely to continue to be financially and medically indigent. This is one of many similar instances that have made it necessary to return as many as possible to their former homes. To date eighteen families have been repatriated to other countries, three have gone of their own accord with encouragement or persuasion, and in seven cases the attempt to return them was unsuccessful. In addition, twelve families have been returned to their own Provinces, eleven persuaded to go of their own accord, and in sixteen other cases the attempt was unsuccessful. In spite of the necessity of taking such measure, it is felt that it works a hardship on some families and certain departments. The solution would be a reciprocal arrangement between Provinces, with a uniform period required to be eligible for free treatment and hospitalization.

REPORTS OF UNITS.

(*a.*) Vancouver Unit.

The out-patient clinic has grown steadily during the year and a number of surveys, eight in all, were completed. It was decided to discontinue the survey of the primary grade school children because the results were not commensurate with the work. It is noted in this connection that the number of positive reactors dropped from approximately 25 per cent. to 13 per cent., and no new active cases were found in the last survey. Figures of this survey are available, page 50 of the Annual Report. In connection with the Vancouver School-teachers' Survey, it is noted that 1,188 teachers were examined at the clinic and fifty-eight by private physicians. Eight teachers were found to have old healed lesions and seventy were discovered to have conditions other than pulmonary.

During 1938 there were 14,873 patients through the clinic as compared with 16,353 examinations in 1937. However, the X-ray section showed a marked increase in its work, the number of clinic and in-patient X-rays totalling 11,239 in 1937 and 15,205 in 1938. This was due to an increased number of oblique and special films, indicating a more intensive study of cases. Clinic fluoroscopic examinations increased from 3,316 to 4,031 and institutional examinations increased from 888 in 1937 to 1,041 in 1938. Electrocardiograms done in the clinic in 1937 totalled 61 and in 1938, 300. This increase in the number of electrocardiograms is accounted for mostly by the work done for the Venereal Disease Control Division. Until December 2nd, 1938, a heart clinic was held for the Venereal Disease Control Division, now patients are referred to the clinic for only X-rays and electrocardiograms.

The number of admissions and discharges to hospital was 442 admissions and 449 discharges, as compared with 429 admissions and 356 discharges in 1937.

(*b.*) Tranquille Unit.

From the standpoint of patients treated there has been little change. Our hospital days, however, are down when compared to 1937, the figures being 116,734 in 1938 and 118,565 in

1937. This difference is due almost entirely to our ability to discharge patients who are receiving pneumothorax treatment. As facilities are now available throughout the Province for patients to receive refills the lessened number of hospital days in 1938 were represented by pavilion beds from which ambulatory patients had been discharged. The statistics of the institution will show some decrease in the average length of stay because of the earlier discharge of this type of patient.

(*c.*) Victoria Unit.

Further progress was made in organizing the up-Island Centres and travelling-clinic work under our own part-time local nurses. This plan has proved very satisfactory and has resulted in bringing the tuberculosis work throughout the populated area under complete control to an extent which was impossible with only periodic contacts at the times of the travelling clinic visits. The contact is now continuous over the whole territory and everything is attended to without delay. It can be said now, for the first time, that the tuberculosis problem of the unit is exactly known and well in hand. Moreover this knowledge of the situation shows that the problem is not too great to be dealt with effectively and with good prospect of bringing about real control of the disease in this territory. At the end of the year all cases on the Island register were reviewed and tabulated as follows:—

(1.) *In hospital under the Tuberculosis Division*	57
(2.) At home, but under treatment or close observation (not necessarily open)	140
(3.) Inactive cases at home (all definitely closed)	506
(4.) Total number of cases on Island register on December 31st	703

No doubt there are still some cases unknown to the Division but, with the present organization, this number must be small and will become steadily reduced. Also, new cases arise or move into the territory, but this seldom happens now without information which is at once acted upon. Every one of the "active" cases is being attended to as well as circumstances permit and, although this does not include compulsory segregation of every open case, each one who is at large is under close supervision and instruction. This is possible only if time and money are not wasted on unnecessary attention to the larger number of cases in which the disease is definitely "closed." But these inactive cases are not overlooked and every one of them has a definite appointment for re-check in the clinic and is followed up if the appointment is not kept. It appears, therefore, that the tuberculosis problem on the Island, from a public health point of view, is sufficiently limited to be amenable to thorough and effective handling.

(*d.*) Travelling Tuberculosis Clinics.

The demand for travelling-clinic service has grown tremendously and each year finds new fields to which our efforts must be directed. Besides the regular consultation service that was offered to the medical profession at the inception of the work, and which still is the basis of our programme for the discovery of early cases of tuberculosis, the travelling clinics have entered the following fields in all districts of the Province as case-finding methods expand:—

(1.) Large-scale tuberculin-testing programmes in schools and University.

(2.) Yearly examination of miners in quartz-mines, carried out right at the mines in most instances.

(3.) Examination of Indians and supervision of Indian residential schools and preventoria, with routine tuberculin testing and examination of all new pupils.

(4.) With the establishment of pneumothorax-work in rural areas, close supervision is carried out on all cases under treatment.

(5.) Follow-up work and home visiting in the districts by Public Health Nurse and Welfare Field Visitors under direction of travelling clinic officers. This has increased the number of contact cases being examined by the clinics and led to more examinations of latent cases needing observation who would be inclined to get out of touch with the Tuberculosis Division.

(6.) Interpretation of X-ray films for private practitioners. These films are sent in to the various headquarters of the Division and suggestions for treatment are given when indi-

cated. A considerable number of tuberculous cases are diagnosed in this way and earlier treatment is enhanced.

(7.) Education activities. This phase of the travelling-clinic work is one of the most important, especially in the outlying communities. To stimulate interest in the problem of tuberculosis control the following methods are used:—

(*a.*) Lectures to clubs, schools, and their groups:
(*b.*) Personal interview with patients and families where tuberculosis exists:
(*c.*) Distribution of pamphlets:
(*d.*) Lantern demonstrations and motion pictures.

SILICOSIS EXAMINATIONS.

During the past two years the travelling clinics have been visiting most of the mining areas in the Province to undertake the examination of those workers exposed to quartz-dust in mines and mills. This year 2,264 examinations were done by the travelling clinic, which is about 400 less examinations than in 1937. This is accounted for by the fact that no visit was made to the Bridge River district and to the fact that at the outset most mines had their complete staff examined, both underground and above-ground workers, which was not considered necessary this year. The operations of the Granby Consolidated at Princeton were included in our work this year and we have had requests from Zeballos to undertake examinations there. The total examinations are bound to fluctuate as new operations open and close and mining activities change from one centre to another. The importance of the work in the control of tuberculosis can be seen in the fact that during 1937 there were fifty-one cases of pulmonary tuberculosis and silico-tuberculosis found in the mines whereas in 1938 only nine new cases of tuberculosis were discovered amongst the miners. Eight of these new cases were minimal in extent, one was moderately advanced. This speaks well for the effective control that is being enforced through routine examination and for the rapidity with which cases are brought under supervision when the disease develops.

EXTRACT FROM ANNUAL REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL, 1938.

GENERAL POLICY.

Administration.—Increased activities in the various sections of the Division, together with reorganization which resulted in a considerable number of changes, required the Director to keep in close touch with the Provincial Secretary's Department and in particular with the Provincial Board of Health. The Provincial Secretary, the Honourable Dr. G. M. Weir, was kept informed of the work of the Division and showed a keen interest in the recent developments and a sympathetic attitude toward the numerous difficulties peculiar to the problem of venereal disease control in British Columbia. Twice monthly during the year visits were made to the offices of the Provincial Board of Health in Victoria to discuss with the Provincial Health Officer, Dr. H. E. Young, the details of the numerous problems encountered. The Director appreciated the frequent, kindly advice and assistance of Mr. P. Walker, Deputy Provincial Secretary.

The intimate association of the work of the Division with that of the other sections of the Provincial Board of Health necessitated frequent interviews with their respective Directors. The creation of the Advisory Council to the Provincial Health Officer facilitated the consideration of mutual problems and improved the correlation of interdepartmental policies.

"*Venereal Diseases Suppression Act.*"—The legal basis of venereal disease control in the Province as provided in this Act was used more frequently during 1938. Mr. Oscar Orr, Vancouver City Prosecutor, and Chief Constable W. W. Foster pointed out that their efforts to co-operate with the Division were hampered by the fact that the Act did not provide the power to examine individuals when in custody or under arrest, but only after commitment for an offence. This matter was discussed with Dr. H. E. Young and Dr. H. M. Cassidy and a recommended amendment forwarded to the Honourable Provincial Secretary. This was accompanied by another recommended amendment embodying changes in section 3, sub-

section (2), of the Act pertaining to the means of dealing with persons affected with venereal disease refusing treatment. The amendments were passed by the Legislative Assembly in December. They constituted a very definite improvement in the Act and facilitated venereal disease control.

STATISTICS.

New Notification of Venereal Infections, 1938.

The total new notifications were 3,034 in 1938 as compared with 3,182 in 1937.

The notifications of syphilitic infections dropped from 1,778 in 1937 to 1,430 in 1938, whereas the notifications of gonorrhœal infections increased from 1,404 in 1937 to 1,604 in 1938. It is generally assumed that the incidence of gonorrhœa is considerably greater than that of syphilis, even to the point of being several times more frequent. The figures for 1938 in this regard are obviously out of line owing to incomplete reporting.

Although it is believed that the number of infected persons under the care of private physicians is much greater than those attending the clinics of the Division, the opposite state of affairs is represented by the notifications. Of the total, 1,776 were reported by clinics and 1,120 by physicians. In the case of gonorrhœa only 523 were reported by physicians as compared with 1,059 by clinics.

The Reported Venereal Disease Population as at December 31st, 1938.

It has been difficult to estimate the actual venereal disease population in British Columbia. The new record system for the first time has permitted a calculation. As mentioned earlier in this report, the figures are based only on reported infections and it is believed that reporting is far from being complete. It is questionable whether a person with syphilis should ever be discharged from the group of the syphilitic population. This has been done, however, and it tends to reduce the figures for both the total venereal disease and syphilitic population. At the end of 1938, the total venereal disease population was 4,887, of which 3,140 had syphilis and 1,747 had gonorrhœa. The higher figure for syphilis was due to the longer treatment period, amounting to two or more years, which results in an accumulation of the syphilitic infections; whereas with the gonorrhœal population, although the rate of infection is higher, the short duration of the disease results in a quicker turnover of the gonorrhœal population, with a consequent actual smaller number at any one time.

Sex Distribution of the Venereal Disease Population.—At the end of 1938, the figures showed 3,437 males and 1,450 females. For syphilis, the comparable figures were 2,059 and 1,081, respectively, and for gonorrhœa 1,378 and 369. It will be seen that the preponderance of infected males in the population is very striking, and particularly so in the case of gonorrhœa, where the infections in males were almost four times those in females.

Marital Status of the Venereal Disease Population.—Of the total venereal disease population of 4,887, 2,282 were single. The significance of this fact is obvious, particularly the 1,185 with syphilis who would be potential candidates for marriage. It is interesting to note that of the single syphilitic population 894, or 75 per cent., were males and 291 were females. In comparison, among the married syphilitic population of 1,263, the number of males were 697, or 55 per cent., and the females 566. The change in the per cent. of syphilis in the female in the married group, as compared with the single group in the direction of a substantial increase in the former, is evidence of the hazard that marriage carries for the uninfected woman.

STATIONARY CLINICS.

The experience of the Division in 1938 demonstrated the inefficiency of establishing clinics in communities of less than 10,000 population. In smaller communities persons cannot lose their identity and will not run the risk of being stigmatized by attending a clinic. For this reason, clinics at Courtenay-Comox, Duncan, and Alberni were closed on June 30th and in their place a travelling consultative service was established. In March, 1938, a clinic was opened at the Royal Columbian Hospital, New Westminster, and in September the Division took over the management of venereal disease at Oakalla Prison Farm. Dr. J. A. Leroux continued to do excellent work as physician in charge of the Nanaimo, New Westminster, and Oakalla Gaol clinics and the rural travelling consultative service.

During the year 4,035 persons were admitted to the various clinics, of whom 2,121 were found to have venereal disease—997 had syphilis and 1,124 had gonorrhœa. Of the total admissions, 2,714 were adult males and 846 adult females. An increasing number of the admissions to the clinics has been that of persons requesting examination and found to be apparently free from infection.

The total number of visits of patients for treatment in the clinics was 45,395. Of this number 37,375 were for syphilis and 8,020 for gonorrhœa.

The total attendance which included visits for treatment and consultation were 54,150, of which 41,276 were for syphilis, 12,324 for gonorrhœa, and 5,876 for not yet diagnosed cases.

Vancouver Clinic.

The Vancouver Clinic is the largest in the Division. During 1938 an attempt was made to develop a unit which would serve as a medical educational centre for improving the methods of diagnosis and treatment of venereal disease throughout the Province.

During this year 3,155 patients were admitted, of whom 810 had syphilis and 999 had gonorrhœa. There were 462 patients discharged apparently cured of syphilis and 805 of gonorrhœa. Of all patients examined 1,605 were found to have no apparent evidence of venereal disease.

Victoria Clinic.

During 1938 an increase in the volume of work at this clinic was noted. Changes in procedure, instituted in the Vancouver Clinic, were applied here. There were 311 new patients admitted, of whom sixty-five had syphilis and eighty-four had gonorrhœa. These figures are approximately the same as for 1937. The total number of patient visits was 5,142. This was considerably lower than for 1937, but does not reveal the true state of affairs unless it is analyzed. The decrease has been due essentially to a reduction in visits for gonorrhœa.

New Westminster Clinic.

This clinic is well situated in the basement of the Royal Columbian Hospital. The attendance of patients has increased steadily through all months of operation of this clinic. For the most part new patients are referred by their private physicians. Sixty-eight new patients were admitted, of whom twenty-one had syphilis and sixteen had gonorrhœa. Twelve were discharged as apparently cured of syphilis and eight of gonorrhœa. Eight patients lapsed from treatment. The total attendance was 1,278.

Oakalla Prison Farm Clinic.

On October 1st, 1938, Dr. J. A. Leroux was appointed to take charge of the work of venereal disease control in Oakalla Prison by arrangement with the prison officials and Dr. W. H. Sutherland, Gaol Surgeon. Diagnostic and treatment facilities were provided for syphilis and gonorrhœa. This service operates as a clinic of the Division. Equipment and drugs required are supplied by the Division. The volume of the work has been considerable, requiring five 2½-hour clinics weekly. All new admissions to prison are interviewed briefly and undergo routine examination for syphilis and gonorrhœa (when indicated, in men only).

The co-operation of prison officials and of prisoners has been very satisfactory.

Three hundred and fifteen patients were examined routinely. Of these forty-eight were found to have venereal disease, thirty-nine with syphilis and nine with gonorrhœa. The total attendance of venereal patients was 366. One hundred and ninety-three injections of bismuth or arsenical were given.

CONSULTATIVE SERVICE.

Because of the impossibility of opening clinics in smaller rural communities, an effort was made to assist by providing a consultative service from the Vancouver and Victoria Clinics. This service has become very popular and is serving both patient and physician in an effective manner. Nine hundred and ninety-eight consultations were written.

FREE MEDICATION.

The policy of free distribution of medication for syphilis and gonorrhœa has been continued. This service supplements the free consultative service effectively. Arsenicals and

bismuth were the largest items. The figures for 1938 and for the preceding four years are as follows:—

Year.	Neoarsphenamines (Ampoules).	Bismuth (C.C.'s).	Tryparsamide (Ampoules).
1934	6,215	330	.....
1935	6,332	390	.....
1936	6,456	1,397	.....
1937	11,337	15,539	855
1938	11,590	16,125	1,076

EXTRACT FROM ANNUAL REPORT OF THE DIVISION OF LABORATORIES, 1938.

NUMBERS AND TYPES OF TESTS PERFORMED.

During the year, 113,774 tests of all kinds were performed at the Vancouver Laboratories as compared with 91,569 in 1937, an increase in numbers of 24.2 per cent. As in previous years, roughly 90 per cent. of all tests performed in the Vancouver Laboratories were concerned with specimens sent in by public-health officials and practising physicians from within Vancouver City limits. The combined total of examinations conducted by the six branch laboratories in 1938 amounted to 27,480 as compared with 20,384 in 1937, an increase of 34.8 per cent. Altogether, 141,254 public-health laboratory tests were performed by all units of the Division of Laboratories during the year. This figure represents approximately one test relating to the diagnosis and control of communicable disease for every five persons in British Columbia, a ratio believed to be considerably higher than that shown by the Laboratories Division of any other Provincial Board of Health in Canada.

TESTS RELATING TO VENEREAL DISEASE CONTROL.

The Division of Laboratories as a whole carried out no less than 96,249 tests for syphilis or gonorrhœa, representing 65.3 per cent. of all public-health laboratory tests done in British Columbia. Tests in this category have trebled since the present Director took over his duties in October, 1935, and by the end of 1938 their monthly total amounted to nearly double the total number of tests of all kinds performed during the corresponding month three years previously. Such facts emphasize the indispensable contribution being made by the Division of Laboratories towards the control of venereal diseases.

By recent Act of the Legislature, amendments to the "Marriage Act" of British Columbia were made which, when proclaimed, will require a serodiagnostic test for syphilis to be performed on every prospective party prior to marriage. Proclamation of these clauses would entail performance of an additional number of Kahn tests in Vancouver, estimated at not less than 15,000 per annum in the first year. The Laboratories could not attempt such an undertaking in their present quarters. The Director of the Division has thus found himself in the anomalous position of feeling compelled to advocate, in the public interest, measures which he knew the Laboratories, as at present accommodated, could not undertake to carry out.

In our view, the circumstances under which blood specimens are taken for Kahn tests and the skill with which the laboratory reports are interpreted and followed up are of far greater concern in venereal disease control than is the actual turnover of Kahn tests in the Laboratory. In this connection we would point out the significant fact that less than one-twelfth of all specimens relating to venereal disease control reach the laboratories operating under the Ministry of Health in England and Wales from private physicians. The great majority of specimens are there sent in from the special clinics. In British Columbia, the situation is almost reversed. Of a total of 26,699 Kahn tests done in Vancouver in 1938, only 5,527, or 15 per cent., related to specimens from the Venereal Disease Clinic. Again, of 16,495 smears examined for gonococcus, only 6,766 specimens were from the clinic. Combining both groups, out of a total of 53,194 specimens only 12,293, or 23 per cent., came from the special clinic operated by the headquarters of the Division of Venereal Disease Control. In other words, more than three-quarters of our specimens came from private physicians.

OTHER TYPES OF PUBLIC HEALTH LABORATORY TESTS.

In the small town of Merritt, a milk-borne epidemic of typhoid fever involving over thirty persons and resulting in two deaths was identified through cultures of blood and stool specimens sent to the Laboratories. Single cases, and small groups of cases, of pyrexia of unknown origin, living in remote parts of the Province, had their ailments diagnosed in the Laboratories as typhoid or paratyphoid fever, or bacillary dysentery. The continuing occurrence of these diseases entails the possibility of an increasing carrier incidence. In view of the water-supply and sewage-disposal difficulties facing many municipalities, industrial sites, and camps throughout the Province which have come to our attention, and in view of the fact that not a single town or city in British Columbia has enforced pasteurization of milk, the implications of a high incidence of carriers of enteric infection cannot be lightly dismissed.

Bacteriological analyses of milk and water increased in numbers during the year. In view of the potential health-hazards represented by the milk- and water-supplies of many communities in the Province, to which reference has already been made, the bacterial counts and coli-ærogenes tests performed by the Division of Laboratories for various municipalities must be accounted an indispensable service. In the City of Vancouver, in particular, a very regular and close vigilance has been maintained by the Laboratories, the value of which in safeguarding the health of its citizens cannot be computed in terms of dollars and cents. Bacteriological analysis indicates that the water-supply of Greater Vancouver remains of fairly good quality, but is no longer of such unusual excellence as was formerly the case. As the population of the Greater Vancouver area increases and the watershed becomes more prone to be entered by hikers, skiers, or workers on relief projects, further deterioration in the water-supply may be anticipated. Samples of the raw milk distributed by the various dairies operating within the city have been regularly examined and have provided further evidence, supplementing that alluded to in the last report, of a high incidence of Bang's disease among the dairy herds concerned and of a corresponding risk of contracting brucellosis among human raw-milk consumers. The Laboratories were able to show conclusively that the risk to consumers could not be significantly reduced by attempts to eliminate "reactors" (cows containing specific brucella agglutinins in their blood serum) from infected herds. Surveys conducted throughout the year, in close co-operation with the Department of Bacteriology and Preventive Medicine at the University of British Columbia, showed that *Br. abortus* could be isolated from a surprisingly high proportion of samples of pooled raw milk, as distributed in the City of Vancouver, both before and after reactors had ostensibly been eliminated from the infected herds. Pasteurization of all milk sold within the city is the only satisfactory prophylactic against undulant fever. The Laboratories have now provided the Health Department concerned with abundant evidence that compulsory pasteurization needs to be enforced in Vancouver, and no scientific public-health organization doubts the importance of such a measure. If Ontario can enact legislation enforcing Province-wide compulsory pasteurization, it is surely matter for anxious concern that not a single municipality in British Columbia has adopted such a measure. Our new findings in connection with milk-borne undulant fever in and around Vancouver were presented at two scientific meetings during the year, and have since been published (*vide infra*).

GENERAL OBSERVATIONS.

The urgent need for a new building for the Laboratories has already been sufficiently stressed. I would again draw attention to those deficiencies of organization which are brought home to the Laboratories more frequently, and more forcibly, perhaps, than to other Divisions of the Provincial Board of Health—namely, to the non-existence of Divisions of Sanitary Engineering and of Epidemiology. Wonderful opportunities for carrying out important public-health projects in collaboration with the Division of Laboratories are repeatedly being missed, to the detriment of the health of our people and of the progress of scientific medicine, because these Divisions have not been created.

Relations with the medical profession, with other Divisions of the Provincial Board of Health, and with the branch laboratories, continue friendly and co-operative. Acknowledgments of indebtedness are few, but this is a state of affairs with which public-health laboratories everywhere are familiar. That complaints are even fewer is the best possible testimony to our efficiency. The loyalty and competence of the staff at the Vancouver Laboratories

have been beyond reproach. To select for praise would entail discrimination. But I cannot close without acknowledging my own personal debt, and that of all other members of the staff, to Miss Donna Kerr, who, as Assistant Director, has carried a tremendous load of duties and responsibility with unfailing tact, patience, and good-will.

SANITARY INSPECTION.

SANITARY INSPECTOR'S OFFICE,
VICTORIA, B.C., July 10th, 1939.

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

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

AUTO TOURIST CAMPS.

Commencing alphabetically, we may deal with auto tourist camps. During the year just ended much has been accomplished to bring the standard of comfort at these places to such perfection that many of the patrons are inclined to remain weeks instead of overnight. The sites are carefully chosen, the matter of pure drinking-water and approved drainage is seriously considered, shower-baths are standard equipment and, in many camps, swimming-pools are provided, also modern incinerators. What is said by tourists to be the best on the Pacific Coast is located adjacent to the Victoria City limits.

CANNERIES.

The canning industry of British Columbia has already reached a stage of development of which every British Columbian can be justly proud. The world-famous fruit of the Okanagan holds the pick of the world's market through sheer merit in quality and precision-like care in cultivation, picking, packing, and canning. Cleanliness is a byword in every British Columbia fruit and berry cannery and packing establishment. Employees are also carefully selected. Our regulations are posted at every cannery, but enforcement has never yet been necessary. The products of the Okanagan are found on the tables of the best hotels in the civilized world. The same may be said of the salmon-canneries located on our very extensive coast-line from Alaska to Esquimalt, with many inlets and rivers, including the Nass, Skeena, and Fraser. The salmon run on our coast last season was above the average, both in quality and numbers. Canning equipment is being constantly improved and at this date through the most ingenious yet almost magical mechanical devices the fish, after being landed, are cleaned, gutted, weighed, canned, and cooked with scarcely the touch of human hands, under scrutiny of trained experts. Every fish landed from the boats is carefully scrutinized for its freshness and firmness. Operators are very exacting in this respect, realizing the fact that it is the only way to sustain the enviable reputation of British Columbia canned salmon against the keen competition of Japanese and Russian canners of Siberian waters.

Many of our fish-canners are also turning their attention to the propagation of shell-fish with very satisfactory results. Beds on the Vancouver Island and Lower Mainland coasts are under development. The temperature and natural salinity has proved these waters to be highly satisfactory. One of our largest canning firms has installed the most modern equipment for the canning of oysters, clams, and juices under the supervision of qualified experts. Another development allied to the fish-canneries is factories for converting fish-offal and scavenger fish into valuable by-products, such as oil, meal, and guano. The operation of these new modern factories get results without the nauseating odours of former days when they were admittedly a foul-smelling nuisance.

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 approximately 300 visits of inspection have been made to such camps; 33 canneries have been periodically visited; 30 auto camps visited; 47 nuisance complaints investigated and dealt with; 90 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 1938. 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 and also by Dr. C. E. Dolman and his Laboratory Staff.

I have, etc.,

FRANK DEGREY,
Chief Sanitary Officer.

TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASES IN THE PROVINCE FOR THE YEAR 1938.

	Cancer.	Cer. Sp. Meningitis.	Chicken-pox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	German Measles.	Influenza.	Leprosy.	Malignant Œdema.	Measles.	Meningitis (simple).	Mumps.	Paratyphoid Fever.	Pneumonia (lobar).	Pneumonia (broncho).	Pneumonia (unspecified).	Poliomyelitis.	Puerperal Septicæmia.	Rocky Mtn. Spotted Fever.	Scarlet Fever.	Septic Sore Throat.	Smallpox.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping-cough.	Total.
Abbotsford and District	2		41	48	1			2	1				14				8	9					92	4					1		1	30	254
Agassiz and District			2																														2
Alberni and District	1		3						1	3													1										9
Alert Bay and District			8	1	1	3		1					1			3	7	18						12				2	2	1		11	71
Alexis Creek and District				15		20				83						1	1	9									1	37	28	1			196
Armstrong and District			2						3				2				3						37	1								4	52
Ashcroft and District			15	1		9			3	2			3				2	2						5				3	4			10	59
Atlin and District																												1	1				2
Baynes Lake and District																																	
Bella Bella and District	1		16						1	153			9		1	3	3	5			1							4				12	209
Bella Coola and District	1		2			10			1	21								2		1								1	7			46
Blakeburn and District			7							11			3				2	2														25
Blubber Bay and District																																	
Blue River and District			8																													24	32
Bralorne and District													98					1										3					102
Britannia Beach and District																		1						2								1	4
Burnaby and District			70		1			1					4		1								16									9	102
Burns Lake and District					1				7	1			10				1	1					2	1								15	39
Campbell River and District			2							12			16			1		4	1									1				3	40
Canal Flats and District																																	
Castlegar and District			18						1				3										7	2					1				32
Ceepeecee and District	1									11													1									1	14
Chase and District			1	1						18					1		2											3	1				27
Chemainus and District		1	17										2		4								6						1	2		29	62
Chilliwack and District	1		86					1	1				3				4	4	2	1			14						5	1		52	175
Cloverdale and District																							4										4
Coal Creek and District			18							9					35								1	1								34	98
Cobble Hill and District			1						1						6																	4	12
Coquitlam and District			2	2																			1						1				6
Courtenay and District	5		42		2					1							2	1	2				12	2					5		1	20	95
Carried forward	12	1	361	68	6	42		5	20	325			168		48	8	35	59	5	2	1		194	30			1	46	58	13	2	259	1,769

TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASES IN THE PROVINCE FOR THE YEAR 1938—*Continued.*

	Cancer.	Cer. Sp. Meningitis.	Chicken-pox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	German Measles.	Influenza.	Leprosy.	Malignant Œdema.	Measles.	Meningitis (simple).	Mumps.	Paratyphoid Fever.	Pneumonia (lobar).	Pneumonia (broncho).	Pneumonia (unspecified).	Poliomyelitis.	Puerperal Septicæmia.	Rocky Mtn. Spotted Fever.	Scarlet Fever.	Septic Sore Throat.	Smallpox.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping-cough.	Total.
Brought forward	12	1	361	68	6	42	....	5	20	325	....	....	168	....	48	8	35	59	5	2	1	....	194	30	....	....	1	46	58	13	2	259	1,769
Cranbrook and District	7	....	22	....	....	....	....	2	3	5	....	....	57	....	1	....	22	1	....	2	....	....	....	....	....	....	....	....	2	1	1	8	134
Creston and District	3	....	12	9	....	....	....	2	1	6	....	....	246	....	....	....	4	36	....	1	....	....	1	10	....	....	....	....	....	2	....	....	333
Cumberland and District	....	....	13	....	....	....	....	2	....	....	....	....	....	....	....	....	....	3	....	....	....	....	9	4	....	....	....	....	....	....	....	....	31
Dawson Creek and District	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Duncan and District	....	....	39	....	2	....	....	....	....	....	....	....	....	....	8	....	....	....	....	....	....	....	36	1	....	....	....	....	....	....	....	3	89
Enderby and District	....	....	52	....	....	....	....	....	....	....	....	....	2	....	....	....	8	2	1	....	....	....	2	....	....	....	....	....	1	....	....	17	85
Esquimalt and District	....	....	17	....	....	....	....	....	1	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6	26
Fernie and District	....	....	27	11	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	1	6	....	....	....	....	4	....	1	....	52
Field and District	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1	1	....	....	....	....	1	2	....	....	....	....	....	....	....	....	7
Fort St. John and District	....	....	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	9
Fraser Lake and District	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	3
Garden Bay and District	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Gibsons Landing	....	....	12	....	....	....	....	....	2	6	....	....	....	....	....	....	1	....	....	2	....	....	2	....	....	....	....	....	....	....	....	....	25
Golden and District	1	....	....	....	....	....	....	....	....	11	....	....	2	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	17
Grand Forks and District	2	....	71	....	....	....	....	....	1	....	....	....	....	....	....	....	2	3	....	....	....	....	....	3	....	....	....	....	....	....	....	....	82
Greenwood and District	....	....	36	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	40
Halcyon Springs	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hammond and District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	3	....	....	....	....	....	1	5	....	....	10
Haney and District	2	....	6	....	....	....	....	1	....	....	....	....	....	1	....	....	5	1	....	....	....	....	4	....	....	....	....	....	2	1	1	3	27
Hazelton and District	....	....	....	3	....	....	....	....	....	....	....	....	2	....	....	1	2	5	....	....	....	....	4	....	....	....	....	8	20	....	....	3	48
Hedley and District	....	....	1	....	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	8
Hope and District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Invermere and District	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	2	3	....	....	....	....	....	....	....	....	....	....	2	....	....	4	13
Ioco and District	....	....	13	....	....	....	....	....	....	4	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	1	....	....	....	20
James Island	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Kamloops and District	5	1	44	....	....	52	1	4	....	2	....	....	14	....	2	....	15	5	2	1	....	....	1	....	....	....	....	12	7	4	1	5	178
Kaslo and District	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4
Kelowna and District	....	....	64	....	....	....	....	....	9	....	....	....	....	....	9	....	1	....	....	1	....	....	....	3	....	....	....	2	....	2	....	....	91
Keremeos and District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

Kimberley and District			12						13	12			5				8	2														55	107
Kincolith and District	1			4																							1	18	1		49	74
Ladner and District	3		16						1									1	1				17						1		4	44
Ladysmith and District			11																				7									18
Langley Prairie and District								1						21		28	4						38	3							6	101
Lillooet and District	1					18				5						6	1							4								35
Lytton and District	1		2			9				26		1				6			2				1	1			1		2		3	55
McBride and District	1		2						2				1		1				1										3		5	16
Masset and District																																		
Mayne Island	1			3						16						1	1						4	2					1		1	30
Merritt and District													7			5											1	1	34			48
Michel and District	1		2					1	1				1																	24	30
Minto City and District																1																1
Mission City and District	1		35					2		2					1	4	1	2					12					3	1		5	69
Nakusp and District	2							1					5										13					1				22
Nanaimo and District		1	24						4					13		2	1		1				26					2		26	100
Nelson and District	8		34					4	2	2			4		3	6	5	6	5				16	9			3	3	6	32	148
New Denver and District			6					1															4									11
New Westminster and District	16	1	179				1	3		1			12	1	4		4	3	3				14	4			1	13	2	18	280
North Vancouver and District	6		163					1					2										14					1		44	231
Oak Bay			11			1									1								3							12	28
Ocean Falls and District										5			4			2	4													21	36
Oliver and District			5	12											26		1						4		2						50
Parksville and District			3	1						4						1	1						2								12
Peace River District			54											4									1					1			60
Peachland																							1								1
Pender Harbour and District			10														1		2												13
Pender Island																														24	24
Penticton			111					1	2				3		5	1							1	15			1	2		127	269
Pioneer Mines and District			15										22															1			38
Port Alberni	3		68					2		38			1		2		1						14					5		15	150
Port Alice									1	22							1														24
Port Coquitlam and District		1	5												1	1	2	1					11						1	53	76
Port Essington													34																		34
Port Haney and District			66																				14					7	1	12	100
Port Moody and District			26										2			1	2						2							21	54
Port Renfrew and District			1						1							1														6	9
Port Simpson and District			1	2			1		37				14			4												28	4	178	269
Powell River and District			43					1	4	4			9										4	19				5	1		90
Premier and District			4										1																		5
Prince George and District			6	44					4				1			3	3						7					1		42	111
Prince Rupert and District	1		6					1	22				657			2	7						13	1				3	1	19	734
Carried forward	79	7	1,724	161	8	122	3	35	132	497		1	1,278	2	156	9	184	167	21	24	1		504	119	2		2	76	199	80	9	1,113	6,715

TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASES IN THE PROVINCE FOR THE YEAR 1938—*Continued.*

	Cancer.	Cer. Sp. Meningitis.	Chicken-pox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	German Measles.	Influenza.	Leprosy.	Malignant Œdema.	Measles.	Meningitis (simple).	Mumps.	Paratyphoid Fever.	Pneumonia (lobar).	Pneumonia (broncho).	Pneumonia (unspecified).	Poliomyelitis.	Puerperal Septicæmia.	Rocky Mtn. Spotted Fever.	Scarlet Fever.	Septic Sore Throat.	Smallpox.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping-cough.	Total.
Brought forward	79	7	1,724	161	8	122	3	35	132	497	....	1	1,278	2	156	9	184	167	21	24	1	....	504	119	2	....	2	76	199	80	9	1,113	6,715
Princeton and District	1	....	20	....	....	....	....	1	4	....	....	....	21	....	....	....	4	....	....	....	....	....	....	....	....	....	....	....	....	2	....	3	56
Qualicum Beach and District	....	....	10	3	....	....	....	....	....	2	....	....	....	....	....	....	....	4	1	....	....	....	1	5	....	....	....	....	....	....	....	8	34
Queen Charlotte and District	....	....	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	4	....	....	....	....	1	....	....	....	....	....	1	....	....	....	10
Quesnel and District	....	....	16	....	....	....	....	....	....	6	....	....	14	....	....	....	3	1	....	....	....	....	....	....	....	....	....	....	....	....	....	12	52
Revelstoke and District	2	1	23	1	....	....	....	....	....	3	....	....	1	....	2	....	....	....	....	....	1	....	6	4	....	....	....	....	1	1	....	1	47
Rock Bay and District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	2
Rossland and District	1	....	2	....	....	....	....	1	3	....	....	....	2	....	1	....	4	8	....	2	1	....	31	....	....	....	1	1	....	....	....	15	73
Saanich and District	....	....	151	....	....	....	....	....	3	....	....	....	....	....	1	....	....	....	....	....	....	....	11	4	....	....	....	....	....	....	....	163	333
Salmo and District	2	....	20	5	....	....	....	....	1	17	....	....	....	....	....	....	1	....	1	....	....	....	4	2	....	....	....	....	....	....	....	4	57
Salmon Arm and District	....	....	3	....	....	....	....	....	2	....	....	....	1	....	....	....	3	1	....	....	....	....	....	1	....	....	....	....	....	....	....	2	13
Saltspring Island	....	....	9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	11
Sardis and District	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	2	2	....	....	....	....	....	1	....	....	....	....	....	....	....	....	6
Shawnigan Lake and District	1	....	1	....	....	....	....	....	....	2	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	10
Sidney and District	1	....	28	....	....	....	....	....	....	3	....	....	....	....	....	....	1	1	....	....	....	....	1	....	....	....	....	....	....	....	....	69	104
Smithers and District	2	....	5	....	....	....	....	....	52	7	....	....	....	....	....	....	2	5	....	2	....	....	....	....	....	....	....	9	9	....	....	34	127
Sooke and District	....	....	35	....	....	....	....	....	....	....	....	....	....	....	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	45	83
Squamish and District	....	....	....	....	....	....	....	....	....	....	....	....	83	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	83
Steveston and District	....	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	2	1	....	....	....	....	1	....	....	....	....	....	....	....	....	3	9
Stewart and District	....	....	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	8
Summerland and District	2	....	1	....	....	....	....	....	....	90	....	....	....	....	....	....	....	1	....	....	....	....	7	1	....	....	....	....	1	....	1	7	111
Telegraph Creek and District	....	....	30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	10	....	....	....	40
Terrace	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Texada Island and District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tofino	....	....	13	9	....	....	....	....	....	26	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	50
Trail and District	....	....	111	....	....	....	....	3	....	....	....	....	10	....	3	1	....	4	....	13	....	....	130	....	....	....	....	....	3	....	....	16	294
Tulsequah and District	....	....	....	....	....	....	....	....	....	12	....	....	....	....	....	....	1	2	....	....	....	....	....	2	....	....	....	....	1	....	....	....	18
Ucluelet and District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	2	3	....	....	....	....	....	....	....	....	6
Greater Vancouver Metropolitan Area	771	1	1,438	....	9	....	....	28	38	....	....	....	97	....	319	....	....	....	....	2	....	....	509	....	....	....	....	....	468	20	13	405	4,118
Vanderhoof and District	1	....	2	2	....	....	....	....	2	14	....	....	....	....	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	....	....	10	38

Vernon and District	4		12						1	53			4		1		11	4	2		1		5						3		38	139
Victoria and District	115		308				2	2	1				7		15	2							44					159	2	2	130	789
Wells and District									13				22				2	4					2	2				1			5	51
West Summerland			2												1								17								4	24
West Vancouver			78						1				1										25						1		6	112
White Rock																	2															2
William Head Quarantine Station																																
Williams Lake and District			5			17							162						2					4				7			44	241
Woodfibre and District			1																													1
Zeballos and District								2																								2
Totals	982	9	4,056	181	17	139	5	73	253	732		1	1,708	2	501	12	225	210	27	43	4		1,308	150	2		3	86	861	111	25	2,143	13,869

REPORT OF FRASER VALLEY HEALTH UNIT.

ABBOTSFORD, B.C., January 27th, 1939.

Dr. H. E. Young,
Provincial Health Officer, Victoria, B.C.

SIR,—I have the honour to submit the annual report for the Fraser Valley Health Unit in the Province of British Columbia for the year 1938.

HISTORY AND ORGANIZATION.

It has long been realized that an inequality exists in so far as modern preventive health services are concerned as between the citizen who resides in a city in which modern health services are available and the citizen who resides in a rural area or small urban centre in which no such service is provided. The town or village as well as the single rural municipality is unsuitable as a unit of government in dealing with the health problems of to-day. The organization of health-work by the establishment of district health units, serving all municipalities embraced in such units, is the solution to the problem, thus making modern preventive health services available to the resident of the rural district and smaller urban centres. In such a set-up the Provincial Health Department acts in a supervisory and advisory capacity.

It was with this object in view that the Fraser Valley Health Unit was organized. As in the case of the Peace River Health Unit, this Unit has materialized as a result of the consolidation of the school districts of the area. In August, 1935, with the consent of all School Boards concerned, the trustees of four school districts relinquished their duties and an official Inspector was appointed to administer the newly-formed Matsqui-Sumas-Abbotsford Educational Area. In September of the same year, a school nurse was appointed to administer and supervise the health of the school population in co-operation with the local Medical Health Officer. A medical survey and a dental survey conducted at this time revealed the need for much preventive work. As a result of the dental survey dental clinics were organized in several focal points throughout the area.

The dental and medical work continued in this form until 1937, when the staff was increased by the appointment of two more fully qualified Public Health Nurses and a Supervisor of Nurses, who had had considerable experience in the public-health field in other districts in the Province. In August, 1938, a full-time Medical Director was appointed.

There exists a close relationship between the Health Unit and the Department of Education. The Advisory Board to the administrator of the Educational area also acts in an advisory capacity to the director of the Health Unit. This arrangement facilitates to a considerable extent the solving of the problems which affect the school population directly and the health of the community to a lesser extent.

The personnel of the Unit is as follows:—

J. A. Taylor, B.A., M.D., D.P.H.	Medical Director.
Marion C. Miles, B.A.Sc., R.N., P.H.N.	Supervisor of Nurses.
Evelyn Maguire, B.A.Sc., R.N., P.H.N.	Public Health Nurse.
Maryon J. Arnould, R.N., P.H.N.	Public Health Nurse.
Elisabeth Ochs, R.N., P.H.N.	Public Health Nurse.
F. H. Quinn, D.D.S.	School Dentist.

LOCATION.

The Fraser Valley Health Unit is located on the south side of the Fraser River, comprising the Municipalities of Matsqui and Sumas and the Village Municipality of Abbotsford. It constitutes an area of approximately 94,640 acres, bordered on the north by the Fraser River, on the south by the International Boundary, on the west by the Municipality of Langley, and on the east by the Municipality of Chilliwack, with the Vedder River on the south-east.

The area is essentially a farming and dairying country, supplying a considerable amount of the milk and farm produce consumed in the Cities of Vancouver and New Westminster. The majority of the population have lived in the area for a considerable number of years,

although there has been an influx of new settlers during the past two years from the drought areas of the Prairies.

POPULATION AND DISTRIBUTION.

The population of the whole area is estimated to be approximately 8,000; with Matsqui Municipality being the most heavily populated, constituting 68 per cent. of the whole. Sumas Municipality has only about 26 per cent. of the total population, although it has considerably the better farming land, a considerable portion of it being composed of the Sumas Lake Reclamation area. There are only the two main villages in the area, namely, the Village of Matsqui and the Village of Abbotsford, the latter being considerably the larger.

The central office of the Health Unit is located in the Village of Abbotsford, where members of the nursing staff are required to report at least once a day. For convenience and ease in the covering of the work the area has been divided into four separate districts with a nurse in charge of each. These four districts are, namely:—

(1.) Municipality of Sumas.
(2.) Village of Abbotsford.
(3.) Matsqui Municipality, northern section.
(4.) Matsqui Municipality, southern section.

COMMUNICABLE DISEASES.

From the following table the part played by certain communicable diseases is at once evident:—

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES, 1934–38.

Disease.	1934.		1935.		1936.		1937.		1938.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Chicken-pox	9	.....	60	.....	61	.....	65	.....	45	.....
Conjunctivitis	.....	.....	.....	.....	2	.....	2	.....	48	.....
Diphtheria	1	1	1	.....	.....	.....	.....	.....	1	.....
German measles	.....	.....	11	.....	293	.....	.....	.....	1	.....
Influenza	.....	1	.....	.....	38	.....	2	3	.....	.....
Measles	.....	.....	36	.....	172	.....	196	.....	14	.....
Mumps	.....	.....	9	.....	8	.....	3	.....	.....	.....
Paratyphoid fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pneumonias	3	3	2	2	15	2	4	4	16	5
Poliomyelitis	1	.....	.....	.....	1	1	.....	.....	.....	.....
Scarlet fever	25	.....	.....	.....	13	1	37	.....	92	.....
Septicæmia (puerperal)	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Septic sore throat	.....	.....	.....	.....	1	.....	4	.....	3	.....
Tuberculosis	2	2	3	1	2	1	.....	.....	1	.....
Typhoid fever	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Undulant fever	.....	.....	.....	.....	1	.....	.....	.....	1	.....
Whooping-cough	.....	.....	28	.....	6	1	.....	.....	30	.....

A fact worthy of note in this table is the marked increase in the number of certain communicable diseases—notably chicken-pox, measles, and rubella—in the year 1935. At first glance the statistics in this connection may be disturbing. However, on analysis, one finds that this increase occurred when the first Public Health Nurse was appointed. Human frailty in the reporting of minor illnesses is well known to all of us. It is self-evident that once the Public Health Nurse commenced to check school absentees considerably more cases of communicable disease were discovered. Thus, the increase in the statistics may be the direct result of improvement in reporting.

In this day and age, with the facilities for more rapid transportation between communities, there is a greater intermingling of the population, both throughout their own area and in other areas of the Province. The Fraser Valley area, consequently, reflects the communicable disease records of its neighbouring municipalities. This intermingling is further accentuated in a consolidated school area where children from several districts are transported to the higher grade schools. An increasing vigilance on the part of the Health staff is necessary to bring about control of communicable disease. Thus, we find it necessary to

keep close check on absentees from school in the hope of detecting any communicable disease in its inception in order to carry out quarantine measures among contacts before it becomes spread throughout the school.

During the past year there was a marked increase in the number of scarlet fever cases. Fortunately, this was a mild form of the disease which was occasioned by extremely few complications or sequelæ. No deaths from this source were recorded. Further reference to the problem of scarlet fever control will be mentioned under immunization.

The usual epidemic of chicken-pox commenced in the latter part of November and carried through the month of December; but a few less cases occurred this year than in previous years.

There has been an increase in the number of reportable cases of pneumonia this year, with a slight increase in the number of deaths. The majority of these cases have occurred in the winter months; nine cases, or 56 per cent. of the total, occurred during December. It might be questioned whether the use of antipneumonic serum might not have prevented a considerable number of these deaths. However, those cases which were typed revealed a case to be due to a type of pneumococci for which there is no serum. But pneumonia would seem to constitute a problem which must command increasing attention.

SCHOOL MEDICAL SERVICES.

Since the inception of the Health Unit we have enjoyed the full co-operation of the Director of Education and the members of the teaching staff. School health services bulk largely in the time of the Health Unit, but it is time well spent. There are 1,825 school children enrolled in the sixteen schools of the consolidated area.

Physical examination of all the pupils is accomplished each year by the staff. In addition, all those participating in competitive sports receive special examination with a view to ascertaining their physical ability to pursue their respective extra-curricular hobbies. A report of all the findings is submitted to the parents, and in the case of the more serious defects a home visit is made by the nurse to discuss the problem with the parents. They are exceedingly willing to co-operate, but, owing to economic straits, a large percentage of the defects remain uncorrected.

The service might be considerably improved if arrangements could be made to have the parents present at the time of the examination. However, much of the physical examination work must be carried out in the fall and early spring when the farm men and women are busy at their vocation. Unfortunately, in these rural schools there is no room provided where these examinations may be conducted, with the result that they must be carried out in the small cloak-rooms where there is hardly room for the doctor, nurse, and patient, far less for parents. These halls, which are unheated, open directly to the outside, and are, therefore, cold and unfit for examination purposes in the winter months. Consequently, we are forced to conduct these examinations in the early part of the fall term and the late months of the spring term. The only other alternative is to conduct the examination in the classroom, which disrupts the whole teaching programme for two to three days. We endeavour where possible to cause as little inconvenience in this regard as possible.

GOITRE PREVENTION.

As in previous years, iodine in the form of tablets is distributed to all those desiring it. Some 895 pupils are receiving this treatment at present. Check is made to locate those whom it is felt require more intensive remedial efforts, these being advised to consult their family physician.

CONTROL OF COMMUNICABLE DISEASE.

Reference has already been made to the check-ups made by the nurse concerning absentees. In cases where a communicable disease has appeared in a school daily inspection of the class is made during the incubation period of the disease.

During the year quarantine measures were imposed in 184 cases, necessitating 556 quarantine calls.

SCHOOL SANITATION.

To a person accustomed to the modern sanitary facilities of the larger city schools, rural school sanitation appears totally inadequate. A survey of school sanitation has been carried out during the fall months from the view-point of heating, lighting, ventilation, water-supply,

and toilet facilities. Information concerning the survey will be embodied in a special report as soon as an analysis of the findings can be completed.

SCHOOL DENTAL SERVICES.

School dental services have been carried on throughout this year as in previous years. The following table reveals the amount of dental-work carried out during the year:—

Number of patients	493
Number of fillings—	
Silver (simple)	740
Silver (compound)	496
Porcelain	87
Cement	79
Number of extractions—	
Deciduous teeth	473
Permanent teeth	96
Number of local anæsthetics	452
Number of cement linings	162
Prophylaxis	162
Treatment	8
Completed	298

CLINICS.

Immunization Clinics.

Smallpox vaccination clinics have been carried out each year by the local Medical Health Officer. However, there has never been any attempt to establish immunization clinics against other communicable diseases. Consequently, a toxoid campaign was commenced during the fall of the year and has been carried on into the new year. Fortunately, there has not been an epidemic of diphtheria in this area for several years. Only three cases have been recorded during the past five years. Nevertheless, it was felt that with a population almost 100 per cent. unprotected the ground was ripe for the wholesale spread of this disease should the infection occur.

Unfortunately, early in the campaign one child developed a violent local and systemic reaction to the initial dose of diphtheria toxoid. There developed immediate repercussions throughout the whole area and we were receiving daily notices of withdrawal of consent to the toxoiding. In order to prevent other incidents of a similar nature and since our whole campaign was jeopardized, we commenced to carry out reaction tests on all pupils in the schools. This entailed considerable more work and prolonged our campaign several weeks. In spite of this precautionary measure, two somewhat less severe reactions were recorded. However, we were able by means of talks in the schools and by discussions with the parents to obtain consent in a large number of cases and to carry out the treatment on a large percentage of the school population. We may expect greater returns in another campaign, for particularly in this field does work already accomplished assist us. When we can point to several hundred children in the community who have been immunized without dire results, most of the doubters are either convinced or are sufficiently passive to give permission for their children to be protected.

The following table represents the immunization-work carried out during the year:—

Smallpox vaccination	395
Diphtheria toxoid—	
Reaction tests	681
First doses	681
Second doses	617
Completed doses	592
Staphylococcic toxoid	1
Cold vaccine	1

As mentioned under communicable disease, an item of serious consideration is scarlet fever. It was the most prevalent communicable disease recorded last year and must assume

major responsibility in a preventive programme. It is hoped to commence a scarlet fever toxoid campaign during the new year.

Pre-school and Baby Clinics.

Early in May baby clinics were commenced in the area, the first clinic being held in Abbotsford. These were essentially clinics for the weighing and measuring of babies. In September, with the appointment of a full-time Medical Director, these clinics were enlarged in scope, advice being given concerning feedings and immunization treatments being carried out on those children whose parents desired it. These clinics are held monthly in each of four centres, namely, Sumas, Abbotsford, Matsqui, and Pinegrove. Attendance has been exceedingly gratifying and, from the requests received, we expect that it will be necessary to commence two more clinics in other parts of the area.

To date there have been 158 babies and pre-school children registered. During the past four months 578 children have been seen by members of the staff at these clinics. Some seventy-six of these have been given immunization treatment.

Chest Clinics.

The travelling chest clinic of the Division of Tuberculosis Control, in the person of Dr. Kincade, assisted by Miss B. Erickson, spent two days in the area during the early part of December. Prior to their arrival tuberculin tests were carried out on contacts of tuberculosis—ten persons availing themselves of this opportunity. There were some seventy-seven individuals examined at the clinic; one case of active tuberculosis was discovered and institutionalized. Of the remainder, fifty were found to be negative and twenty-six were listed for further observation.

Close check is maintained in a follow-up programme on all arrested and quiescent cases, through periodic home visits and periodic sputum examinations.

Eye Clinics.

The correction of eye defects still remains a major problem. Through the combined co-operation of various organizations in the area, a fund was set up for the examination of children with eye defects and the supplying of glasses. This fund, however, permits only correction of the more serious defects and still leaves a vast number of children who show minor refractive errors which could be corrected by glasses, but who are unable to afford the necessary financial outlay.

During the year twenty-eight children have been transported to Vancouver, where they received examination by a specialist. Of these nineteen were fitted with glasses and four are awaiting beds in the hospital for operation.

Child Guidance Clinic.

Child Guidance clinics have been held periodically in Chilliwack. Children who have become problem children, either at school or at home, have been transported to these clinics for examination and advice. There they are given a complete psychometric examination to determine whether the difficulty is due to environment, lowered mentality, or emotional upset. A complete report of the findings is supplied to the central office and corrective measures discussed with the parents by the nurses. Seven children were given this service during the year.

Crippled Children's Clinic.

Through arrangements with the Crippled Children's Hospital in Vancouver, we are able to provide special examination and treatment for cases requiring such aid. Six trips have been made to the Crippled Children's Hospital, resulting in examination of seven children. Five of these were much improved following a brief stay in hospital for treatment. They are required to return to the hospital for re-examination at periodic intervals to note improvement, if any, following massage and exercises at home.

INDUSTRIAL HYGIENE.

There are two industries in the district, namely, the Pacific Milk Condensery and the Clayburn Brick and Tile Company, neither of which presents much of a problem from a

public-health point of view. The industry which requires the greatest supervision is the Canadian Hop-growers' Association, which gives transitory employment to 3,000 to 4,000 individuals during the months of August and September when hop-picking is at its peak. This company was found to be exceedingly willing to co-operate with the Department of Health.

During the period of peak employment the company employs a local physician as Medical Officer and maintains a company nurse on the premises at all times. Sick parade is held each morning when cases are referred to the attending physician. In this way all sickness amongst the employees is carefully supervised.

A sanitary staff under the direction of the foreman is kept busy during the picking season in the maintenance of sanitary measures. Prior to the harvest season all cabins and privies are inspected, repaired, cleaned, and disinfected. Each morning the company nurse and foreman inspect each cabin, when, in the event of a family maintaining a dirty cabin, instructions are given to clean it up or to discontinue employment. In addition, the pit privies which are located in various centres throughout the hop-fields as well as in close proximity to the cabins receive a daily inspection, following thorough cleaning and disinfection by the sanitary staff.

The water for the use of the employees is obtained from a pipe-line which runs from a small stream at the foot of the Vedder Mountain and is conveyed to the fields by large water-wagons, where it is drawn off as required by the employees.

Periodic inspection is carried out by the Health Department in co-operation with the company medical officer and the foreman.

MILK INSPECTION.

There are approximately 700 milk producers in the combined area, the majority of whom are shipping milk either to the city or to the Pacific Milk Condensery, as there are only four or five dealers retailing to the local market. The area is a T.B. accredited area as far as cattle are concerned and has been for a considerable number of years. At present milk inspection is carried out by the Dairying Branch of the Department of Agriculture. We are working in collaboration with them, through Dr. Sparrow, the official Inspector for the Fraser Valley. Milk is sold in only the raw state, and so far as can be ascertained has never created a public-health problem. There have been two cases of undulant fever recorded this year, in both cases due to an infection which has not been definitely traceable to the milk consumed.

The work in the line of milk inspection will receive more attention in the new year, when periodic inspections of the local dealers will be carried out.

GENERAL SANITATION.

The problem of general sanitation in a rural community commands a considerable amount of time and is a subject which will only be completely developed by the appointment of a full-time sanitary engineer. Under the present system we can only attend to the more pressing demands, and in the future more thorough investigation must be devoted to the problem. General sanitation is discussed under the headings of water-supplies, sewage disposal, and refuse disposal.

WATER-SUPPLIES.

There exist at present two municipal water-supplies in the area, namely, that of the Village of Abbotsford and that of the Village of Matsqui. These two systems supply only a small proportion of the population of the area, the remainder of the area being dependent upon well and spring supplies.

The system of the Village of Abbotsford is derived from a system of springs situated at the north-east limits of the municipality. This system has outlived its usefulness and can no longer be depended to supply enough water for the needs of the consumers. The area from which the springs flow is not protected in any way and is subject to contamination from either human or animal sources. Periodic laboratory analysis has been carried out and so far has shown no bacterial contamination. During the month of December the supply became dangerously low and it was necessary to obtain additional water in order to cope with the demand. At this time water was pumped from Thompson Creek to the swimming-

pool, where it was chlorinated and then pumped to the mains. This, of course, was only a temporary measure to tide over until heavier precipitation increased the flow from the springs. At present the village council is conducting surveys in order to locate a more plentiful supply, when it is hoped that the present antiquated system will be discarded.

The system of the Village of Matsqui is derived from a dam placed across a stream at the back of Sumas Mountain. Laboratory analysis has revealed no bacterial contamination in this water, but during the dry summer months this supply became so low that it was found necessary to curtail the consumption considerably. Again, there is no effort made to have a protected watershed and the danger of contamination is ever present. There have been no records of water-borne epidemics in the history of the Health Unit.

As regards the well and spring supplies, examinations have been conducted where necessary and at any request. Laboratory analysis has shown contamination in several cases, but the solution of the problem remains unanswered. The owners find themselves financially unable to carry out the recommendations made by this Department and are definitely opposed to chlorination of the supplies. It is too much to expect that all water used for drinking purposes will be boiled.

SEWERAGE.

The whole of the area is dependent upon septic tanks or privies for sewage disposal. Fortunately, the soil is gravel in nature and will cope with the effluent and sludge from these systems. However, too many people expect a septic tank to carry on indefinitely, not realizing that they require periodic cleaning out. In all cases we advise cleaning out at least once every three years.

The Village of Abbotsford presents the greatest problem in the connection of sewage disposal, for over a period of years the grounds, due to constant shifting of privies, have become saturated with sludge and will not accommodate further systems of this sort. The only answer to the difficulty seems to lie in the construction of a municipal sewerage system, especially if the village is to be expected to attract new home-owners.

REFUSE DISPOSAL.

At present there is no system of garbage disposal. It is left entirely to the discretion of the home-owner and the business houses. As a result there is very little attention paid to the matter. The matter has been placed before the village authorities and plans are made to initiate a system of garbage disposal. Several nuisances have been investigated in this regard and orders left to have the refuse disposed of.

SOCIAL SERVICE.

The district is covered by a social service worker in the person of Miss Berna Martin, who co-operates with the Health Unit in all matters affecting this area. Health Unit records are very useful in reference to matters of information pertaining to her work.

The Welfare Club has had heavy demands and has been extremely useful in providing clothing and food to necessitous families. We have appreciated their co-operation on many occasions when we have approached them for requests for assistance.

RECORD SYSTEM.

The record system has been brought up to date during the year and is beginning to prove its usefulness. It has entailed a considerable amount of clerical work which has been carried on under difficulties, since none of the staff have had experience in typewriting. It has thus been more time-consuming than necessary if an experienced typist were available.

In concluding this report we wish to express our sincere appreciation to the various individuals who have given us much valuable assistance, particularly the Director of Education, the municipal clerks, and the members of the teaching profession. We are extremely grateful to the Abbotsford-Sumas-Matsqui News for the publicity which has been granted us in the matter of clinics and monthly reports.

Last, but not least, I cannot conclude without expressing my appreciation for your continued help and encouragement in the work of the area.

I have, etc.,

J. A. TAYLOR,

Medical Director.

REPORT OF ACTIVITIES OF METROPOLITAN HEALTH COMMITTEE.*

Retrospect of the activities of the Metropolitan Health Committee during the second calendar year of its existence shows not only many gratifying results but, in addition, opens up various avenues of new endeavour and improvement over older methods.

The territory covered by the Committee has been extended to include the Municipality of Burnaby, an area of 33.59 square miles. The total area directly covered now totals 210.47 square miles, and includes an estimated population of 316,437. Burnaby adjoins the City of Vancouver throughout Vancouver's whole eastern boundary. It is separated from the Municipality of Richmond by the Fraser River on its southern boundary. The population is concentrated in two portions and scattered in between, thus including urban, suburban, and rural problems. The population of Burnaby is estimated at 28,500 and is practically 99 per cent. white, English predominating. The work carried on is similar in all respects to the rest of the Area, but, in addition, because of the large number of citizens on relief, a considerable percentage of time is given toward dealing with the social problems of health and disease.

The North Vancouver Health Unit, through special arrangements with the West Vancouver School Board, now supervises and examines the school children of this latter municipality. The school population of West Vancouver is approximately 1,000 and a full-time school nurse is in attendance. Because of this special arrangement, considerable general public-health work is carried on, and although West Vancouver is not a Unit directly in the Committee's sphere of activity, indirectly a certain degree of control results.

Repeated attempts have been made to bring the Municipality of West Vancouver and the City of New Westminster into the Metropolitan set-up, but as yet none has been successful. Their officials realize the importance of public-health activities, but are loath to spend the extra money required to gain definite insurance of the preventive medical type offered by the Metropolitan Health Committee. The inclusion of these two municipalities would make a very logical set-up, with boundaries including inlets, river, uninhabitable mountains, and sparsely settled rural areas; thus, geographically, the area would be complete.

The *per capita* cost of the public-health programmes carried out in the Metropolitan Area is approximately 74 cents. Public health medical and nursing staffs are reasonably adequate with the present programme, there being eleven full-time and two part-time doctors and fifty nurses. (Two Oriental nurses, one Japanese and one Chinese, work in the Units serving their people.) With a total estimated population of approximately 316,000, this allows an average of one doctor per 27,000 and one nurse per 6,300 population. With the possible extension of the programme to do more intensive mental hygiene work and more health education, the addition to the staff of one more doctor and four more nurses would be very helpful. Thought must also be given to the inclusion of a psychologist-social worker and a dietitian to the staff.

In the technical services, including sanitation and food and milk control, the inspectors are definitely below the required number for the carrying-out of efficient inspectional, regulational, and educational work. The very large area covered necessitates considerable travel time, which is, of course, non-productive. The economic restrictions created by world conditions have increased the need in all phases of sanitary work, with a resulting increase in reported nuisances and other insanitary conditions, thus necessitating investigation of individual problems rather than preventive surveys. The *per capita* expenditure for food and milk inspection and sanitation in Vancouver City is approximately 9 cents, which is entirely inadequate.

Clerical assistance is at present reasonably adequate in all parts of the Metropolitan Service.

During 1938, many changes in the personnel occurred. In January, Dr. J. S. Cull, Director of Health Unit No. 4, became Assistant to the Provincial Health Officer. The work in this Unit was covered by a temporary appointment until September, when Roy A. Walton, M.D., D.P.H., was appointed.

* From report of the Senior Medical Health Officer for the City of Vancouver and the Greater Vancouver Metropolitan Health District, Year 1938.

In February, Dr. K. F. Brandon, who was Director of Health Unit No. 3, was transferred to the position of Epidemiologist and Assistant to the Western Branch of the Connaught Laboratories. He was replaced by J. S. Kitching, M.D., D.P.H.

On April 19th, Miss Elizabeth Breeze, R.N., Directress of Nurses, passed away. The loss of Miss Breeze has been keenly felt by all members of the staff. Miss Breeze contributed immeasurably to the efficient organization of the Nursing Service specifically and to the whole organization generally. Miss Aletha McLellan, R.N., Nursing Supervisor of the School Health Division, was appointed temporarily as Directress and has carried on in a most efficient manner. Miss Mary Henderson, R.N., B.A.Sv. Nursing, was appointed as Acting Supervisor in Miss McLellan's position.

In June, Roy H. Fraser, M.D., D.P.H., was appointed Director of the Burnaby Unit and Dr. Wm. Sager was appointed Assistant.

In September, Miss Lyle Creelman and Miss Geraldine Homfray were granted a year's leave of absence for further postgraduate study. Miss Creelman was granted a Rockefeller Foundation fellowship to study at Columbia. Miss Homfray went to Tennessee for her studies.

September 30th brought an end to the very efficient and stimulating guidance of the whole programme by the retirement of Dr. J. W. McIntosh. Dr. McIntosh contributed greatly to the formation of the Metropolitan set-up and was an ever-ready source of ideas to improve the public health. He was succeeded by the present incumbent.

Dr. K. F. Brandon became full-time Assistant and Epidemiologist on December 1st.

The above-noted changes deal only with those in senior positions. Other changes occurred in the staffs, necessitating replacements of individuals who have contributed wholeheartedly and efficiently toward making the programme results effective.

The Division of Child Welfare, including babies and pre-school children, reports increased clinics and attendance in addition to improved work. Reduction in illnesses necessitating hospitalization in the Infants' Hospital is shown by the reduction in admissions to this Institution. Credit in part for this reduction is given to the Metropolitan Health Services, Child Welfare Division.

The Division of School Health reports improvements in all its activities, and reports from school authorities and parents corroborate the findings. Starts were made in studying lighting and ventilation in schools. Public Health Nurses are receiving greater co-operation from parents and Parent-Teacher clubs.

The Division of Communicable Disease Control reports considerably increased numbers of procedures carried out. In Richmond, for example, 85 per cent. of the school children are immunized to both diphtheria and smallpox, and progress is being made in scarlet fever and pertussis prevention.

No serious epidemics were reported during the year. Control of tuberculosis is steadily improving, and progress in venereal disease control is definitely under way. In both these latter groups splendid co-operation is afforded by the Provincial Divisions for these services.

The Division of Food and Milk Control carried on a busy year, maintaining standards previously reached.

The Division of Sanitation not only maintained previous records but improved swimming-pool sanitation control.

The Division of Industrial Hygiene and Cancer Control, grouped for convenience only, showed no progress.

Health education and publicity showed progress in increased papers printed and increased health talks given. Practically all members of the staff are members of various lay and professional groups carrying on health work and in many cases take part in the leadership of such groups.

The laboratory work carried on in the Provincial Laboratories, under the direction of Dr. C. E. Dolman, contributed greatly to the high standard of public-health field-work carried on by the staff.

The reports of the Unit directors show increased activities, both in and out of the Unit offices. All show an appreciation and a perspective promising continued progress. Each Unit serving a different type of public and having individual problems is meeting the situation with gratifying results.

The Senior Medical Health Officer is indeed grateful for the excellent co-operation given by all members of the staff and for the sympathetic understanding and advice given by the Metropolitan Health Committee and the Provincial Health Department, under the leadership of Dr. H. E. Young, who is ever ready to give advice and guidance.

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