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PROVINCE OF BRITISH COLUMBIA

FORTIETH REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

FOR THE

YEAR ENDED DECEMBER 31ST

1936



PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C. :

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

VICTORIA, B.C., March 31st, 1937.

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, 1936.

G. M. WEIR,

Provincial Secretary.

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REPORT of the PROVINCIAL BOARD OF HEALTH.

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B.C., March 31st, 1937.

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

SIR,—I have the honour to submit the Fortieth Annual Report of the Provincial Board of Health of British Columbia for the year ended December 31st, 1936.

In my Annual Report for 1935 I commented, as I had done in years previous, on "the establishment of various branches of the Department to meet the advances in the application of the principles of prevention as applied to public-health work, and have been able from time to time to report advances as shown by results which we have described." It affords me great satisfaction to be able in my present report to enter into a description of the branches of the Department referred to above.

The encouragement that you have given us, Sir, and the financial help to carry out the work has resulted this year in receipt of reports from the departmental branches which are so significant in their application that I am publishing them as a whole. The Divisions of Tuberculosis, Venereal, Epidemiology, Sanitation, Health Units, Laboratories, and allied organizations are dealt with in these reports.

I would particularly commend these reports for careful study. The broad basis upon which the work rests and the elaboration of the efficient means of carrying out all the suggestions offered have, in a collective sense, produced a report of which the Department is very proud.

These reports are professional accounts by competent men of the results of the application of modern methods. Not only this, but through the kindness of our Minister we have been able to embark upon, not only an enlargement of all of the administrative sides of the different branches, but particularly to increase accommodations, and I would commend a reader to Dr. Hatfield's report in regard to the tuberculosis situation in British Columbia. In two years we have made a remarkable change. We are covering the Province entirely, and now we are introducing the same means in regard to venereal-disease control in order to cover the Province, outside of the cities where we have clinics. The Venereal Disease Report is an elaborate one, but in conjunction with the Tuberculosis Report it shows a wonderful advance.

For both these branches we have laboratory service that has not only proved its worth, but has laid a foundation for extension for research-work under the very able direction of the Director, Dr. Dolman, and his co-freres, who, although carrying on research-work for the Connaught Laboratory, are assisting the Province in every way that they can, and the Provincial Board of Health is very sensible not only of Dr. Dolman's services, but of the splendid co-operation that we are receiving from his colleagues.

In regard to our Epidemiologist, we have moved this worker from our offices in Victoria to the work that is being carried on in Vancouver.

One of the most wonderful advances in modern public health, as applied to what is known as the Health Units, has occurred in British Columbia. After some years of work in bringing about some amalgamation of the various municipalities and divisions around Vancouver, an organization was formed to embrace all of the districts in the city and the surrounding municipalities. We have, by this means, brought under immediate control by a trained personnel 47 per cent. of the population of British Columbia. There are six centres presided over by D.P.H. men, with a Public Health Nursing staff, all centred under the Chief Health Officer of the City of Vancouver, with an assistant, who directs the organization. Fourteen new Public Health Nurses were added to the staff; provision made for experts in food, water, sewage; and advisory councils formed of physicians, dentists, and nurses, also of voluntary organizations and a Council of Social Agencies; and, further, a technical advisory council made up of Medical Officers, Supervisors of Public Health Nurses and Public Health Engineering, food, milk, etc. These consulting men are all available for the Health Board as a unit, and fourteen

different Health Boards of municipalities and school districts have been superseded by the reorganization.

There are seven centres of Health Units working together as a whole under the direction of the Metropolitan Health Board. We have included in this the University area with an increase of population during the academic term of over 3,000 people.

This has been begun by way of an experiment in the application of the Health Unit idea to an urban community. We began last November and, judging by the progress made, we are looking forward to the future with a great deal of hope.

I may say that the whole plan has been carried out with the assistance of the Rockefeller Foundation, who have given a very substantial sum of money to be spread over five years. Their contribution followed a thorough examination by their officials, who seemed impressed by the possibilities.

We have opened in the past year two other Health Units, both embracing large districts. In our Medical Inspection of Schools Report for 1935 we gave a full description of the establishment of the first of these Units in the northern part of the Province, and a further report relating to the continuance of the work throughout this area is appended.

This work was greatly aided by the adoption of a policy by our Minister in connection with school districts, abolishing the Boards of School Trustees or keeping them in office in an advisory capacity, and appointing an Official Administrator. This did away with a lot of time used up in pleading with a number of small Boards in a district, as we had to deal with the Administrator only.

The second of these Units was opened in the Fraser Valley, a magnificent agricultural district, and embraces three municipalities. Here the same method has been followed, with a Medical Officer, four Public Health Nurses, Dentist, all under an Official Administrator.

In both of these districts, north and south, we opened a campaign for dental work. We carried it out in the north at the expense of the Department, but in the south there was equal division of the cost, and we are including a report from the Superintendent of Women's Institutes which describes the organization in the southern district, and also an interesting letter from one of the dentists. This material is included in this present report.

The public-health nursing-work is continuing with most excellent results. We find difficulty now in providing a trained personnel, and in this connection I beg leave to say that the policy determined on, in British Columbia, for the public-health work of the future is that a trained personnel only will be employed. The facilities are provided for such training, and with the impetus given to the work in the Province as a whole the nurses and younger medical men are both now regarding the public-health practice and the public-health nursing as established specialties in their profession.

With the work that is being carried on under the Social Security Bill in the United States, where they are adopting the same plan of the principle of a trained personnel, the last two years may be considered as banner years in public health in North America.

We really feel that the lean years are over and it has been because we have concentrated on public education. You must educate the public before they will co-operate. We have followed this plan with most gratifying results.

The Vital Statistics Division has increased its usefulness to a very great extent and modern machinery for statistical work has been provided. Many of the other departments in the Government are coming to the Vital Statistics Division, more especially in regard to reorganization of their own methods.

Unfortunately, the increase in the work and the increase in the demands have not been met by a corresponding increase in regard to the facilities to meet this demand. We are understaffed, overworked, and have not the space in our offices by 100 per cent. that we require, and I would earnestly beg to draw attention to this fact. The staff is lower but meets any reasonable request that is made for overtime, which occurs rather frequently, and I would suggest that such hampering in regard to our ordinary work in the Department does not lead to efficiency.

The splendid progress that we have made, Sir, is due entirely to your efforts and encouragement, and it has been a great pleasure indeed to feel that our efforts are appreciated and that advances are being made.

To the members of the staff I feel greatly indebted for their painstaking work and thoroughness with which they carry out the ordinary duties and their keenness in evincing a desire to carry out the work for the work's sake. These comments apply to every one in connection with our Department.

We wish to repeat what remarks we have made in the past in reference to our sense of obligation to the Provincial Police of British Columbia under the Commissioner. They have been a tower of strength to us in reaching very often inaccessible places or sparsely settled districts from which we receive complaints. We can assure the Commissioner that we are deeply appreciative of the work of the Provincial Police in aiding us.

I have the honour to be,

Sir,

Your obedient servant,

H. E. YOUNG,

Provincial Health Officer.

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

	1934.	1935.	1936.
Smallpox vaccine (points).....	4,650	8,631	5,817
Diphtheria antitoxin (units).....	4,689,000	2,600,000	4,181,000
Diphtheria toxoid (doses).....	1,793	2,991	3,767
Schick test for diphtheria (pkgs.).....	64	58	89
Scarlet fever antitoxin (prophylactic) (pkgs.).....	841	357	880
Scarlet fever antitoxin (treatment) (pkgs.).....	281	151	324
Dick test for scarlet fever (pkgs.).....	60	51	248
Scarlet fever toxin (for active immunization) (doses).....	386	863	2,637
Typhoid vaccine (doses).....	390	461	1,044
Tetanus antitoxin (units).....	437,000	1,398,500	774,000
Anti-meningococcus serum 20 c.c. (pkgs.).....	82	73	117
Pertussis (whooping-cough) vaccine (pkgs.).....	126	52	46
Rabies vaccine (treatments).....	4	-----	-----

We append an account of approvals for sanitary works during the year 1936:—

Cemetery-sites approved.—Ocean Falls, Ganges (Caldwell, private), Fraser Lake, and Ootsa Lake.

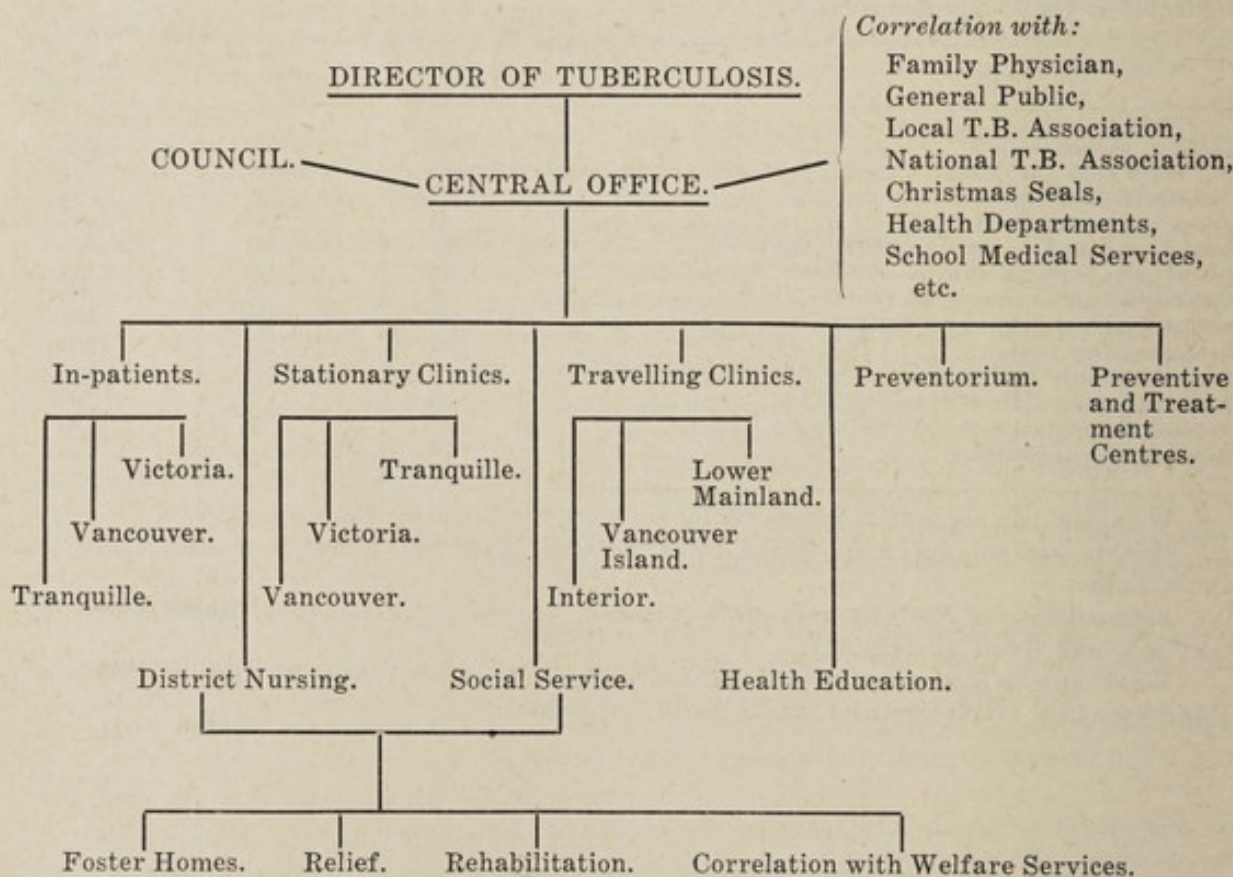
Sewage-disposal Systems approved.—Creston, Vancouver (extension), Maple Ridge (extension), and Trail (extension).

Water-supply Systems approved.—Lillooet, Trail (extension), Saanich (extension), North Vancouver City (replacements), and Alberni (renewals).

GENERAL REPORTS.

REPORT OF TUBERCULOSIS DIVISION OF PROVINCIAL
BOARD OF HEALTH.

The close of the year 1936 sees the Tuberculosis Division better equipped and better organized to face the problem of tuberculosis-control in the Province. Further co-ordination has been produced between the various Units, branches of the Division, and many new and important developments have taken place. All members of the Division have enthusiastically co-operated in every aspect of the work and the organization is now working with greater efficiency than it has at any time in the past. The medical profession has continued to give whole-hearted co-operation, and the assistance given by many organizations throughout the Province during the year is an evidence of the great community consciousness that there is in British Columbia to-day of the tuberculosis problem. Many additions and some changes have been made in the set-up of the Division. The accompanying plan depicts the organization as it exists at the present time.



Council.—Director of Tuberculosis Control, Provincial Health Officer, Deputy Provincial Secretary, Director of Social Welfare, Superintendent of Residential Institutions, Physicians in charge of Clinics.

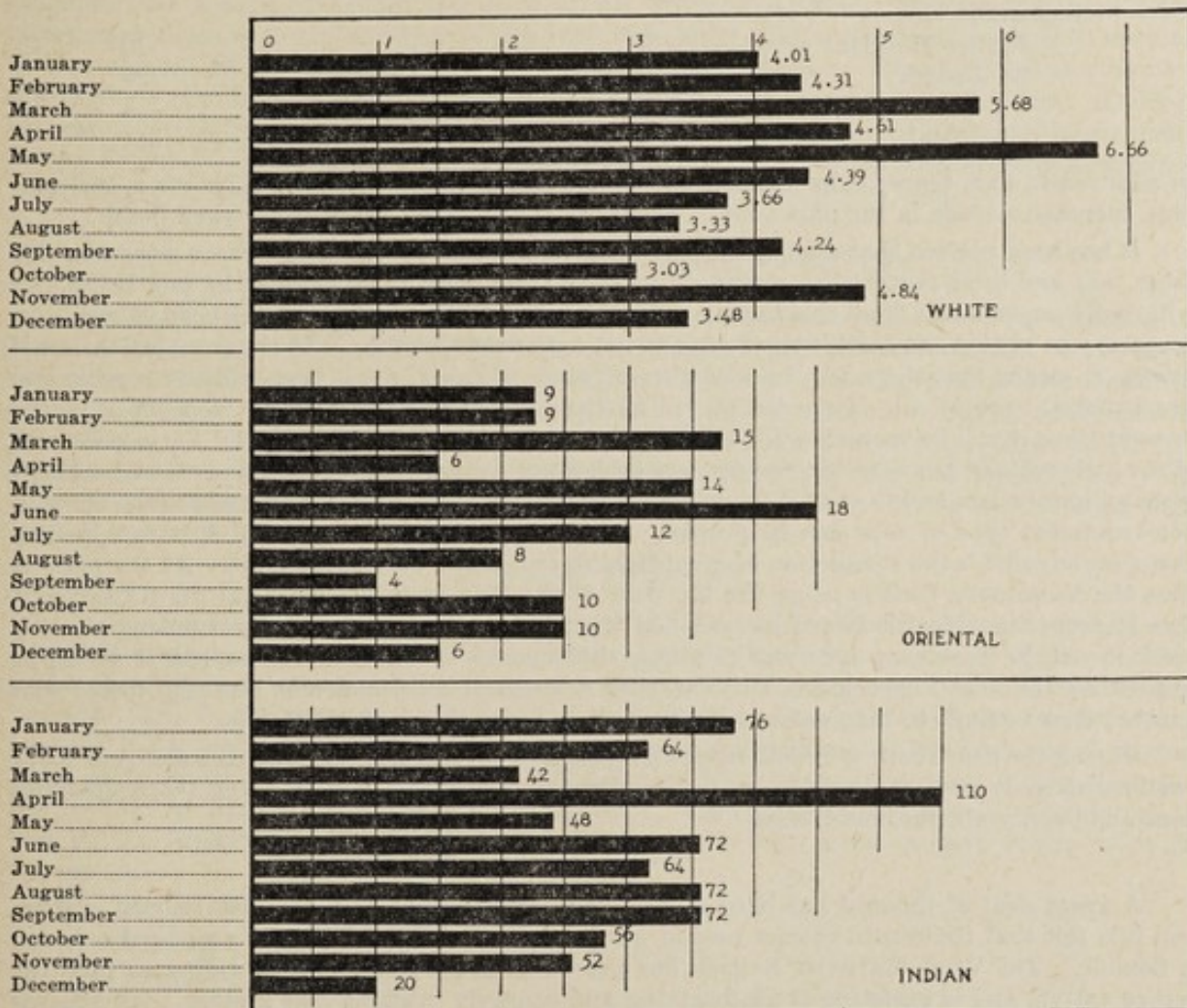
CENTRAL OFFICE.

The energies of the Central Office have been devoted to planning the work of the whole Division, recording known cases, new cases and deaths, studying the ratios between these, setting up an adequate record system, making epidemiological studies from these records, planning increased bed accommodation and increased turnover of beds, studying such problems as the high rate of tuberculosis amongst Indians, the transient, reciprocal arrangements between other Provinces, development of a co-ordinated District Nursing Service, planning the Social Service side of the Division, correlating the work of the Division with the newly

established Metropolitan Health Board and Division of Venereal Disease Control, establishing Preventive and Treatment Centres, initiating special surveys, rehabilitation and educational work.

At the end of the year our records reveal that there are 4,157 known cases of tuberculosis in the Province, 1,393 new cases reported during 1936, and 592 deaths. This is a ratio of 2.35 new cases to each death and a ratio of 7.02 known cases to each death. The accompanying chart shows the monthly death-rates for the year 1936, divided into White, Oriental, and Indian.

DEATH RATES PER 100,000 FOR THE YEAR 1936.



The central Office now publishes a Monthly Bulletin, depicting the work of the whole Division for each month, indicating the new cases, deaths, ratio of known cases to deaths and new cases to deaths, and the changes in development in each Unit. A Monthly Abstract Bulletin is also published. Each doctor in the Division submits abstracts from a medical journal each month, these being compiled and distributed to each member of the Division. During the year the Central Council held two meetings. Detailed reports of these meetings have been published showing the way in which the Central Council has aided in the development of the whole tuberculosis programme.

BED FACILITIES.

One of the major developments of the whole tuberculosis programme has been the erection of a large new building in Vancouver which houses our Central Headquarters and a large up-to-date diagnostic clinic for the Lower Mainland Area and additional bed capacity. Favourable comment has been received from many sources on the plan of this building. It is working out ideally from every aspect and has become the hub of the anti-tuberculosis work for the

whole Province. A Convalescent Home of twenty-six beds had been opened in Vancouver, and the total capacity of the Victoria Unit had been increased to sixty beds, by taking over the Tuberculosis Unit at St. Joseph's Hospital. The total bed accommodation of the Province is as follows:—

Tranquille Sanatorium	332
Main Unit, Vancouver	151
Isolation Hospital	36
St. Joseph's Hospital (Oriental)	46
Convalescent Home	26
Victoria—	
Jubilee Hospital	40
St. Joseph's	20
Total	651

In addition to this, there is the Vancouver Preventorium with forty beds. This is a 16.7-per-cent. increase of beds in the past year. There is now provided 1.5 beds for each death.

It has been noticed that during the year there were 1,000 new cases. There were also 204 cases that had to be readmitted, making a total of 1,204 cases to be handled by our Units. It will easily be apparent from this that in order to make 1,204 cases fit into 651 beds, it would be necessary to reduce the institutional stay to not over seven months. If this conclusion is not drawn, it means that there will be a number of cases of tuberculosis that will not receive any institutional care at all. In order to reduce the institutional stay below what it is at the present time, it will be necessary for the Province to further develop the Social Service Branch of the Tuberculosis Division to provide more assistance for the tuberculous case after discharge from an institution, and to erect a convalescent unit of, say, 100-bed capacity where the chronic, non-treatment type of case can be properly handled. The main other need from an institutional standpoint is the completion of a surgical floor for the Vancouver Unit. At the present time the Vancouver Unit is using the top floor of the City Isolation Hospital for its surgery. The Metropolitan Health Board has notified the Division that with the development of their work it may be necessary for them to utilize this space. If this were to happen it would be imperative that the Tuberculosis Division have a surgical unit, and it is strongly urged that another floor be built to the present existing unit to make this a complete one.

During the year there were 591 cases admitted and 497 discharged. During the year 8,587 pneumothorax treatments were given to in-patients. There were thirty-seven thoracoplasties done and twenty-six phrenicotomies.

RECORDS.

A great deal of thought has been given to the development of a complete record system, and it is felt that the record system now in use is complete, is satisfactorily standardized, and is flexible. The Vital Statistics Branch has proved of great help, both in aiding to plan the record system and in assisting in maintaining and properly utilizing this system. All records of the Division now go on punch-cards, this work being done by the Vital Statistics Branch, so that any phase of the work at any time can be rapidly analysed, both from an administrative and a scientific view-point. It is now possible for any member of the Division to make a complete analytical study of any phase of the tuberculosis-work. It is hoped that the opportunity thus provided will stimulate the writing of scientific papers for publication. The records also permit a complete epidemiological study of the tuberculosis problem as it exists at any given time in British Columbia, thus pointing to where and when the Tuberculosis Division should concentrate its efforts.

CLINICS.

(a.) *Stationary Clinics.*—There now exists three stationary clinics in British Columbia—one in Victoria, one in Vancouver, and one at Tranquille. The largest clinic is, naturally, the one situated in the largest centre of population, Vancouver. This clinic is housed in the new building and is completely equipped to undertake any diagnostic or treatment work from the standpoint of tuberculosis. Besides chest diagnosis other services, such as eye, ear, nose, and throat, bronchoscopy, genito-urinary, dentistry, and quartz lamp are available at this Unit.

All told, during the year, 13,004 cases were examined, 9,500 X-rays were taken, 84 lipiodol injections were made, and 2,506 pneumothoraces were done. The other specialists' services mentioned were inaugurated toward the end of the year and daily are being used more extensively.

(b.) *Travelling Clinics.*—The Division now has three travelling clinics, one radiating from Victoria covering Vancouver Island, one radiating from Vancouver, covering the Lower Mainland and Coast, and one with Headquarters at Kamloops covering the Interior.

The educational activities of the Division and the institution of tuberculin-testing programmes has greatly increased the work of the Travelling Clinics. During the year 6,403 cases were examined. In addition to this, the Travelling Clinics did four surveys in various areas—namely, Kamloops, Kelowna, Prince Rupert, and Steveston. These clinics have become increasingly popular and many communities have asked for more visits by the clinics. Another increase of work, particularly in the Interior, has been the institution of a silicosis programme by the Province. It is quite apparent that the time has come for the establishing of another Travelling Clinic to aid in the work throughout the Interior of the Province.

PREVENTIVE AND TREATMENT CENTRES.

There has now been established five Preventive and Treatment Centres. The function of these centres is to do pneumothorax on cases discharged from institution, to aid in the early reporting of tuberculosis, to do the health educational work of the district, to help establish better methods of case-finding for that area, and to initiate tuberculin-testing programmes. The centres so far established are Prince Rupert, Trail, Kelowna, Nelson, and Ladysmith. Thought has been given to establishing further Preventive and Treatment Centres, the work of those already established proving that benefit could be obtained by having several more such centres in British Columbia.

SPECIAL SURVEYS.

In an attempt to establish better methods of case-finding, special surveys have been conducted in various parts of the Province. Two types of such surveys have been done: (1) The tuberculin-testing of school-children, X-raying the positive children, and following the positive reactors back to the home in an endeavour to find where the child received the infection; and (2) industrial surveys, X-raying the employees of a firm where it has been noted several cases of tuberculosis have been found. All told, twelve surveys were done in the Province during 1936, as follows: Victoria, 1; Vancouver, 7; Kamloops, 1; Kelowna, 1; Steveston, 1; and Prince Rupert, 1. The total number of tuberculin tests done in each centre were as follows:—

Vancouver	2,750
Victoria	49
Kamloops	253
Kelowna	1,919
Steveston	202
Prince Rupert	886
Total	6,054

The number of X-ray examinations done were:—

Vancouver	594
Victoria	19
Kamloops	190
Kelowna	237
Steveston	114
Prince Rupert	183
Total	1,337

The number of new tuberculosis cases found were as follows:—

Vancouver	13
Victoria	1
Kamloops	12
Kelowna	19
Steveston	3
Prince Rupert	4
Total	52

SOCIAL SERVICE AND DISTRICT NURSING.

A Supervisor of Tuberculosis Social Service was appointed during the year and plans have been made for the appointment of a Supervisor of Tuberculosis District Nursing. These two will work as a team handling the public-health and social-service problems of the various cases. The Division has always felt that the social-service side of the tuberculosis-work was one of the most important aspects, and during the year many studies have been made from this standpoint with suggestions as to how this branch could adequately function. These have been reported in the Monthly Bulletins and in the Central Council Reports. The District Nursing and Social Service Branch has also thoroughly studied the question of records and has endeavoured to co-ordinate their record system with those of the other areas of the Province, including the new Metropolitan Health Board. At the present time every patient on admission is investigated from a social standpoint. An attempt is then made to adjust the family circumstances and the social-service report is sent to the Unit to which the patient is admitted. Again on discharge an attempt is made to adjust the social circumstances of the family. This has been difficult in many instances, due to an inability to find funds to adequately look after the cases after discharge from an institution. The Division must continue to reiterate that some means must be provided to adequately look after the discharged case, so that the initial investment made in treatment will not be lost by the patient breaking down, due to adverse social circumstances.

SILICOSIS PROGRAMME.

Silicosis has now become a compensatable disease in British Columbia. Many cases of silicosis have developed tuberculosis and have become permanent chronic disabilities, having to be handled in the Units of the Tuberculosis Division. The Tuberculosis Division, therefore, is attempting to co-operate with the Workmen's Compensation Board so as to facilitate the examination of underground workers throughout the Province. It has been estimated that there are approximately 5,000 underground workers. It has been deemed by the Division a very fertile field for carrying on a tuberculosis-prevention programme. It is therefore planned to examine all these underground workers during the coming year to determine the number of cases with silicosis and to eliminate any active tuberculosis from this group.

THE INDIAN PROBLEM.

The programme of the Tuberculosis Division includes the whole population of British Columbia except the Indians. The Indian population comes under the control of the Indian Department of the Dominion Government. Compared with the population of the Province, the Indian death-rate from tuberculosis is startlingly high. It seems unfortunate, therefore, that a programme of tuberculosis-control comparable with that devised for the rest of the Province has not been planned and put into effect for the Indian population. The death-rate per 100,000 population for Indians in British Columbia during 1936 was 702, compared with a white death-rate of 52 and an Oriental death-rate of 121. It has also been noted that 58.52 per cent. of all deaths from tuberculosis amongst the Indians were persons under 20 years of age. It is herein strongly urged that some real effort should be made to bring about a control of tuberculosis amongst the Indian population.

REHABILITATION.

The Tuberculosis Division has thoroughly studied the problem of rehabilitation. This is undoubtedly a problem of some magnitude, but a start has been made in an attempt to face

the situation. In Vancouver there is being erected by a co-operative endeavour a new building which will be called the Vancouver Occupational Industries. Chronically handicapped individuals, such as those who are suffering from tuberculosis, who cannot return to their ordinary occupation, will be given an opportunity through this industry to rehabilitate themselves. This group will only be able to handle a small number of patients, but the experiment will be one of great interest. In addition to this, the various Divisions are attempting to give occupational training to patients while in institution. Some of this training is purely educational, utilizing the correspondence course of the Department of Education, and others the strictly handicraft activities. It is hoped, as time goes on, to provide further opportunities for these patients along these lines. The establishment of a Convalescent Institution will be another step towards a satisfactory development of a real rehabilitation programme.

HEALTH EDUCATION.

Many pamphlets have been distributed throughout the Province during the past year. New ones have been printed, and a new booklet entitled "Lessons in Tuberculosis for School Children and Their Parents" has been prepared and will be ready for distribution early in the year. Educational lectures have been given to many groups throughout the Province, and it is of interest that frequent requests come from many sources for health talks. During the year the Tranquille Tuberculosis Society has been succeeded by the B.C. Tuberculosis Society. The "Tranquillian" magazine has been supplanted by a new magazine entitled "Your Health." This new magazine is now the official organ of the B.C. Tuberculosis Society, and a real attempt is being made to build this paper up so that it will have a real educational value throughout the whole Province. Exhibits have been prepared and during the summer months a large exhibit was held in the Vancouver Hotel in conjunction with the meeting of the Public Health Groups in that city. Many new lantern-slides have been made and these are catalogued and are available for distribution to any area in the Province for lecture purposes.

PREVENTORIUM.

The Vancouver Preventorium, while run under a separate Board of Directors, works in close co-operation with the Tuberculosis Division. All admissions go through the Central Admitting Office of the Tuberculosis Division and monthly conferences are held on each case at the Vancouver Unit. During the year sixty-four children were admitted to the Preventorium and sixty were discharged. This makes a total of 264 children handled in that institution since it was first opened in 1931. The present bed capacity is forty.

The Tuberculosis Division wishes to acknowledge the assistance that has been given by various organizations and individuals throughout the Province. Among these are the Vancouver Rotary Club, the Junior League of Vancouver, the Kinsmen Club, the Imperial Order Daughters of the Empire, the Tuberculosis Division of the Greater Vancouver Health League, the Kwannon Club, the Board of Directors of the Preventorium, the Board of the Vancouver General Hospital, the Boards of the St. Joseph's and Jubilee Hospitals in Victoria, the B.C. Tuberculosis Society, the Metropolitan Health Board, the B'nai B'rith, and the Medical Associations throughout the Province, and many persons who have individually contributed in one way or another.

The Division has also appreciated the sympathetic consideration and help given by other governmental services. The work that has been done in the past year would not have been possible without the enthusiastic co-operation of all the members of the staff, and grateful acknowledgment is made of their devotion and untiring energy on behalf of the work of the Division. The Division also appreciates the consideration, interest, and understanding that has always been exemplified by the Honourable Dr. Geo. M. Weir; Dr. H. E. Young, Provincial Health Officer; Dr. H. M. Cassidy, Provincial Director of Social Welfare; and Mr. P. Walker, Deputy Provincial Secretary.

W. H. HATFIELD, M.B.

Director, Tuberculosis Control Division.

REPORT OF DIVISION OF VENEREAL DISEASE CONTROL.

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

Provincial Health Officer, Victoria, B.C.

SIR,—While the Division of Venereal Disease Control has existed as a distinct unit of the Provincial Board of Health for only six months, I feel that we may be justifiably pleased with the marked advances in this work to date.

Due to somewhat limited facilities, the extent of previous organized efforts to combat the spread of venereal diseases had been chiefly restricted to the two principal urban areas—Victoria and Vancouver. Our range of activities now, of course, covers the entire Provincial field, and it is our hope that when the next annual report is submitted we shall have a well-organized, comprehensive programme in operation. Some of the major changes and improvements which have been instituted since my appointment, last October, as Director of the Division are outlined in the following reports.

VANCOUVER CLINIC.

The premises occupied by the clinic at the Vancouver General Hospital have been greatly enlarged to provide more spacious accommodation for treatment. The exterior of the building has been painted; improved lighting fixtures have been installed; the general waiting-rooms have been arranged to provide greater comfort for the patients; and while the building is by no means an ideal one, we have succeeded in reducing to a minimum the forbidding appearance which characterized it for so many years.

Detailed reports concerning the increased attendance are to be found elsewhere.

It is extremely interesting and significant to note that in the *male clinic alone* 293 patients have received spinal-fluid examinations over a period of five months—October, 1936, to February, 1937—as against *twelve* for the same period in 1935–36, the results of which are evidenced by the large Neuro-syphilis Clinic under the direction of Dr. S. E. C. Turvey. To thus determine and arrest the course of neuro-syphilis in so many cases is in itself a major contribution.

The amount of treatment has increased very considerably, as indicated by the following table:—

Five Months immediately preceding October 1st, 1936.

	ARSENICALS.		BISMUTH.		TRYPARSAMIDE.	
	Male.	Female.	Male.	Female.	Male.	Female.
May.....	273	141	125	39	24
June.....	222	133	66	29	15
July.....	317	170	90	26	35	8
August.....	334	155	140	32	49	11
September.....	273	194	121	22	38	2
Totals.....	1,419*	793	542	148	161	21

Five Months immediately following October 1st, 1936.

October.....	194	153	422	228	21
November.....	211	192	631	415	42	14
December.....	254	218	886	526	114	14
January.....	356	247	776	466	126	27
February.....	450	341	744	346	210	41
Totals.....	1,465†	1,151	3,459	1,981	513	96

* 606 (Diarsenol).

† Mapharsen.

EDUCATIONAL.

Appreciating the need for an informed public if we are to achieve maximum results in our work, we have given special attention to planning the distribution of suitable literature. Among the pamphlets which are now available to the general public (particularly to such professions as teaching, where the sphere of influence is extensive) are:—

- "Facts about Gonorrhœa."
- "Facts about Syphilis."
- "The Venereal Diseases," by Rice.
- "Why Don't We Stamp out Syphilis," by Parran.
- "Instruction Regarding Syphilis."
- Etc., etc.

A talking-film, "For All Our Sakes," is now owned by the Division, and will be shown in different parts of the Province during the coming year.

Several publications of special interest to the medical profession have been secured or printed by the Department for distribution to the physicians throughout the Province. These include:—

- "A Manual of Information for the Physicians on the Treatment of Syphilis" (American Medical Association).
- "Neuro-Syphilis," by Peterson and Hossack.

It will take some time to properly develop a programme to tactfully and soundly educate our citizens to an appreciation of the seriousness of the venereal-disease menace and to an understanding of the important elements in its control—but it can and will be accomplished.

STATISTICS.

The lamentable lack of statistics covering the venereal-disease situation in Canada, and British Columbia in particular, hampers our progress to no little extent. This, however, is being currently dealt with, and with the close co-operation of the Vital Statistics Department we hope to secure valuable data which will not only assist us immediately in our work, but will serve as a yard-stick of progress in the future.

SERVICES.

In addition to providing the local (Vancouver) clinic with vastly improved facilities for the treatment of neuro and congenital syphilis through the establishing of such clinics under the very competent direction of Drs. S. E. C. Turvey and E. Johnston Curtis, respectively, the Department is able to offer a Province-wide consulting service to the physicians on these specialized subjects. In addition, the Director's services are available to the profession in a consulting capacity.

REPORT OF THE NEUROLOGICAL SECTION OF THE DIVISION OF
VENEREAL DISEASE CONTROL.

The following is submitted by S. E. C. Turvey, M.D., Consulting Neurologist:—

"There have been four months in which complete neurological and physical examinations have been done on all those who have syphilis in the vital organs. Working at first, in cramped and filthy quarters, with patients who almost invariably were resentful of former experiences in the clinic, with very incomplete past histories and no equipment, there has been an amazing change already. Thus, the quarters are clean and at least have a nice smell, even though they are not finished yet; the patients are highly co-operative, and whereas we used to have difficulty in persuading patients to transfer to the clinic from the Out-patients' Department of the Vancouver General Hospital, they are now very willing to be transferred; the histories and records are as complete and orderly as one could wish. Proper equipment has been ordered and will soon be in use. The percentage of uncured and more or less incurable cases would be depressing if it was not for the large number of very early cases of neuro-syphilis that we are searching out, finding them in the asymptomatic stage. Some eighty cases are receiving weekly treatments with the special drug for neuro-syphilis, and a constant check is kept on them to see that that drug does not damage their eyes. Yet there must be 400 or more that need this medicine and need examinations.

"It seems useless to reiterate that beds for malarial therapy are urgently necessary, but to see young men deteriorating mentally each week when this could be prevented is not a nice sight. The enormity of the wrong these people suffer makes the responsibility a great one for those who might be able to provide these beds at once.

"The amount of work to be done is unlimited, but so is the willingness to do that work. And there is always the hope that in five or ten years we will have nearer 90 per cent. cures than the 1 per cent. at present."

INTERIM REPORT OF THE PEDIATRIC SECTION OF THE CONGENITAL SYPHILITIC CLINIC.

The following is submitted by E. Johnston Curtis, M.D.:—

"It is to be recorded that a clinic for syphilitic babies (birth to 2 years) had been established at the Infants' Hospital Division of the Vancouver General Hospital in 1930.

"This clinic was instigated by that pediatric department who felt that much harm was being done by a *laissez faire* attitude toward infant syphilitics in Vancouver. The work was of a voluntary nature by the writer and continued until the establishment of the present Pediatric Division at 2700 Laurel Street.

"Approximately sixty-eight infants passed through that clinic in six years. There were twenty of this number who received full courses of treatment for syphilis with no interruption and were cured. The remainder 'strayed' or were lost by removal from the city or non-attendance (there was no available follow-up system), and others were followed who were considered to have the disease but in whose parent the disease had been arrested or cured. Several others had been indifferent in attendance. No deaths occurred. X-ray study of the bones was frequently made for evidence of syphilis in these babies.

"In the last two and one-half years acetarsone (stovarsol) became the routine choice of treatment. The results of this treatment have been entirely satisfactory. The results here obtained and the frequency of syphilitic infection amongst the mothers of the V.G.H. maternity (public) wards was made the subject of a paper by the writer before the Canadian Medical Association on June 24th, 1936, in Victoria.

"On October 28th, 1936, the first clinic for congenital syphilis (children 15 years and under) was held at 2700 Laurel Street between 5 and 6 p.m. As the attendance was small, it was decided that the clinic would be held from 5 to 6 p.m. each Wednesday. The attendance and new cases have grown by leaps and bounds. For the last month it has been found necessary to begin the clinic at 4 p.m. There were thirty syphilitic in attendance at the last clinic, besides several children who were in only for investigation.

"There is one baby (now 16 months old), a left-over from the Infants' Hospital Clinic; there are now also attending several who had 'strayed' or were lost from that clinic but were found and brought here by this Social Service Department. In all, 112 children have passed through the clinic for examination, of whom thirty-three have been admitted for treatment and are now attending regularly. Ninety per cent. of the children attending are over 6 years of age. All forms of congenital syphilitic manifestations are evident amongst the regular attendance. There are several cases of syphilitic interstitial keratitis. It is very encouraging to note that two of these children who were practically blind in December, 1936, can now see with nearly normal vision. The others have improved greatly. There are a considerable number of children showing neurological signs of syphilis, and a few with optic atrophy.

"There are twenty in whom it would be advisable to take a spinal fluid Kahn. So far there are no facilities for performing a lumbar puncture. In several children where there has been some reason to suspect syphilis, a thorough investigation (no spinal fluid, however, was taken) has been made and no evidence of syphilis was found. Some of them have been under 2 years of age.

"It has been considered advisable to treat all children under 6 years of age with acetarsone (stovarsol) and mercury. In those over 6 years neoarsphenamine and mercury or bismuth are being used in appropriate dosage, together with potassium iodide where indicated."

SOCIAL SERVICE.

The following is submitted by Ursula Whitehead, R.N.:—

"The Social Service Department, which came into being on October 1st, 1936, with the appointment of a social worker, now consists of a supervisor and one assistant woman worker,

appointed November 16th; two attendance clerks and a full-time stenographer, appointed March 2nd. The work of this department has grown very rapidly and should continue to do so, since one of its main tasks is to find new cases, of which there appears to be an almost inexhaustible supply.

"Its functions at present are chiefly those of attendance-control, case-finding, examination of contacts, and education. Later it is hoped there will be time for dealing with the social problems of this group, approximately 60 per cent. of whom are unemployed and in many cases in need of social case work.

"*Work accomplished.*—In the reorganization of the clinic the task of developing co-ordinative procedures has fallen, perhaps somewhat logically, on the Social Service Department. The establishment of these measures has taken up a considerable amount of time, which later should be available for development of the organization, extraneous to the clinic, which is so essential for successful follow-up work, both locally and provincially. So far little has been done along this line except to establish satisfactory relationships with associated health and social agencies. All the agencies contacted have been most co-operative and, it is felt, will undoubtedly prove of great help in working out the problem of control to the full. Many health and social agencies have already referred cases and persuaded lapsed patients, who are their clients, to return to the clinic for treatment.

"The policy of using the Social Service Department as the avenue through which patients are admitted and discharged from the clinic has been established. The following figures show the numbers of new patients alone who have already or will, in the near future, pass through this department. Part of the increase shown may rightfully be attributed to the policy of taking social histories on all new admissions and, wherever possible, on patients previously admitted. This procedure can be applied satisfactorily in the Women's Division at present, but is not carried out at all adequately in the Men's Division, owing to lack of workers. Hence the greater increase in the number of admissions in the Women's Division. It is interesting to note that such a procedure carried out on the patients who were attending prior to October 1st, 1936, has resulted in a very large increase of contact examinations and resultant new cases, as shown in the following survey. These findings were collected for two corresponding periods in different years and are set forth on a comparative basis wherever the findings permit.

"Total Number of Admissions and Examinations.

"October 1st, 1935, to March 1st, 1936, 673; October 1st, 1936, to March 1st, 1937, 892. Percentage of increase, 32 per cent.

	Oct. 1st, 1935, to March 1st, 1936.	Oct. 1st, 1936, to March 1st, 1937.
Men's Division	538	596
Analysis of above—		
New S. cases	98	143
New G. cases	300	313
Transient cases	140	140
	538	596
Women's Division	135	296
Analysis of above—		
New S. cases (women)	47	99
New S. cases (children)	1	15
New G. cases (women)	87	81
T. cases (women)	Unknown	54
T. cases (children)	Unknown	47
	135	296

"*Analysis of Attendance per Week, taken from March 1st to 5th, inclusive.*—Men, 653. Monday, 110; Tuesday, 147; Wednesday, 166; Thursday, 91; Friday, 139.

"Women, 282. Monday, 34; Tuesday, 78; Wednesday, 58; Thursday, 40; Friday, 72.

"Total weekly attendance, 935; average daily attendance, 187.

"*Contact-finding*.—Contacts examined, 150; contacts to be traced (names already obtained), 80; total, 230.

"*Identifying Information obtained*.—Social histories taken, 310; new address obtained, 800; interviews taken, 930; referrals to other clinics and physicians, etc., 25.

"*Transportation Allowances (monthly)*.—Provincial Relief, 40; Vancouver City Relief, 284; other Relief Departments, 24; Clinic Funds, 34.

"*Follow-up Letters*.—Men's Clinic, February 5th to March 1st, 1937: Letters sent out, 75; patients reclaimed as a result, 35; letters returned (no other information obtainable), 3.

"Women's Clinic, November 20th, 1936, to March 1st, 1937: Letters sent out, 350; satisfactory results (reclaimed, receiving treatment elsewhere), 115; letters returned (to be traced), 80.

"Other letters *re* patients, 150.

"The following improved methods of clinic administration have been adopted: Recording of actual cases attending so that the size of the clinic may be kept at that commensurate with efficiency. A control system of attendance and follow-up procedure has been established to such a degree that many patients now voluntarily notify the clinic when they are unable to attend. Requests have been received from private physicians to help them in their follow-up procedure and several notices of lapsed cases have been sent in. Patients leaving the city or Province are now referred to other clinics and doctors and a record of their reinstatement under treatment is obtained.

"The fourth function of the Social Service Department—namely education—has been carried out to quite an appreciable extent. This has been done not only among patients and staff, but also with students who have been referred for experience. These include nursing students from the Vancouver General Hospital registered for a month's experience in social service, arts students from the University of British Columbia undertaking a project on venereal-disease control, and in the near future students in social service from the above-mentioned University.

"The greatest problem appears to be that of co-ordinating venereal-disease control with the existing health and welfare agencies. This matter, so far relatively untouched, will under the new arrangements doubtless prove less formidable.

"Perhaps the most satisfying piece of work done by this department has been the building-up of a children's clinic from one or two children to a regular attendance of between thirty and forty. Over and above this number, 112 children have been examined since October 1st, 1936, seventy of whom have been discharged as having no evidence of venereal disease.

"The foregoing report has shown what has been accomplished in the department's formative period when the pressure of work undoubtedly hindered the establishment of definite policy. Much better results may be expected and should be obtained in the near future when the Provincial plan is set in motion."

As mentioned before, a good deal has been accomplished in the short time since the creation of the Division, and much remains to be done.

I sincerely believe, with the continued co-operation of the various departments of the Provincial Government and the medical profession, that rapid strides will be effected within the next year.

Respectfully submitted.

S. C. PETERSON, M.D.,
Director.

EPIDEMIOLOGICAL REPORT.

VICTORIA, B.C., November 2nd, 1936.

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

SIR,—I have the honour to submit herewith a report of the epidemiological work for the first nine months of 1936. The reason for presenting the report at this time is that I have received an appointment with the recently formed Metropolitan Health Board of Vancouver and am relinquishing my duties as Epidemiologist with the Provincial Board of Health.

You will notice by the figures given below that there has accumulated a rather large total of infectious diseases, although on analysis these are not so startling as they might seem. A few years ago, when an epidemic of one or other of our less important infectious diseases occurred, few of the cases were reported to the respective Health Officers, and the recorded number looks small when compared with present records compiled from a much superior system of reporting cases. This may be taken as a matter for congratulation, as, in my opinion, it shows the general results of our health education. People are becoming more health-conscious, and are apparently co-operating better with the health authorities in reporting and in attempted control of these plagues. It may also show greater efficiency and organization on the part of the respective health-workers in collecting information and forwarding it to this Department.

REPORTABLE DISEASE INCIDENCE BY MONTHS, BRITISH COLUMBIA, 1936.

Disease.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Actinomycosis				1							1		2
Anthrax													
Botulism													
Cancer	4	138	57	73	91	78	78	65	50	84	59	78	855
Cerebrospinal meningitis	1		2	1	5	5		1		1	1		17
Chicken-pox	359	348	203	156	292	100	111	50	59	383	392	508	2,961
Cholera, Asiatic													
Conjunctivitis	4	5	14	2	26	20	2	2	15	33	15	31	169
Diphtheria		6	5	1		1	2	1		6	4	5	31
Dysentery (all forms)								2					2
Encephalitis	1											2	3
Erysipelas	14	7	11	11	16	7	9	11	12	21	21	18	158
German measles	534	1,023	2,504	3,142	2,975	433	55	25	9	96	93	84	10,973
Influenza	64	409	1,211	1,589	121	27	15	10	4	7	23	18	3,498
Leprosy													
Malaria													
Malignant oedema													
Measles	467	525	594	308	239	126	112	61	42	234	979	2,252	5,939
Mumps	703	745	612	424	441	268	63	76	73	166	421	212	4,204
Paratyphoid fever					1	2							3
Pellagra													
Plague													
Pneumonia (lobar)	16	28	23	16	12	4	18	5	7	11	14	10	164
Pneumonia (broncho)	6	17	12	11	17	4	11	2	2	8	14	12	116
Pneumonia (unspecified)	1	3	4	7	4	4	2	1	2	4		6	38
Poliomyelitis				1			2	6	2	10	3	3	27
Puerperal septicaemia	1	1	1		1				1	1	1		7
Rabies													
Rocky Mountain spotted fever							2						2
Scarlet fever	149	169	104	70	93	47	44	24	45	145	162	112	1,164
Septic sore throat	28	21	7	22	39	10	9	4	5	11	12	9	177
Smallpox	2		1										3
Tetanus	1						1						2
Tick paralysis													
Trachoma	12	2	6	2	5	5	4	7	4	15		9	71
Trichinosis													
Tuberculosis	59	66	67	78	114	69	81	63	71	87	40	58	853
Typhoid fever		4	3	4	2	8	4	4	6	15	15	13	78
Typhus fever													
Undulant fever									1	1	2	1	5
Whooping cough	102	200	146	134	189	151	68	101	40	88	135	61	1,415
Total													32,937

CANCER.

We have continued to collect statistics regarding the prevalence of cancer, using a short form giving a few details regarding age, occupation, residence, length of time elapsing between first symptoms and first reporting to a doctor, also some information regarding treatment and results, etc. Plans have been completed for tabulation of the results, and I had hoped to be

able to make a full report on the information thus gathered. Unfortunately, however, tabulation is not yet completed and it is therefore impossible to make a detailed report at this time.

DIPHTHERIA.

Only sixteen cases of diphtheria have occurred during the first three quarters of 1936, and these were mainly in widely separated points, nothing in the nature of an epidemic occurring. The few cases that do occur now are among those who, either through carelessness or ignorance, have not taken advantage of artificial immunization procedures urged and fostered by our Provincial and local Health Departments.

CEREBROSPINAL MENINGITIS.

This disease caused us considerable anxiety during the early part of the year, fourteen cases occurring during the first six months, ten of them being from the lower end of Vancouver Island, three from New Westminster, and one from Vancouver.

The almost total lack of contact which might mean a continuity of infection from case to case indicated that for some unknown reason the carrier state had risen amongst the general population, and we had the potentialities for a serious outbreak. Fortunately, with the onset of summer weather, the danger subsided, and we can only hope that there may be no serious recurrence during the coming winter months.

The most alarming feature was the high mortality-rate amongst the cases and the apparent ineffectiveness of serum treatment. Meningococcus antitoxin was used in some cases, and although this treatment has been given very favourable comment by some authorities, including local clinicians, I feel that the evidence, especially as regards local results, is inconclusive.

As each case occurred, throat-swabs were taken from those in close contact and in a few instances carriers were discovered. These persons were isolated and treated until clear.

GERMAN MEASLES.

The Province experienced an unusual epidemic of rubella during the early part of the year, the peak being reached during the month of April, when over 3,000 cases were reported. During the nine months of the year there have been over 10,000 cases from all parts of the Province, although the thickly populated areas of the Lower Mainland provided the greatest number.

The disease was generally mild, although in a very few cases complications developed which led to a fatal termination.

MEASLES.

Measles was epidemic in 1935, when nearly 4,000 cases were reported, but continued on into the present year with a fairly high incidence until recently. During September there were only forty-two cases reported and we may expect to be comparatively free from measles for the next two years.

POLIOMYELITIS.

Once again we have been fortunate in escaping any serious outbreak of this disease. The odd sporadic case continues to occur, but up until the end of September there has been a total of only eleven cases, and with the advent of cooler weather during the fall months there is little likelihood of any great increase.

ROCKY MOUNTAIN SPOTTED FEVER.

In July this year we had the first two authentic cases of Rocky Mountain spotted fever ever reported in British Columbia.

For years the disease has existed in the bordering States of Montana, Idaho, and Washington, and although we have been on the watch for it here, no cases are known to have occurred. Dr. Parker, of Montana, claims to have record of one suspect case from Creston, British Columbia, about 1917. The wood-tick *Dermacentor andersonii*, which is the usual vector in the neighbouring States, exists in large numbers in the interior part of the Province, even as far north as Quesnel, in the Cariboo, and the reason why we have not had cases of Rocky Mountain spotted fever before is rather difficult to explain.

The two cases mentioned above occurred near Hedley, and I wish to gratefully acknowledge the assistance of Dr. Parker, of the U.S. Public Health Laboratory at Hamilton, Montana, in confirming the diagnosis by laboratory methods.

Communications since received from the Dominion Entomological Laboratory at Kamloops, B.C., inform us that they are well equipped at that point to carry on the usual diagnostic tests in connection with Rocky Mountain spotted fever, and will be very glad to co-operate in making investigations regarding any insect-borne disease in this Province. Full details regarding the Hedley cases have been submitted to them and they are prepared to make field investigations in that vicinity as soon as the tick season begins next year. By the time they had received knowledge of the cases this year, the ticks had gone into another stage of existence and further studies of the insects were impossible.

TRACHOMA.

There were forty-seven cases of trachoma reported to this Department, chiefly from parts of the Province where Indians are in close association with the whites. Some twenty-two of the cases were in white persons, fifteen of them being from the Williams Lake District.

The people of this area became somewhat alarmed, thinking that the disease was probably more prevalent than was generally supposed and felt that the situation should be thoroughly investigated.

As Dr. Wall, the trachoma specialist under the Federal Department of Indian Affairs, was visiting British Columbia this summer, the opportunity was taken to visit the Williams Lake area with him.

Trachoma is a very difficult disease to diagnose in many instances, especially from the condition known as follicular conjunctivitis, and it was of utmost value to obtain his opinion, especially on some of these border-line cases.

From our investigations we concluded that many of those previously reported as trachoma had, on further study, turned out to be cases of the milder and less serious condition, and that there were few cases of trachoma amongst the white population. The disease is fairly prevalent amongst the Indians, however, and some families of mixed blood have had the disease transmitted to the children by intimate contact with their infected Indian mothers. As quickly as discovered, these cases are placed under treatment and the local physicians, being fully aware of the situation, are coping with the problem as well as could be expected under somewhat adverse circumstances.

To Dr. A. L. McQuarrie and Nurse Gerry, as well as Dr. Wall, of the Indian Department, our thanks are due for their excellent assistance and co-operation in our attempts to control trachoma in British Columbia.

TYPHOID AND PARATYPHOID FEVER.

No large outbreak of typhoid has occurred, but the odd sporadic case continues to appear, mainly from carriers of the infection. Prompt action has prevented any of these outbreaks developing into serious proportions.

Our efforts have been directed chiefly towards discovering existing carriers and preventing them from transmitting the infection to others.

In Grindrod, where several typhoid cases have occurred during recent years, we were finally successful in discovering two carriers. These have been stopped from handling milk or other food which might transmit the infection and are being kept under supervision by the local Health Officer.

In Trail two or three cases occurred in one family, the infection being from the grandmother, a typhoid carrier, who came on a visit from Alberta. She returned to Alberta before causing further damage and is since being kept under supervision by the local Health Officer in that Province.

In the industrial town of Ocean Falls an outbreak of paratyphoid occurred and after careful investigation by Mr. DeGrey, Chief Sanitary Inspector, and myself we concluded that it was due to a break in the sewer-pipes on the shore above low tide, allowing flies, which were plentiful, to carry infection from the sewage into the homes. The carrier in this case responsible for shedding organisms into the sewage has not yet been discovered, and as this is a very compact little community, every precaution should be observed so as to prevent a

serious epidemic. Appropriate steps have been taken to remedy the situation in regard to sewage, and continued vigilance will be required to prevent contamination of the water-supply.

During the period under review, your Epidemiologist has attended to many complaints regarding sanitation, etc., while the Chief Sanitary Inspector happened to be busy elsewhere.

A great deal of time was consumed as usual, during the last few years, in assisting the Provincial Welfare Department with problems arising in connection with cases coming under their care.

Assistance was also given to the Department of Education in preparing the health course for the revised curriculum, and I should like to take this opportunity of congratulating those responsible for the excellent course on health education which has been adopted for use in the schools of this Province. Enlightenment of our people, through the school-children, should go a long way towards eventually solving many of our most difficult health problems.

May I take this opportunity of expressing my thanks and appreciation of the assistance I have received from yourself and members of the staff connected with the Provincial Health Department.

I have, etc.,

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

REPORT OF PROVINCIAL BOARD OF HEALTH LABORATORIES.

VANCOUVER, B.C., February 2nd, 1937.

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

SIR,—I beg to submit the Annual Report for 1936 on the work of the Provincial Board of Health Laboratories at 763 Hornby Street, Vancouver.

SPECIMENS EXAMINED.

A detailed analysis of the numbers and types of examinations made is given in the accompanying Table I. By including in this table the corresponding figures for the preceding year, the marked increase in the work done by the Laboratories in 1936 has been made apparent. The total number of specimens examined during year was 71,783, an increase of 30 per cent. over the total of 55,426 for 1935. In last year's report emphasis was laid upon the persistent increase in the number and variety of specimens examined each year since the transfer of the Laboratories to the present site in 1931. But in no other year has the work expanded to anything approaching the extent shown in 1936; indeed, the increase in number of specimens examined during 1936, as compared with 1935, is greater than the total increase throughout the four-year period, 1932-35.

As in preceding years, about 91 per cent. of all specimens examined (actually 65,592 specimens) were sent in by physicians, hospitals, and clinics within the City of Vancouver. The importance of the service thus rendered to the citizens in general, and in particular to the doctors, hospitals, and public-health organizations of this city, can hardly be overestimated. Just over one-half (51.4 per cent.) of all tests done related to the diagnosis of *venereal disease*, while about one-sixth (16 per cent.) of all specimens examined were from patients suspected of or known to have *tuberculosis*. Other types of examinations which featured prominently in the work of the Laboratories were as follows: Culture of throat-swabs for detection of *diphtheria* cases and carriers, 12.4 per cent. of total; agglutination tests for aid in the diagnosis of *typhoid and paratyphoid fevers, dysentery, and undulant fever*, 10.3 per cent.; and bacteriological tests for controlling the safety of *water and milk supplies*, 5.6 per cent. of the total.

While the great increase in number of examinations performed has been fairly evenly distributed among the different types of test, certain tests have undergone a much greater than average increase. For instance, the number of blood-agglutination tests for diseases of the typhoid-paratyphoid-dysentery group has increased by 140 per cent. The culturing of specimens for the identification of *hæmolytic streptococci* and *staphylococci* has increased by

about 500 per cent. Again, introduction of the "coli-aerogenes" test has almost doubled the work relating to the bacteriological examination of milk samples. A greater than twofold increase in the number of miscellaneous tests performed has entailed a quite disproportionate amount of extra work, owing to many of these tests being newly introduced or of an intricate nature.

TABLE I.—STATISTICAL REPORT OF EXAMINATIONS DONE DURING THE YEAR 1936.

Examination.	Out-of-town Specimens.	City.	Total in 1936.	Total in 1935.
Animal inoculation	15	101	116	45
Diphtheria virulence	1	5	6	7
Blood agglutinations—				
T.A.B. Bang	582	4,045	4,627	2,725
T.A.B.S.F. Bang	1,092	1,430	2,522	300
Typhoid		31	31	69
Tularemia	1	17	18	4
Dysentery (Sonne)	5	210	215	9
<i>B. melitensis</i>		1	1	
Cultures—				
Miscellaneous	65	365	430	465
Spinal fluid	8	4	12	7
Typhoid group	80	131	211	242
<i>B. pertussis</i>	7	13	20	38
Diphtheria routine	105	7,856	7,961	6,395
Diphtheria, school		908	908	835
Haemolytic streptococci	110	418	528	175
Haemolytic staphylococci	20	334	354	*
Smears—				
Gonococci	513	10,497	11,007	8,782
T.B. sputum	401	10,752	11,153	8,511
T.B. spinal fluid	4	7	11	13
T.B. urine	6	205	211	80
T.B. pleuritic fluid	4	7	11	18
T.B. miscellaneous	3	33	36	26
Vincent's angina	5	686	691	554
<i>Spirochæta pallida</i>	2	32	34	30
Direct smear for diphtheria	2	9	11	6
Ringworm		158	158	145
Parasites	1	62	63	47
Fæces for occult blood	1	22	23	17
Spinal fluid—				
Routine (count, globulin, Fehlings)	11	197	208	40
Chemical (protein, chlorides, sugar)	2		2	4
Colloidal gold	12	697	709	361
Kahn—				
Blood	1,945	21,701	23,646	21,955
Spinal fluids	67	1,003	1,070	790
Milk-counts	135	1,480	1,615	1,437
Milk, coli-aerogenes	98	1,261	1,359	†
Water, <i>B. coli</i>	768		768	657
Water, counts and <i>B. coli</i>	2	273	275	260
Convalescent sera—				
Measles	10	53	63	43
Polio. (No. of 30-c.c. vials)				38†
Polio. (No. of 25-c.c. vials)	33	16	49	28
Polio. (No. of 15-c.c. vials)	2		2	‡
Vaccine, typhoid, paratyphoid				10§
Miscellaneous	73	575	648	256
Totals	6,191	65,592	71,783	55,426

* Listed under miscellaneous cultures.

† Not reported officially until March, 1936.

‡ 30-c.c. vials discontinued in favour of 15-c.c. vials.

§ Service discontinued.

The numbers of Kahn tests performed, and of smears examined for gonococci, have again increased, as has been true for each of the past six years. But reference to Table II. shows that, although slightly over one-half of the tests performed in the Laboratories still relate

to syphilis and gonorrhœa, the percentage of the total work represented by these particular tests has fallen in each successive year since 1932. In other words, the fact that the Laboratories play a fundamental part in the control of communicable disease in general within the Province is becoming more evident each year in the relatively greater increase in numbers of tests which do not relate to the so-called venereal diseases. In the later months of the past year the staff was called upon to handle a fivefold increase in the number of "routine" examinations of cerebrospinal fluid, while the number of "colloidal gold" tests were doubled. The multiplication in number of these particularly time-consuming tests derives from the new policy of the Government Clinic of having a thorough laboratory examination of the cerebrospinal fluid of all former cases of syphilis on its records, with a view to the detection of neuro-syphilis.

TABLE II.—NUMBER OF VENEREAL DISEASE SPECIMENS EXAMINED ANNUALLY AT PROVINCIAL LABORATORIES, VANCOUVER, 1932-36.

Year.	Total Kahn Tests for Syphilis.	Total Smears for Gonococcus.	Total Venereal Disease Specimens.	Total Specimens of all Kinds during the Year.	Per Cent. of Total Specimens which related to Venereal Disease.
1932	20,568	5,029	25,597	41,579	62
1933	21,208	6,467	27,675	45,535	61
1934	21,839	8,759	30,598	53,166	58
1935	22,745	8,782	31,527	55,426	57
1936	24,716	11,007	35,723	71,783	51

STAFF.

The staff of the Laboratories numbered thirteen and comprised: Director (part-time), Assistant Director, Chief Bacteriologist, four Laboratory Technicians, one media-maker, two stenographers, two cleaners and outfits-makers, and a janitor.

Miss D. E. Kerr, Assistant Director, was granted leave of absence for one year, effective from the end of September, to pursue a course of postgraduate studies in Connaught Laboratories and the School of Hygiene, University of Toronto; and gained the distinction of being awarded a Rockefeller scholarship, tenable during her absence on postgraduate work. Provision was made for the services of a temporary technician, in addition to the above, during the period of Miss Kerr's absence from the Laboratories, while Miss M. Malcolm, as Acting-Assistant Director, has efficiently substituted for Miss Kerr.

Early in the year Miss McDiarmid's appointment to the permanent staff as Laboratory Technician was confirmed. Miss Allan was only able, until the end of September, to work half-time, in consequence of an automobile accident several months previously. Since that date she has successfully resumed full-time duties. From the foregoing statements it is apparent that a most substantial increase in work has been handled by a staff not significantly larger than before. That this has been accomplished without hitch or complaint is evidence of the loyalty and keenness of every member of the staff and particularly of the tact and conscientiousness shown by Miss Kerr and Miss Malcolm.

PAPERS AND PUBLICATIONS.

A record has been set during the past year in regard to the numbers of papers read at scientific meetings and published in scientific journals by members of the staff. The following is a list of papers published during 1936 by Dr. C. E. Dolman, either as sole author or in collaboration with colleagues not on the staff of the Provincial Laboratories:—

"A Recent Outbreak of Hæmorrhagic Smallpox in British Columbia," Canadian Public Health Journal, Vol. 27, p. 367, 1936.

"A New Method of Detecting Staphylococcus Enterotoxin," Canadian Public Health Journal, Vol. 27, p. 489, 1936.

"Recent Outbreak of Staphylococcal Food Poisoning in Vancouver," Canadian Public Health Journal, Vol. 27, p. 494, 1936.

"Serum Therapy," Canadian Medical Association Journal, Vol. 35, p. 628, 1936.

"Staphylococcus Toxin, Toxoid, and Antitoxin," Canadian Public Health Journal, Vol. 27, p. 529, 1936.

"Bacteriological Research in Relation to Health and Disease." "Health."

Four of the foregoing publications had been previously read as papers to different medical or lay associations; and the following papers were also given by invitation during the year, to the societies indicated, by Dr. Dolman:—

- "The Venereal Disease Problem from the Standpoint of the Provincial Laboratories." (Joint meeting of Canadian and other Public Health Associations, Vancouver, July, 1936.)
- "Staphylococcus Toxoid and Antitoxin in the Treatment of Osteomyelitis." (Canadian Medical Association, Victoria, July, 1936.)
- "The Role of Antitoxic Immunity in the Prophylaxis and Treatment of Staphylococcal Infection." (Second International Microbiological Congress, London, August, 1936.) Read by proxy.
- "Undulant Fever." (Vancouver Medical Association Summer School, Vancouver, September, 1936.)
- "Treatment of Localized and Generalized Staphylococcal Infections." (Three lectures, Oregon State Medical Society, October, 1936.)
- "Antitoxic Immunity in the Treatment of Staphylococcal Infections." (American Society of Bacteriologists, Indianapolis, December, 1936.)

In addition to the above, two papers representing work carried out at the Laboratories by two groups of collaborators were read by Miss V. Hudson and Miss M. Malcolm respectively at the Laboratory Section meeting of the Canadian Public Health Association at Vancouver in July. These papers were entitled:—

- "The Undulant Fever Problem in British Columbia." Miss V. Hudson and Miss D. Kerr.
- "Enteric Fevers in British Columbia." Miss M. Malcolm and Miss D. Kerr.

NEW TESTS OR METHODS INTRODUCED.

Very early in the year an outbreak of hæmorrhagic smallpox occurred in Vancouver as a result of a case of smallpox among the crew of a vessel from the Orient. In all, four persons died out of a total of seven cases. With the co-operation of Dr. James Craigie, of Connaught Laboratories, Toronto, complement-fixation tests were performed on all the Vancouver cases, which served definitely to identify the disease as smallpox. In one particular case the differential-diagnosis between variola (smallpox) and varicella (chicken-pox) proved impossible to make with assurance on clinical evidence alone. The complement-fixation test performed by Dr. Craigie in Toronto, and by the Provincial Laboratories in Vancouver, established beyond doubt that the case was one of true smallpox. The accuracy of the test was proved in dramatic fashion later, when a contact of the doubtful case developed fatal hæmorrhagic smallpox. An account of the outbreak, and of the part played by the complement-fixation test in its control, was written by Dr. Dolman, and published under the names of Drs. McIntosh, Carder, and Dolman in the Canadian Public Health Journal. This appears to be the first recorded instance of the use of the test anywhere in the control of an outbreak of smallpox. The test has been used on several subsequent occasions in the Laboratories to establish the diagnosis of varicella in cases which clinically resemble variola.

As foreseen in the last Annual Report submitted, the macroscopic method of detecting "H" and "O" agglutinins in the Widal agglutination test for typhoid fever has been introduced. The greater specificity of the information provided is expected to repay the extra time and trouble involved in the adoption of the macroscopic as compared with the microscopic method.

All blood samples sent in for an agglutination test have been tested by both macroscopic and microscopic methods for the presence of *Brucella abortus* agglutinins. The results have indicated that a high incidence of past or present infection with *Brucella abortus* exists among the population of Vancouver and the Lower Mainland. On many occasions it has proved possible for the Laboratories not only to establish the correct diagnosis as undulant fever in very ill patients, by the results of blood culture or of an agglutination test; but, further, to trace the actual source of the illness to the consumption of raw milk infected with *Brucella abortus*. Miss V. Hudson, who has had charge of the bacteriological examination of water and milk supplies, has shown a most creditable resourcefulness and a true research spirit in the performance of routine duties; and largely as a result of these efforts the Laboratories

have accumulated sufficient evidence relating to the undulant-fever problem alone to indicate the urgent desirability of introducing compulsory pasteurization of milk throughout, at any rate, the urban centres of the Province.

Outfits suitable for taking and transporting specimens of chancre fluid have been recently made up and distributed to the Government Clinic, and are also available to practitioners and specialists. Dark-field examination of the specimens for *Treponema pallidum* should permit a diagnosis of primary syphilis in a higher percentage of cases than is possible with blood tests alone.

In the autumn a considerable demand developed for convalescent poliomyelitis serum, in anticipation of an epidemic of infantile paralysis which appeared to be spreading through Canada. The stock of serum on hand, which earlier in the year had been refiltered and tested for potency without charge, through the courtesy of Connaught Laboratories, was soon exhausted, although very few actual cases of poliomyelitis developed. The assumption had apparently arisen over the past few years that the Provincial Laboratories were responsible for every stage in the collection and delivery of convalescent serum; and it was deemed a fitting opportunity to revise an arrangement which could only be described as an imposition upon the staff of the Laboratories. Under these new proposals, which were submitted for, and received, the approval of the Provincial Health Officer, blood was to be taken from suitable donors by Directors of Health Units or by resident physicians at the Vancouver General Hospital. A fee of \$5 was to be paid to the donor by the Provincial Board of Health. The Laboratories undertook to prepare and bottle the serum for use, and to distribute it free to hospitals and Health Units, provided a report were received therefrom on each vial of serum distributed. A nominal fee was to be charged to private practitioners requiring the serum for use on their own patients; except that, in the event of a practitioner bringing blood from his own patients to the Laboratories, one-half of the serum obtained therefrom would be reserved by the Laboratories for his own free use.

The efficacy of convalescent poliomyelitis serum in treatment of the disease is a highly controversial problem, and the balance of experimental evidence to date is not in favour of its use; but the public and the medical profession have come to expect the serum to be available, and most Provincial and State Boards of Health continue to supply the serum pending a clarification of the current controversy regarding its use.

In a very different category is the use of convalescent measles serum for the prevention or modification of measles in an exposed person. Vancouver experienced a very severe epidemic of measles towards the end of last year; and serum prepared and distributed according to the arrangements outlined above proved of undoubted value in preventing many cases of measles altogether, while modifying the attack in many other instances. Since measles in very young or debilitated children often proves a serious disease, with severe and even fatal complications, the Laboratories undoubtedly provided the means of saving the community heavy losses in this connection.

The manufacture of typhoid and paratyphoid vaccines, which the Laboratories had in the past undertaken as an occasional service for Hospitals, was discontinued. Recent work on micro-organisms of the typhoid-paratyphoid group indicates a complexity of antigenic structure such that only a laboratory fully equipped to give constant attention to the strains of bacilli used in manufacturing the vaccine could hope to make a satisfactory product. Vaccine conforming to the desired standards is prepared by Connaught Laboratories at a very low price.

In response to occasional requests for a Wassermann reaction instead of the Kahn test on blood specimens from suspected syphilitics, some consideration has been given to the desirability of making provision for both tests to be done at the Laboratories. The conclusion finally reached was that such a provision would more than double the work now done on specimens from suspected syphilitics, and would add little, if anything, of value to the information furnished the clinician by the Kahn test. Competent authorities are uniformly agreed that the diagnostic Kahn test, as performed in these Laboratories, exhibits the virtues of specificity and sensitivity to a greater degree than any other one of the many complement-fixation or precipitation tests for syphilis.

REVISION AND STANDARDIZATION OF REPORT FORMS.

In order that both the physician and the laboratory may gain the maximum of useful information from the results of a test on a specimen sent to the Laboratories, it is essential that the requisition forms shall show much more than a mere cross against the test desired; while the report form is often not properly completed by simply stamping thereon the words "positive" or "negative." Both these types of form are therefore being gradually revised and standardized; for a heterogeneous collection, comprising forms of very different merits, has been in circulation during the past few years. Thus it is hoped the practitioner may be encouraged to use laboratory reports as they should be used: not as short-cuts to diagnosis, but as supplemental to, and interpretative of, clinical findings. In turn, the Laboratories may thus be furnished with statistical and epidemiological information of the greatest value.

A pertinent example of the value of laboratory report forms, and of the greater value they might have possessed had they been more completely filled in by the doctors when sending in the specimens, was evident at a conference held last spring to discuss the Venereal Disease Control programme of the Province. On this occasion, almost the sole source of statistical information relating to the incidence and trend of syphilis and gonorrhœa in this Province proved to be the Provincial Board of Health Laboratories. Yet any conclusions that might have been drawn from these figures were subject to certain fallacies which derived from the inadequacy of the information supplied with the specimen.

No better index of the fluctuations in prevalence of syphilis and gonorrhœa within the community could be available than properly completed laboratory report forms. Granted their proper completion, if a copy of every relevant requisition and report form were forwarded by the Laboratories to the headquarters of Venereal Disease Control, it is believed that invaluable data would thus be provided for statistical analysis and follow-up.

BRANCH LABORATORIES.

Having been informed that his duties embraced supervision of all the work conducted on behalf of the Provincial Board of Health by the various branch laboratories on Vancouver Island and in the interior of British Columbia, the writer of this report requested permission to visit these laboratories in order that he might familiarize himself with their organizations, personnel, and special problems. This visit of inspection was carried out in May, the itinerary including the laboratories attached to the following hospitals: The Provincial Royal Jubilee Hospital, Victoria; the General Hospital, Nanaimo; the Trail-Rossland Clinic, Trail; the Kootenay General Hospital, Nelson; the General Hospital, Kelowna; and the Royal Inland Hospital, Kamloops.

The main impression gained was very satisfactory. Most useful public-health services are being carried out in each of the foregoing laboratories, although in all of them clinical laboratory-work has to be done concurrently. However, some lack of uniformity of technique and method was noted among the different laboratories in connection with, for instance, diagnostic tests for syphilis, the preparation of antigen suspensions for agglutination tests, and the bacteriological analysis of milk and water supplies. This situation had very occasionally resulted in contradictory reports being returned by two different branch laboratories on specimens from the same source. When time and space at the Vancouver Laboratories permit, efforts will be made to distribute standardized antigens, report forms, and containers therefrom, for all laboratories doing public-health work throughout the Province. In fact, the distribution of standardized antigens and of specimen containers is already being increasingly undertaken by the laboratories in Vancouver, while frequent requisitions are received for the supply of special nutrient media. These services rendered to outside laboratories add considerably to the work of our own staff, especially the stenographers and cleaners and outfits-makers; and any further considerable expansion in undertakings of this kind must await the appointment of an additional glassware-cleaner.

The directors of the branch laboratories visited seemed unanimously to approve of the suggestion that a uniformity of antigen suspensions, of report forms, and of public-health laboratory methods should be adopted throughout the Province, and that their control should be vested in the central laboratories at Vancouver. In at least one instance the adoption of the most generally recognized method of performing a certain test was not possible because of shortage of glassware and of facilities for cleaning the extra glassware which would be

brought into use. In these instances a slight increase in the grant made by the Provincial Board of Health would probably permit the most up-to-date methods to be introduced.

The visits made to these branch laboratories gave an opportunity of bringing to the attention of the appropriate persons certain new developments in the public-health laboratory field, such as, for example, the rapid Neufeld method of typing pneumococci; and in at least one hospital visited, supplies of certain "therapeutic" sera of very doubtful utility, but considerable cost, are not likely to be ordered again. At every centre one was very cordially received, and the hope was frequently expressed that by a regular annual visit of this type the work of the Board of Health Laboratories might be kept of a uniformly high standard throughout the Province. The keen and conscientious approach to their work displayed by all was very gratifying, and provided a high tribute to the diplomacy and foresight of the Provincial Health Officer in devising and inaugurating the present arrangements for the performance of the public health laboratory work in British Columbia.

RELATIONS WITH ALLIED ORGANIZATIONS.

The relationship between the Laboratories in Vancouver and allied organizations continues upon a satisfactory basis. The Director has not a single complaint on record relating to the proficiency of any test performed in the Laboratories during the past year. The services rendered by the Laboratories to the medical profession are undoubtedly of untold value to them. On the whole, these services are not often abused; and a very firm attitude shown towards any obvious attempt at their abuse has, it is believed, only resulted in enhanced prestige to the Laboratories. The Laboratories do not regard themselves as the obedient hand-maiden either of the medical profession or of any given institution. Our policy, as a branch of the Provincial Board of Health, has been to serve the public, through the medical profession, hospitals, and public-health organizations, by making available any meritorious and feasible laboratory method for the diagnosis of *communicable* disease.

Co-operation of the Laboratories with the Department of Bacteriology and Preventive Medicine at the University of British Columbia, and the Connaught Laboratories, Western Division, has been of a very close order, and has been readily achieved, since all the foregoing organizations are under the same direction. Thus, many types of bacterial cultures were made available by the Laboratories for the use of students and staff at the University. Dr. Gibbons, of the Connaught Laboratories, Western Division, conducted an interesting investigation into the incidence of the various types of bacillary dysentery of British Columbia, with the help of blood specimens reserved for his use by the Laboratories. The results of his findings were published in a recent paper in the Canadian Public Health Journal. On the other hand, when an outbreak of dysentery occurred last November at a paper-pulp factory at Port Mellon, B.C., Dr. Gibbons readily agreed to investigate the outbreak on behalf of the Board of Health. As a result of his efforts, and of tests done at the Provincial Laboratories, the cause of the outbreak was identified, from both epidemiological and bacteriological stand-points, and was shortly thereafter brought under control.

Again, students at the University have welcomed the opportunity of visiting the Laboratories to see public-health laboratory procedures being performed, while the staff of the Laboratories have gladly accepted invitations to attend the fortnightly seminars on some advanced bacteriological problem which have been introduced at the University. The fruits of this co-operation were very evident last July in Vancouver, when the Laboratory Section programme of the joint meeting of the Canadian and other Public Health Associations was, with two brief exceptions, made up entirely of contributions from the above co-operating departments and organizations. No great effort of imagination is needed to visualize the many additional benefits to public health and to scientific medicine which would accrue if all the above co-ordinated and co-operating functions could proceed under one roof.

Direct contact between the Laboratories and the public is neither necessary nor desirable. But some recognition by the public of the Laboratories' existence, still more of the importance of its work, can only result in enlightenment of the former and in encouragement of the latter. Acting on this assumption, the Director has, on the several opportunities which have come his way of lecturing to lay audiences, endeavoured to arouse their interest in the vital significance to the community and to the individual of the work of the Laboratories. The staff is fully aware of the importance of its functions, and is glad to sacrifice evenings and week-

ends in overtime work when circumstances so require, but it is not unique in appreciating a little well-merited recognition. Such recognition has always, in the past, been readily and sympathetically accorded by the Provincial Health Officer, but had hitherto been absent from other governmental sources. Peculiar gratification has therefore been derived from the fact that in October the Laboratories were visited by the Prime Minister in company with the Provincial Secretary and Minister of Education, who expressed great satisfaction with, and interest in, their visit. One day last summer the Deputy Provincial Secretary came to hear something of the work done in the Laboratories, while several welcome visits were paid during the year by the Provincial Health Officer.

CONCLUSION.

It seems superfluous to enlarge upon the conclusions to which the data and comments given in this report testify: that the work of the Provincial Board of Health Laboratories in Vancouver was, for 1936, greatly expanded in quantity and of better quality than ever before. The time has now come, however, when any further increase in numbers of specimens examined can only be achieved, in the present quarters, at the expense of accuracy. Every technician is now working all day at full capacity; and in the event of illness of one or more technicians, the others have to be correspondingly overtaxed. *Their work cannot be postponed.* The solution to our difficulties is not to be found simply in further additions to the staff, for *there is now no accommodation available for additional staff.*

All of which is respectfully submitted.

I have, etc.,

C. E. DOLMAN,
Director.

SANITARY INSPECTION.

SANITARY INSPECTOR'S OFFICE,
VICTORIA, B.C., December 31st, 1936.

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

SIR,—I have the honour to submit my Twenty-Sixth Annual Report for the Sanitary Division of your Department.

With the increasing population and expanding industrial activity more noticeable than ever comes increasing problems and work for this Department. The year just closed has been the busiest on record and, withal, remarkably free from the necessity of drastically enforcing any of our regulations in order to obtain the desired results. Thus, it seems that we are reaping the harvest of patient yet insistent health propaganda extending back for more than a quarter of a century. Our citizens are more than ever showing a sincere spirit of co-operation in conforming to the laws of health and consideration for the general public welfare.

The Province of British Columbia is to-day absolutely free from industrial strife or social unrest, due in a great measure to the generally improved living conditions provided for our industrial population, and in this direction the British Columbia captains of industry are certainly entitled to a full measure of credit. Without their cheery, unstinted co-operation, the writer could not make these statements.

Of the industrial growth and activity, the mining development is dominant, and with marked success. Logging runs a very close second. Camp conditions in mining and logging plants are much alike and conform strictly to our regulations.

The technique of logging and mining has undergone most radical changes during the last thirty years, and the same may be said for the living conditions provided for employees. The food provided is the best procurable and without stint. Cooking-utensils and tableware are clean and modern. The kitchens compare most favourably with the best city restaurants. The sleeping accommodation in the large camps of a permanent nature is generally an improvement on what the average worker would provide in his own home. The larger camps are also provided with reading-rooms, gymnasiums, and, in several instances, swimming-pools. The regulations stipulate that bathing and laundry facilities must be provided.

In every camp can now be found radio sets. *En passant*, it may not be out of place to say that it would be hard to estimate the improved mental and social mood brought about by the radio for those who are located in far-away and isolated places. Their choice first is the daily news summary, then music and sports, and then rest, rather than jazz or crooning. If there is anything in psychology, we owe a lot to radio in the isolated industrial camp-life.

The work of your Inspector is made easier by the cordial welcome given at every camp. The attitude of evasion or concealment has long since disappeared, and very many employers and employees show active and practical interest in the general camp welfare.

Many logging and mining camps are located far from the "beaten tracks" of transportation and often entail hazardous travel.

Alleged nuisances take up considerable time, but every complaint is investigated and rectified where possible and reasonable. Among some of the new forms of alleged nuisances are newly established fish reduction and fertilizer plants. Our Coast teems with inedible fish which are now converted to valuable oil and fertilizer. The approval for these establishments involves considerable caution in location. On the other hand, these plants mean more employment, besides the conversion of destructive fish and fish-offal to valuable products, with a ready market.

Water-contamination is another important part of our work which is considered and treated as serious business. There seems to be a never-ending charge or suspicion that some of our hundreds of pure streams are subject to careless pollution. Each case is thoroughly investigated and prophylactic measures taken.

SALMON-CANNERIES.

The salmon-canning season of 1936 was the heaviest for many years. Every cannery in operation got its full quota capacity. Special cannery regulations govern the sanitary handling of salmon and general cannery operation. Cans are of the solderless type; filled, weighed, capped, and lacquered by machinery. From the time the salmon are landed upon the cannery floor until canned the fish comes in contact with human hand only during the washing process. The employees wear washable aprons and gloves laundered and changed daily.

FRUIT AND VEGETABLE CANNERIES.

These are chiefly located in sunny Okanagan, and all are operated strictly according to our regulations for the canning and curing of fruits and vegetables. The operators and employees have co-operated to such an extent that for several seasons not one complaint has reached this department. The sanitary arrangements provided are such as to ensure cleanliness at every angle. The products are meeting with encouraging demands from home, Empire, and abroad.

SHELL-FISH.

Oyster-cultivation is now being carried on to a greater extent than ever before in British Columbia. A few years ago British Columbia imported between \$60,000 and \$70,000 worth per annum. Now the order is reversed, with oysters to spare. New spawning-grounds are being used. It was found that the Japanese oyster propagates in British Columbia waters much faster than in the native water of Japan, and due to the purity, salinity, and certain temperature of our oyster-grounds the new British Columbia oysters are of finer flavour and as a result are in greater demand. Many tons of British Columbia clams are also being exported to the United States because of certain flavour peculiar to British Columbia shell-fish.

Shell-fish foreshore and oyster areas are under direct supervision and permit of this department. The areas are visited periodically and specimens gathered for analysis. At this point I should like to remind you of the great value of your departmental Laboratory, where we are continually sending water, fish, and food specimens for analysis in the interest of public health.

CEMETERIES AND CREMATORIALS.

Four cemetery-sites have been approved during the past year and one refused; also two crematorium permits granted. The latter method of disposal seems to be growing in favour.

SUMMER RESORTS.

During the summer months there are at least 35,000 of our citizens of all ages camping, chiefly along our coastal unorganized territory. The thickly populated camps are inspected periodically, water-supplies examined, and health-propaganda notices posted. The many camps were well patronized during 1936, without any reported sickness. During 1936 two epidemics of typhoid occurred on northern coastal areas. These were thoroughly and successfully dealt with and the source detected and eliminated.

AUTO TOURIST CAMPS.

Some of our tourist camps compare favourably with any on the continent and are well patronized. Others, whilst not modern, are sanitary, though primitive. Patronage seems to govern as to success or failure. We are inaugurating a system of inspection, and a Dominion-wide set of regulations dealing with transient and permanent tourist camps will be in operation for the coming season.

During 1936, visits to summer resorts and camps were approximately 80; logging and mining camps, 90; inspection and visits *re* alleged nuisances, 53; visits to food-canneries, 75; investigations *re* alleged water-pollution, 23.

Our British Columbia Police officers, as ex-officio sanitary officers, have maintained their traditional efficiency, courtesy, and co-operation throughout the year, for which the writer is devoutly thankful.

There are ample indications that the coming season will see an increase in industrial activity, both on the Coast and in the Interior.

I have, etc.,

FRANK DEGREY,
Chief Sanitary Officer.

REPORT OF PEACE RIVER HEALTH UNIT.

POUCE COUPE, B.C., January 19th, 1937.

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

Provincial Health Officer, Victoria, B.C.

SIR,—I beg to present herewith the Second Annual Report of the Peace River Health Unit. This Unit has been in operation now for sixteen months and the first report, submitted last year, only dealt with the work of the first four months, which was a period of inspection and organization. It is hoped that this report will show that the Unit is functioning satisfactorily and that the personnel have procedures fairly well organized to cope with the peculiar characteristics and conditions of the Peace River District. Details of programmes will not be given completely, but an attempt will be made to summarize the work that has been accomplished. Information *re* visits and other work done by the members of the staff will be included in each section of the report.

LOCATION.

The Peace River Block of British Columbia is located in the northern part of the Province, adjacent to the Alberta Provincial boundary-line, and comprises an area of approximately 5,000 square miles. It is a frontier country where pioneering and homesteading are the order of the day. Most of the settlers have only been in the country about five or six years, so one can readily speak of it as a new country. The soil contains little or no sand and is popularly referred to as "gumbo." The conditions of the roads following a rain must be experienced to be appreciated, as travel is difficult, treacherous, and at times almost impossible. These conditions prevail at the break-up in the spring, during the four weeks' rainy season in the summer, and during the early fall. In the winter the snow may be as deep as 4 feet, with terrific drifts along many of the roads and trails, and the temperature is frequently as low as 40 degrees below zero and sometimes lower. Travel under such conditions is also difficult; in fact, one can almost say that travel is difficult and tedious at almost any season of the year. The district is fairly well isolated, having communication with the rest of the Province only via a roundabout route through Edmonton, Alberta.

POPULATION AND DISTRIBUTION.

The huge and mighty Peace River cuts the area in almost a straight line from east to west, with about one-third of the area north of the river. The population of this northern portion is mainly toward the centre of the district and extending from the river northward. In the southern area the population is limited almost exclusively to the eastern half and extends from the river to the southern boundary of the Block; the thickest population is in the south-east corner of the Block, where the two main towns are located—namely, Pouce Coupe and Dawson Creek. The latter, which is the larger, has a population of about 350.

The population of the whole area is estimated to be approximately 9,000. The majority of the people are whites, although there are a few half-breed settlements scattered here and there. In the extreme western area there are two Indian reserves which come under the direct supervision of the Branch of Indian Affairs of the Federal Department of the Interior.

HISTORY AND ORGANIZATION.

The Peace River Health Unit was organized during the summer of 1935 and began work on September 1st, 1935. It replaced the two part-time Health Officers, who had been doing the work in the past, and absorbed two District Nurses who had been working here. The Unit came into being more or less directly as a result of the consolidation of the school districts of the area, and as a result works conjointly with the Department of Education, although directly responsible to the Provincial Board of Health; the Official Trustee of the schools is the business administrator of the Health Unit. This makes an ideal system from the stand-points of economy and efficiency.

The personnel of the Unit is as follows:—

J. S. Cull, B.A., M.D., D.P.H.	Director.
Nancy E. Dunn, M.B.E., R.N., P.H.N.	Supervisor of Nursing.
Rita M. Mahon, R.N., P.H.N.	Public Health Nurse.
Pauline Yaholnitsky, R.N., P.H.N.	Public Health Nurse.
Lucille Malkin, R.N., P.H.N.	Public Health Nurse.
Muriel Claxton, R.N., P.H.N.	Part-time School Nurse.
Mrs. L. B. Ward, R.N.	Part-time School Nurse.
Mrs. A. M. Young, R.N.	Part-time School Nurse.

Up until the middle of this year the services of a part-time clerk were available, but since this person left the district there has been no one else obtainable and the Director has been doing his own correspondence and routine office-work. There will be another person available in about two months, and I would urge that she be employed on a part-time basis as clerk, as it gives the Director more time for field-work.

The Unit is also able to obtain the services of members of the British Columbia Provincial Police to act as Sanitary Inspectors in the area served.

As mentioned in last year's report, each full-time member of the staff is located at a different point which is more or less central to the area served. This is necessary because of the widely scattered settlements or districts and has proved to be the only method of covering the whole area. The four divisional offices (nurses) are located at Fort St. John in the north, at Progress in the west, at Rolla in the east, and at Dawson Creek in the south, with the main office located in the Director's residence at Pouce Coupe. Monthly conferences between the Director and all the nurses have been held from time to time, but frequently the vagaries of weather and transportation have made this impossible. As a result, the Director makes a practice of reviewing all phases of the work with each nurse whenever he is in her area.

Early in the year the Director of the Unit was appointed Technical Medical Adviser to the Board of the Pouce Coupe Hospital. As such he can advise improvements in the technique of the hospital and assist the Board with many of the problems dealing with the technical administration of the hospital.

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

GENERAL STATISTICS.

Hours on duty.....	10,460
Average daily hours on duty.....	8.4
Miles travelled—	
Car	32,968
Team	4,282
Horseback	576
Boat	140
Walked	625
Visitors to office.....	798
Phone calls received.....	431
Phone calls sent.....	307
Letters received	607
Letters sent	751
Transported, other than for dental clinics.....	364
Miscellaneous visits	1,333
Meetings attended	137
Meetings addressed	86
Individual health talks.....	1,375
Pieces of public-health literature distributed.....	813
First aid administered	92
First-aid classes	19
Emergency calls answered.....	35
Home-nursing classes	22
Maternity cases attended.....	1
Staff conferences	7

GENERAL HEALTH OF THE COMMUNITY.

The general health of the community has been good. The vigorous climate, the small amount of intermingling of most of the districts, the simple, elemental life and food of the area, and the relative freedom from communicable disease, all play a part.

The south-east corner of our district is in fairly close communication with the border towns of Alberta and gives an opportunity for the spread of communicable disease. In fact, in almost every instance where a communicable occurred in our area, the source of the disease was successfully traced to a person coming in from across the line while suffering from a communicable disease, or to one of our inhabitants having come in contact with a case while away on a visit.

Mumps broke out early in the year, and although no doubt there were some unreported cases, we were able to prevent the spread to any district, other than the one where it first occurred.

A few cases of scarlet fever occurred shortly after this, but again it was pretty well confined to one district.

Measles occurred in a family that had just been in their new homestead for two days. They had come in contact with a case on the way into this district, but owing to their co-operation in reporting and the speed with which the District Nurse was on the job, the disease was actually confined to one household. Such an instance shows, I am sure, what could be done if all suspicious cases were reported.

In contrast to the above, unreported German measles was discovered accidentally by a District Nurse during the Christmas season. Quarantine measures were instituted, but owing to school concerts and other festivities I fear that it may be a while before this disease is fully under control.

A few cases of chicken-pox occurred, but the spread of this disease was readily controlled. One case of diphtheria was reported, but no subsequent cases occurred.

Investigations for contagion.....	210
Home visits <i>re</i> contagion.....	285
Home visits to tuberculosis suspects and contacts.....	34

CASES.

Scarlet fever.....	12	Ringworm	34
Chicken-pox	3	Scabies	82
Measles	4	Impetigo	16
German measles.....	3	Diphtheria	1
Whooping-cough	---	Smallpox	---
Septic sore throat.....	---	Typhoid	---
Mumps	30		

VITAL STATISTICS.

In a frontier, pioneering country such as this, where residents may, in places, be miles away from the nearest neighbour, the registration of vital statistics is poor. In our programme we are continuing to stress the importance of notification and registration and particularly the registration of births.

As the population is only very approximate and reported figures very uncertain, rates are of little value. However, the following figures are given for what they may be worth and are for the whole of 1936.

SOUTH OF THE PEACE RIVER.

(Population, 6,000 (approximate).)

Total births, deaths, still-births, and marriages, 1936: Births, 130; deaths, 31; still-births, 2; marriages, 28.

Tuberculosis deaths (all forms), 1.

Infant mortality: Number of live births, 128; number of deaths under 1 year, 1; rate per 1,000 live births, 7.7.

Infant mortality by causes of death: Maternal toxæmia, 1.

NORTH OF THE PEACE RIVER (EXCLUSIVE OF HUDSON HOPE AREA).

(Population, 3,000 (approximate).)

Total births, deaths, still-births, and marriages, 1936: Births, 57; deaths, 7; still-births, nil; marriages, 7.

Tuberculosis deaths (all forms), 1.

INFANT AND CHILD WELFARE.

This field has again taken up a great deal of our time. However, the staff as a whole still feel that it is worth while, not only because we came into being as a result of changes in school administration, but also because it is an excellent way of showing the people the type of work we are here to do, and also because the home visits in connection with this work are an excellent means of education along all lines of public-health work and are valuable in developing a proper receptive attitude of the parents to future lines of endeavour. I give great praise to the nurses on the staff for the piece of work that they have done in this connection, under what have often proved to be difficult and trying conditions.

(a.) *Prenatal and Infant Welfare.*—We are continuing to secure the names of all prenatal cases from the Relief Officer, where the family is on relief. As time goes on more pregnant women are learning that they can expect sound, valuable advice from their District Nurse and are asking the latter to call quite early in pregnancy. As a result I am pleased to be able to say that extremely few pregnant women in the district do not receive at least one visit from a nurse. The nurses still have the permission of the local physicians to visit their prenatal cases.

Monthly prenatal and postnatal letters are sent to all known pregnant women and mothers of infants, through the co-operation of the Provincial Board of Health. Applications for these are sent in by the different nurses for their own areas.

Well-baby clinics were held periodically in the larger centres, but it was found that if the weather did not favour us, and the temperature was low or the road conditions bad, the attendance at the clinics was poor. To overcome this, and in an attempt to examine as many infants as possible, I made it a practice to examine infants at their home whenever I happened to be there, no matter what the home visit happened to be about. The parents have come to

expect this now in many districts and I feel sure that more infants have been examined than otherwise might have been.

A certain amount of cod-liver oil is supplied by the Provincial Board of Health and this is dispensed to needy families.

Prenatal visits, 325; infant-welfare visits, 645; well-baby clinics held, 25; attendance at clinics, 293; infants examined, 550.

(b.) *Pre-school*.—We invite the parents to bring their pre-school children to well-baby clinics when they are held, and also to the schools when the school-children of the same family are being examined. In addition to this, the pre-school children are also examined at home whenever possible on the occasion of a visit from the Health Officer.

We are continuing to stress the pre-school phase of our programme as being a most important time for public-health work.

A considerable number of children of this age have been toxoided and vaccinated in certain school districts, but this will be shown under the heading of "Clinics."

Pre-school visits, 675; pre-school examinations, 428.

(c.) *School*.—A great deal of our time is spent on this phase of the work, but the staff as a whole feel that it is time well spent. A considerable portion of this time is spent in travelling to some of the schools—for example, we go 90 miles (round trip) by car and then 70 miles (round trip) by boat to reach three schools in isolated districts. On such occasions practically all members of the family are examined by the school doctor, for this is the only occasion that a physician visits such areas. On another occasion we travelled 225 miles (round trip) by team to examine thirty-two school-children and others of the families in two isolated schools, but here again the same conditions prevailed as those just described.

At the closer schools the children are weighed, measured, and checked over approximately once a month by the District Nurse. Any of those requiring an examination, other than the annual school examination, are brought to the attention of the School Health Inspector. Where a class has been exposed to communicable disease, the pupils are checked daily by the nurse during the incubation period of the disease.

An attempt is made to re-examine all those desiring to compete in school sports who have not passed the regular examination with a clean slate.

Iodine is being supplied to all those school-children desiring it. In one area potassium iodide tablets, as supplied by the Provincial Board of Health, are being used, while in another tincture is used. It is hoped that in about another year's time some figures will be available in this connection.

In a community such as this, with the teachers scattered far and wide, it is almost impossible to have discussions with them as a group on health matters and the teaching of health. We attempt to overcome this as best we can by giving talks to them at their annual convention in the fall. This year we were extremely fortunate in being able to have a full afternoon of their programme, and each member of the staff gave a paper on various aspects of the school health programme of the Unit.

Class-room talks are given by the nurses on the various phases of health and personal hygiene.

Defective vision is taken care of as much as possible.

Dental attention was again made available to the school-children, but this will be more fully discussed under the heading of "Clinics."

Visits to schools.....	1,025
Physical examinations	1,472
Average per cent. of parents present.....	78
Notes to parents	268
Home-school visits	908
Children inspected by nurses.....	7,467
Special examinations	64
Quick inspections for contagion.....	2,648
Exclusions	143
Examined at office.....	225
Class-room talks	475
Consultations with school officials.....	672

FOOD AND WATER INSPECTION.

To date the time has not been available to develop this field of work to the extent that it should be. However a start has been made and it is expected in the following year, with better organization that more will be done along this line.

Raw milk is still the common thing, but we are continuing to stress home pasteurization and boiling.

It is gratifying to note the improvement in the school water-supplies. Suggestions re ice-houses, amount of ice, source of supply, etc., have been readily acted upon by the Official Trustee. In this connection the teachers have co-operated well. Because of the distance to the Provincial Laboratory and the time taken en route, very few samples have been examined bacteriologically, but as thorough an inspection as possible is made of the environment of water-supply sources.

Inspections of meat markets	12
Inspections of restaurants	10
Inspections of grocery-stores	22
Inspections of fruit and vegetable stores	15
Inspections of dairies	6
Water samples taken	18
Inspection of water-supply	65

SANITATION.

The dry toilet or privy is the main method of sewage-disposal in this district. There has been a general improvement in the latrines of the schools during the past year. A distinct advance was made this year when the Health Officer's recommendation of a multiple system of chemical toilets was put into effect in the Dawson Creek School. Education of the school-children regarding improved home and community sanitation is being continued.

Inspections of latrines	85
Inspections of horse-stables	6
Inspections of nuisance-grounds	5
Nuisance complaints investigated	18
Inspection of barber-shops	12

CLINICS.

(1.) *Well-baby and Pre-school Clinics.*—A few of these have been held, but it is felt that they are not particularly applicable to this country owing to weather conditions. The examinations of these children are done at home as far as possible, as has been mentioned previously.

(2.) *Toxoid and Vaccination.*—A considerable number of school and pre-school children have been vaccinated and toxoided, but the final figures have only been completed for a few of the school districts as shown below. It takes a great deal of time to complete a group of children once toxoiding has been started. Frequently weather interfered with our plans or the people would fail to turn up because of lack of transportation—the horses being used in the fields or away to town. At times it would be the most trivial of reasons that kept them away, or a mistaken idea as to the time of our visit. Under such conditions we found that we saved some time if we inoculated those that did show up and then went after the others at their homes. This procedure frequently meant travelling over trails, not meant for car-travel, as far as we could and then walking from a few hundred yards to a few miles through bush trails and across swamp or muskeg to the homesteader's house. In almost all cases the parents were willing that the children should be done and we were met with a hearty welcome when we arrived.

The following figures attempt to show the condition in certain school districts now as against what they were prior to the establishment of the Health Unit in September, 1935. The children considered eligible for vaccination in the pre-school group are taken to be all those from birth to 6 years of age, while those considered to be eligible for toxoiding in the pre-school group are taken to be those from 1 to 6 years of age. The figures are percentages of the total eligible children in each case that have been toxoided and vaccinated.

PRE-SCHOOL GROUP.

School District.	PRIOR TO SEPTEMBER, 1935.		AS AT DECEMBER, 1936.	
	Toxoided.	Vaccinated.	Toxoided.	Vaccinated.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Sunset Prairie.....	70	38	88	75
Willow Valley.....	---	---	39	30
Tuscolla Mountain.....	67	15	77	60
Groundbirch.....	12	---	67	40
Bon Accord.....	---	25	75	33
Progress.....	21	25	61	58
Arras.....	84	25	78	60
Sunnybrook.....	6	50	100	84
Springhill.....	---	12	95	50
Devereaux.....	---	---	44	13
South Dawson Creek.....	---	---	50	50
North Dawson Creek.....	?	?	70	80
Hays.....	---	---	100	56

SCHOOL GROUP.

School District.	PRIOR TO SEPTEMBER, 1935.		AS AT DECEMBER, 1936.	
	Toxoided.	Vaccinated.	Toxoided.	Vaccinated.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Sunset Prairie.....	91	33	100	74
Willow Valley.....	4	13	58	46
Tuscolla Mountain.....	*	*	94	94
Groundbirch.....	41	13	75	56
Bon Accord.....	12	50	*	*
Progress.....	45	49	96	76
Arras.....	100	93	100	94
Sunnybrook.....	10	100	91	100
Springhill.....	---	49	17	67
Devereaux.....	---	---	6	6
South Dawson Creek.....	50	---	74	65
North Dawson Creek.....	---	---	85	85
Saskatoon Creek.....	---	---	30	30
Hays.....	---	11	89	63

* Closed.

Total vaccinations—	
School-children	340
Pre-school	150
Adults	42
Total toxoids—	
School-children	220
Pre-school	125
Reaction tests	48
Total scarlet-fever inoculations—	
School-children	20
Pre-school	5
Adults	5
Dick tests	5

(3.) *Dental Clinics.*—We were again fortunate this year in being able, with the kind assistance of Dr. Young, to make arrangements for the appointment of a full-time school dentist for two months. The clinic was set up at various centres throughout the district and the dentist stayed there a varying number of days until the children of the surrounding areas had been treated. One of the District Nurses assisted the dentist at the clinic, while another

kept a check on the children to make sure they had all been given a chance for this preventive work. There were some parents who again this year refused to allow their children to be treated. This was most unfortunate, for in almost all such instances the children urgently needed dentistry. Some of the more outlying and isolated schools were not visited this year as time and finances would not permit.

The dentist remarked repeatedly on the improved condition of the teeth in general as against that found last year at the time of the first dental clinic ever held in this area on a large scale.

It is interesting to note that last year, taking all fillings, extractions, and prophylactic treatments together, there were 3.6 operations per child, while this year there were 2.6 operations per child; last year there were 1.7 fillings per child and this year 1.1 per child; last year there were 1.1 extractions per child and this year 0.59 per child.

	No. of Patients treated.	FILLINGS.			Extr.	Prophyl. Treatments.
		Amalgam.	Cement.	Porcelain.		
North of the Peace River.....	259	257	3	3	152	259
South of the Peace River.....	743	746	30	50	440	698
Totals.....	1,002	1,003	33	53	592	957

Males treated, 512; No. transported by Unit personnel, 243.

Females treated, 490; No. pre-schools treated, 32.

(4.) *Chest Clinic.*—Unfortunately we were not favoured with a visit from the Provincial Chest Clinic this year, but we have fair assurance that a visit will be made in 1937. Up until now tuberculin tests have only been done on children where some suspicion was aroused at the time of examination. However, plans have now been made for the routine tuberculin-testing of as many children as possible before next summer.

Tuberculin tests—	First.	Second.
Pre-school	7	4
School-children	24	12
Adults	1	—

LABORATORY AND BIOLOGICALS.

The Director has not yet succeeded in getting established a small laboratory where a limited amount of work could be done. However, it is hoped that in the near future this may be accomplished.

A moderate supply of biologicals prepared by the Connaught Laboratory, Toronto, and supplied to the Unit by the Provincial Board of Health, is kept in a suitable refrigerator at the Pouce Coupe Hospital for the use of the local physicians. No abuse has been apparent so far.

LIBRARY.

A small public-health library has been maintained in the Director's office for the use of the Unit personnel and the practising physicians. The usual public-health magazines are supplied by the Director and the Provincial Board of Health.

SOCIAL SERVICE.

There is a great need for a full-time Social Service Worker in this district. Cases are repeatedly coming to the attention of the Director and nurses that should be taken over and handled by one who has had experience in social-welfare work. I feel that such a person working in close conjunction with the Health Unit personnel would round out and complete the social-welfare phase of our public-health work.

Investigations made, 25; social-welfare visits, 178.

RECORDS.

Records have been kept by the Director and nurses of the work done under the various headings, but it is felt that they are not satisfactory as they do not give a bird's-eye view

of the family as a unit in the different areas. The question of records is one that is almost invariably discussed when two or three of the staff are together. It is hoped that the Public Health Nursing Record system, which was originated in the North Vancouver Health Unit and which is being tried out at a few other health centres in the Province, may be installed in this Unit next year.

CO-OPERATION.

The Health Unit co-operates closely with the Official Trustee, the Relief Officer, the British Columbia Provincial Police, the Women's Institutes, and many other local organizations. These people have given freely and willingly of their time to assist us in our health programme and we wish to thank them sincerely for such excellent co-operation.

The medical profession in general has given good support to the Unit personnel.

To Dr. Young and his staff go our sincere thanks for their help and co-operation, which is so valuable in times of difficulty and when we need assistance.

I have, etc.,

J. S. CULL,

Director, Peace River Health Unit.

REPORT ON HEALTH-WORK, WOMEN'S INSTITUTES.

WOMEN'S INSTITUTE BRANCH,

DEPARTMENT OF AGRICULTURE, January 26th, 1937.

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

Provincial Health Officer, Victoria, B.C.

SIR,—I beg to submit a report on the health-work in which the Women's Institutes in this Province have co-operated.

"I have never spoken at a meeting before, but I cannot sit still. From the bottom of my heart and soul I want to thank whoever made it possible to have the teeth of the children of this school treated."

So spoke a member of the Hazelmere Women's Institute at the birthday party in April, 1936. Continuing in an unsteady voice she said: "No one who has not experienced it can believe the difference. For years there has not been a week elapsed that I have not had one or more of my five children home from school with toothache, crying through the night, losing days from school, and now you would not know them. They are full of life and spirits. Oh! If there is anything I can do to help this work, to bring health to other children, let me know. And again I express my gratitude to whoever is responsible for this great blessing."

This woman is one of the mothers of the 1,608 children treated by the dental clinic organized through the efforts of the Women's Institutes, the Parent-Teachers' Association, and the Provincial Board of Health.

Early in 1935, Mrs. R. E. Kocher, President of the Hazelmere Women's Institute, began the campaign for a municipal nursing service. Failing in this, she tried for a dental service. Again failure confronted her, but optimism and determination seem to be the principal ingredients of Mrs. Kocher's character, coupled with an unfailing good nature. For, as she smilingly assured a member of one of her audiences, "You cannot offend me, you know, because I am not working for myself."

Mrs. Kocher's third attempt for a dental service was for the three school districts comprising the area served by the Hazelmere Women's Institute. The mouth condition of the pupils of these three schools was carefully examined by the local dentist at the expense of the Provincial Department of Health. The mouths of 127 children were examined and defects were noted on dental charts for each of the 127. In this Garden of British Columbia, this land flowing with milk and honey, just *one* child had perfect teeth. One hundred and twenty-six children had defects ranging from one cavity to fifteen. Some teeth were so bad that they should all have been removed. The Hazelmere Institute raised the necessary amount of money and after a great deal of delay dental treatment was begun for these children. In the meantime residents in other school districts of the municipality became interested.

Meetings were held and the dental report on these 127 children was discussed. But to a great extent the authorities were working in the dark because the only available figures as to the probable cost of the clinic came from the Peace River, where 1,105 children were treated at an average cost of \$1.75 each. It was thought that the children of the Fraser Valley could not have such bad teeth as those of the Peace River District. However, when the work was completed (by the same dentist who treated the Peace River children), it was found that the cost averaged \$3.11 for the 1,608 children of the Surrey District owing to the enormous amount of work required for each child.

The Surrey method of organization and administration is one to be commended. Each school district agreed to raise a certain sum per pupil, based on the enrolment of the schools. When that sum was collected, it was deposited in the bank and a deposit-slip sent to the Secretary-Treasurer of the Executive of the Dental Clinic, who paid the dentist by cheque. Thus the Secretary-Treasurer, Miss Frances Martin, handled no actual cash. She reports:—

"We feel most certain that the people of this municipality realize and appreciate what has been accomplished in this dental service at so little cost to them. We hope next year to have the work carried on again in most of the schools through the Parent-Teachers' Association or the Women's Institute."

Probably this Surrey Clinic was the most noteworthy for several reasons: The lack of interest at the beginning; the large area which was served eventually, and the quality and cost of the work. The cost per patient was very reasonable, clearly demonstrating that by co-operation almost any parents can afford to have their children's teeth kept sound. As has been told previously, the cost per patient in the Peace River District was almost half the cost of that in the Surrey District.

In the Chilliwack District five institutes contributed towards the fund raised by the Rotary Club.

In Kaslo the Women's Institute assisted the Women's Auxiliary to the Canadian Legion and ninety-one children received treatment.

At Nelson the Women's Institute has been active in agitating for dental service not only for Nelson, but for all adjacent districts.

While on a visit to Gibsons Landing in October I spoke of the need for dental treatment for children, and was told: "Ever since the Provincial Board of Health paid for the first dental clinic in 1926 the Council has had the dental work done annually."

Pender Island Women's Institute, one of the Gulf Island Group, has a sum of money collected to continue the dental service.

I visited the points in the Lillooet District and am sure that dental service would be provided if a little time was spent at the larger centres instructing groups in the method of organization. Every one I met showed a sympathetic understanding of the importance of this service.

Port Moody Women's Institute is considering a dental clinic for their community.

Courtenay is still considering the nursing and dental service.

At the District Conference held in Parksville the following resolution concluded an animated discussion, in which most of the delegates took part. The resolution received unanimous endorsement.

"Whereas there exists a tragic need of assistance for children suffering from dental decay, defective eyesight, diseased tonsils, and many other ailments:

"And whereas there is no agency so effective nor so economic as a Public Health Nurse in helping parents and Women's Institutes to detect and remedy these:

"And whereas the cases of relief and charity are similarly effectively handled by the Public Health Nurse:

"And whereas such a nurse placed in any district can, by the regular work, demonstrate in six months the value of her services in dollars and cents in any district:

"Therefore be it *Resolved*, That we, the Women's Institutes of Vancouver Island North, in conference assembled, respectfully urge that an increased amount be granted to the Provincial Department of Health in order to further assist in establishing Public Health Nursing services and in helping those districts anxious to remedy the teeth, eye and tonsil defects of children."

(Moved by Mrs. Tryon, Parksville, seconded by Mrs. Marshall, Qualicum, and carried by the Vancouver Island North District Women's Institute Conference.)

Respectfully submitted.

V. S. McLACHLAN,
Superintendent, B.C. Women's Institutes.

REPORT ON DENTAL WORK, PEACE RIVER DISTRICT.

825 GRANVILLE STREET,

VANCOUVER, B.C., January 5th, 1937.

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

Provincial Board of Health Officer, Victoria, B.C.

SIR,—The following is a report on my work and observation, during my association with the British Columbia Board of Health, in connection with dental work, completed for school-children in the Peace River District, also the Surrey School dental work for the year ended 1936.

The successful handling, or, may I use my own term, contacting with children is a problem in itself. In this work I use certain methods which I have followed during my entire length of practice, and so far have never failed in successfully meeting the child, except where the parent interferes. First of all, to be successful in this work one must have a genuine affection for all children; to many dentists the sight of a child means trouble, whereupon it should mean another little friend; one must make a thorough study of human nature, understand and know how to apply psychology, and one must never deceive or make a false statement to a child—I learned this many years ago.

The work in Surrey County was greatly needed, and in all the time I spent there I met 583 children. For these children I performed 3,797 operations, averaging 6.5 per child. This would seem, and is, a very high average, proving the deplorable dental condition among the school-children existing in this district. In all, I might say that the work here was most pleasant in every way. The co-operation of the local committees interested in this work proved a great factor in its success, and I am sure the future will bring its just reward.

Now to take you to the Far North, to the Peace River District. Here I found the dental condition much improved as compared to last year; this of course was to be expected. There were, however, many children treated this year that were either missed last year or else new within the district. The average per child last year, I believe, was 3.6, while this year we find it 2.6. The most noticeable change I found was the cleanliness of the mouth and the wonderful improvement of the child's attitude towards the dentist. As, for instance, in one case I recall a boy of 12 for whom I had just filled three teeth; he was such an ideal patient, so pleasant and jolly, that after having finished I made this remark: "Well, George, it has been a great pleasure to do this work for you to-day, and I am really sorry to see you go."

He laughed and remarked: "Well, that is different from what you told me last year."

"Oh!" I asked, "and what did I say?"

"Well," he replied, "I thought you were going to give me a good shaking."

"Did you deserve it?" I asked.

"Yes, I did," he replied.

"Well," I remarked, "hasn't it been a wonderful change this year, everything has been so pleasant." I was really sorry to see George go. There are many interesting incidents like this that I might make mention of, but I prefer to hold until later date, when I hope to write more fully my memoirs of my work in connection with school dentistry. The number of children contacted in this district for this year is 1,040. The work in this district is very difficult owing to the fact that many children are obliged to travel a long distance over roads that are sometimes impossible for the modern vehicle. For instance, in one place I recall five young girls in their teens that walked 11 miles each way in order to have their dental work done. There are cases where it has taken many hours for a group of children, driven by horse-team, to reach the clinic, arriving late in the day. Under these circumstances you will understand it is absolutely necessary that this work be completed at once, as a return trip would be out of the question. This makes it necessary for a dentist to work many times long

after hours. This year we were obliged to work two Saturdays all day, and Sunday as well, without a let-up. However, we were able to complete almost on schedule time, due greatly to the efficiency of Dr. J. S. Cull and the charming, efficient, and kindly nurses, members of the Board of Health staff of the Peace River District.

It was also very interesting to note the very few permanent teeth that had to be extracted as compared with last year. For instance, I removed only thirty-four this year and treated over 1,000 children, whereas I was obliged to extract many hundreds last year for about 600 children. The number of the thirty-four extracted were for children that had not been treated last year; others were cases where we attempted to save six-year molars if possible, which later broke away; others were cases where only temporary fillings were used in order to save the tooth for at least another year.

Where no previous work has been done for children who have reached the age of 10 or 12 and upwards, I believe it will take about three years of annual treatment before the desirable condition has been obtained. This of course necessitates seeing the child at least once a year for three consecutive years.

In closing, I might state: "To me it was a great pleasure; although the work was hard, the burden was always lessened by the kindly thoughts of each and every member of your staff in this district."

I have, etc.,
A. R. CURRIE.

VICTORIA, B.C. :

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1937.

