PROVINCE OF BRITISH COLUMBIA

FORTY-FIRST REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

FOR THE

YEAR ENDED DECEMBER 31ST

1937

PRINTED BY
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1938.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., March 31st, 1938.

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, 1937.

G. M. WEIR,
Provincial Secretary.

REPORT *of the* PROVINCIAL BOARD OF HEALTH.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., March 31st, 1938.

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

SIR,—I have the honour to submit the Forty-first Annual Report of the Provincial Board of Health of British Columbia for the year ended December 31st, 1937.

In my Annual Report for 1936 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."

During the year 1937 the proof of the above forecast has been amply demonstrated, as will be shown by a perusal of the reports I am giving in the present report. 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. The enlargement of the various branches of the Department, as pointed out in a previous report, has fully justified our expectations, and I am publishing reports *in extenso* of the work that is being carried on.

In regard to the Tuberculosis Division, the report that has been furnished by Dr. Hatfield, who is in charge, is remarkable in its detailed description of the work. Dr. Hatfield has published a record that is classic in showing the application of the many advances that have been made in tuberculosis-work and which, owing to our Minister's generosity, has taken the form of the provision of ample buildings, fully-trained staff, and with headquarters in Vancouver. Dr. Hatfield's report is so elaborate that we will not publish it in full in our Annual Report, except to this extent that we would wish any one desiring a copy to write us.

The general report that I made last year embraced a short description of the formation of the Metropolitan Health Unit in the City of Vancouver and surrounding districts, and I have to report this year that at the completion of eighteen months we are more than justified in the efforts that we made to bring about such a demonstration. It is the first of the kind on the continent of North America, and has been commented on by health workers in all parts of Canada and the United States as the acme of what a Health Unit should be. All branches of Public Health work are provided for, the personnel is trained, and we only take both Medical Officers and Public Health Nurses who prove to us that they have, in case of the doctors, taken post-graduate work of nine months, included three months' field-work, leading to the degree of D.P.H., and in the case of the nurses, have taken six years from the time they enter University, which includes two and one-half years for time to take their nursing training in the hospital. We have increased the length of this course by adding some months, three at least, after they finish to take the field-work in connection with our Units in the Province.

The Vital Statistics Division is increasing its usefulness, especially along statistical lines. We have been able to add the necessary machinery, and this has accomplished a great deal in the saving of time and in accuracy. It is pleasing to note that the staff in charge are fully competent now, but have obtained all their training in our own Department.

We still have to complain of a lack of facilities. Although we have made great advances, yet in our head office we are understaffed and overcrowded. In our head office we are carrying on the direction of the public-health nursing-work. The progress of this nursing-work has been remarkable. We began by graduating our first class of Public Health Nurses in 1921, and we have now ninety nurses, all trained, and who were sent out to centres where they had to introduce the work which is entirely new to the people, and they have done a remarkable job. We were questioned a short time ago as to the history of the work that was being done, for a large Commission that is looking into affairs in general in Canada. We wrote to all of the bodies who are concerned in the public-health nursing-work, and received answers from all of them and there was not a criticism conveyed; in fact, every one in their own way lauded

the results of which they have a thorough knowledge now, and particularly as to the health of the people and the improvement in the health of the school-children, and they particularly dwelt on the fact that the results of our demonstration have increased wonderfully the standard of personal health. This is a remarkable record for a body of nurses who were sent out to introduce a new subject, and it is pleasing to note that in none of the places they were sent has there been a request for a change, nor has the Department found cause to remove any particular nurse. This means that for seventeen years they have been under the closest scrutiny of the people themselves, and they have not been "found wanting."

In regard to our central office, we have no particular specialty, except the oversight of the work in general in the Province, but I would like to comment on the staff in the head office, who have given unremitting attention to the work willingly and with no complaints. When I say that last year we sent out, on subjects dealing with the Department in general, 8,700 personally dictated letters, there may be some idea of the subjects dealt with, and this was done by two very clever and industrious young ladies, Miss Chrow and Miss Garland. They are competent and, what is very important, they thoroughly understand the work.

In addition to the Tuberculosis work, which we mentioned, we have full reports, which are published in this record, from our Sanitary Department, our Provincial Laboratory, and the Division of Venereal Disease Control.

I would ask that every one should read the Laboratory report and they will get a better idea of the expansion of the work of the Department. I can not speak too highly of this particular Division. They are ever ready to meet all requests, and a perusal of the report will give you some idea of what thorough knowledge of the work and organization by trained people will do in spite of all of the difficulties that we have to contend with.

There is also a report from the Venereal Disease Division, and in this we are following out steps as to what we did in our Tuberculosis Division, and have increased the work wonderfully, as will be shown by the figures published. We consider that we are only at the beginning of this subject, and we are justified by the results that we are getting. The Province is being covered the same as in the Tuberculosis work, by special men in charge of districts. We are carrying on a consultative branch through correspondence with the medical men, with good results. We have made some changes in our personnel in order to meet this expansion, but we have men thoroughly trained, all specialists in their particular branch.

It is wonderful to look back over the past ten years at least, and remember the struggles that we were having at that time to arouse the public to the benefits that the Government was offering in regard to adults and to the children in particular. We have based all our work on two major points—education of the public, and prevention of disease—and our epidemiological report in comparison with ten years ago shows the immense strides we are making. We have banished some of the diseases entirely, and with the further work in research it will not be long before we will add other diseases that we can control completely by preventing them. One hesitates to even hazard an opinion as to what the result would be if it were possible to reduce to financial terms the amount the country has saved. Yet each month almost, each year certainly, we are faced with the adoption of further methods to carry on this wonderful work, and the greater recognition that we are receiving is due entirely to the people who have formed the Health Department, in carrying out all new advances and having men competent to pronounce judgment on them. In all our reports are professional accounts by competent men of the results of the application of modern methods.

Next year we hope to be able to give an account of the working of our Metropolitan Health Area, as we call it, where we have the large Unit that is dealing with probably 50 per cent. of our population, under one health branch which has been formed as a board. This work, which we inaugurated some eighteen months ago, has done a wonderful piece of work, and it is done on the basis of financial help by the people, assisted by grants from the Department. It is striking to note how a demonstration, such as this, rouses the interest of the people and has laid the foundation and made possible the formation of further Health Units.

I am publishing reports from two of our Health Units and I am sure you will see, when you read them, the suggestion of extension of the work by public education is the right means when brought about by actual demonstration of the principles that we are recommending. Not only is the public becoming health-conscious but all the other departments with whom we have to consult are very generous in their suggestions and also in the practical results they are receiving from ourselves.

I would particularly note yourself, Sir, as one who has given us the means of making these advances, and you are creating a monument for yourself that ascribes to you a leadership in modern public-health work that we all know is enviable. Your encouragement has been a great pleasure, indeed, to us, as we feel that the efforts that we are making are appreciated by yourself and that advances are being made.

To the members of the staff I feel greatly indebted for their painstaking work and the 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 note that the municipal councils and school boards consider the health work now as being established on a sound basis, and they are satisfied that all our claims are being made good as regards the saving financially, and particularly in the betterment of the people's health.

I have again to thank the Commissioner of the Provincial Police for the unfailing efforts that he makes to assist us in the discharge of our duties which are onerous when we consider that we have 400,000 square miles of territory to deal with. The co-operation that we receive from the members of his staff, backed as it is by their authority as officers, enables us to feel that although our territory is very large, yet there is always some one in the outlying districts who fills the uniform and has been imbued in the same sense of kindness and co-operation with us that you have splendidly afforded to our Department. I can assure the Commissioner we are deeply appreciative of the work of himself and his staff.

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

We append an account of approvals for sanitary works during the year 1937:—

Cemetery-sites approved.—Gibson's Landing, Birch Island, Winfield, Chinook Cove, Wynndel, Clearwater, Colwood (Roman Catholic), and Barkerville.

Sewage-disposal Systems approved.—Nil.

Water-supply Systems approved.—Rossland (extension), Port Alberni (new reservoir), Peachland (replacements), Summerland (replacements and extensions), Princeton (pipeline), and Revelstoke (renewals and relocation of mains).

TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASES IN THE PROVINCE FOR THE YEAR 1937.

	Cancer.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	German Measles.	Influenza.	Leprosy.	Malignant Œdema.	Measles.	Mumps.	Paratyphoid Fever.	Pneumonia (lobar).	Pneumonia (broncho).	Pneumonia (unspecified).	Poliomyelitis.	Puerperal Septicaemia.	Rocky Mtn. Spotted Fever.	Scarlet Fever.	Septic Sore Throat.	Smallpox.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping-cough.	Total.
Abbotsford and District	1		65	2						38			196	3		5				1		37	4									352
Agassiz and District			3										7	1																		11
Ahousat and District																																
Alberni and District			2						1	82			19	11								1									10	126
Alert Bay and District			13	4				1		214		1	176	3		4	19					1	31				2	5			4	478
Alexis Creek and District																		1														1
Anyox and District																																
Armstrong and District			1						2	62			4	2		6	1		1			1							1			81
Ashcroft and District			4	1						7			97			4	1	1										3			7	125
Atlin and District	2									6			1															3				12
Barkerville																																
Baynes Lake and District																	1															1
Bella Bella and District										10			94			3	7											2				116
Bella Coola and District										30			40				1	4	6									2				83
Blakeburn and District			4										43	10								1										58
Blue River and District										61			59			1																121
Bralorne and District										14						1		1													12	28
Britannia Beach and District			13										63			1							20									97
Burnaby and District		1	8						1				71	2								26							3		1	113
Burns Lake and District			6	1						13			57									2										79
Campbell River and District	1		1					1		68			66	1		1	2						2					1			8	152
Canal Flats and District			1										59	6																		66
Castlegar and District			9						5	9			2	1		1																27
Ceepeecee			1										2																			3
Chase and District	2								5	52			15	2		5												1			12	94
Chemainus and District			13						2				59	3								31										108
Chilliwack and District	1	1	7							31			257	30		6	4					29	10				2	4	2	1	5	390
Cloverdale and District			3										40									1						1				45
Coal Creek and District			6					1		42			13									10										72
Cobble Hill and District			8							1			36	2		1						1										49
Coquitlam and District			4										24	1								5						1				35
Courtenay and District	2		9						1	84			104	2				1				10						4			36	253

Cranbrook and District	2		29					8	31				143			14	1		2					3			1				1	18	253
Creston and District			4	4					2	133			132	3		2	11					25	5									43	364
Cumberland and District			2										132			3						4							1			29	171
Dawson Creek and District	1								7	8			3	2		1													1				23
Deroche										1			1																				2
Duncan and District			28					1					29	4								9										2	73
Enderby and District										32			17			3	2		1			4										3	62
Esquimalt and District			6							9			43	1								2											61
Fernie and District	1		35	4				1		12			11	1		2		1				12							1				81
Field and District			27						1	39							2					1	2										72
Fort St. John and District									11				8							1													20
Fraser Lake and District	1		7	1						12					3	1												11				13	49
Fraser Mills and District									6																				17				23
Ganges																																	
Garden Bay and District			5		1			1					13									2											22
Gibsons Landing									7				56	1								1										2	67
Golden and District			27							74			18				1	1				1	4										126
Grand Forks and District	2				1					25			1			2						2	5							1			39
Greenwood and District			1		1					102													1										105
Halcyon Springs District																																	
Hammond and District				1						19				2																			22
Hanceville and District																																	
Haney and District	2		4					1		34			2	7		4	4					1							1	1		1	62
Hazelton and District			4							179			5				5										1	18					212
Hedley and District			7					1	1	115			35				1	1															161
Hope and District													8																				8
Invermere and District								1		28						5	1																35
James Island			4					1					9			1																	15
Kamloops and District	9	1	59					2		306			786	14		56	11	16				7					3	7	2		10	1,289
Kaslo and District	1		2							4			3			1	5															1	17
Kelowna and District			13							191			16	35	3												1		1			9	269
Keremeos and District													14																				14
Kimberley and District	3		6	1					3	151			583			4	7	1				1										12	772
Kincolith and District			19							235			47			1							1										303
Ladner and District	1		22					1	5	74			15	1			1	5				12	2								2	31	172
Ladysmith and District			13						1	87			41			2		1				3											148
Lake Cowichan																																	
Langford																																	
Langley Prairie and District		1	1		1			3		6			22			9	2					29	5										79
Lillooet and District			2							341			6			7	7			1			3				2					66	435
Lytton and District				9						243			198	2		2	46					1					1	2				45	549
McBride and District										26			26				2					10										16	80
Maillardville					3				1																								4
Carried forward	32	4	508	28	7			24	93	3,310		1	4,027	153	6	159	145	34	10	3		283	98			1	23	75	11	4	396	9,435

TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASES IN THE PROVINCE FOR THE YEAR 1937—*Continued.*

	Cancer.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	German Measles.	Influenza.	Leprosy.	Malignant Œdema.	Measles.	Mumps.	Paratyphoid Fever.	Pneumonia (lobar).	Pneumonia (broncho).	Pneumonia (unspecified).	Poliomyelitis.	Puerperal Septicaemia.	Rocky Mtn. Spotted Fever.	Scarlet Fever.	Septic Sore Throat.	Smallpox.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping-cough.	Total.
Brought forward	32	4	508	28	7			24	93	3,310		1	4,027	153	6	159	145	34	10	3		283	98			1	23	75	11	4	396	9,435
Masset and District													37				4															41
Mayne Island									5	30			14				1						2									52
Merritt and District	1									170			122			3		2									1		1			300
Michel and District	1		15					2		52				16			2					20										108
Minto City and District										17			1																			18
Mission City and District			4							68			143	1		4		1				4	2					2	1		6	236
Nakusp and District										6			29				1											2				38
Nanaimo and District			47	4					3				178	9		4	2		4			17							1		8	277
Nelson and District	5		35					12	21	32			46	8		2	2	31				15	1					8	3		37	258
New Denver and District													1																			1
New Westminster and District	10	1	118	1	3			20	2	12			640	7		2	6	1	1			48	2					9	7		9	899
North Vancouver and District	7		71						2	50			411	7				5				23						1	1		11	589
Oak Bay			3										246	18																	5	272
Ocean Falls and District			3	5					9	150												3										170
Oliver and District			20	18				2	32	64			18	1		2						1									8	166
Parksville and District			3						2	9			24	2			2					1									1	44
Peachland and District																																
Pender Harbour and District		1														5	7															13
Pender Island										4			5																			9
Penticton and District			13	5				2	10	190			193	49	1	1	7	7	1			5			1			1			20	506
Pioneer Mines and District								1	2	18			1															1				23
Port Alberni and District			1						4	156			13	40													1	1			11	227
Port Alice and District										9													4					1				14
Port Coquitlam and District			4					1	1	69			79	38			13					2	13									220
Port Haney and District			5										5	20								19										49
Port Moody and District													43	1		1						8	3									56
Port Renfrew and District										20			2				2												2			26
Port Simpson and District			11					1		515			113				18											6	3			667
Pouce Coupe and District			3						225					6								2									3	239
Powell River and District	3		7					2	1	82			94			2	3	1					37								6	238

Premier and District																	1										1					2
Prince George and District	1		14						35	48			9		2	1	5									1		1		11		128
Prince Rupert and District			6		5			1		50			62	5								14	7				5	1		32		188
Princeton and District	1									34			420	1		3	1															460
Qualicum Beach and District	1		4						2	23			34	6			1						1									72
Queen Charlotte and District								2					2																			4
Quesnel and District										192									1													193
Revelstoke and District			3					2		184			22	2		2		3				4					1					223
Rock Bay and District													7			1											2					10
Rossland and District			122						2	213			13	2		6	5			2		20					6	1		24		416
Saanich and District			109										949	5								16										1,079
Salmo and District			11	17					10	79			5	1								4	10							1		138
Salmon Arm and District			5							22			71			3	5	1	2			19	3				1			4		136
Saltspring Island	1												61														1					63
Sardis and District								1					3			1	2	1								1						9
Shawnigan Lake and District										2			34			2	1	2														41
Sidney and District			11	1						44			141			1	1															199
Smithers and District	3		1	2						113			207			1	7						12				1			16		363
Sooke and District			16					2		14			95	3		1						2	7									140
South Wellington and District																																
Squamish and District										50			6																			56
Steveston and District										6			3			2						1								2		14
Stewart and District										11																						11
Summerland and District	1		7						1	324			91	1		2	1	1				3						1				433
Surrey and District																																
Telegraph Creek and District																											2					2
Terrace													24									3										27
Texada Island and District																																
Tofino and District			3							3			56					1														63
Trail and District			184					1	22	1,602			61	3		1	7	14	1			31					3	4	2	15		1,951
Tranquille													8																			8
Ucluelet and District			15										1																	5		21
Vancouver	700	3	826		11			55	24		1		2,050	901					3			314					398	26	2	107		5,421
Vanderhoof and District			4							76			238									7								16		341
Vernon and District	4		19					3	2	212			42	2		3	2	4	3								3	1				300
Victoria and District	133	1	147					4		87			1,455	73						1		20				2	217			37		2,177
Wells and District									4																							4
West Summerland and District									1	96			71	1	1							1										171
West Vancouver and District			6						1	126			27	30			1					12										203
Whiterock and District																																
Williams Lake and District			5	2						88			348	4		3		3				3	1							6		463
Woodfibre and District			3							137			57				2															199
Totals	904	10	2,392	83	26			138	516	8,869	1	1	13,158	1,416	10	218	257	112	26	6		925	203		1	1	29	748	65	8	797	30,920

GENERAL REPORTS.

REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL, PROVINCIAL BOARD OF HEALTH.

The Division of Tuberculosis Control has not only made many new forward steps, but has further consolidated the efforts made in its previous short existence. The Division is pleased to report the whole-hearted co-operation of all members of the staff of the Division, and the continued support of practising physicians, many private organizations, and the general public.

STATISTICS.

Through the aid of the Division of Vital Statistics, the record system of the Division has now been fully developed. A full analysis of the work done during 1937 appears in the separately published report of the Division. There are now 5,188 known cases of tuberculosis in the Province, and there were 1,827 new cases recorded during the year. There were 590 deaths from tuberculosis in the whole Province during 1937. The ratio of new cases to deaths for the year was 3.1. The mortality rate per 100,000 divided into Whites, Orientals, and Indians, was as follows: Whites, 46.7; Orientals, 101.2; Indians, 902.5.

A few of the developments during the past year have been as follows: Further standardization of the work of the Units; complete statistical studies of all work throughout the Province; increased bed turnover; better recording of cases, with improved segregation of infectious cases and general earlier diagnosis; improved medical services; more clinics held and more centres visited; an increased number of people examined; an increased number of surveys done, notably survey of all underground workers, more extensive survey of school-children, and more industrial surveys; the development of a Supervisor of District Nurses office, further development of the Social Service section; a reduction in the infection rate as measured by the tuberculin testing of six-year-old school-children; more scientific articles published in medical literature; and definite plans to develop some tuberculosis-control work amongst the Indian population.

INSTITUTIONS.

In February the new addition to the Vancouver Unit was opened. The total number of beds now in the Province for the treatment of tuberculosis is 659. The number of cases admitted during 1937 was 728, and the number of patient-days totalled 221,055. There was an increase in collapse therapy, 10,705 pneumothorax treatments being given, and 108 thoracoplasty operations were done on 53 patients. Increased specialist service is now available, including orthopædic surgery, genito-urinary surgery, eye, ear, nose, and throat, and dental services. It is felt that the Division now has sufficient beds for the active treatment of tuberculosis, but that further convalescent-bed facilities are needed. A convalescent institution as previously discussed is still urgently needed.

CLINICS.

The total number of patients examined by the clinics was 27,983. This is a 50.4 per cent. increase over 1936. The number of new cases seen by the clinics and not previously examined at any time was 15,330. There were 1,316 clinics held in the Province, 814 by the stationary clinics in Vancouver, Victoria, and Tranquille, and 502 by the travelling clinics. These travelling clinics visited seventy-four centres, with an increased frequency to some of these centres. The total number of X-ray examinations made by the clinics was 20,033. Sixty-two surveys were completed during the year. Some of the larger surveys were the silicosis survey, the six-year-old school-children, and the school-teachers survey, and the survey at the University of British Columbia.

DISTRICT NURSING SECTION.

An office of Supervisor of Tuberculosis District Nursing for the Province was inaugurated during 1937. A great deal of organization-work has been done in this phase of the work. The Metropolitan Health Board has handled the district nursing work in the City of Vancouver, and here the Division is able to report a very close supervision of all tuberculous cases. In the outlying areas of the Province, nursing services from the tuberculosis standpoint have been co-ordinated through this new office. A complete new system of recording the work throughout the nursing unit has been devised and placed in effect.

SOCIAL SERVICE SECTION.

There has been very careful dovetailing of the work of the Social Service section of the Division with that of the District Nursing section. The two supervisors have worked very closely together and have been able to co-ordinate the work in a very satisfactory manner. The social-service activities of the Division have become quite extensive, but it is quite apparent that this phase of the work will have to be extended further yet to bring about the desired results.

PUBLIC HEALTH EDUCATION.

During the year a booklet entitled "Lessons in Tuberculosis for School Children and Parents" was compiled and published; 45,000 copies of this were distributed throughout the schools in the Province. A new and larger exhibit was built for the Vancouver Exhibition, and approximately 15,000 people passed through this exhibit. Many new lantern-slides have been made and listed, and these have been used extensively for lectures throughout the Province.

OCCUPATIONAL THERAPY AND REHABILITATION.

This phase of the work may still be considered to be in the experimental stage. A great deal of the satisfactory development recorded is through the voluntary agencies who have shown a tremendous interest in this part of the work. In Vancouver the new Vancouver Occupational Industries shop was opened in the fall by His Honour the Lieutenant-Governor. It is a real forward step in the development of this work. The Kiwanis Club of Victoria has developed a work-shop in connection with the Victoria Unit. It is now planned to co-ordinate the development of this work throughout the Province.

CENTRAL COUNCIL.

The Central Council of the Division of Tuberculosis Control held two meetings during the year; the first in February at Victoria, and the second in September at the Central Office in Vancouver.

W. H. HATFIELD, M.B.,
Director, Tuberculosis Control Division.

REPORT OF PROVINCIAL BOARD OF HEALTH LABORATORIES.

VANCOUVER, B.C., January 29th, 1938.

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 1937 on the work of the Division of Laboratories of the Provincial Board of Health. The year has been a notable one for the Laboratories from several standpoints. The numbers and varieties of tests performed, the economy of operation, and the difficulties faced, have eclipsed all previous records.

NUMBERS AND TYPES OF TESTS PERFORMED.

In my report for 1936, it was indicated that the Laboratories had reached the absolute limits of their capacity. It would appear that one underestimated the extent to which entirely unsuitable working conditions could be endured by a conscientious staff; for during 1937, 91,569 tests were performed, as compared with 71,783 in 1936, an *increase in numbers of 36.3 per cent.* This increase has been achieved only by temporary submission of the whole staff to intolerable conditions, which have been the subject of vigorous and repeated protests from the Director.

In Table I. is set forth an analysis of the numbers and types of tests performed in 1937. For purposes of comparison the corresponding figures for 1936 are given. Table II. shows the numbers and types of tests performed during 1937 by the branch laboratories under subsidy from the Provincial Board of Health. The combined figures for the Vancouver Laboratories, and for the six branch laboratories at Victoria, Nanaimo, Trail, Nelson, Kamloops, and Kelowna, respectively, total 111,953 tests; or approximately one laboratory test relating to the diagnosis and control of communicable disease for every six persons in British Columbia. As in former years, just over 90 per cent. of the tests performed in the Vancouver

laboratories related to specimens sent in by Provincial and municipal health agencies, and by private physicians operating within the boundaries of the City of Vancouver. During 1937, one public-health laboratory test was thus performed for roughly every three inhabitants of Vancouver.

TABLE I.—STATISTICAL REPORT OF EXAMINATIONS DONE DURING THE YEAR 1937.

Examination.	Out-of-town Specimens.	City.	Total in 1937.	Total in 1936.
Animal inoculation	17	126	143	116
Blood agglutinations—				
B. typhosus	291	2,251	2,542	1,612
B. paratyphosus A	291	2,249	2,540	1,576
B. paratyphosus B	291	2,249	2,540	1,576
B. dysenteriæ (Shiga)	72	515	587	420
B. dysenteriæ (Flexner)	72	515	587	420
B. dysenteriæ (Sonne)	72	514	586	215
Br. abortus	291	2,154	2,445	1,576
B. tularense	.....	8	8	18
Cultures—				
Miscellaneous	34	118	152	442
*B. tuberculosis	10	105	115	.....
Typhoid group	64	324	388	211
B. pertussis plates	2	57	59	20
Diphtheria	100	7,344	7,444	8,869
Hæmolytic staphylococci	119	626	745	354
Hæmolytic streptococci	125	663	788	528
†Gonococci	.....	1,073	1,073	.....
Direct microscopic examination for—				
Gonococci	764	14,769	15,533	11,007
M. tuberculosis (sputum)	666	9,201	9,867	11,153
M. tuberculosis (spinal fluid)	8	1	9	11
M. tuberculosis (urine)	14	155	169	211
M. tuberculosis (pleural fluid)	4	22	26	11
M. tuberculosis (miscellaneous)	8	57	65	36
‡Treponema pallidum (dark-field)	11	32	46	.....
Treponema pallidum (nigrosine)	31	73	101	34
Vincent's spirillum	3	492	495	691
C. diphtheria	1	5	6	11
Trichophyton (ringworm)	.....	55	55	158
Helminths (parasites)	5	56	61	63
Kahn tests—				
Blood	3,671	26,955	30,626	23,646
Spinal fluid	194	1,641	1,835	1,070
Spinal fluid—				
Routine	175	927	1,102	210
Colloidal reaction	190	1,546	1,736	709
Milk—				
Bacterial counts	40	1,583	1,623	1,615
Coli-ærogenes	40	1,583	1,623	1,359
Water—				
Total bacterial counts	.....	554	554	275
Coli-ærogenes	690	554	1,244	768
§Differential counts	.....	463	463	.....
Convalescent serum distributed—				
Measles	85	131	216	63
Poliomyelitis	15	9	24	51
Miscellaneous—				
†Variola complement-fixation	2	1	3	.....
‖Hintons	.....	464	464	.....
‖Presumptive Kahns	.....	468	468	.....
‖Phagocytic tests	.....	15	15	.....
Miscellaneous	23	375	398	678
Totals	8,491	83,078	91,569	71,783

* Included in "Miscellaneous Cultures" previous to 1937.
† Not done in Laboratories until July, 1937.
‡ Not done in Laboratories until April, 1937.
§ Not recorded in Laboratories until May, 1937.
‖ Not done in Laboratories previous to November, 1937.

TABLE II.—NUMBERS OF TESTS PERFORMED BY BRANCH LABORATORIES IN 1937.

Type of Test.	Victoria.	Trail.	Kamloops.	Nanaimo.	Nelson.	Kelowna.	Test Totals.	Percentage of Grand Totals for all Branches.
Kahn, Wasserman, and other serological tests for syphilis	3,497	1,648	1,675	1,092	554	446	8,912	43.7
Smears for gonococcus	1,796	969	592	828	588	90	4,863	23.8
Sputum for M. tuberculosis bacillus	2,939	51	422	624	131	102	4,269	20.9
Agglutination tests for typhoid	539	415	22	43	25	48	1,092	5.3
Cultures for diphtheria bacillus	123	19	40	20	54	8	264	1.3
Bacteriological tests on milk samples	.....	.....	16	.....	25	264	305	1.5
Bacteriological tests on water samples	.....	105	87	.....	19	85	296	1.5
Miscellaneous tests	80	49	19	107	47	81	383	1.9
Branch totals	8,974	3,256	2,873	2,714	1,443	1,124	20,384	99.9

TESTS RELATING TO VENEREAL DISEASE CONTROL.

At the Vancouver laboratories, *57.8 per cent.* of the work related to the diagnosis and control of syphilis and gonorrhœa, a somewhat higher percentage than has obtained for several years. This reversal of the trend noted in the 1936 report is largely due to the tremendous increase in our work occasioned by the expanding programme of the Division of Venereal Disease Control. The numbers of tests done directly on behalf of this division represent, as in previous years, a rather small proportion of the total numbers of specimens relating to syphilis and gonorrhœa which reached the laboratories. But the policy of the Division of Venereal Disease Control, of urging practitioners to send a blood sample to the laboratories from every patient for a routine Kahn test, has undoubtedly contributed to the 30 per cent. increase in numbers of Kahn tests performed on blood specimens during 1937. For the second successive year a very marked increase, *71.5 per cent.*, in the numbers of Kahn tests on cerebrospinal fluid specimens has to be recorded. This increase is almost wholly attributable to the intensive efforts made by the Division of Venereal Disease Control to identify every possible case of neuro-syphilis. It should be duly recognized, however, that these laudable efforts owe their success, in large measure, to the overtime labours of the staff of the Provincial Laboratories. The accustomed hand can obtain a specimen of cerebrospinal fluid from a patient in less time than it takes an experienced technician to perform a Kahn test upon the specimen; while a complete laboratory examination of the cerebrospinal fluid may take longer than a thorough clinical examination of the patient by a competent neurologist. This point is made in order to emphasize the greatly-increased work entailed by a big expansion in numbers of the more time-consuming tests. The true significance of a *425-per-cent. increase* in numbers of routine cerebrospinal fluid examinations, and of a *145-per cent. increase* in numbers of colloidal reaction tests, such as was experienced over the period 1936–37, is thus perhaps made clearer. Going back one year earlier will emphasize still further the phenomenal increase in some types of our work. For instance, in the first Annual Report submitted by the present Director, covering the year 1935, only 40 complete examinations of cerebrospinal fluid specimens were made, as compared with 1,102 examinations of the same type in 1937—an almost thirtyfold increase. Again in 1935, the colloidal reactions of only 361 cerebrospinal fluid specimens were tested; whereas two years later 1,736 similar tests were performed—a fivefold increase.

Rapid and formidable increases in certain types of test relating to the diagnosis of syphilis have been experienced not only by the Vancouver Laboratories but also to a varying extent by the branch laboratories throughout the Province.

In addition to carrying these heavy increases in numbers of tests relating to the control of venereal disease, the Laboratories have taken the initiative in making available during the past year the most modern and efficient laboratory methods known for the diagnosis of syphilis and gonorrhœa. Considering first gonorrhœa, not only have the numbers of microscopic examinations for gonococci increased from 11,007 in 1936 to 15,533 in 1937, or by 41 per cent., but also facilities for culturing the gonococcus have been extended to the Division of

Venereal Disease Control. Over 1,000 cultures were made during the second half of the year, the Laboratories supplying the requisite portable incubators, in addition to the culture media. This facility has proved a valuable innovation, for not infrequently specimens have been found positive on culture while negative to direct microscopic examination. The possibility of prematurely discharging, as cured from gonorrhœa, patients who are still potentially infective has thereby been greatly diminished.

In order to facilitate the early diagnosis of syphilis, outfits have been distributed to all save the smallest hospitals throughout the Province, for the collection and transmission of material from suspected primary syphilitic lesions. These specimens have been examined at the Vancouver Laboratories by dark-field illumination, and by a new nigrosine method, for the presence of *Treponema pallidum*. In many instances, positive findings, by antedating the appearance of a positive Kahn reaction in the blood, have permitted the earlier institution of anti-syphilitic treatment. As judged by the comparatively small numbers of dark-field and nigrosine preparations examined, physicians are not yet availing themselves sufficiently of this important procedure; or alternatively, patients with syphilis are not presenting themselves for medical advice until primary lesions have healed. Both the gonococcus culturing and the dark-field and nigrosine tests have been the special responsibility of Miss M. Malcolm, who added this important work to her numerous other duties as Chief Bacteriologist.

In conformity with the current trends of good public-health laboratory practice, the Vancouver Laboratories adopted the policy, in the last two months of the year, of checking all positive Kahn findings by performing supplementary tests (presumptive Kahn and Hinton) upon the specimens in question. The consequences of this policy, from the standpoint of the extra work and equipment entailed, will be more fully felt in the ensuing year. This decision merely represented a recognition of certain peculiarities inherent in all the serological tests for syphilis, and was not due either to any apprehension over significant errors in technique within the Laboratories, or to any dissatisfaction with the routine diagnostic Kahn test.

The desired standardization of serological tests for syphilis among the branch laboratories has not yet been achieved, for reasons to be later discussed; but there is no reason to doubt the general reliability of the different techniques and methods currently in vogue among them. Tests relating to the diagnosis and control of syphilis and gonorrhœa comprised a very high percentage of the total public-health tests made at the branch laboratories. Thus, of 20,384 tests made in the six branch laboratories, 13,824, or 67.8 per cent., related to venereal disease. Of the total 111,953 public-health laboratory tests made in British Columbia in 1937, 45,339, or 40.5 per cent., related to the diagnosis and control of syphilis, and 21,469, or 19.2 per cent., to the diagnosis and control of gonorrhœa.

TUBERCULOSIS.

The numbers of sputum and other specimens examined in the Vancouver Laboratories for the presence of tubercle bacilli fell slightly to 10,136 in 1937; and tests relating to the diagnosis and control of tuberculosis represented only about 11 per cent. of the total, as compared with about 16 per cent. of the total in 1936. On the other hand, the numbers of similar specimens examined in the branch laboratories greatly increased; and tests of this type represented over 21 per cent. of the total tests made therein.

This discrepancy may be explained as follows: An impossible burden threatened the main laboratories during the early months of the year, owing to big increases in the numbers of sputum specimens sent in from the enlarged headquarters of the Division of Tuberculosis Control. During March and April, for instance, the numbers of sputum specimens (examined under the competent direction of Miss J. Grant) averaged over 1,500 monthly, or a rate of 18,000 per annum. The Laboratories having neither the staff nor the space to perform this work, the Director of the Division of Tuberculosis Control, Dr. W. H. Hatfield, kindly consented to arrange for sputum specimens from patients attending the Vancouver Clinic to be examined in the laboratory attached thereto. This diversion of specimens from in-patients began to take effect in May, while in July specimens from out-patients were similarly taken over. Had it not been for this release, in the second half of the year, from the demands of the Division of Tuberculosis Control, the Division of Laboratories would have been quite unable to contend with the greatly increased work recorded on behalf of the Division of Venereal Disease Control.

DIPHTHERIA.

A decrease of 16 per cent. occurred in the numbers of swabs cultured for the diphtheria bacillus in the Vancouver Laboratories. But from a community whose school population has been well immunized against diphtheria by toxoid injections, it would seem unnecessary that so large a number as nearly 7,500 throat-swabs a year should continue to be taken. The culturing of throat-swabs for diphtheria bacilli still covers over 8 per cent. of all tests done in the Vancouver Laboratories. Many of these swabs are not carefully taken, and others reach the Laboratory in poor condition. Hospitals and kindred institutions which require routine throat-swabs to be examined for diphtheria bacilli appear to be observing outdated regulations. The branch laboratories appear to be more reasonably situated in this respect, for only 1.3 per cent. of all tests done by them related to diphtheria.

OTHER CULTURES.

Cultural examinations for various other pathogenic micro-organisms, such as *B. tuberculosis, B. typhosus* and paratyphosus, *B. pertussis* (whooping-cough bacillus), *hæmolytic streptococci,* all showed increases. An increase from 211 in 1936 to 388 in 1937 (84 per cent.) in the cultures of micro-organisms of the typhoid-paratyphoid-dysentery group is particularly noteworthy, in view of the intricate and lengthy nature of the investigation often entailed in their isolation and identification. As will no doubt be recorded in reports from other sources, 1937 was marked by an unusually high incidence of enteric infection throughout the Province, and especially in the Greater Vancouver area during the last few months of the year. In the twenty or so cases of typhoid fever which occurred in this district over a period of roughly ten weeks, the final diagnosis was made *in every instance* by isolation of *B. typhosus* from stool specimens sent in at the request of the Laboratories. In general, the diagnosis of typhoid fever had not even been suspected by the physician in charge, prior to receiving a laboratory report on a Widal test.

BLOOD-AGGLUTINATION TESTS.

Tests of this type increased from 7,413 in 1936 to 11,835 in 1937, or by 60 per cent. Since every such examination may require the use of six or more test-tubes, it should be readily perceived that larger numbers of even one type of test will not only occasion an added burden to the technicians performing such tests and to the stenographers recording and reporting the results, but will also bring about equivalent increases in glassware requirements and in the output of the glassware cleaning and sterilizing staff. Moreover, since all blood-agglutination tests involve a period of incubation in a waterbath, additional waterbath accommodation becomes necessary, and so on. Such repercussions would be trivial enough under adequate budgetary and accommodation circumstances; but under the conditions obtaining at the headquarters of the Division of Laboratories during 1936, the outbreak of even a small epidemic, or a sudden increase in demand for some particular tests, imposed an almost unsupportable strain upon every member of the staff.

Various factors contributed to this greatly increased number of agglutination tests. For instance, during the summer months the Greater Vancouver Metropolitan Health Committee inaugurated a policy of examining food-handlers in Vancouver restaurants. This plan, so far as it involved routine laboratory examination of specimens from such persons, had to be modified in the face of protestations from the Director that the Laboratories could not cope with the extra work entailed; but, even so, several hundreds of specimens from food-handlers had to be examined during the late summer (when annual vacations caused the staff to be even more short-handed than usual) for blood serum agglutinins against various micro-organisms of the typhoid-paratyphoid-dysentery group. Subsequently, outbreaks of typhoid fever and of bacillary dysentery in Vancouver caused an unusually large demand for agglutination tests upon the blood of suspected cases and carriers from medical officers of the Metropolitan Health districts. A large group of nurses at Vancouver General Hospital were also tested prior to their reimmunization with typhoid-paratyphoid vaccine. During the year, the stewards' crews of two of the C.P.R. " Empress " boats were tested in respect of their blood Kahn reaction, and of their typhoid-paratyphoid agglutinin reactions. On several occasions similar tests were performed upon groups of unemployed men assigned, under Provincial

Government auspices, to relief-work in logging camps, or upon projects adjacent to the Greater Vancouver watershed.

Apart from the foregoing special demands, there has been a steady increase in requisitions for agglutination tests from practising physicians. Many of these requisitions have been sent in on a more or less routine basis. A Widal test is, of course, quite irrelevant as a routine procedure; and to request the performance of such tests upon patients whose clinical symptomatology does not suggest any sort of enteric infection would constitute an imposition upon laboratories operating under far more favourable circumstances than ours. Further, the primary function of a public-health laboratory is to record, and not to interpret, results; yet no small proportion of the time of the Director and Assistant Director is taken up with discussing the significance of blood-agglutination tests with physicians who may not have even bothered to complete the requisition form accompanying the specimen. This situation is by no means peculiar to British Columbia, but it serves greatly to aggravate all our difficulties. However, this implicit criticism should be qualified by the statement that very cordial relationships obtain between the staff of the Laboratories and the medical profession, the majority of whom are duly appreciative of the immense importance of the services we perform on behalf of themselves and their patients.

Mention should be made of a final factor contributing to the increased importance of agglutination tests in the daily work of the Laboratories. The Widal test for typhoid fever has developed into a relatively complex procedure. We now perform the more reliable macroscopic test exclusively, using both " H " and " O " antigens, instead of the more rapid microscopic method, with a single antigen, formerly used. Moreover, every specimen sent in for a Widal test is examined routinely not only for agglutinins against *B. typhosus,* but also for macroscopic agglutinins against *B. paratyphosus* A and B, and against *Br. abortus.*

It is a matter for astonishment to every visitor to the Laboratories, and is a perpetual source of wonder to the writer of this report, that all these agglutination tests should be done in the same small room and by the same three technicians, as is the cultural work relating to the isolation of micro-organisms of the typhoid-paratyphoid-dysentery group from blood and stool specimens. But this effort becomes a truly phenomenal achievement when it is realized that the same three persons also perform, in the same small room, from 100 to 200 Kahn tests daily, on blood and cerebrospinal fluid specimens; and do also sundry other miscellaneous examinations. That this volume and diversity of work should be handled so satisfactorily, despite the wretchedness of the environmental conditions, is a fine testimony to the industry, competence, and loyalty of Misses E. M. Allen, D. E. Helmer, and J. McDiarmid, who are responsible for its performance.

MILK EXAMINATIONS.

The numbers of milk samples examined bacteriologically during the year remained virtually unchanged. Miss V. Hudson, who has been responsible for the routine bacteriological examination of both milk and water samples, has also conducted an intensive and valuable investigation into the problems relating to human brucellosis (undulant fever), acquired through the consumption of raw milk from local herds infected with bovine contagious abortion. Convincing evidence has been accumulated by Miss Hudson indicating that a majority of the fifty-five dairies distributing raw milk in the Greater Vancouver area are supplied by herds which are potential sources of human brucellosis. *Br. abortus* has been isolated from raw-milk samples, and from the blood-stream of several patients suffering from an acute incapacitating, febrile disease clinically typical of the condition known as undulant fever. A series of thirteen cases of acute brucellosis has been collected by Miss Hudson working in collaboration with Dr. Dolman. All of these persons owed their infection to consumption of infected raw milk; and the diagnosis was in every case made as a result of our laboratory tests. A joint paper by Miss Hudson and Dr. Dolman, embodying these findings, and entitled " Brucellosis In and Around Vancouver," was presented (by proxy) at the December meeting in Toronto of the Canadian Public Health Association, Laboratory Section. The paper is now in course of publication.

The only effective control measure against milk-borne undulant fever is the compulsory pasteurization of all milk. The findings of the Provincial Laboratories in Vancouver, in connection with brucellosis, have proved a most effective local argument in the current campaign

for pasteurization of all milk sold in Vancouver—a long overdue measure of prime public-health importance.

WATER EXAMINATIONS.

The total number of bacteriological tests on water samples increased from 1,043 in 1936 to 2,261 in 1937, or by 117 per cent. Over twice as many tests were done, as compared with the previous year, on water samples taken routinely from the City of Vancouver supply. Many tests have also been done on behalf of the Federal Government, at no charge to it, upon water samples sent in by their Sanitary Engineering staff under the regulations applying to common-carrier services—trains, ships, and aeroplanes. Further, a large number of water samples continue to be sent in for routine bacteriological tests from logging camps and from private individuals. In almost every instance of this type, a bacteriological report upon a single sample is taken as the sole index of potability. While the Laboratories have taken the precaution of emphasizing on their report forms that the bacteriological findings should be considered only in conjunction with a sanitary survey of the water-supply in question, such a sanitary survey is very rarely made. The main reason for this deficiency is probably the fact that there is no Sanitary Engineering Division of the Provincial Board of Health. I would respectfully urge the desirability of establishing, without delay, at least a nucleus for such a Division in British Columbia. It is perhaps not irrelevant to point out that the Sanitary Engineering Branch of the Ontario Department of Health has a larger senior staff than any other Branch of the Department. In this Province, the absence of any authority to whom the Laboratories can refer inquiries regarding the suitability of a water-supply imposes additional responsibilities upon us, of a type which we should not be called upon to carry. For a single negative bacteriological report on a water-supply, though obviously often a fallacious index of potability, is yet commonly accepted as a reliable index by the laity.

The importance of the constant vigil exercised by the Laboratories on behalf of the City of Vancouver is nowhere better illustrated than by our regular bacteriological examinations of the city's water-supply. The results of these examinations, carried out over a period of years, suggest some deterioration in the quality—from the standpoint of safety—of the city's water-supply. The expanding population of Greater Vancouver, and the growing popularity of hiking in summer and skiing in winter, on the North Shore mountains, makes more difficult every year the prevention of trespassing in the watershed area. Moreover it should be pointed out that a negative Widal test, which the by-law requires of every prospective visitor to this area, is not an adequate safeguard.

Incidentally, mention may be made here of a very dramatic and recent illustration of the importance of the work of the Laboratories to the city. Shortly after the commencement of the current year (1938), a water sample taken from False Creek was found by Miss Hudson to be heavily infected with *B. typhosus*. The sample contained, at very least computation, forty typhoid bacilli per cc., and the actual numbers may well have been several times this figure. Such a finding is indeed remarkable for water whose salt content was equivalent to 1.8 per cent. of chlorides. This single laboratory finding may have many repercussions, involving the disposition of the dwellers on the borders of False Creek, of the house-boats moored in the creek, of the sewage falling into it, and possibly even of the creek itself.

CONVALESCENT MEASLES SERUM.

Over 200 doses of convalescent serum for the prophylaxis of measles were distributed to physicians and health officers during the early months of the year, when a severe type of measles was prevalent in Vancouver. Blood was obtained from suitable donors by Dr. K. F. Brandon, Director of Health Unit No. 3 in the Greater Vancouver Metropolitan Health Area, to whom we are indebted for co-operation. Donors were paid $5 by the Laboratories for every bleeding. The serum was Kahn-tested, filtered, bottled, and sterility-tested in the Laboratories, and distributed to full-time medical health officers free of charge, or at a price of $2.50 per dose to practising physicians. This service was much appreciated, and undoubtedly protected many infants and young children from what is, for them, a serious and often fatal infection.

In Eastern Canada a serious epidemic of poliomyelitis occurred in the late summer months. Preparations were made by the Laboratories in Vancouver for dealing with the possible demand for large amounts of convalescent serum, even though the therapeutic efficacy

of this product is controversial and dubious. Special mention should be made of the splendid help received in this connection from Dr. G. A. Ootmar, Director of the Kelowna Health Unit, who collected blood from several voluntary donors in his district, and shipped it to us packed in ice.

STAFF.

At the close of the year the staff of the Vancouver Laboratories numbered seventeen, and comprised: Director (part-time); Assistant Director; Chief Bacteriologist; six Laboratory technicians; one media-maker; one record clerk; two stenographers; three glassware-cleaners and outfits-makers; and a janitor. Early in the year Miss D. Hudson resigned her temporary post as laboratory technician, and was replaced by Miss D. E. Helmer, B.A., formerly of the Vancouver General Hospital Laboratory. In April, the situation at the Laboratories became so acute, owing to the rapidly-increasing turnover of work, that an urgent appeal for additional staff had to be made, although it was realized this would gravely aggravate an already serious condition of overcrowding. As a result of these representations, three new temporary appointments were authorized. Miss M. Dickson, B.A., was appointed as laboratory technician, Miss N. S. Duns as stenographer, and Miss F. H. Gardiner as glassware-cleaner and outfits-maker. A few weeks later Miss K. Murray resigned as stenographer, and Mrs. V. Crerar as glassware-cleaner. They were replaced by Miss G. M. E. Turner and Miss E. Thompson, respectively.

On October 1st, Miss Donna Kerr resumed her duties as Assistant Director, after completing a year of tenure of a Rockefeller Foundation Scholarship. During her leave of absence, Miss Kerr pursued a course of postgraduate studies at Connaught Laboratories and the School of Hygiene, University of Toronto; and subsequently visited several of the more important public health and research laboratories in north-eastern United States. We were all very glad to welcome Miss Kerr back, and the Laboratories will undoubtedly derive many benefits from the valuable experience she has had.

During Miss Kerr's absence, Miss M. Malcolm was Acting Assistant Director. Miss Malcolm discharged these responsibilities most satisfactorily throughout an unusually difficult year, and I desire to record my appreciation of her work in this Report.

Mr. Wood-Taylor has maintained his traditional efficiency as media-maker, despite the utterly deplorable situation of having to manufacture and sterilize all the nutrient media in a narrow, ill-ventilated, and much-frequented corridor. Mr. Campbell, the janitor, has continued to make himself indispensable by his readiness to undertake any kind of task that needs to be done, by careful attention to the laboratory animals, by proper disposal of specimens sent in at night, and by assisting in the preparation of media. The efficiency, conscientiousness, and good-will of the whole staff have been quite outstanding, and reflects great credit not only upon every individual member of it, but especially upon Miss Kerr and Miss Malcolm, whose tact and loyalty have always been beyond praise.

The transfer to the permanent staff of all those persons taken on during the year does not nearly suffice the present needs of the Laboratories. If, for instance, all the staff were instructed to cease work after a full eight-hour day, by the end of a week of operation under such conditions more than one whole day's accumulation would be in arrears; and the work of other Divisions of the Provincial Board of Health, as well as of the medical profession in Vancouver, would be completely disorganized. Realizing this, and knowing also that certain tests cannot wait, the staff has sacrificed its leisure—perhaps too willingly. It is doubtful whether there was any single working-day during 1937 when all members of the staff had completed their duties within one hour of the time at which they were entitled to leave the Laboratories. Only an exemplary staff would endure such circumstances.

BRANCH LABORATORIES.

During the year, Dr. Gordon A. McCurdy was appointed Director of the Pathological Laboratory at the Provincial Royal Jubilee Hospital, Victoria; and Dr. F. P. Sparks became Director of Laboratories at the Kootenay Lake General Hospital, Nelson. These gentlemen have charge of the public-health laboratory-work done under the auspices of the Division of Laboratories of the Provincial Board of Health, at Victoria and Nelson; and have already improved the standards and output of their respective laboratories.

Almost all the branch laboratories have experienced demands for increased public-health laboratory services. These demands have arisen chiefly as a local consequence of the expanding programmes of the Divisions of Venereal Disease and Tuberculosis Control. It cannot be too strongly urged that, in future, before the activities of any one Division of the Provincial Board of Health be encouraged to enlarge, the consequences of such a policy upon the work of the Division of Laboratories should be carefully considered, and due budgetary provision made therefor.

Since September, all branch laboratories have forwarded to the Director of the Division, at the end of each month, an itemized list of public-health laboratory tests performed during the preceding month. Trends in numbers and types of examinations made can thus be traced, and plans laid for probable future developments at the different branches. No final steps have yet been taken to introduce the very desirable standardization of report forms and of laboratory procedures throughout the Province. All the Directors of branch laboratories have agreed that such standardization is overdue and necessary, but it would be folly to attempt this under the circumstances existing at the Central Laboratories.

COSTS OF OPERATION.

The total cost (salaries, equipment, supplies, etc.) of operating the Vancouver Laboratories during the calendar year 1937 was roughly $27,000, of which some $14,000 was a grant paid by the City of Vancouver. The cost per test therefore amounted to the very low figure of 30 cents. Several economies were effected during the year which helped to make this low cost possible. Arrangements were made with the Vancouver General Hospital whereby their van delivered specimens, formerly picked up from the Hospital by a special messenger for whose services the Laboratories had paid. An all-night incubator service was transferred to the Laboratories, and a substantial monthly fee thus saved. Steps were taken to ensure fewer losses of glassware and medium from the depots established for the convenience of physicians. Were it not for these economies, the Laboratories would have been unable to meet the greatly increased demands made upon them in 1937 without a large supplementary vote.

The branch laboratories performed 20,384 tests at a cost of roughly $8,000, or about 40 cents per test. In view of the fact that larger numbers of tests can be done relatively more cheaply, this is a very reasonable figure; and there is every reason to believe that certain of the branch laboratories are not being adequately subsidized.

GENERAL OBSERVATIONS.

Several detailed memoranda relating to the difficulties which beset the headquarters of the Division of Laboratories at Vancouver have been submitted to the authorities, and recommendations as to how they might best be alleviated have been made. This is not the occasion for further elaboration of the theme. One can only reiterate that it is hopelessly unjust to expect the Laboratories to continue operating under present conditions. The buildings on Hornby Street are a serious fire-hazard; and, in view of the nature of the work and the state of overcrowding, are an equally serious health-hazard to the staff. The risk of laboratory infection is exceedingly grave; and altogether apart from this factor, no staff of young women should be expected to continue working overtime so intensively as has been customary. The absence of financial compensation for such overtime work is of far less importance than the risk to health which it entails.

Our most vital need is clearly for more room in which to work. Not less than *three times* our present floor-space is required for the adequate management, under appropriate environmental conditions, of even the current volume of work. Moreover, the staff should be increased by at least one stenographer and two laboratory technicians. Unfortunately, there is aboslutely no place where any extra staff could reasonably be put to work. The buildings on Hornby Street were never intended to be anything but a temporary makeshift. Yet after six years they are now concerned with more than double the original annual turnover of specimens, and a staff more than 50 per cent. larger than in 1931.

It is interesting to recall the comment of an M.L.A. who recently visited the Laboratories, that no self-respecting housewife would consent to work in our kitchen. Yet in this room,

equipped with two very small sinks, and a few gas-burners, three persons cleaned, boiled, and sorted over half a million pieces of glassware during 1937; made up and stored the outfits; and distributed these to calling practitioners.

Possibly it is not inopportune to point out that the application of a scheme of health insurance to any population group would inevitably increase the numbers of specimens received by the Division of Laboratories. Further, that the effect of any amendment to the "Marriage Act" which involved the production of a medical health certificate by both prospective partners, would greatly increase the numbers of Kahn tests performed in the Laboratories. Assuming, for instance, that the same marriage rate obtained for British Columbia as in 1937, some 14,000 extra Kahn tests alone would have to be done. Were these contingencies to eventuate, plans would have to be made for an immediate increase in the numbers of public-health laboratory tests performed in Vancouver to a figure not less than 150,000 per annum. Such a total would entail provision of a suitably-planned building with floor-space not less than four times that now available, and a staff numbering at least ten persons more than at present.

This report would be incomplete if no mention were made of the particularly valuable relationships obtaining between the staffs of the Laboratories, of the Departments of Bacteriology and Preventive Medicine, and of Nursing and Health, at the University of British Columbia, and of the Western Division of Connaught Laboratories, University of Toronto. In countless ways, this co-ordination of activities (which is of course the logical consequence of the Director of the Laboratories holding part-time appointments with these other organizations) has been of immense advantage to every participant.

All of which is respectfully submitted.

I have, etc.,

C. E. DOLMAN,
Director.

REPORT OF DIVISION OF VENEREAL DISEASE CONTROL.

VANCOUVER, B.C., February 4th, 1938.

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

SIR,—I am forwarding to-day a brief report of the year's activities of the Division of Venereal Disease Control.

The summaries will indicate the work done in the different sections and I shall not emphasize any of them in particular. I think on the whole they present a very creditable showing. Every section has been functioning to the limit of its capacity during the year, and in some instances over capacity.

With a pleased clientele and more public education, there is every reason to believe that there will be continuous expansion in clinic attendance.

Every member of the staff has given their utmost in conscientious service and all have had their share in the progress that has been made.

I wish to express my sincere congratulations and appreciation to you for obtaining for this Division a greatly increased appropriation of money for its services and also for the interest and aid which you have shown during the year. I believe that every dollar spent judiciously on the treatment of venereal disease is one of the wisest investments that any Government can make. On all sides I hear approval of the efforts being made in the control of venereal disease in this Province. I would like also to express my thanks to all the members of the Venereal Disease Council for so graciously and generously giving of their time in the interests of this Division.

Respectfully submitted.

I have, etc.,

S. C. PETERSON, M.D.,
Director, Venereal-disease Control.

DIVISION OF VENEREAL DISEASE CONTROL, 1937.

The year 1937 has been a year of great expansion for the Division of Venereal Disease Control. The various services of the Division have been expanded throughout the Province, the staff has been increased and public education has steadily increased. Lectures have been given to many hundreds of people. The Greater Vancouver Health League has co-operated splendidly and all the newspapers have given freely of their space.

At the beginning of the year, there were only two clinics in operation and at the end of the year there are eight clinics in full swing. The following clinics have been established: Vancouver, Victoria, Trail, Nanaimo, Duncan, Alberni, Cumberland, and Comox-Courtenay. Treatment centres are being planned for New Westminster and Nelson in the near future.

Physicians are offered free consultative service concerning venereal disease in the specialties of pediatrics, dermatology, surgery, cardiology, internal medicine, and neurology. An entirely new system of records has been installed which greatly facilitates statistical-work, and the physicians are urged to report their cases and to utilize the consultative facilities.

The treatment of the various forms of venereal disease has been brought up to date, so that at present the methods are in accordance with the most modern views of the Co-operative Clinics in the United States and other groups of leading venereologists. In the case of syphilis the continuous method of treatment is being used. Every case of syphilis has a complete investigation, including physical examination, blood-count, and urinalysis. If any abnormality is found on physical examination, a specialist in that particular field sees the case in consultation. Spinal fluids are done on all cases where it is indicated.

The Social Service Department is in charge of attendance, the finding of lapsed and lost cases, and the arrangement for examination of contacts. As can be seen from the report of that section, their attendance record is one of which to boast. Now that the standard of the medical treatment has been raised to a gratifying excellence, the future work of expansion of the Division depends on three main developments: First, greater co-operation by the physicians; second, greater expansion of Social Service activities; and third, education of the public.

Vancouver Clinic—

	1936.	1937.	Increase. Per Cent.
(1.) Average number of patients attending—			
Syphilis	695	880	26
Gonorrhœa	398	300	----
	1,093	1,180	----
(136 syphilis patients were referred to private physicians during 1937.)			
(2.) Total number of patient-visits—			
Syphilis	14,585	33,654	130
Gonorrhœa	30,384	15,125	----
	44,969	48,779	----
(3.) Total number of anti-luetic injections—			
Arsphenamines	5,135	8,169	59
Bismuth	4,369	18,044	313
Tryparsamide	537	4,936	819
	10,031	31,149	----
(4.) Number of new cases admitted—			
Syphilis	348	637	82
Gonorrhœa	838	874	4
	1,186	1,511	----

Victoria Clinic—

	1936.	1937.	Increase. Per Cent.
(1.) Average number of patients attending—			
Syphilis (11 months' average)	87	80	----
Gonorrhœa (11 months' average)	71	57	----
	158	137	----

NOTE.—In view of the number of non-active cases indicated in the Social Service report it seems reasonable to assume that this situation applies not only to the period under review, but for some time prior. To present a more accurate picture of the number of cases under treatment for the past two years, we have reduced the original figures by 25 per cent., as follows:—

Syphilis	65	60	----
Gonorrhœa	53	43	----
	118	103	----
(2.) Total number of patient-visits—			
Syphilis	2,485	2,732	----
Gonorrhœa	8,208	4,198	----
	10,693	6,930	----
(3.) Total number of anti-luetic injections—			
Arsphenamines	245	1,016	324
Bismuth	401	896	123
Tryparsamide	------	22	----
Mercury	1,714	708	----
	2,360	2,642	----
(4.) Number of new cases admitted—			
Syphilis	58	52	----
Gonorrhœa	114	94	----
	172	146	----

Upper Island Group—

This group comprises five clinics, situated at Nanaimo (headquarters), Port Alberni, Duncan, Cumberland, and Comox-Courtenay. Established on December 1st, 1937, there were twenty-five syphilis, and one gonorrhœa, cases under treatment at the end of the month. All cases admitted to that date had been referred by local doctors, indicating very conclusively that the doctors not only approve, but are actively assisting the development of the clinics.

Trail Clinic—

Like the Upper Island Group, the Trail Clinic was only opened at the beginning of December. After one month's operations there were thirteen syphilis cases and one gonorrhœa case registered. Considerable increase in the volume of attendance is anticipated in the near future, according to reliable estimates.

Central Office—

(1.) Number of new cases reported by all agencies (clinics, doctors, etc.) throughout the Province—

	1936.	1937.	Increase. Per Cent.
Syphilis	814	1,873	130
Gonorrhœa	1,123	1,404	25
	1,937	3,277	-----

(2.) Anti-luetic drugs dispensed (without charge) to the medical profession—

Arsphenamines (ampoules)	6,830	11,435	67
Bismuth (c.c.'s)	1,357	18,404	1,238

(3.) Educational literature distributed (exclusive of printed instructions given to patients)—

"The Venereal Diseases"	5,000	copies	(approx.).
"The Great Imitator"	5,000	"	"
"Combatting Early Syphilis" (reprint)	5,000	"	"
"Facts About Gonorrhœa"	2,000	"	"
"Facts About Syphilis"	2,000	"	"
"A Manual of Information" (for doctors)	750	"	"
"Neuro-syphilis" (for doctors)	750	"	"
"The Public, the Doctor, and the Syphilis Problem" (for doctors)	750	"	"

(4.) Number of specialist consultations given (by correspondence) to private practitioners—

Letters written	800	(approx.).
Consultations	960	"

(5.) Hospital summary—

	Vancouver.	Victoria.
Number of hospital-days (from March, 1937)	5,595	100
Number of patients given malarial therapy	115	7
Number of spinal punctures done	671	69
Number of deaths or complications	------	-----

SOCIAL SERVICE REPORT.

Vancouver Clinic—

Case Finding—

(1.) Contact examinations—

Adults		423
Positive cases	186 (43.9%)	
Children		350
Positive cases	30 (8.5%)	
	216	773

(2.) Interviews	6,167
(3.) Social histories taken	1,266
(4.) Visits (house)	60
(5.) Total cases on Social Service Records	2,030

Attendance Control—		
(1.) Syphilis cases—		
Letters sent		1,010
Patients reclaimed	514 (50.8%)	
Letters returned	295 (29.2%)	
Letters ignored	201 (19.9%)	
(2.) Gonorrhœa cases—		
Letters sent		432
Patients reclaimed	137 (31.7%)	
Letters returned	205 (47.4%)	
Letters ignored	90 (20.8%)	
	1,442	1,442
(3.) Neuro-syphilis Clinic—		
Cases on record		330
Discharged to private physicians		23
Balance		307
Lapsed cases	34 (12.0%)	
Active cases	273 (88.0%)	
	307	
Patients on Clinic Transportation		65
Education—		
(1.) Students of Nursing		12
(2.) Students of Social Service		3
(3.) Talks and lectures to outside groups		14

Victoria Clinic—

In November, 1937, a tentative programme for Social Service and Medical Follow-up work was set up at the Victoria Clinic. At the same time the following analysis was made of 162 diagnosed cases transferred to the new record system between May 15th and November 15th, 1937:—

	Syphilis.	Gonorrhœa.
Active (as at November 15th)	59	23
Discharged	6	18
Lapsed	26 (28%)	30 (42%)
Total	91	71

Upper Island Group—

Dr. Leroux has been provided with initial assistance in the Social Service field, which will be implemented to a considerable extent in the near future.

SANITARY INSPECTION.

SANITARY INSPECTOR'S OFFICE,
VICTORIA, B.C., January 31st, 1938.

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

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

Briefly outlining our routine work alphabetically:—

THE AUTO TOURIST CAMPS.

There are now some 300 auto camps in British Columbia. Those located near cities are by force of competition well arranged and sanitary, with city conveniences. Those in the sparsely settled districts require periodical visits because of primitive construction and lack of modern conveniences.

The auto-trailer car was for a time a menace to sanitation on our remote highways, but fortunately this method of camping by tourists is on the wane, due to enforcement of strict regulations both here and in the U.S.A., and also to the fact that towing an extra load has a destructive effect on tires and chassis. There are to-day in British Columbia a score of auto camps which compare favourably with any on the American continent.

CANNERIES.

The inspection of fish canneries forms an important part of this departmental service. During the past season 198 inspections have been made at canneries located along our coast-line between Esquimalt and the south-east boundary of Alaska. Every British Columbia canneryman welcomes your Inspector and eagerly co-operates, with the results of a splendid sanitary condition at every salmon-cannery. There are millions of dollars invested in this industry, employing thousands of our citizens. In so far as the canning is concerned, human hands scarcely touch the fish after they are landed on the cannery floor. The cutting, filling, and cooking is done by most ingenious mechanical devices operated by trained experts.

Whilst on the subject of canneries and fish it should be noted that one of our largest salmon-canning firms has recently added clam and oyster canning to their line of products, thus prolonging the seasonal employment of their skilled help. This company has purchased several productive oyster-beds and is developing many new grounds, besides buying from independent growers. The clams and oysters used by this company are from British Columbia inspected and certified beds.

The growth of this valuable shell-fish food is comparatively new to the British Columbia coast, or at least it has been dormant until late years. It now appears that through survey and research work by this Department, a valuable food product is available and apparently appreciated, judging by inquiries of your Inspector as to location of suitable sites for oyster-culture. Up to a few years ago British Columbia imported $60,000 in canned shell-fish. We now export twice that amount and have vast undeveloped and suitable areas along our 6,500 miles of foreshore. The groundwork here has been tough but educational and interesting in spite of the antiquated transportation equipment provided.

FISH-OIL PLANTS.

Fish meal, oil, and fertilizer plants of ultramodern type are being established along the coast, chiefly by cannerymen. These modern plants handle all kinds of fish from pilchards to sharks, including salmon offal from canneries. From some of the fish is first extracted livers for the purpose of producing valuable medicinal properties. Also oil, meal for live stock, and fertilizer are produced through cooking, baking, pressure, and vacuum, by special machinery equipped to eliminate odours during manufacture. One of these plants was installed on the Steveston water-front this last summer and so far without being a nuisance to adjacent neighbours. There are several at remote points on the northern coast and another is being planned at Bella Bella. They are a threefold blessing—fishermen can dispose of their surplus fish during periodical heavy runs, destructive and non-edible fish are gladly accepted, and the foreshores and coast waters are more sanitary.

FRUIT-CANNERIES.

Fruit canning and packing is now an important and large industry, dominated chiefly by the sunny Okanagan with its world-famous apples and berries. The canneries and packing warehouses conform strictly to our regulations, with ample sanitary and bathing facilities for the employees. The cannery equipment and neatness of employees are the subject of much favourable comment by visiting tourists. The products in every branch of fruit, berry, and vegetable are meeting with encouraging demand from home, empire, and abroad.

BURIAL-GROUNDS AND CREMATORIA.

The old New Westminster cemetery has been taken over by the city with splendid results. What was fast becoming an eyesore to the public is now akin to a well-kept park. Other municipalities are following along the same lines and the neglected private burial-ground is gradually being eliminated.

Another modern crematorium is now in operation located at Royal Oak cemetery, near Victoria. This fulfils a long-needed wish for Vancouver Island. Another one for the lower mainland is being planned by a prominent cemetery engineer. This one will embody the latest ideas as followed in Great Britain, Sweden, and the U.S.A. There is definitely a growing approval and demand for this ultrasanitary disposal of the dead.

SUMMER RESORTS.

Ninety-five per cent. of our health camps are located upon our ample sea-shores south of Seymour Narrows. During the past season some 65,000 people of varying ages spent their holidays at the numerous well-conducted camps, with not a single case of sickness nor serious accident to record. This speaks volumes for our daily newspapers' campaign for health and safety, also for the camp managers and the campers. Health notices were posted freely and water-supplies tested.

LOGGING, MINING, AND INDUSTRIAL CAMPS.

Enough could be said of the progress of the British Columbia industrial life to make an interesting but very long story. The writer's first work at these camps was more than thirty years ago, and as I visit our camps to-day I am convinced that the old-time logger and miner was a real hardy man's man. The old-time bunk-house and kitchen floors were mother earth. The bunks were wooden with cedar leaves for a mattress, and employees had to furnish their own bedding. Reading-rooms and wash-rooms were unheard of. Food was plentiful as far as pork and beans was concerned, but the variety of vegetables was indeed limited. The size of logs and methods of hauling would need another page to tell, but I can still visualize the stalwart big-hearted contented logger and miner—no war talk, no social strife. To-day we are in the line of progress with much machinery, splendid housing conditions for our loggers and miners, with food and bedding equal to any city medium-priced hotel. In every camp are several radios. This is a form of entertainment much enjoyed by the majority of camp-workers. There is to-day no industrial strife in British Columbia and very little sickness in the outlying districts.

During 1937, approximately 500 visits were made to canning, logging, mining, pulp, and summer camps. Some eighty-seven specimens of water and food were analysed.

Our British Columbia Police, as ex-officio sanitary officers, have maintained their traditional efficiency, courtesy, and co-operation during 1937, for which the writer is sincerely grateful.

As for our Laboratory staff I have not sufficient words in my vocabulary of appreciation to express myself for their constant courtesy, co-operation, and help in solving many suspicions, both in food and water.

Last, but not least, I cannot conclude without expressing my appreciation of your constant and continued help and encouragement in my work with its numerous angles.

I have, etc.,

FRANK DEGREY,
Chief Sanitary Officer.

REPORT OF PEACE RIVER HEALTH UNIT.

POUCE COUPE, B.C., December 31st, 1937.

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

SIR,—I have herewith the honour to present the Third Annual Report of the Peace River Health Unit in the Province of British Columbia. This area of the Province was organized as a Health Unit in the fall of 1935 by Dr. J. S. Cull, who remained in charge until he joined the Metropolitan Health Board of Vancouver in January, 1937.

The Peace River Block is the largest agricultural district in the Province and comprises an area of approximately 7,000 square miles. While mixed farming is on the increase, grain-growing is still the chief occupation of the inhabitants, and high yields are the rule. Like certain other agricultural districts of the Province, land suitable for farming is patchy in its distribution and the different settlements are separated by varying extents of unbroken bush land. The country is rolling, almost mountainous in parts, and is scarred by numerous small and large rivers. The most important of these is the Peace, which cuts across the Block from east to west. One-third of the area of the Block lies north of the river and two-thirds below it.

The outlet of the Peace River Block is through the Province of Alberta, on which it borders and from which it receives a branch of the Northern Alberta Railways. The end of steel is at Dawson Creek, in the southern section of the Block, and grain must therefore in many instances be hauled long distances for shipment. To make this possible, and to serve as a means of opening up the territory, over 1,500 miles of roads have been built, but very little of this has been gravelled. From the most southerly of the schools to the most northerly is about 150 miles by road, and travel is not always a simple matter. This problem, however, has been discussed in previous reports. For some time past a weekly air-mail service has been available, planes flying on a regular schedule from Edmonton. Charlie Lake in the Fort St. John district serves as a landing-place for these planes and is rapidly developing into an important airport.

The chief centres of population are Dawson Creek, Pouce Coupe, and Fort St. John. At each of these points there is a hospital, and in addition to these, a Red Cross Outpost is located at Cecil Lake. A newspaper is published weekly at Dawson Creek and serves the needs of the whole community. The population of the Block has increased considerably in the past year, much of this increase having occurred as the result of the taking-up of land above the river. Many of the newcomers are experienced farmers from the dried-out areas of the prairies and should prove to be real assets to the Block.

Certain changes in the staff of the Health Unit have taken place during the yast year. In March the community at Cecil Lake suffered a great loss in the death of Miss Muriel Claxton, R.N., in charge of the Red Cross Outpost Hospital at that place. Miss Agnes Ayling, formerly assistant to Miss Claxton, has taken over this work. Miss N. E. Dunn, M.B.E., R.N., who served as Public Health Nurse in the Block for several years, received a well-earned promotion to the service at Nelson. She has been replaced by Miss Kathleen Sheppard, with headquarters at Rolla. The territory of the Nurse in charge of the North District has this year been enlarged to take in the extreme upper section of the Block, the Montney-Rose Prairie area, comprising six school districts. The services of Mrs. Young, part-time school nurse, have been retained and the work of the district is carried on by the two nurses. Apart from these changes, the organization, districts, and staff are as reported last year by Dr. Cull. These are as follows:—

Full-time Staff—

J. M. Hershey, B.Sc. (Med.) M.A., M.D., Ph.D., D.P.H., Director, with office at Pouce Coupe.
Rita M. McFarlane, R.N., P.H.N., Central District, Pouce Coupe.
Pauline Yaholnitsky, R.N., P.H.N., West District, Progress.
Lucille Malkin, R.N., P.H.N., North District, Fort St. John.
Kathleen Sheppard, R.N., P.H.N., East District, Rolla.

Part-time Staff—

Agnes Ayling, R.N., Red Cross Outpost Hospital, Cecil Lake.
Mrs. L. B. Ward, R.N., Kelly Lake.
Mrs. A. M. Young, R.N., Rose Prairie.

GENERAL STATISTICS.

The details of office and miscellaneous activities of the staff are shown in the following table:—

Hours on duty	12,208
Average daily hours on duty	9.1
Miles travelled—	
Car	39,491
Team	4,185
Horseback	502
Boat	520
On foot	408
Visitors to office	1,163
Phone calls received	727
Phone calls sent	522
Letters received	769
Letters sent	1,025
Transported other than for dental clinics	943
Miscellaneous visits	1,701
Meetings attended	77
Meetings addressed	52
Individual health talks	1,052
Pieces of public-health literature distributed	854
First aid administered	84
Maternity cases attended	1

VITAL STATISTICS.

The population of the Peace River Block is estimated to be about 13,000 by the Government Agent. This figure is only approximate, and rates calculated on it can only be misleading.

Improvement is noted in the reporting of vital statistics, especially those concerned with births and deaths. With further education of the public it is hoped that statistics concerned with communicable diseases will become more reliable as time goes on.

Births.—Live births, 189; still-births, 2 (resident, 181; non-resident, 10).

Marriages.—Number performed, 57.

Deaths.—From all causes a total of 62 deaths were registered. These were divided as follows: Resident, 58; non-resident, 4.

Infant Mortality.—Number of infant deaths: Resident, 8; non-resident, *nil;* rate per 1,000 live births, 42.

Infant Mortality by Cause of Death.—Premature birth, 1; malformation, 1; asphyxia, 1; pyloric stenosis, 1; intestinal intoxication and gastro-enteritis, 2; hæmorrhagic disease of newborn, 2.

Of the infant deaths registered this year, 1 occurred within the first 24 hours; 2 within the first week; and 2 died being under one month of age, representing 62 per cent. of the total.

Maternal Deaths.—The number of deaths of mothers from puerperal causes was divided as follows: Resident, 1; non-resident, *nil.*

Maternal Mortality.—Live births, 189; maternal deaths, 1; rate per 1,000, 5.

The cause of the maternal death occurring this year was puerperal sepsis.

SCHOOL MEDICAL SERVICES.

During the past year we have enjoyed, as in previous years, the full co-operation of the Department of Education, as it is represented here by the Peace River Educational Administrative Area, under the direction of Mr. A. S. Towell.

Because of the scattered nature of the population and therefore of the schools, it will be apparent that many of the difficulties met with in carrying on the School Medical Services are due to the distances and bad roads which have to be covered, rather than to the numbers dealt with at any given place. The following table may be of interest in giving some indication of the amount of the more routine-work carried out under this branch of the Service:—

Number of schools	56
Total enrolment	1,291
Routine physical examinations by School Health Officer	1,196
Number of pre-school children	886
Special examinations by M.O.H. of school, pre-school children, and infants	476

This year because of pressure of work we have, for the time being at least, discontinued the policy of especially inviting parents to be present at the physical examination of their children. To offset this a School Health Report has been prepared which gives information as to the child's height and weight, the findings of the physical examination, and recommendations made by the Health Officer or nurse having to do with the welfare of the particular child. This report fits inside the regular school report and is sent home with it each month.

Much attention has been given this past year to the correction of defects, and it is hoped that this report will indicate that something has been accomplished in this regard. It is obvious that arrangements for this to be carried out on a large scale would have been most difficult and time-consuming if, as was formerly the case, it had been necessary to consult with almost sixty separate and not always sympathetic school boards. What success we have had, therefore, is due in large part to the close co-operation which has obtained between the Departments of Health and Education as they are organized in this territory.

Correction of Defects of Vision.

Through the kindness of Mr. A. R. Carter, optometrist, of Edmonton, all school and pre-school children found to have defective vision are examined without charge, and where glasses are found to be necessary these are provided at a cost price. Those parents who can afford to do so, pay for the glasses in cash. Formerly, in needy cases, arrangements were made with the Official Trustee to pay half the cost, the parents paying the balance. More recently this policy has been changed to conform with the arrangements made with the Official Trustee for the payment of operations for tonsillectomy and will be discussed more fully under that head. The following table gives information as to the number of children receiving this service:—

	School-children.	Pre-school Children.
Examinations	41	3
Glasses prescribed	21	1

Dental Clinics.

Following the policy laid down in previous years, Dental Services were again made available to the children of the Block through the co-operation of the Provincial Board of Health, which paid the cost of materials, travelling, and incidental expenses, and the Official Trustee, who paid the salary of the Dentist. With the co-operation of Dr. Currie, who was again invited to do this work, the clinics were started at the beginning of August. Although the schools were not in session at this time, attendance at the clinics was increased over that of previous years. This increase no doubt was in large part due to the fine weather and ease of travel which prevail here in the summer months. During the month of August and the first week of September practically all of the outlying districts were visited, so that with the opening of the schools it was possible to turn our attention to the children of the larger villages and those districts lying on the main roads and close to the more densely populated centres. The attendance of both school and pre-school children at the clinics was higher than in previous years, and it is felt that valuable contacts have been made among the children of the latter group.

Because of the interest attached to this branch of the Health Service the results dealing with the work done in former years are given in the following table with those for this year:—

Dental Treatments.

	1935.	1936.	1937.
Patients treated	?	1,002	1,256
Pre-school children treated	?	32	221
Amalgum fillings	?	1,003	1,349
Cement fillings	?	33	19
Porcelain fillings	?	53	77
Extractions	?	592	367
Prophylaxis	?	957	1,208
Total operations	?	2,638	3,020
Operations per child	3.6	2.6	2.4
Fillings per child	1.7	1.1	1.1
Extractions per child	1.1	0.59	0.29

The children of the districts of Fort St. John and Rolla, however, did not receive dental treatment in 1936, although they did receive this service in 1935 and again this year. Furthermore, many pre-school children were treated this year, none of whom had had any previous treatment. The figures in the following table permit a comparison of the work per child found necessary in the Rolla and Fort St. John districts in 1937 with that required for the children in other parts of the Block. For purposes of the comparison, the results for Fort St. John and Rolla are combined, as are those for two other "urban" districts which have received dental treatment regularly. Figures for the work required for pre-school children are presented also, as are those applying to strictly rural areas.

	Fort St. John and Rolla.	Pouce Coupe and Dawson Creek.	Pre-school Children.	Rural Areas.
Operations per child	3.6	2.5	2.7	2.1
Fillings per child	2.1	1.2	1.5	0.9
Extractions per child	0.52	0.23	0.4	0.25
Treatment, 1936	No	Yes	No	Yes
Number of patients	119	188	221	728

Consideration of the results given in the above tables emphasizes the importance of school-children receiving proper dental treatment at least once a year.

Removal of Tonsils and Adenoids.

Routine and special examinations of the school-children during the first half of the year made it evident that many of these children were suffering from grossly diseased tonsils. It is true that parents had been told of these conditions even before the Health Unit was organized, but in the great majority of cases they had done nothing to have these defects corrected. In the Peace River Block there is perhaps more excuse for such seeming negligence than applies in other organized districts. Many families live a very long distance from a doctor or a hospital. In good weather men and teams are busy on the land, and when the weather is bad travel may be out of the question. Furthermore, many parents did not feel that they could assume the additional financial burden which the needed operation would impose. In the face of such difficulties it was evident that special means would have to be provided for the correction of these defects on anything like a large scale. Accordingly before the end of the school-year a special rate covering hospital and surgeon's fees for removal of tonsils and adenoids for school-children was obtained from the practising physicians and hospital officials. Through Mr. Towell, the Official Trustee, arrangements were made for the prompt payment of these charges, and he in turn arranged to obtain value for these disbursements in various ways. Each year at the various schools throughout the Block there is a certain amount of work to be done, such as building or repairing of fences, moving privies, clearing and levelling of grounds, painting, making alterations or repairs to buildings, and putting in the year's supply of wood and ice. With such a variety of jobs available in the

district it was apparent that payment in cash for the necessary tonsillectomy was not of particular advantage to the Official Trustee, provided that some member of the family concerned was willing to work.

Following the completion of the necessary preliminary arrangements members of the Health Unit Staff interviewed parents of children advised to have their tonsils removed, obtained written permission for the operation, and an agreement to pay for the services received, either in cash at the time of the operation, or in work in one of the ways outlined above, at a rate of pay fair to all concerned. After these agreements had been secured the children were called for by a member of our staff, taken to the hospital, and returned home following discharge.

All told, tonsillectomies were advised in 147 cases and in all but nine of these the parents made the necessary arrangements for payment. In other words, 138 children had their tonsils removed during the summer months of this year under the auspices of the Health Unit. It is felt that the success of this undertaking was due in large part to the fact that the staff of the Health Unit made itself responsible for getting the children to and from the hospital. The improvement in health and appearance, already marked in many of these children, is most gratifying to see.

Prevention of Goitre.

Iodine has again been supplied this year to all school-children whose parents have given permission for this preventive treatment. As last year, potassium iodide tablets were supplied to one area and the tincture of iodine was provided in another. Cases of goitre among the children of the Block are surprisingly few. Presumably, the preventive treatment as carried out is effective. At the present time it is still impossible to compare the effects of the tincture with those of the tablets.

Prevention or Correction of other Defects.

In addition to the conditions already dealt with, less common but occasionally much more severe or acute illnesses not infrequently are brought to our attention in the course of our visits to the schools. These concern the adult as well as the school population, and the conditions having to be dealt with are those met with in the practice of general medicine. When it is considered advisable the patient is taken to the nearest hospital and placed under the care of his or her own physician.

School-nursing Services.

School-nursing service in its widest meaning is available to all schools in the Block and is a particularly notable feature of the Health Services of this Area in view of the handicaps and hazards which are constantly being met with in carrying out this part of the work. The following table provides information concerning the more important school-work carried out by the nursing staff:—

Number of schools	56
Number of visits to schools all purposes	1,047
Inspections of children by nurses	6,026
Quick inspections of children	1,965
Notes to parents	268
Home-school visits	1,452
Exclusions	274
Examined at office	192
Class-room talks	330
Consultations with school officials	732
Skin diseases treated (scabies, ringworm, etc.)	109

In addition to their routine work the nurses are responsible for the organization of the various clinics, for the transporting where necessary of the children, or infants and mothers to the clinics, and for the obtaining of consent forms for all procedures carried out under the auspices of the Health Unit.

PRE-SCHOOL AND INFANT-WELFARE WORK.

Work coming under this heading has been carried out to a large extent by the nursing staff in the course of their visits to the homes in their various districts. In addition, many of these children have been seen and examined by the Health Officer in the course of clinics to which they have been brought for treatment. Education of the parents in regard to food and habit training has been carried on whenever the opportunity offered, and it is interesting to note that in spite of the prevalence of diarrhœa and dysentery among the older age-groups very little of this infection seems to have occurred in the children of this group. This is attributed to the fact that most mothers now are boiling milk and water used in the feeding of these children. During the year members of the staff made 220 prenatal visits, 940 pre-school visits and 550 infant-welfare visits.

IMMUNIZATION PROGRAMMES.

Efforts on our part to carry out this phase of the work have been very well received by the public as a whole, and refusals to permit children to receive the treatments offered have been so few as to be of little or no importance from the Public Health point of view. All told, 166 clinics were held for the purposes of the work.

Diphtheria and Smallpox.

Immunization against diphtheria and smallpox was particularly stressed during the past year. Joint clinics were arranged for this purpose and the results will be considered together. As the west district had received these treatments in 1936, our activities under this heading this year were confined to the other districts of the Block. The Fort St. John area above the river was covered during the winter months. Activities were shifted to the east and central districts during the spring and fall, and in the summer to the Montney-Rose Prairie area in the upper part of the Block. Further information in regard to this work is found in the following table:—

Immunization against Diphtheria and Smallpox.

School District.	Population.		Previously.		Toxoided, 1937.			Vaccinated, 1937.	
	School.	Pres.	Toxoid.	Vacc.	R. Test.	School.	Pres.	School.	Pres.
Baldonnel	29	18	2	.....	16	27	14	23	9
Charlie Lake	45	31	.....	.....	21	32	14	3	4
Clayton	15	21	.....	.....	.....	2	9	11	13
Crystal Spring	20	20	.....	.....	.....	15	11	18	15
Fish Creek	20	11	1	.....	9	14	6	.....	.....
Fort Saint John	72	37	3	.....	45	63	20	51	16
Montney	10	4	.....	.....	.....	5	2	6	1
North Pine	22	26	.....		.....	15	16	19	14
Peace View	14	16	6	.....	6	9	10	13	9
Pine View	9	9	.....	.....	2	3	3	.....	.....
Rose Prairie	15	23	.....	.....	.....	11	19	11	22
Sunrise	28	23	2	.....	7	26	18	17	13
Taylor	18	19	6	.....	5	11	14	16	5
Upper Pine	16	4	.....	.....	.....	10	4	10	4
High Ridge	13	5	.....	.....	7	8	1	8	1
Swan Lake	24	11	.....	.....	10	23	8	17	4
East Pouce Coupe	11	3	.....	.....	8	11	2	8	2
Belleview	10	1	.....	.....	9	10	.....	10	.....
Landry	30	13	.....	.....	18	26	6	29	6
Pouce Coupe Central	21	7	7	.....	3	7	.....	18	1
Lakeview	20	8	.....		7	14	1	10	1
Dawson Creek	155	80	60	80	27	37	46	58	52
Pouce Coupe	65	30	20	10	15	19	10	15	13
Rolla	54	35	26	3	21	25	18	45	26
Doe River	32	34	23	21	2	13	13	13	29
Coleman Creek	25	24	2	.....	6	22	23	25	22
North Rolla	15	8	.....		11	14	10	15	11
7-Mile Corner	16	10	.....	.....	7	14	7	16	6
Saskatoon Creek	12	8	3	3	2	9	1	6	4
Clayhurst	15	8	.....		5	14	6	.....	.....
	851	547	161	117	269	507	312	491	303
Totals	1,398		278		269	819		794	

The figures given above show that previous to the holding of the 1937 clinics only slightly more than 10 per cent. of the children had been toxoided and somewhat less than 10 per cent. had been successfully vaccinated, almost all of this earlier work being for the children in the larger centres. As the result of the work carried out this year these figures have been changed, so that approximately 70 per cent. of the school and pre-school children of these districts have received the three immunizing doses of diphtheria toxoid and approximately 65 per cent. have been successfully vaccinated against smallpox. It was not found possible to complete the vaccinating in all these schools this year. This work, however, will be completed in the near future.

WHOOPING-COUGH.

During the late spring and early summer months immunization against whooping-cough was carried out on a small scale for the pre-school children of Pouce Coupe and Rolla. Sufficient results are not available here to provide a satisfactory basis for estimating the value of this form of treatment, but follow-up work indicated that of the thirty-three children receiving the vaccine only five contracted the disease, which appeared to be fairly prevalent at the time.

IMMUNIZATION AGAINST SCARLET FEVER.

In the fall and winter months scarlet fever usually occurs sporadically among the children of the Block. To act as a barrier to the spread of this disease, immunization clinics were held in the schools of the larger centres of Dawson Creek, Pouce Coupe, and Rolla. Dick tests were performed on all older children as a preliminary measure, and it was interesting to observe that all the children in the higher grades in the Rolla school showed a negative reaction. Although a history of scarlet fever could not be elicted, it seems probable that at some time in recent years the disease has been prevalent in this particular district in at least a mild form.

School District.	School-children.	Previously immunized.	PRELIM. D.T.		Number treated.	Number immunized.
			Pos.	Neg.		
Dawson Creek	155	20	82	26	82	82
Pouce Coupe	65	15	40	6	38	38
Rolla	54	----	8	22	25	25
			130	54		
Totals	274	35	184		145	145

CONTROL OF COMMUNICABLE DISEASE.

Towards the end of 1936 German measles broke out in the South Dawson school district and spread throughout the Block. While causing a mild type of illness, this disease was responsible for a great deal of inconvenience and was most difficult to control.

Two outbreaks of mumps were reported to us and were prevented from spreading further presumably as the result of the prompt action taken to control this infection.

During the past year measles has been prevalent in the neighbouring Province of Alberta in epidemic form. On four occasions the infection was brought into the B.C. Block, and on each occasion it was confined to a very restricted area. The most important outbreaks of this infection occurred at Kelly Lake and in the South Dawson school district. At Kelly Lake the disease spread rapidly through the Indians living there and seven deaths occurred among the children. In the South Dawson district where German measles had originated the year before, measles obtained a strong foothold owing to the failure to report early cases and because of the gross carelessness of infected persons. On this occasion the community was aroused and co-operated fully with the staff of the Health Unit. Under these conditions prevention of further spread was a comparatively simple matter. Following a series of check-up trips into the district by the Health Officer and Nurse all later cases were isolated, contacts quarantined, and the outbreak quickly died out.

Scarlet fever broke out during the year in the districts of Pouce Coupe, Dawson Creek, and South Dawson. Thanks to the co-operation of all concerned further spread of this disease did not occur.

Chicken-pox occurred sporadically during the fall and early winter months in the Pouce Coupe district but at no time did the outbreak reach anything like epidemic proportions.

Whooping-cough was prevalent during the spring and summer months, but statistics concerning are difficult to obtain.

The outbreaks of infections which have occurred in the South Dawson school district have provided examples for the whole Block of what can be done to prevent the spread of disease when the community co-operates with the staff of the Health Unit. Without co-operation, measles and scarlet fever spread like wildfire. With co-operation, measles and scarlet fever were confined to the district in which these infections had their origin. The importance of an enlightened public opinion in making easier the control of disease throughout the Block is manifest.

SANITATION.

The problem of sanitation in this country is one of major importance, and will require much time and thought before a satisfactory solution can be found. In the meantime efforts have been directed towards education of the public in regard to this problem in order to create a demand for improvement in existing conditions.

WATER-SUPPLIES.

Considerable difficulty is encountered in securing adequate supplies of water from suitable sources. Rivers and streams have cut down through the soil to levels far below that of the surrounding country, and the cost of drilling is almost prohibitive to the individual or community, as water is for the most part obtainable only at depth. For these reasons water is at a premium at almost all times of the year. In the rural districts farmers build dams and scoop-outs to meet the requirements of both man and beast. Too frequently one finds that these sources are unprotected from contamination not only by the stock but from human sources as well. In the larger communities many who can afford to do so put up supplies of ice to be melted and used for drinking purposes. Each village has its water-dealer who hauls water in tanks from a neighbouring stream and sells it from door to door.

Having once secured a safe water-supply one can never feel certain that it has not been contaminated after leaving the source. In the summer and fall the fly nuisance is undoubtedly a great factor in the contamination of food and drink. The open privy adds to this risk, which is increased by lack of screening or facilities for protecting foodstuffs. Treatment of water either by boiling or chlorination is practically unheard of. During the course of the year literally hundreds of persons suffer from diarrhœa and dysentery. In the summer months this infection passes under the name of " summer flu " and is most prevalent in the late summer and early autumn.

In the past year we have taken every opportunity to educate the public concerning these problems, and the disinfection of water and protection of food materials especially have been stressed. Particular attention has been given to the Fort St. John water-supply. Until this year all water used in this village, except that obtained from ice, was hauled from Fish Creek. In the early summer a sanitary survey proved this stream to be a most unsatisfactory source of water for drinking purposes. In a four-mile stretch of the creek above the point from which water was drawn numerous privies were found to be in such a position on the banks of the stream as to make contamination of the stream, especially in flood season, almost certain. More suitable sources of water have since been found and are at least available to those interested in securing it. Because of the great danger of an outbreak of typhoid fever should the water become contaminated with this organism, people living in the district were warned of the danger, given instructions for disinfection of water, and offered vaccination against this disease.

Because of the lack of water, disposal of wastes constitutes another difficult problem which is, of course, most acute in the larger communities. The sanitary problem in incorporated villages it is felt is a community problem rather than one for the individual, and these communities are being urged to recognize this fact and to take some action towards improving existing conditions.

At the present time chlorination of all water used for drinking purposes is being urged, and with the co-operation of Mr. Towell this is now being carried out routinely in certain schools where the need appears to be greatest. Within a short time it is planned to extend this procedure to all schools, if only to serve as a means of educating the people how simply this can be done.

MILK.

Raw milk only is distributed by dealers in the villages of the Block. For the most part considerable difficulty is met with in having conditions at the dairy or farm comply with the Provincial regulations. Visits to the various producers' farms were made with Dr. Knight, of the Provincial Department of Agriculture, and the need for further improvement in conditions was stressed. As the result of these visits one dairy was closed. It is hoped that with improvement in the economic condition, and with a greater force of public opinion behind us, betterment in these conditions will be forthcoming. Until this occurs one hesitates to recommend an increase in the *per capita* consumption of milk.

INSPECTION OF SHOPS, RESTAURANTS, ETC.

Inspections of fruit-stores, butcher-shops, and barber-shops have been carried out from time to time. It is felt that improvement in conditions in many of these places is dependent on improvement in sanitation in general.

SOCIAL SERVICES.

During the past three years advantage has been taken of the fact that Public Health nurses are in the field in this territory and members of the staff have been called upon to make investigations for practically all the social-service departments. We are very glad to co-operate in this work within certain limits. It is felt, however, that a number of these cases might better be handled through agencies other than the Health Unit, and it is hoped that the necessary arrangements for this can be made in the coming year. The figures given below give an indication of the increase in calls on our staff for Social Service and Welfare-work in the past twelve months:—

	1936.	1937.
Social Service and Welfare Cases investigated	25	82
Social Service and Welfare visits	178	229

RECORD SYSTEM.

In September of this year the Nurses' Record System which has been adopted for use throughout the Province was made available for the work of this Unit, and when completely installed and in working order this will be of great value to us. Obviously much clerical work is necessary on the part of the members of the staff to transfer old records into the new system and obtain the up-to-date information of which this system makes use. By the coming summer it is hoped to have the new system working smoothly.

BIOLOGICAL SUPPLIES.

A small stock of all biological products provided by the Provincial Board of Health is kept in each hospital of the Block. During the past year there have been a number of demands for these preparations, which fortunately were available for immediate use by local physicians.

In concluding this report we wish to express our sincere appreciation to Dr. Young and his staff for the sympathetic consideration given at all times to our particular problems.

I have, etc.,

J. M. HERSHEY,
Director, Peace River Health Unit.

NORTH VANCOUVER HEALTH UNIT.

After seven years' successful operation as a full-time Health Unit, during which time it assumed responsibility for all public-health activities in the City and District of North Vancouver, the North Vancouver Health Unit has now joined with the City of Vancouver, Municipality of Richmond, University of British Columbia, University Area and District Lot 172, to form a combined health area under the direction of the Metropolitan Health Committee, of which Dr. J. W. McIntosh is the Senior Medical Health Officer.

The purpose of such a union of health boards is to co-ordinate the services of contiguous areas and facilitate co-operation of the several units comprising the Metropolitan Area. In this way the potential strength of each unit is increased, and opportunity is afforded for specialization in the different branches of public health. While deriving such benefits from membership in the larger body, the North Vancouver Health Unit retains its financial set-up and its responsibility for local health services.

WEST VANCOUVER SCHOOL BOARD.

The Unit provides a full-time health service for the City and District of North Vancouver. In September, 1937, on application of the West Vancouver Board of School Trustees, an arrangement was made whereby the Director of the North Vancouver Health Unit assumed responsibility for the health services of the West Vancouver schools.

ADMINISTRATION.

The Health Unit Committee, of which the function has previously been mainly of financial administration, has this year been appointed a local representative of the Health League of Canada, the purpose of which body is health education.

HEALTH UNIT COMMITTEE, 1937.

W. R. Miller, Chairman	District Representative.
S. Fraser	District Representative.
G. H. Morden	City Representative.
A. L. Clements	City Representative.
James Chapman	Secretary to Committee.

PERSONNEL OF THE HEALTH UNIT STAFF.

W. G. Saunders, M.D., D.P.H.	Director.
Norah E. Armstrong, B.A.Sc., R.N.	Supervisor.
Elizabeth G. Lowther, R.N., P.H.N.	Public Health Nurse.
Mabel Johnson, B.A.Sc., R.N.	Clerk.
D. A. Peers	Part-time Sanitary Inspector, City.
E. H. Valentine	Part-time Sanitary Inspector, District.
G. D. H. Seale, D.D.S., L.D.S.	School Dentist, West Vancouver.
Margaret Hardy, B.A.Sc., R.N.	School Nurse, West Vancouver.

The following reports regarding the various branches of the Unit's work gives a bird's-eye view of the work in general and in particular of the items of a modern Health Unit in its daily working.

CHILD WELFARE.

Prenatal Service.—The co-operative arrangement with the Victorian Order is working out very well in North Vancouver. By this arrangement the Victorian Order nurse assumes responsibility for the visiting of prenatal cases and assists at the weekly baby clinics at the Health Unit. In 1937 ninety-seven calls were made for prenatal advice. The forty-one expectant mothers contacted represent an increase of about 100 per cent. over the number advised the previous year. The Health Unit also has available for prenatal cases a series of letters on prenatal care. Three hundred and sixty-three such letters were distributed in 1937.

Infant Welfare.—Through the co-operation of the Lynn Valley Branch of the Canadian Legion in providing a clinic-room, a baby and pre-school clinic is now held monthly at the Legion Hall, Lynn Valley; this is in addition to the weekly clinic in the Board Room, North Vancouver General Hospital, and the monthly clinic at Dollarton.

Infant welfare home-visits	236
Well-baby clinics held	66
Attendance at clinics	571
Postnatal letters sent	2,023

Pre-school.—During the period from 2 to 6 years many of our most important health habits should be formed. Until recently this period of training has been greatly neglected. Efforts are now being made by clinics, nursing home-visits, and periodical letters to interest parents and others concerned, in the establishing of good mental and other health habits during these receptive pre-school years. Clinics are provided where physical defects may be determined at an early stage when correction is comparatively easy; so far as possible all school beginners are examined in the June preceding the September school-term. A series of pre-school letters are sent as a follow-up of the baby letters, after 1 year of age, covering normal care of a child during the pre-school years. These letters are also available on request.

Pre-school home-visits	69
Pre-school letters sent	539
Pre-school examinations	214

SCHOOL MEDICAL SERVICE.

In this area there are thirty-five hundred school-children, about eleven hundred of whom attend the West Vancouver schools. There are two senior high schools, three junior high, and ten public schools, five of the latter being rural. There are also eight private or separate schools, for the examinations of whose pupils the Unit is not responsible.

The Unit provides an extensive school medical service, one requiring more time than would be necessary were more attention paid to earlier training and care. As the baby and pre-school services increase, it is probable that a reduction may profitably be made in the time now spent in school service.

Because of the prevalence of goitre, evidently due to lack of iodine in the diet, a goitre prevention service was reinstituted in the North Vancouver schools in September. This service consists of the administration of a small iodine tablet weekly to those children under 12 years, whose parents have signified their agreement and have paid ten cents to cover the yearly cost of the tablets.

Visits to schools	1,148
Physical examinations	945
Parents invited to examinations	374
Parents present at examinations	217
Percentage of parents present	58.02
Child inspections by nurses	12,040
Special examinations	46
Home-school visits	742
Exclusions	50
Examined at office	658
Readmission certificates issued	1,563
Readmission certificates refused	93
Notices to parents	916
Children examined for goitre	1,091
Iodine tablets given	5,811
Class-room talks and talks to clubs	26
Consultations with school officials	1,022
Transportations	80

COMMUNICABLE DISEASES.

During December, 1936, and the early months of 1937, this area suffered from a continent-wide epidemic of severe measles. In North Vancouver 228 cases were reported in 1937. There were three deaths. It is felt that much of the severity and mortality of the disease in babies was prevented by the co-operation of the practising physicians in the use of measles serum. This serum was collected by members of the Metropolitan Health staff

and prepared at the Provincial Laboratory. It was supplied at cost to those who could pay and free to indigents.

Deaths from other communicable disease in 1937 were three from tuberculosis, six from influenza, and one each from meningitis and typhoid fever. The latter was a non-resident, whose infection was contracted in the Orient.

CASES OF COMMUNICABLE DISEASES REPORTED DURING 1937.

Chicken-pox	60
Measles	228
Meningitis (moningococcus)	1
Mumps	8
Pneumonia	16
Rubella	3
Scarlet fever	25
Tuberculosis	5
Typhoid fever	1
Vincent's angina	1
Whooping-cough	9
Impetigo	14
Ringworm	12
Scabies	15

COMMUNICABLE DISEASE CONTROL.

Investigations *re* communicable diseases	38
Home visits *re* contagion	423
Trips to Vancouver and laboratories	166
Throat cultures taken	70
Kahns	20
Widals	7
Visits to T.B. cases, contact, and suspects	170
Examined at Provincial Chest Clinic, Vancouver	219
Smallpox vaccinations	31
Diphtheria toxoid (doses)	899
Scarlet fever toxin (doses)	32
Typhoid fever vaccine (doses)	3
Pertussis vaccine (doses)	31
Staphyloccus toxoid (doses)	10
Schick tests	13
Dick tests	6
Tuberculin tests	4

SANITATION.

An increased allotment of time has been made for this branch of health service during the past year. However a completely satisfactory sanitary service will be developed only when a full-time sanitary inspector is available for the whole Unit area. At the present time only the most urgent matters are receiving attention.

MILK-SUPPLY.

At the close of 1937 the City of North Vancouver was using about one thousand gallons of milk daily, approximately one pint *per capita*. That amount is considerably lower than the estimated ideal of one quart *per capita*. About 35 per cent. is raw milk, 65 per cent. pasteurized.

The local dairies are, in the main, well equipped and conducted in a sanitary manner. The dairymen are co-operative and produce a good quality of milk. The fact that there is no means of pasteurizing milk on the North Shore, however, removes the one practical method of providing safety in the milk-supply.

Milk and Food Inspections.

Milk samples taken	35
Inspections of dairies	54
Inspections of grocery stores	43
Inspections of meat markets	51
Inspections of bakeries	19
Inspections of fish-peddlers' outfits	39
Inspections of vegetable-peddlers' outfits	33
Inspections of restaurants	12

Water-supplies.

North Vancouver City and District receives its water-supply from seven sources, all located on a guarded watershed. The fact that the shed is not exposed to contamination by disease of human origin obviates the necessity of treatment by filtration and chlorination, thereby effecting a considerable saving to taxpayers. There have been no epidemics of water-borne disease in the history of the Health Unit; culture of water samples shows freedom of those germs which cause human disease.

Sewerage.

Only a small part of the Unit area is provided with sewer mains; these empty into Burrard Inlet. The large part of the city and district depends upon septic tanks for sewage-disposal. Because of the nature of the soil many lots are not suited to the handling of septic-tank effluent. This discharge soon finds its way to the surface and, if the septic tank is not functioning properly, may cause a nuisance by odour; such a nuisance, while not necessarily dangerous to health, is the cause of much unpleasantness and complaint.

Refuse Disposal.

Garbage collections are made at weekly intervals in the city and monthly in the district. Householders require frequent reminding that they must provide a covered metal container to keep the garbage free from insects and animals.

AUXILIARY SERVICES.

Eye Clinics.

The services of an eye specialist are provided by the city and district for the examination of those on relief; many indigents not on relief are given attention through the generosity of the examiner, Dr. S. G. Elliot. The necessary glasses are provided at cost by a local optician, their cost being met by various organizations. Following is an outline of the activities of the clinic and a list of the organizations contributing for 1937:—

No. of clinics held	24
No. attending clinic	80
No. of examinations made	164

Glasses supplied:

(1.) Kiwanis Club, glasses complete, 21 pairs; lenses, 3.

(2.) Red Cross Society, 31 pairs.

(3.) Canadian National Institute for the Blind, 1 pair.

Dental Services.

For several years the North Vancouver Kiwanis Club has provided dental treatment for underprivileged children. That service was considerably broadened this year, when, in July, the Kiwanis Dental Committee was formed. Under the present scheme children under 17 years of age, whose parents are on relief or in like financial circumstances, are given a limited dental service by their own dentist. The cost of such treatment is met by a fund made up of contributions from the North Vancouver Kiwanis Club, the City and District of North Vancouver, and the Provincial Government. Small payments are made from time to time, as finances permit, by those benefiting from the service. Contributions from other interested parties would be acceptable.

An attempt is being made to have the worst cases treated first. The first fifty children treated required an average of eight dental operations per child, some of them being as high as fifteen; the cost for this group was $8 per child. This was a group of children, some of whom were 12 to 16 years of age, and most of them had never previously been given dental attention. Further operation of the scheme will probably show a reduced cost per child.

Great credit is due the Kiwanis Club and the Dental Committee, and the North Vancouver dentists for their work and co-operation in this project. Its value to the community and to the health of our future citizens can hardly be estimated. Children treated during 1937, ninety-five.

In West Vancouver a dentist is employed by the School Board to provide dental examinations for all school-children; treatment is given for those children whose parents cannot finance it from their own resources, repayment being made to the School Board, if and when, possible.

COMMUNITY CO-OPERATION IN HEALTH ACTIVITIES.

Many organizations and individuals make valuable and much appreciated contributions to community public health, by way of social services and health education. Without such co-operation the work of the Health Unit and the progress of public health would suffer greatly.

The members of the Health Unit Committee have continued to contribute their time in financial and advisory supervision of the Unit, all of which is greatly appreciated by the Unit staff.

The North Vancouver Branch of the Canadian Red Cross Society has always been active in all matters beneficial to the comfort and health of the community. Aside from the provision of food, clothing, drugs, and glasses, their plans include the provisions of measures to meet possible emergencies and calamities which might occur in the community.

The Victorian Order has always worked in close co-operation with organized public health. In North Vancouver certain child-welfare services are shared with the nurse of that organization and relations have always been completely harmonious.

The Family Welfare activities have so increased on the North Shore, as to merit the attention of a full-time worker. Such appointment has now been made. This social service is becoming more and more popular as its value is appreciated.

The Health Unit maintains a registry for the convenience of those individuals and organizations who are concerned with social service.

To the many other individuals and organizations who contribute to the welfare of the community and co-operate with the Health Unit, the sincere thanks of the Health Unit staff are hereby tendered.

OFFICE AND MISCELLANEOUS STATISTICS.

Miles travelled	18,672
Visitors to office	2,522
Phone calls in	2,514
Phone calls out	1,536
Letters received	692
Letters sent	346
Miscellaneous visits	790
Meetings attended	316
Meetings addressed	26
Articles for publication	2
Public health literature distributed	2,141
Medical boards for relief cases	5
Number boarded	5
Literature distributed *re* influenza	1,500
Literature distributed *re* diphtheria toxoid	1,300
Booklets distributed *re* tuberculosis	928
Booklets distributed to teachers *re* venereal disease	70
Consultations with doctors	80
Consultations with dentists	5

Pre-camp examinations, Alexandra Fresh-air Camp	30
Examined for first-aid certificates	8
First-aid classes held	8
Trips to West Vancouver	24

FIELD-WORK IN PUBLIC HEALTH.

The North Vancouver Health Unit provides field-work in public health for the students taking the public-health nursing course at the University of British Columbia, and have also given this service to graduate public-health nurses who wish some extra field-work. During 1937 eleven nurses received field-training in this Health Unit.

LIBRARY.

A number of new books and periodicals on child-training have been added to the Health Unit library. These and all volumes are kept for loan to all interested citizens.

W. G. SAUNDERS, M.D., D.P.H.,
Director.

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