PROVINCE OF BRITISH COLUMBIA

Third Report of the

DEPARTMENT OF HEALTH AND WELFARE

(HEALTH BRANCH)

(Fifty-second Annual Report of Public Health Services)

YEAR ENDED DECEMBER 31ST

1948

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OFFICE OF THE MINISTER OF HEALTH AND WELFARE,
VICTORIA, B.C., January 24th, 1949.

To His Honour C. A. BANKS,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1948.

GEO. S. PEARSON,
Minister of Health and Welfare.

DEPARTMENT OF HEALTH AND WELFARE (HEALTH BRANCH),
VICTORIA, B.C., January 24th 1949.

The Honourable Geo. S. Pearson,
Minister of Health and Welfare, Victoria, B.C.

SIR,—I have the honour to submit the Third Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1948.

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

G. F. AMYOT, M.D., D.P.H.,
Deputy Minister of Health.

DEPARTMENT OF HEALTH AND WELFARE (HEALTH BRANCH).

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TABLE OF CONTENTS.

	PAGE.
Introduction	11
General—	
Federal Health Grants	11
Accommodations	19
Thirty-sixth Annual Conference of the Canadian Public Health Association	20
Cancer	20
Arthritis	21
Canadian Red Cross Blood Transfusion Service	21
World Health Organization	22
Public Health Services during the Floods	23
Summaries of Activities in the Bureaux, Divisions, and Services of the Provincial Department of Health	32
Longevity and Causes of Death in British Columbia	39
Report of the Bureau of Local Health Services—	
Introduction	41
Developments in Local Health Services	41
Health Unit Progress	42
Services of Part-time Medical Health Officers	44
Local Health Services during Flood Conditions	44
School Medical Services	45
Reportable Disease Incidence	46
Table I.—Table showing Return of Cases of Notifiable Disease	49
Report of the Director of Public Health Nursing—	
Introduction	53
Development and New Services	53
Personnel Administration	54
Public Health Nursing Educational Programme	55
Tuberculosis	56
Venereal Disease	56
Indian Services	57
Local Public Health Nursing Service	57
Special Activities	58
Report of the Nutrition Service—	
Consultant Service to Local Public Health Personnel	59
Consultant Service to Hospitals and other Institutions	61
Co-ordination of Nutrition Activities	62
General Comments and Observations	63
Report of the Division of Vital Statistics—	
Introduction	63
Completeness of Registration—	
Indians	63
Doukhobors	65
Registration of Births	65
Effect of Family Allowance	66
Registration of Deaths	67
Registration of Marriages	67
District Registrars' Offices, etc.	67
Vital Statistics Information for Health Units	68
Statistical Services	69
Manual of Instructions for District Registrars, Marriage Commissioners, and Issuers of Marriage Licences	70

Report of the Division of Vital Statistics—*Continued.* PAGE.
Vital Statistics Council for Canada—
International Statistical Classification of Diseases, Injuries, and Causes of Death 71
Model Vital Statistics Act 72
Model Marriage Act 72
Minimum Standards for Delayed Registration of Birth 72
Administration of the " Marriage Act " 73
Administration of the " Change of Name Act " 73
General Office Procedures 73
Problems outstanding at the End of the Year—
Goal in Registration 74
General Office Manual 75
Certification 75
International List of Diseases, Injuries, and Causes of Death 75
Model Vital Statistics Act 76
Public Health Statistics 76
Report of the Division of Laboratories—
Introduction 77
Table II.—Division of Laboratories Statistical Report of Examinations done during the Year 1948 78
Tests for Diagnosis and Control of Venereal Diseases 78
Tests relating to Tuberculosis Control 79
Gastro-intestinal Infections 79
Bacteriological Analyses of Milk and Water Supplies 81
Other Types of Tests 81
General Comments 82
Table III.—Number of Tests performed by Branch Laboratories in 1948 83
Report of the Division of Venereal Disease Control—
Introduction 85
Treatment 86
Epidemiology 86
Social Service 87
Education 88
General 89
Report of the Division of Tuberculosis Control—
Introduction 90
Clinics 91
Institutions 91
Nursing 92
Social Service 92
Rehabilitation 93
Local Health Services 93
Budget 93
Conclusions 93
Report of the Division of Public Health Engineering—
Introduction 94
Water-supply 94
Sewerage and Sewage-disposal 95
Milk Sanitation 95
Shell-fish Sanitation 96

Report of the Division of Public Health Engineering—*Continued.* PAGE.
Industrial-camp Sanitation 96
Sanitation of Tourist Resorts 97
Summer Camps 97
Environmental Sanitation of Schools 97
Sanitation of Eating and Drinking Places 98
Frozen-food Locker Plants 98
Increase in Staff of Sanitary Inspectors 99
The Floods 99
General Observations 99

Report of the Division of Public Health Education—
Introduction 100
Local Health Services 100
Reference Materials 102
Publicity 102
Pre-service Training 102
In-service Education 103
School Health Curriculum 103
Canadian Public Health Association 103
General Comments 104

Report of the Provincial Infirmary 105

Third Report of the Department of Health and Welfare

(Health Branch)

YEAR ENDED DECEMBER 31ST, 1948.

G. F. AMYOT, DEPUTY MINISTER OF HEALTH.

INTRODUCTION.

This Third Annual Report of the Health Branch, Department of Health and Welfare, concerns itself with a year of major activities and changes. Although these are described in some detail elsewhere in the Report, the events which had the greatest impact upon the Health Branch during 1948 were the loss of several officials on the senior administrative level, the annual conference of the Canadian Public Health Association in Vancouver, the floods in the Fraser Valley and other parts of the Province, and the provision of the public health grants by the Federal Government.

The body of the Report begins with a general section which describes those activities and events which affected the Health Branch as a whole. Included in this section are a description of the Federal health grants and a review of public health services during the spring floods.

Following the " General " section are accounts prepared by the heads of the various bureaux, divisions, and services which constitute the Health Branch.

CO-OPERATION WITH OTHER DEPARTMENTS OF GOVERNMENT, PROFESSIONS AND VOLUNTARY AGENCIES.

Other departments of Government, members of the many professions, official lay groups, and voluntary agencies have always given great co-operation and material assistance to the Provincial Department of Health. During 1948 the demands upon these were increased particularly because of the spring floods and the inauguration of the Federal health grants.

The Deputy Minister of Health, on behalf of his co-workers, wishes to pay tribute to all those persons and groups who co-operated in improving and expanding public health services.

The Deputy Minister also wishes to thank the professional, technical, and clerical personnel of the Department for their loyal and efficient services throughout the year.

GENERAL.

FEDERAL HEALTH GRANTS.

In May, 1948, the Prime Minister of Canada and the Honourable Paul Martin, Minister of National Health and Welfare, announced that the Federal Government would provide the Provinces with moneys to assist in the promotion of public health services. These Federal health grants have had, and will con-

tinue to have, such a far-reaching effect that they will be described in some detail here. This Report will, of course, confine itself to a description of the grants as they apply to British Columbia.

There are ten separate grants totalling approximately $2,500,000 per annum as British Columbia's share. The following special features should be noted:—

(*a*) All but one of the grants (the health survey grant) recur annually. That is, the Federal Government will make available annually to the Province sums of money approximately equal to the amounts provided in this first year.

(*b*) The health survey grant is not provided on an annual basis. It is a single, fixed sum of money which may be spent by the Province immediately or over a period of months or years. It is designed to enable the Province to assess its public health services, determine the needs, and formulate a plan to meet these needs.

(*c*) All but one of the grants (the hospital construction grant) are non-cumulative. That is, the portions unused in any one fiscal year do not carry over into the next fiscal year. Instead, the unused portions revert to the Federal Treasury while entirely new sums of money are provided to the Province for the following fiscal year.

(*d*) The hospital construction grant is the single exception to (*c*). Unused portions of this annual grant may accumulate for Provincial use, at least for the first five years.

(*e*) All but two of the grants (the cancer control grant and the hospital construction grant are "non-matching." That is, the the Federal moneys, with the two exceptions noted, are made available without the requisite that Provincial moneys be spent on the projects involved.

(*f*) The cancer control grant is a true "matching" grant. Federal moneys under this grant are available only if the Provincial Government spends equivalent Provincial moneys on the projects involved.

(*g*) The hospital construction grant is based on a more complicated formula. For projects under this grant, Provincial contributions must *at least* match those of the Federal Government.

(*h*) All but one of the grants (the public health research grant) have been allocated to the various Provinces according to a formula which includes the population figure as one of its factors.

(*i*) The public health research grant has not been divided among the Provinces. It is held as a central fund, to be allocated when specific research projects are approved and undertaken.

(*j*) The grants are made available only if the projects involved represent new services or extensions of present services. Federal moneys may not be used for purposes such as increasing salaries or replacing equipment.

The following table summarizes this information and provides certain other data:—

INFORMATION CONCERNING THE FEDERAL HEALTH GRANTS (WITH SPECIAL REFERENCE TO BRITISH COLUMBIA).

Grant.	Dominion Total.	B.C.'s Share.	Basis of Calculation.	Recurring or Non-recurring.	Matching or Non-matching.	Purpose.	General.
Crippled Children's, P.C. 3401	$500,000	$42,574	$4,000 to each Province =$36,000. $500,000 less $36,000 is $464,000. This $464,000 to to be distributed according to 1947 population.	Recurring annually	Non-matching	To assist the Provinces in the establishment of a programme for the prevention, control, and treatment of crippling conditions in children. To assist the Province in the development of a rehabilitation and training programme for crippled children.	
Professional Training, P.C. 3402	$500,000	$42,574	$4,000 to each Province =$36,000. $500,000 less $36,000 is $464,000. This $464,000 to to be distributed according to population. (From "Résumé—Federal Health Grants," prepared by Department of National Health and Welfare.)	Recurring annually	Non-matching	To assist in making available the public health personnel who will be required in the development of an enlarged public health programme in all fields. To assist in developing and training the personnel required for the operation of constantly expanding hospital services. Another sentence states: ". . . to meet the need for larger numbers of professional personnel in the public health and related fields."	
Hospital Construction, P.C. 3403	$13,000,000 per annum for first five years, then subject to review with probable reduction to $6,500,000 per annum for following five years	$1,080,745	Distributed according to 1947 population. Amount per capita= $1.0352	Recurring annually for five years and then subject to review	Matching	To assist the Provinces in the provision of adequate accommodation for hospital and health service	Provinces to match or exceed Dominion contribution, which shall in no case exceed one-third of total cost. Grants = $1,000 per active treatment bed and $1,500 per chronic or convalescent bed. The acute shortage of chronic or convalescent beds has congested hospitals with persons not requiring active hospital care but perfectly capable of being treated in chronic or convalescent beds. Therefore, a premium is placed on the provision for chronic or convalescent beds (which are cheaper to provide and maintain) in order to reduce the congestion in active treatment units.

INFORMATION CONCERNING THE FEDERAL HEALTH GRANTS (WITH SPECIAL REFERENCE TO BRITISH COLUMBIA)—*Continued.*

Grant.	Dominion Total.	B.C.'s Share.	Basis of Calculation.	Recurring or Non-recurring.	Matching or Non-matching.	Purpose.	General.
Venereal Disease Control, P.C. 3404	$500,000	$22,862 (new grant) in addition to (new grant) $19,712 previously allotted. Total, $42,574	$4,000 to each Province =$36,000. $500,000 less $36,000 is $464,000. This $464,000 to to be distributed according to 1947 population.	Recurring annually	Non-matching	To assist the Provinces in extending and intensifying their present efforts in control of venereal disease	The $500,000 per annum is an increase of $275,000 per annum over the present amount of $225,000 per annum. The Division of Venereal Disease Control, Department of National Health and Welfare, has recommended that the condition requiring the distribution of funds based on the incidence of venereal disease should be discontinued. The calculation omits reference to such incidence.
Mental Health, P.C. 3405	$4,000,000, rising over a period of years to $7,000,000	$338,832	$25,000 to each Province=$225,000. $4,000,000 less $225,000 is $3,775,000. This $3,775,000 to be distributed according to 1947 population	Recurring annually for ten years then subject to review	Non-matching	To assist the Provinces in the prevention of mental illness and in extending progressively and to the maximum the provision of free treatment	Total grant to be increased to—$5,000,000 at end of two years, $6,000,000 at end of four years, $7,000,000 at end of six years (such supplementary amounts to be distributed on basis of population.)
Tuberculosis Control, P.C. 3406	$3,000,000, rising over a period of years to $4,000,000	$272,740	$25,000 to each Province=$225,000. $3,000,000 less $225,000 is $2,775,000. One-half of this, or $1,387,500, distributed according to 1947 population; the other half distributed according to tuberculosis deaths as averaged for 1940–44, inclusive.	Recurring annually	Non-matching	To assist the Provinces in the drive they will now be expected to make to obtain control over tuberculosis and to extend progressively the areas of free treatment to the maximum possible extent	At the end of two years a supplementary grant of $1,000,000 per annum to be available for ten years to those Provinces which are able to make effective use of it.
Public Health Research, P.C. 3407	$100,000, increasing by $100,000 per annum until maximum of $500,000 is reached		To be held as a central fund and to be allocated on a project basis	Recurring annually	Non-matching	For the stimulation and development of public health research	

Health Survey, P.C. 3408	$625,000	$52,744	$15,000 to Prince Edward Island, $5,000 each to remaining eight Provinces. Balance, $57,000, distributed among eight Provinces according to 1947 population	Non-recurring	Non-matching	To assist in setting up machinery for most effective use of other grants. To assist in planning extension of hospital accommodation and proper organization of hospital and medical insurance	Provinces must report in an approved manner on expenditure of funds and on results of studies.
General Public Health, P.C. 3409	$4,395,000 (initial commitment for a full year)	$365,400	35c. *per capita*. At end of two years to be increased annually by 5c. *per capita* until 50c. *per capita* is reached	Recurring annually	Non-matching	To strengthen general public health services in those areas where the Provincial authorities themselves most keenly recognize the need	To qualify, a Province must maintain at least the present level of expenditure in this field. (True for all grants.)
Cancer Control, P.C. 3410	$3,500,000	$290,970	Distributed according to 1947 population	Recurring annually	Matching	To assist in the development and provision of the most active possible diagnostic and treatment services for the control of cancer	The Dominion Government proposes to share with the Provinces, on a 50–50 basis, the costs of any approved programme for the control and treatment of cancer. Complementary to and in no way supplants the intensive research programmes necessary to find the cause of cancer.

Shortly after the announcement concerning the grants was made by the Prime Minister, the Minister of Health and Welfare for British Columbia appointed a Central Committee (later renamed the Health Survey Committee) to make preliminary investigations and to submit recommendations. This Committee originally consisted of three officials of the Provincial Department of Health. On the basis of its recommendations and in accordance with needs which later arose, there developed an administrative and advisory organization. Chronologically, this development took place as follows:—

(1) The Committee, after consultation with the chairman of the Committee on Medical Economics of the British Columbia Medical Association, invited persons who are authorities in the various fields for which the grants are provided to serve as chairmen of sub-committees. These chairmen had power to add, as they saw fit, to the membership of their committees.

(2) Dr. G. R. F. Elliot, Director, Division of Venereal Disease Control, was appointed Assistant Provincial Health Officer, with the conduct of the health survey and much of the administration of the grants as major responsibilities. He was given the title "Director of Health Studies."

(3) Miss Jean Gilley, formerly branch secretary in the Division of Venereal Disease Control, was appointed research assistant to Dr. Elliot.

(4) Assistance on the senior clerical level was provided in the headquarters of the Provincial Department of Health in Victoria. This was deemed necessary because all communications with the Department of National Health and Welfare are maintained by the Deputy Minister's office in Victoria, although Dr. Elliot and the majority of the sub-committee chairmen and members are located in Vancouver.

(5) Membership of the Health Survey Committee was increased to include Dr. J. A. Taylor, a senior official of the Provincial Department of Health, and three members of the British Columbia Medical Association.

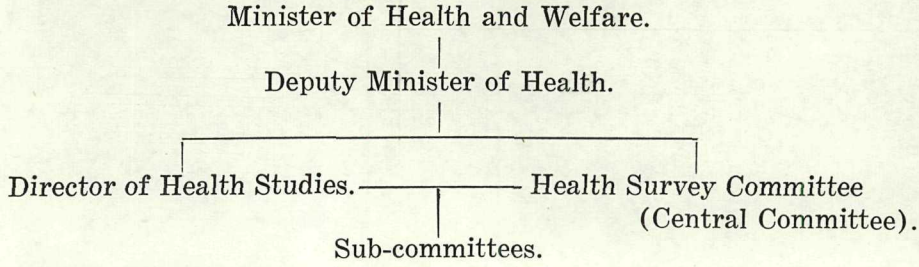
(6) Dr. G. F. Strong, Vancouver, was invited to represent the British Columbia Medical Association as chairman of a sub-committee on medical care.

The Minister of Health and Welfare and the Deputy Minister of Health for British Columbia are the final administrative and approving authorities for the Province. Their relation to the Director of Health Studies and the various committees is shown in the following chart:—

ORGANIZATION.

(Administrative and Advisory.)

British Columbia.



Persons serving in administrative or advisory capacities under the Minister and Deputy Minister at the end of the year were as follows:—

Director of Health Studies: Dr. G. R. F. Elliot, Assistant Provincial Health Officer, Vancouver.

Research Assistant: Miss Jean Gilley, Vancouver.

Health Survey Committee (Central Committee):—

Dr. W. H. Hatfield, Director, Division of Tuberculosis Control, Vancouver (co-chairman).

Dr. J. M. Hershey, Commissioner, Hospital Insurance Service, Victoria (co-chairman).

A. H. Cameron, Administrative Assistant to the Deputy Minister of Health, Victoria (member and secretary).

Dr. J. A. Taylor, Provincial Department of Health, Victoria.

Dr. J. H. McDermot, Vancouver.

Dr. F. M. Bryant, Victoria.

Dr. C. J. M. Willoughby, Kamloops.

Sub-committee chairmen:—

Crippled Children's Grant—Dr. Donald Paterson, Director, Health Centre for Children, Vancouver.

Professional Training Grant—Dr. G. F. Amyot, Deputy Minister of Health, Victoria.

Hospital Construction Grant—L. N. Hickernell, Director, Vancouver General Hospital.

Venereal Disease Control Grant—Dr. G. R. F. Elliot, Assistant Provincial Health Officer, Vancouver.

Mental Health Grant—Dr. A. M. Gee, Provincial Mental Hospital, Essondale.

Tuberculosis Control Grant — Dr. G. F. Kincade, Division of Tuberculosis Control, Vancouver.

Public Health Research—Dr. H. K. Fidler, Director, Department of Pathology, Vancouver General Hospital, Vancouver.

Health Survey Grant—Dr. G. R. F. Elliot, Assistant Provincial Health Officer, Vancouver.

General Public Health Grant—Dr. G. F. Amyot, Deputy Minister of Health, Victoria.

Cancer Control Grant—Dr. B. J. Harrison, Department of Radiology, Vancouver General Hospital, Vancouver.

Medical Care—Dr. G. F. Strong, Vancouver.

ACTIVITIES.

Any discussion of activities which were conducted during 1948 should begin by making reference to the fact that the Federal health grants were made available to the Province with little warning and well after the fiscal year had begun. This had a marked effect on the philosophy and procedures adopted by Provincial authorities who, in their sincere efforts to use the grants wisely and yet quickly enough to prevent reversion of large unused portions to the Federal Treasury, were forced to concentrate their attention on activities and projects seemingly unrelated to one another. Although a health survey which will

delineate the public health needs and recommend methods for meeting these needs is an important part of the Federal health grant programme, it has not been possible during 1948, for the reasons mentioned above, to postpone other activities under the grants until the survey has been completed.

Activities to the end of the year have therefore consisted largely of the preparation and submission of projects—that is, requests for the Federal Government's approval of expenditures under the grants. These projects have been based upon already known facts concerning public health needs in British Columbia. Although they have not been based on a master survey, it is felt that they will fit well into the findings of that survey when it is completed. They have of necessity been generally of a type upon which relatively immediate action could be taken. Purchase of materials and equipment, professional training of personnel, and the appointing of long-needed staff are examples of projects which have fallen into this class. An effort has been made to avoid, as far as possible, projects which would encumber the grants in future years.

Administrative Problems.

The Federal health grant programme was an entirely new enterprise for both Federal and Provincial authorities when it was inaugurated in May, 1948. It was to be expected, therefore, that many problems would present themselves to those persons responsible for administration. Because there were few precedents which might serve as guides, many of these problems were concerned with the establishment of routine administrative procedures. Most of these had been solved by the year's end. In addition, the following major problems were encountered:—

(1) The grants were made available after Provincial Government estimates for the fiscal year had been established. Because all expenditures must be made from Provincial moneys in the first instance, with reimbursement from Federal moneys following at later dates, it has been difficult in some cases to provide for the initial Provincial expenditures. This problem has been further complicated in the cases of the cancer control grant and the hospital construction grant, where Provincial funds must at least match Federal funds.

(2) The grants were made available with little warning to the Province. Although British Columbia is extremely grateful to have financial assistance of such proportions, it has been extremely difficult, in this first year, to plan expenditures wisely and yet use the annual allotments which, if unused, will revert to the Federal Government at the end of the fiscal year.

(3) The grants have been provided under the authority of Federal Orders in Council and have not as yet been placed in Federal Acts of legislation. This has tended to create a feeling of insecurity in the minds of certain Provincial authorities, who point out that the Federal aid can be withdrawn much more easily under these circumstances than it could if the grants were authorized in Federal Acts. If this unlikely event were to occur, the Provincial Government would have to choose between dispensing with the new ser-

vices added under the programme and carrying the entire financial burden with Provincial funds. Where the employment of personnel is concerned, this problem has particularly serious implications. It is sincerely hoped that a solution will be found early in the new year.

ASSISTANCE RENDERED BY OTHER GROUPS AND AGENCIES.

During the eight months from May to December, 1948, when the programme under the Federal health grants was being launched, several groups and agencies rendered material administrative assistance and consultative services to the officials of the Health Branch, Department of Health and Welfare, who were immediately responsible for the programme.

Officials of the Department of National Health and Welfare have made every effort to assist Provincial officials. The Honourable Paul Martin, Minister of National Health and Welfare, and several members of his technical staff have journeyed westward from Ottawa to provide advice and guidance.

The numerous individuals listed earlier in this Report willingly complied with the requests that they serve on survey and planning committees. The unselfish attitude displayed by these persons in giving freely of their time and effort is a tribute to public health.

The British Columbia Medical, Registered Nurses, Hospitals, and Dental Associations have all displayed the keenest interest in the new programme and have expressed a sincere desire to assist in making and implementing plans.

The Provincial Secretary's Department, which administers mental institutions and the " Hospital Act," has continued to work in close co-operation with the Health Branch, particularly in matters relating to the mental health grant and the hospital construction grant.

The Hospital Insurance Branch has arranged to make available to the Director of Health Studies information resulting from the Provincial hospitals survey which is being made under the auspices of that Branch.

The Department of Finance and the Comptroller-General's Department have given much-needed guidance and service in matters concerning Provincial expenditures and Dominion-Provincial financial relations.

The Departmental Comptroller, Department of Health and Welfare, deserves special mention for his liaison services between the above-mentioned financial authorities and the Health Branch and for the accurate accounting procedures which he has inaugurated.

The Civil Service Commission has displayed a sympathetic understanding of the personnel problems encountered in the new programme and has done much toward solving these.

ACCOMMODATIONS.

During the early part of the year it was hoped that relief from the serious overcrowding in the central offices of the Health Branch would be forthcoming when the new temporary building on Superior Street was completed. Plans had been made to allot space in that building to the Division of Environmental Sanitation and the Division of Public Health Education. This would have released much-needed space to the staff remaining in the present quarters in

the west wing of the Parliament Buildings. When allocation of space in the new building was finally made, however, personnel of the Health Branch were not provided with accommodations. Thus, the Victoria staff still maintains its offices and working-quarters in the basement vaults, on the second floor, and in the attic of the west wing, and in one of the old houses on Government Street. The Division of Vital Statistics uses a part of the vault on Topaz Avenue. The overcrowding and the inconvenience resulting from the separation of these, one from the other, makes it difficult to perform duties efficiently. It is hoped that the new permanent building to be erected on Government Street will include accommodations for all central office staff of the Health Branch.

In Vancouver the Division of Laboratories is seriously handicapped by the inadequate quarters provided in the outmoded buildings—actually old houses—on Hornby Street. Plans for a modern building which will house all Provincial public health services in the Vancouver area are still in the formative stage. Completion of this building will provide long-needed, modern accommodations for various Provincial Department of Health offices in Vancouver, including the Division of Venereal Disease Control which now occupies space in old buildings on the grounds of the Vancouver General Hospital.

THIRTY-SIXTH ANNUAL CONFERENCE OF THE CANADIAN PUBLIC HEALTH ASSOCIATION.

By tradition the annual conference of the Canadian Public Health Association is held in the Province in which the president of the Association resides. With Dr. G. F. Amyot, Deputy Minister of Health for British Columbia, as president, the 1948 conference was held in Vancouver on May 17th, 18th, 19th, and 20th.

This event brought together not only public health workers from all parts of Canada, but also representatives from the United States, especially from the State of Washington. The Canadian Association was particularly fortunate in that the Washington State Public Health Association held its annual meeting at the same time and joined with the Canadian workers in the discussions and activities. In addition, the Canadian Institute of Sanitary Inspectors was held in conjunction with the above meetings.

Although much detailed planning on the part of the local committees was necessary, these efforts were amply repaid. British Columbia public health personnel and members of many allied professions were able to hear and discuss papers presented by renowned authorities in nearly all fields of public health work. British Columbia staff members themselves took an active part in the scientific programme, presenting papers in section meetings, serving as members of discussion panels, and participating in a symposium.

The Conference was a noteworthy event in the field of public health in British Columbia because it stimulated the thinking of professional and technical personnel toward evolving more effective programmes to meet the health needs of the people.

CANCER.

Although the Provincial Department of Health does not have a special division of its services specifically devoted to cancer-work, it maintained

throughout 1948, as in previous years, close working relationships with those organizations concerned with this disease. These organizations are the Cancer Committee of the British Columbia Medical Association, the Provincial Branch of the Canadian Cancer Society, and the British Columbia Cancer Foundation.

The Cancer Foundation continued to provide the people of British Columbia with services in the prevention, diagnosis, and treatment of cancer through the Cancer Institute located in Vancouver and operated by the Foundation. These services were expanded during the year and the Institute was again provided with funds by the Provincial Department of Health to assist in this important work.

Toward the end of the year the Executive Director of the National Institute for Cancer was invited by the Provincial Department of Health, in co-operation with the organizations mentioned above, to survey the programme of cancer-work in this Province. The final report of this survey had not been received at the year's end. It is felt, however, that any changes which may be forthcoming as a result of the survey will be designed to provide a more formal and even closer relationship between the Department and the voluntary organizations.

As part of its public health duties, the field staff of the Department performed follow-up work and education of the public in cancer control.

Cancer sufferers throughout the Province received assistance from two other Government sources. Persons suffering from cancer were among those who received aid from the Welfare Branch of the Provincial Department of Health and Welfare. All types of patients, including those suffering from cancer, benefited by the facilities made available by the Hospital Branch of the Provincial Secretary's Department through its aid to general hospitals.

ARTHRITIS.

Last year's Annual Report made reference to the laying of plans for a national organization for the study and control of arthritis—plans in which this Department shared fully. In January, 1948, the final organization meeting was held and the Canadian Arthritis & Rheumatism Society was formed.

During the year the British Columbia division of this national organization was the first in Canada to organize and develop a programme for arthritis. This programme is planned to start functioning early in 1949 in co-operation with the Provincial Department of Health, certain key hospitals, the British Columbia Medical Association, other professional associations, and voluntary organizations.

CANADIAN RED CROSS BLOOD TRANSFUSION SERVICE.

British Columbia was the first Province in Canada to have a Red Cross Blood Transfusion Service. The service was established in this Province in January, 1947, in co-operation with the Provincial Department of Health, local health services, the Department of Veterans' Affairs, the hospitals, and the medical profession.

The British Columbia depot, located in Vancouver, serves the entire Province, with the exception of the Peace River District and the East Kootenay

District, which are served by the Edmonton depot and the Calgary sub-depot respectively. Almost all hospitals of the Province have entered into agreements with the society.

Whole blood and plasma are made available to hospitals. Although there have been seasonal periods when the response from blood donors has fallen off, it can be said, in general, that no patient has gone without blood when needed.

When ordinary means of transport were not available or not fast enough for delivery in cases of emergency, whole blood has been flown to remote centres. Through the co-operation of the Royal Canadian Air Force, whole blood was dropped by parachute on three occasions when flood conditions disrupted normal transport. On another occasion when weather conditions rendered normal transport impossible, the Air Force dropped whole blood by parachute to logging-accident victims who were in urgent need.

A mobile team of professional and technical workers was on the road approximately every other week during the year collecting blood from voluntary donors at numerous centres of population throughout the Province.

The Canadian Red Cross Blood Transfusion Service included the following free services in its activities for 1948:—

(*a*) Cross-matching of blood prior to transfusion.
(*b*) Provision of whole-blood banks to larger hospitals at strategic points throughout the Province.
(*c*) Provision of plasma to hospitals.
(*d*) Testing for the Rh factor associated with pregnancy.
(*e*) Provision of equipment to hospitals when replacement transfusions were required for Rh infants.
(*f*) Provision of consultative service to physicians and hospitals.

The following table indicates the volume of work performed in British Columbia during 1948 compared with that for the previous year:—

	1947.	1948.
Patients transfused	Over 13,000	Almost 18,000
Bottles of blood used	Over 17,000	Over 21,000
Rh investigations (tests made)	Over 6,500	Over 14,000

WORLD HEALTH ORGANIZATION.

Dr. G. F. Amyot, Deputy Minister of Health for British Columbia, was chosen as a member of a delegation of five which represented Canada at the first meeting of the World Health Organization. The purpose of this meeting was to implement the recommendations of the interim committee which had been formulating plans since the end of the war. The discussions were held in Geneva, Switzerland, over a five-week period during the summer.

Just prior to departure for Switzerland, Dr. Amyot was informed that he would lead the delegation for the first three weeks until the previously appointed leader, the Deputy Minister of National Health, arrived at the conference.

In addition to participating actively in the work of many committees, the Deputy Minister of Health for British Columbia was elected *rapporteur* of the Programme Committee. This was the major committee of five committees whose responsibility it was to plan present and future programmes of the Organization.

In order to keep Canadian citizens informed concerning the activities of their delegation, weekly radio broadcasts were made from Geneva. Dr. Amyot presented all but one of the English broadcasts which were directed toward other English-speaking countries as well as Canada.

While in London *en route* home from Geneva, Dr. Amyot conferred with Dr. Wilson Jameson, Chief Health Officer, British Ministry of Health, and also availed himself of the opportunity to visit British Columbia House. The latter served as his London headquarters and provided him with efficient office facilities.

PUBLIC HEALTH SERVICES DURING THE FLOODS.

The year 1948 will long be remembered in British Columbia as the year of the great flood. Not since 1894 had flooding been so severe and so general in the Province. Commencing late in May and extending through June and July, and in some cases even longer, all the rivers, streams, and lakes in the Province were in flood stage. Although this Report will deal with the activities of the Health Department in the Fraser Valley only, before proceeding to a discussion of the Fraser Valley flood, some mention should be made of the flooding in other parts of the Province.

NORTHERN BRITISH COLUMBIA.

In Northern British Columbia there was no report of serious damage on the great rivers such as the Liard and the Peace, simply because there is very little habitation on these rivers. The Skeena River, which drains an area of about 20,000 square miles, did cause some flood damage to towns such as Hazelton, Terrace, and Usk. In each case the local health services took steps to combat the public health hazard involved.

COLUMBIA BASIN.

The first reports of flooding came from the Columbia basin. The Columbia drains an area of about 40,000 square miles in British Columbia, and includes the areas drained by the Kootenay, Kettle, Okanagan, and Similkameen drainage systems. Kimberley, Creston, Trail, Grand Forks, Kelowna, Hedley, Keremeos, and Princeton were among the communities in the Columbia basin that suffered damage from the flood. At the year's end there was still very high water in the Okanagan Valley. In each case the local health services, which had been supplied with considerable advisory material from the Provincial Health Department, threw themselves whole-heartedly into the fight against the hazards of flood-borne disease.

THE FRASER.

By far the most important area flooded from the point of view of economic loss and public health hazard was the Lower Fraser Valley. The Lower Fraser Valley extends from the Village of Hope down-stream to the Fraser delta, where the river discharges into the Gulf of Georgia, a distance of about 80 miles. The width of the agricultural part of the Lower Fraser Valley varies from *nil* up to about 15 miles. The agricultural lands are a series of flood-plains broken up by small ridges and protected from the usual flood stages of the river by some

200 miles of dykes. Some of the area is actually reclaimed land, with an elevation lower than that of the normal stage of the river.

The river is 785 miles long, rising in a tiny lake in the Rockies, sweeping by a great bend northward roughly parallel to the Big Bend of the Columbia River, dropping straight south through the clay canyons of the high Cariboo plateau, boring its way by a grisly trench through the Coast Mountains, and flowing calmly through the above-described Lower Fraser Valley. The river drains a total area of 88,700 square miles of British Columbia. This is nearly one-quarter of the total area of the Province.

The Lower Fraser Valley has a population of about 100,000 people engaged in intensive dairying, small-fruit farming, and market-gardening. It is the richest agricultural area of its size in British Columbia and possibly in Canada. As the river rose and as dykes broke in various places, about 70,000 acres were flooded, and all land communication between the Coast and the Interior was cut off.

Much of this land was flooded in the great flood of 1894, but owing to the increase in population and owing to the longer period in which the river was in flood, the flood of 1948 was the worst in the recorded history of British Columbia.

B.C. Flood Control Committee.

On Friday, May 28th, a state of emergency was declared by the Provincial Government, and, at the request of the Attorney-General, the Area Commander of the Canadian Army was asked to set up a flood control committee to advise and assist all phases of the flood-control operations in the Lower Fraser Valley. The Committee had to do with the securing of voluntary man-power, machinery, and material to strengthen remaining dykes, evacuate families and live stock from flooded areas, and arrange for the care of evacuees and for the protection of the public health. It was also responsible for the co-ordination of the work, not only in the Lower Fraser Valley, but in the several other areas of the Province where flood conditions existed. Office space for the Committee was provided in the Provincial headquarters of the Canadian Red Cross. The chairman of the Provincial Red Cross Disaster and Relief Committee became chairman of the B.C. Flood Control Committee, which included representatives from the Red Cross, the Canadian Army, the Royal Canadian Navy, the Royal Canadian Air Force, the British Columbia Police, the City of Vancouver, the Vancouver Board of Trade, and the Provincial Departments of Public Works, Agriculture, and Public Health. Dr. G. R. F. Elliot was appointed by the Deputy Minister as representative on the B.C. Flood Control Committee for the Department of Health. The Committee was very active between May 28th and July 28th, holding numerous meetings, and while the work was most strenuous, the importance of such a committee in the time of any emergency was clearly demonstrated.

Available Public Health Personnel.

The District Medical Officer, Canadian Army, and the Senior Medical Officer, City of Vancouver, worked in close co-operation with the Provincial representative on the Flood Control Committee. These two doctors also served as alternates as health representative at the meetings of the B.C. Flood Control Committee in order to permit more time to be spent in the flooded areas.

It was indeed fortunate that the Health Branch of the Department of Health and Welfare had some one hundred public health nurses, ten sanitarians, two nutritionists and a public health engineer, qualified public health physicians, and two public health educators who were available in various parts of the Province and who could be moved at the direction of the Deputy Minister of Health. In addition, the District Medical Officer, Canadian Army, had his Command Hygiene Officer flown in from the East to assist, and made available his staff of sanitarians. The Senior Medical Health Officer, City of Vancouver, also made available the services of his staff of sanitarians. Two of these sanitarians served in the flooded area for the entire duration of the flood emergency. The Department of National Health and Welfare placed three public health engineers and one epidemiologist at the disposal of the Provincial Health Department.

The Division of Laboratories, Provincial Department of Health and Welfare, was called upon to extend its services to the utmost, not only in handling the heavy increase in water-supplies to be examined, but also in assuring that adequate supplies of typhoid vaccine were received from Eastern Canada, where it is manufactured, and in arranging for its distribution.

The central office of the Division of Venereal Disease Control, Provincial Department of Health and Welfare, was used as headquarters for the Health Section of the B.C. Flood Control Committee, and the staff of this Division undertook all the necessary clerical work. The work of the public health services fell into two main sections: (1) The flooding stage (operation overflow), and (2) the post-flooding stage (operation clean-up). These two sections of the work rapidly became known as " operation overflow " and " operation clean-up." In the remaining part of this Report these two sections of the work will therefore be referred to as operation overflow and operation clean-up.

Operation Overflow.

It was decided from the start that if the work of the Health Department was to be effective, it must be done through the local part-time Medical Health Officers in the Fraser Valley, who were thoroughly familiar with the people and the area. In every instance, therefore, the Local Health Officers continued to be the local health authorities in their designated areas. Immediately after the organization of the B.C. Flood Control Committee, in each locality meetings were held, attended by the Local Medical Health Officer, the local sanitarian, the Director of Public Health Nurses, the Director of Environmental Sanitation, and the Health Department representative on the B.C. Flood Control Committee. At these meetings the local programme was planned for the future in regard to public health. These meetings also discussed such problems as the need for additional physicians, public health nurses, sanitarians, public health engineers, and other public health workers, and the possible isolation of an area due to the breaking of the dykes, and any other problem that would have an effect on the public health. It was emphasized that the main purpose of the Provincial Health Department was to give all the assistance possible, to supply additional public health personnel, and to give technical advice and direction when indicated or required.

At the same time that the organizational work was being undertaken in the field of operation, it was also being undertaken in the central office in Vancouver. Firms handling chlorine products were contacted, and arrangements were made to freeze sufficient quantities to ensure an adequate supply at all times. Inventories were obtained of materials available in the Province which might be required, such as the amount of D.D.T. and the number of hypodermic syringes and needles. The Division of Laboratories arranged for an adequate supply of typhoid vaccine, and the Division of Public Health Education arranged for press releases regarding public health problems which would arise as a result of the flood.

In a matter of thirty-six hours from the time of the declaration by the Attorney-General of the state of emergency and the formation of the B.C. Flood Control Committee, a total of ten additional public health nurses, seven additional sanitarians, four additional public health engineers, and four qualified public health physicians had been placed in the Fraser Valley. These individuals were located in strategic places, and headquarters similar to the divisional headquarters in the armed forces were set up in many areas. In the beginning a few of the public health nurses were not convinced of the necessity for the importation of nurses from other areas in the Province, largely because the main work during the period of operation overflow was sand-bagging, evacuation, and feeding of evacuees. These nurses, however, were not long inactive, and their work in the early days was outstanding. They assisted in the evacuating of the residents and in the feeding of workers and evacuees; they supplied transportation, generally doing what all the normal residents were doing, and, in addition, used their public health training as opportunities arose. Public health nurses also did yeoman services in setting up first-aid posts at evacuation camps. The sanitarians supervised the sanitary control of the evacuee camps and camps that were maintained for dyke-workers during the period of operation overflow. As evacuees became settled in centres, the public health nurses commenced organization of immunization clinics.

(*a*) *Water-supply.*—Several days before the setting-up of the B.C. Flood Control Committee, the Director of Public Health Engineering and the Director of Public Health Nursing met with all the public health nurses in the Fraser Valley and briefed them on general sanitation in floods, particularly regarding the treatment of water-supplies. In the flooded areas of the Fraser Valley there were four municipal water-supplies, which served about 50 per cent. of all the population. The balance of the residents received their water from wells which varied in type. The public health nurses were supplied with instructions for chlorinating the water and with halazone tablets to be given out to those whose water-supply was likely to be contaminated.

Of the four municipal water-supplies, two were early put in a dangerous condition as the flood-waters covered part of their mains. In both instances the systems were old, and the danger of seepage into the mains was great. Bacteriological examination of samples of water from these distribution systems did show that the contamination in the mains was increasing, even though the water-supply was under pressure.

Emergency chlorinating equipment was installed at Mission and in two places at Matsqui. The emergency chlorinators consisted of hypochlorinators

set up, and the chemical used was sodium hypochlorite. These emergency chlorination plants were very effective in restoring the bacteriological quality of the water to normal. The other two municipal supplies were never seriously threatened, so that no treatment of these supplies was necessary. In no case was a municipal source of water affected by the flood.

A further responsibility in this operation overflow was the assurance of a safe water-supply for those individuals who were working on the dykes. Supervision of the quality of water used for this purpose was one of the duties of the sanitarians.

(*b*) *Typhoid Immunization.*—Plans for immunization clinics were made early in the flood. It was decided that T.A.B. vaccine would be used in preference to T.A.B.T., owing to the fact that immunity could be obtained more rapidly. It was not recommended that children under the age of 1 year should be immunized unless there was definite evidence of exposure. All others were to have a dosage of one-quarter c.c., one-half c.c., and one c.c. at five- to seven-day intervals, with the exception that those over the age of 60 and under the age of 3 should receive one-tenth c.c., one-quarter c.c., and one-half c.c. at the same intervals. It was decided at first that only those who were not engaged in manual labour on the dykes should be immunized, but it was not possible to carry out this policy as the demand of the public for this protection against typhoid exceeded the greatest expectations. In all, some 35,000 persons were immunized in the Lower Fraser Valley. When one considers that many of the residents of the valley were using safe water and in no way were directly affected by the flood, it is reasonable to assume that all those requiring protection from typhoid fever received it. Many interesting incidents occurred during this immunization campaign. Public health nurses often proceeded in rowboats to immunize those individuals, who were few in number, who had refused to leave their homes although surrounded by water.

(*c*) *Milk and Food Supply.*—Many cattle were displaced and had to be milked under unsatisfactory conditions, without the aid of proper facilities for cooling and handling milk. Most of this milk was processed in Vancouver or in near-by cities in the Fraser Valley, so that the residents continued to obtain their supply of pasteurized milk. Most persons handling milk under adverse conditions used much greater than normal care in handling the milk, with the result that even though there were changes in the normal manner of handling the milk-supply, there was no outbreak of milk-borne diseases.

Food continued to be supplied in the normal manner in most instances, although many individuals were supplied by naval transport or by aircraft. In addition to consultant service to public health staff in relation to mass-feeding units, the nutritionists on the staff of the Provincial Health Department were asked to prepare and obtain emergency rations for a community of some 10,000 people which was in great danger of being completely isolated.

(*d*) *Publicity.*—Throughout operation overflow a constant barrage of news releases and radio flashes was made in order to keep persons affected by the flood informed of public health problems and to prepare them for problems which would arise in future, as well as to give the general public an accurate account of the work being done. In many instances news releases were prepared by the

Provincial Division of Public Health Education, and in other instances they were written by the local staff.

In some cases the local sanitarians appeared on programmes on the local radio-stations in order to advise the people as to the proper method of handling sanitation. Warning-posters were put up in all strategic places informing the public as to the proper person to see regarding public health matters.

(*e*) *Mosquito-control.*—The Fraser Valley is a natural habitat of mosquitoes, and although no disease has ever been traced to this insect in this area, it was realized early that they would become a problem. The responsibility for control of mosquitoes was accepted by the B.C. Flood Control Committee on humanitarian grounds and placed under the direct supervision of the Health Section. The actual work was done by a commercial firm, which had on its staff a highly trained group of recent university graduates, using conventional aircraft, a helicopter, blowers, and orchard spraying equipment. Much of the spraying-work was done on the dykes by labourers appointed by the local Flood Control Committee; 5 and 10 per cent. D.D.T. dust, and 50 per cent. wettable D.D.T. and oil were used. The spraying and treatment of such a vast area of agricultural land was undertaken with a good deal of trepidation, as various reports have been written concerning the harm to beneficial insects that has resulted from similar undertakings. In this operation, however, praise was received on all sides. There have been no adverse reports received to date.

Operation Clean-up.

No definite line of demarcation occurred when operation overflow became operation clean-up. In the upper regions of the flooded areas, operation clean-up was under way when operation overflow was still in progress in the lower regions. This, however, was the period when the sanitarians and public health engineers lost all track of time, and their duties and responsibilities were heavy. Comprehensive instructions in regard to cleaning up flooded homes and furniture, dairies, public buildings, milk-houses, pasteurizing plants, cold-storage plants, and wells were prepared by the Division of Environmental Sanitation. These were given wide circulation, as well as being posted in all strategic points. The press and radio were utilized at frequent intervals to give publicity to these instructions, and many large signs were put up in the flooded areas stating where information and suupplies for clean-up procedures might be obtained.

(*a*) *Homes.*—Early in the flood the B.C. Flood Control Committee announced that homes would not be reoccupied until they had been approved by the health authorities as fit for habitation. Since the militia was in control, these instructions were issued in the name of the Army Commander, and they were obeyed far better than even the most optimistic had dared to hope. In most areas, centres were set up where information and supplies could be obtained. The Department of Health supplied chloride of lime and other chlorine products to householders. These supplies were for the most part donated through the generosity of firms selling these chemicals in British Columbia. For the most part the chlorine in solution form was used to treat the sandpoint type of well, and the powdered form used in a dug type of well. Powdered chloride of lime was also used extensively in all clean-up procedures, such as for septic tanks,

privies, and about yards. Great stress was laid on the value of turning over the soil in yards to the sun and air.

A form, Certificate of Health Inspection, was prepared, and every householder was required to have this signed by the Local Health Officer or sanitarian before occupancy of the home was allowed. Adults were allowed to return to their homes during the day to carry out clean-up procedures, but in many instances this meant that provision had to be made for the care of their young children. At the suggestion of the Health Department, the Red Cross set up day-nurseries for this purpose, and they were most worth while. Most of the work by the residents was hard manual labour, with the aid of liberal quantities of disinfectants, of which chlorine-bearing compounds were the most extensively used. In some areas great success was obtained by the use of high-pressure steam. In giving the final certificate that the house was habitable, care was taken to point out that this did not cover structural or electrical defects. However, certificates were not given out where the structural defects were quite obvious. A total of almost 1,500 homes were inspected and certificated by the staff of sanitarians.

(*b*) *Water-supply.*—The work here continued as in operation overflow. The municipal water-supply that had ceased to operate when the area was flooded was closely checked as the water receded, superchlorinated, flushed out, and put into operation with the use of an emergency chlorinator. In all, three chlorination plants were put into operation, and these were not taken out of operation until the bacteriological quality of the water in the mains had returned to normal.

As mentioned previously, instructions in regard to the sterilization of wells were issued and the necessary chemicals applied. To prevent too great a load on the Provincial Laboratory, frequent sampling was discouraged. In no case was sampling carried out where there was gross evidence of contamination or cleansing of the well had not already been carried out. In many instances it was found that a well showing contamination likely showed contamination before the flood and would continue to do so owing to improper location or improper construction. Attempts were always made to have the owner rectify this condition.

In all, 439 wells were examined by the sanitarians. Of these, 72 per cent. were the driven sandpoint well. Only 18 per cent. of the sandpoint wells sampled showed evidence of bacterial contamination. Of the dug wells, only those that were considered to have a satisfactory sanitary survey were sampled. Of these, only 50 per cent. showed freedom from contamination on the first sampling. There were in all a total of 797 samples of water taken by the sanitarians and public health engineers in the Lower Fraser Valley during the flood emergency.

(*c*) *Merchant Stores.*—Grocery-stores in particular presented problems in many instances. This was due to the fact that although home-owners realized that compensation would be forthcoming, there was little likelihood of commercial organizations receiving compensation for losses. Food products in all except water-tight containers were already destroyed by the flood-waters. Canned foods presented a particular problem. It was considered at first that canned goods could be used after merely immersing the cans in a chlorine solution,

but the sanitarians soon discovered that cans that had been under water for several days showed evidence of spoilage. As a result, a good deal of diplomacy was needed in persuading merchants that goods which in many instances were the last remnants of his stock, and which to his eye seemed satisfactory, must be destroyed. However, the policy of destroying canned goods was carried out in all cases. All bottled goods, such as soft drinks, were destroyed regardless of the length of time of immersion, as it was considered, and later proved, that capping methods commonly in use gave little protection against contamination. Much of the contamination of both cans and metal caps of glass bottles was caused by corrosion of the metal followed by entry into the contents of bacteria.

(*d*) *Cold-storage Locker Plants.*—There are numerous cold-storage locker plants throughout the valley, but in only two instances was a cold-storage locker plant affected. In one case the cold-storage locker plant was deprived of electrical energy for two days. However, the plant was closed so that no doors into the cold-storage section were open, and the plant maintained its refrigeration temperature for the two days.

In the other case it was impossible to empty the contents of the plant before the flood-waters became too high. Seven tons of meat remained in the plant. Water covered about half the lockers in the plant for three or four weeks. It was then exposed to the heat and flies for some weeks, and as a result the condition of this plant when the waters finally receded was indescribable. The odour was so intense that it was only with great difficulty that men were able to enter the plant to commence clean-up operations. Even with the use of gas-masks, a man could only stay in the plant for a short period of time. Also, the plant was alive with maggots and flies.

All the lockers were torn out and the lumber destroyed. In addition, the lining of the plant was taken out and the insulation dried. This plant is now in operation again.

(*e*) *Pasteurizing Plants.*—Several of these plants were affected, but, due mainly to their normal experiences in sterilizing equipment, no serious difficulties were encountered in cleaning them.

(*f*) *Sewage-disposal.*—There were no municipal sewage-disposal works affected by the flood, as the greater part of the affected area used either septic tanks or privies. The latter were all problems, as in some instances the septic tanks were completely destroyed and in other instances privies were carried away by the flood. The privies were liberally treated with chloride of lime or covered in, as the individual case warranted.

(*g*) *Dead Animals.*—Very few dead animals were found as the water receded, and these all presented individual problems. In some instances it was possible to bury the animals on the spot. Early in the flood the use of flame-throwers was suggested, and while the Army was still in the area this method proved satisfactory.

(*h*) *Garbage-disposal.*—The only problem that came to the attention of the Health Department regarding garbage was during operation overflow when certain individuals refused to leave their homes. As there were less than twenty such families in the whole area, this did not present any real difficulty, as in most cases the swollen waters of the Fraser River quickly carried garbage away. During operation clean-up, garbage was easily disposed of through normal

channels and by the use of emergency garbage-disposal dumps which were set up for this particular operation.

(*i*) *Barns and Milk-houses.*—No unusual problem was presented here, as the usual recommendations of plenty of hard manual labour, followed by the use of chlorine products, were successful. In the cleaning of barns, the use of a solution of sodium or calcium hypochlorite by a steam spray was very successful.

(*j*) *Public Buildings and Schools.*—No particular problems were encountered regarding public buildings. Some schools were damaged by flooding, but the same clean-up procedures were used as for homes. Several community halls and roller-skating rinks were damaged structurally. Some of these have not been reopened at this writing.

SUMMARY.

The problems that arise for a Health Department when a flood covers some 70,000 acres of a highly populated area are presented. The importance of the Provincial Health Department having direct control over public health services is stressed. It is only in this manner that sufficient numbers of public health personnel can be obtained in times of emergency. The value of immediately seeking the assistance of senior government authorities, including the Department of National Health and Welfare and the medical branch of the Department of National Defence, is evident. Without such aid, much of the success of this work would not have been possible. It is essential that on the appearance of a possible flood emergency, the Health Department should prepare plans in regard to headquarters, personnel, channels of communication, and general policy. During the emergency, directives should be sent out to all concerned at frequent intervals, and the senior officials in direct charge of the different aspects of flood-control should spend much time in the field.

The work of the Health Department in the two main phases of the Lower Fraser Valley flood emergency is discussed. There is no clear line of demarcation between these two phases. The tempo of the work for the public health nurses increases early, chiefly due to typhoid immunizations, while that of the sanitarians and public health engineers increases as the flood-waters recede.

CONCLUSIONS.

1. The fact that not a single case of typhoid fever or any other type of flood-borne illness occurred from the aftermath of the flood is to be noted.

2. There was no positive evidence of any salmonella infections, although a minor outbreak of some form of gastro-intestinal infection did occur among dyke-workers in one area.

3. Chlorine-bearing compounds are the sterilizing chemicals of choice in such an emergency.

4. The success of any attempt to control disease in floods depends upon the hard work and long hours put in by Medical Health Officers, public health engineers, public health nurses, and sanitarians in the field.

5. Any Provincial or State health department should be so flexible that sufficient trained public health personnel can be placed in the area of emergency immediately.

6. During an emergency the public will co-operate very effectively with the Health Department.

SUMMARY OF ACTIVITIES IN THE BUREAUX, DIVISIONS, AND SERVICES OF THE PROVINCIAL DEPARTMENT OF HEALTH.

This Annual Report contains complete accounts of the year's activities in the various bureaux and services which constitute the Provincial Department of Health. Although the reader is referred to these accounts for specific details, this summary stresses outstanding features.

Bureau of Local Health Services.

Eighteen health units have been proposed. Eight have already been established. At the year's end, three of these were operating without the direction of physicians trained in public health.

Plans for the establishment of health units in the Upper Fraser Valley, the Trail district, the Kamloops district, and the Courtenay district were well advanced. In each of these, Sanitary Inspectors were appointed, but at the year's end medical directors were not available to make the health unit " teams " complete.

Ten additional Sanitary Inspectors were appointed to provide services in existing and potential health unit areas.

Plans were made to provide more uniform supervision of clerical staff in the field.

A statistician was appointed to supervise the compilation of data available in health units and public health nursing districts.

A dentist was appointed as the initial step in the formation of a division of preventive dentistry.

The Cariboo Health Unit, with headquarters at Prince George, began operations in February when a public health physician was appointed Director.

Material assistance was provided to the Greater Vancouver Metropolitan Health Committee. Additional funds were made available to this Committee, both from Provincial moneys and from the new Federal health grants.

Councils and School Boards in North and West Vancouver reached agreement concerning the formation of a North Shore Health Unit within the Greater Vancouver metropolitan health services.

Provincial moneys and funds from the Federal health grants were allotted to the Victoria-Esquimalt Health Department to make possible increased supervision of the public health nursing programme and to establish programmes of public health education and mental hygiene.

In co-operation with the flood-emergency authorities, personnel of local health services served throughout the flood and rehabilitation periods to prevent the occurrence of epidemics and to assist families during evacuation from, and return to, their homes.

During the flood period the only disease outbreak was a minor epidemic of gastro-intestinal infection among the dyke-workers in one section of the Fraser Valley.

For the year as a whole, 23,632 cases of disease were reported. This represents the lowest year's incidence of notifiable diseases since 1940. It would seem to indicate generally a more healthy picture for British Columbia during 1948.

Community education and organization concerning X-ray surveys continued to be the responsibility of the public health field staff, while the itineraries of the mobile equipment and the general policies were planned by the central office staff of the Provincial Department of Health.

This policy, established in 1947, proved satisfactory in most instances. Further experiences and refinements in general procedure will undoubtedly result in improvements.

PUBLIC HEALTH NURSING.

The following statements are intended to provide a general picture of the activities of each public health nurse. The figures are average figures. During 1948 a public health nurse in British Columbia:—

- Served a population of approximately 5,000 people.
- Travelled within a radius of 20 to 50 miles to cover a rural area.
- Supervised the health of some 1,000 school-children.
- Supervised an average of twenty persons with tuberculosis.
- Organized and conducted approximately five child-health conferences each month, with an average attendance of fifteen to twenty infants and pre-school children.
- Made numerous home-visits for the purpose of infant-health supervision.
- Organized immunization clinics which were open to all members of the community.
- Conducted an educational programme on improved sanitation particularly within the home.
- Gave practical demonstrations of home nursing to instruct some member of the family in such procedure as patient-care, baby-care, short-term treatments, and hypodermic injections.

Four new public health nursing districts were opened in 1948—Castlegar, Invermere, Burns Lake, and the North Thompson District.

Public health nursing services were expanded in many other districts and health unit areas.

During the year 107 public health nurses were on duty throughout the Province.

Approximately 94 per cent. of the population of British Columbia was covered by public health nursing services.

The field staff was increased by seven public health nurses. Eight registered nurses were employed on a temporary basis on a nursing "internship" plan which makes provision for further academic training if the nurses show their suitability for public health nursing careers.

In-service education of the public health nurses was provided through frequent staff meetings, study-groups, and formal courses.

Study-group subjects included mental hygiene, infant welfare, the tuberculosis programme, and welfare agencies.

A representative of the Federal Division of Maternal and Child Health addressed five study-groups on the prenatal and maternal health programme.

A faculty member of the School of Public Health, University of Michigan, conducted a ten-day course in supervising practices for senior nurses.

The Director and field staff of the Division participated in the training of student-nurses enrolled at the University of British Columbia and four hospitals throughout the Province. This included work at both the undergraduate and graduate levels. Both lectures and field experience were given.

By arrangement with the Department of National Health and Welfare, public health nurses continued to give service to Indian reserves.

During the flood emergency the public health nursing staff was concentrated in the affected areas, where the nurses rendered services of major importance in safeguarding the health of the public.

Nutrition Service.

Throughout 1948 nutritionists of the Provincial Department of Health provided consultative service to local public health personnel through attendance at staff meetings in local areas and conference with individual members of the field staff; publication of articles on nutrition in the Department's "Public Health News and Views"; compilation of concise information and data on special technical subjects; and collection, evaluation, and distribution of illustrative materials.

Nutrition Service, in co-operation with local public health field staffs and other departments of Government, provided assistance to hospitals and other institutions in solving problems of quantity food service. These were concerned with adequate and varied menus, special diets, selection and arrangement of equipment, food costs, and organization of the food service.

During the year, staff members of Nutrition Service participated in professional meetings on both the Provincial and National levels, assisted in the public health education of teachers and student-nurses, provided consultative service to a committee of the Department of Education in the revision of the school health curriculum, held joint meetings with members of the Department of Agriculture to discuss food production and consumption, served in the devastated areas at the time of the spring floods, and collaborated with the Division of Health Education in providing material for a radio programme.

Division of Vital Statistics.

The activities of this Division lie in two major fields: (1) Statistical studies and analyses, and (2) registration of births, deaths, marriages, divorces, still-births, adoptions, and changes of name.

The Statistical Section served as a workshop for the Health Branch where statistical problems were concerned. It also provided data to other departments of Government and to the public.

Completeness of registration for the general population had attained such a high level that efforts were being directed toward improving the quality rather than the quantity.

Although registration among Indians and Doukhobors still presented problems, much improvement was achieved during 1948.

Inspection of registration offices throughout the Province again proved its value.

The efficiency of the Division as a whole was increased through the use of improved methods and forms.

A campaign to secure adequate verification in cases of delayed registration resulted in the gathering, microfilming, and indexing of many thousands of records.

The system whereby verifications of births, deaths, and still-births were reported to some health units during the previous year was extended to include all health units and the Greater Vancouver Metropolitan Health Committee.

Parts II, III, and IV of the Manual of Instruction for District Registrars, Marriage Commissioners, and Issuers of Marriage Licences were distributed to all district officials. (Part I had been previously distributed in October, 1946.)

The Director of the Division attended the fifth meeting of the Vital Statistics Council for Canada, in October, in Ottawa. Important topics of discussion were Regulation No. 1 of the World Health Organization and its implementation, model Vital Statistics Act, and minimum standards for delayed registration.

The adoption of a World Health Organization regulation concerning diseases, injuries, and causes of death added to the responsibilities of the Division. Instructions, forms, and information will have to be distributed to physicians, hospitals, and District Registrars throughout the Province. The format of many vital statistics tables will have to be changed.

The question of amending the present British Columbia " Vital Statistics Act " or replacing it by the model Act arose. This will bear close consideration by the Attorney-General's Department and staff of the Division.

The minimum standards for delayed registration of birth were reaffirmed and endorsed by the Vital Statistics Council for Canada. It is understood that each Province has agreed to these recommendations. (British Columbia has been adhering to them since February, 1945.)

Division of Laboratories.

Almost 365,000 laboratory examinations were made by this Division in 1948. Almost 300,000 of these were performed in the central laboratory in Vancouver.

There was a slight decline in the number of tests performed by the branch laboratories throughout the Province, but the tests performed in the central laboratory showed an increase of approximately 10 per cent.

The tests continued to become more exacting, and there is a tendency for the more complicated tests to be referred to the central laboratory.

Tests relating to venereal disease control represented almost three-quarters of all tests.

Tests relating to the laboratory diagnosis of tuberculosis again increased.

In work concerned with gastro-intestinal infections, the laboratory dealt with several outbreaks of staphylococcal food poisoning and one outbreak of botulism. There were, however, no major Salmonella-Shigella epidemics (typhoid-dysentery infections).

The number of milk and water samples examined increased. This was encouraging evidence of the competent attention being given to this important phase of public health work.

Tests relating to diphtheria increased approximately 15 per cent., indicating that the importance of diphtheria toxoid as a preventive measure should be stressed.

During the flood emergency the central laboratory was much involved in the distribution of biological products. The laboratory subsequently undertook the testing of water from flooded wells in the amended area. During the course of a few weeks, T.A.B. vaccine sufficient for the immunization of some 60,000 persons was distributed.

The laboratory assisted in intensive immunization campaigns against typhoid and paratyphoid T.A.B. in the Peace River, Cariboo, and East Kootenay Health Units.

The distribution of biological products for the prevention and control of communicable diseases reached new records in 1948. More than 50,000 packages of various products were released for distribution. Sufficient vaccine virus was distributed to vaccinate almost 50,000 persons against smallpox. Diphtheria toxoid for the immunization of approximately 40,000 children, pertussis (whooping-cough) vaccine for 30,000 children, and T.A.B. vaccine for approximately 80,000 persons were also released free of charge to practising physicians and health officials throughout the Province.

Division of Venereal Disease Control.

For the second consecutive year there was a substantial decrease in venereal disease rates. This was a reflection of the increased efforts in case-finding and the earlier and more rapid treatment.

The provision of free drugs and free consultative services continued throughout the year.

Changes were effected in treatment methods to conform with the findings of recent research throughout the world.

As a result of the success of the female clinic in the Vancouver City Gaol, a diagnostic clinic was established in the male section of the gaol. Serological tests are now performed on 25 per cent. of all male prisoners.

Increased efforts were made toward the establishment of the routine blood-testing of all women in pregnancy, with full anti-syphilitic treatment for those cases found to be positive.

The programme for control of premises facilitating spread of venereal diseases was taken over by the Epidemiology Section of the Division. This programme was formerly conducted by the Social Service Section. The change now leaves the latter free to deal with social problems of individuals.

The Director of the Division was appointed Assistant Provincial Health Officer, to act as the Deputy Minister of Health's representative in the Vancouver area and to assume major responsibilities concerning the Federal health grants.

Division of Tuberculosis Control.

A shortage of approximately 500 beds for the treatment of tuberculosis existed during 1948. Plans for a new 500-bed unit in Vancouver were completed, and it is hoped that construction will begin early in 1949. This should provide 250 of the proposed 500 beds. Construction on the addition to the Vancouver unit neared completion at the year's end. This building, provided by the British Columbia Tuberculosis Society, will house new surgical and teaching facilities and an auditorium. It will allow this institution to carry out every form of active treatment for tuberculosis patients and will make this one of the best-equipped and best all-round treatment units of its kind in North America.

Many of the changes that have been recommended for the improvement of facilities at the Tranquille unit were accomplished during the year. These included new housing facilities for the staff and a change in the electrical power from direct to alternating current.

There was a greater drop in the death-rates of tuberculosis this year than in any previous year in the history of the Province.

The Vancouver unit of the Division of Tuberculosis Control was certified by the Royal College of Physicians and Surgeons of Canada as a post-graduate training centre in chest diseases.

The clinics operated by the Division during 1948 continued as in the previous years. It was impossible to have physicians attached to the travelling diagnostic clinics, except in one instance. Consulting services had to be limited to the taking of X-ray films in the rural areas and forwarding these to the main units of the Division for interpretations. The number of examinations performed by the stationary survey clinics continued to increase. This in turn placed an additional load on the stationary diagnostic clinics. The mobile units performed approximately the same volume of work as in 1947.

The expensive equipment used in these surveys was provided several years ago by the British Columbia Tuberculosis Society. It has served the communities of the Province well. Although plans are in only the preliminary stage, it is hoped that the service of these " buses " will be supplemented by making use of new X-ray equipment in strategically located larger hospitals and health units throughout the Province.

In the tuberculosis nursing programme, much time and effort was devoted to projects dealing with the standardization of policies and routines. Programmes for staff orientation and patient education were outlined and adopted to local circumstances in various units. Although there was still a shortage of nurses, recruitment improved during the last few months. The educational programme for undergraduate and postgraduate students progressed favourably.

In the social service field, it was found necessary to close the boarding-home for women. This had not been replaced by the end of the year. Placement problems concerning women patients and those long-term chronic patients who have intermittent positive sputums have become critical.

Division of Public Health Engineering.

This Division reviewed and approved approximately $2,000,000 worth of waterworks construction during the year. In addition, sanitary surveys of a number of existing water-supplies were carried out.

Approximately $2,000,000 worth of sewerage works were revised and approved.

For the first time in many years there was no major milk-borne epidemic in British Columbia. The Division feels that this may be attributed to the increase of the use of pasteurized milk.

The sanitary inspection of tourist resorts was made the responsibility of the Local Sanitary Inspectors. The Division now has reports on 656 tourist camps.

During 1948 the Division received detailed reports concerning the environmental sanitation of the 342 schools. It was noted that many improvements have been made following reports of inspections made in 1945, 1946, and 1947.

Early in the year a survey of glass-washing facilities in beer-parlours was made in co-operation with the Liquor Control Board. This survey revealed tremendous improvements in glass-washing methods.

Restaurant inspection continued, and with the increased staff of Sanitary Inspectors it is expected that by the end of 1949 all the restaurants in the Province will have been inspected three or four times during the year.

Ten new Sanitary Inspectors were added to the staff, which was thus increased to nineteen in number.

Emergency conditions relating to the flood occupied the full attention of the Division from May to August. During the height of this emergency ten extra Sanitary Inspectors were placed on duty in the Lower Fraser Valley. Eight of these were Provincial Sanitary Inspectors from other parts of the Province and two were members of the staff of the Greater Vancouver Metropolitan Health Committee. Four public health engineers were made available to the Provincial Department by the Department of National Health and Welfare. The work included the sanitation of work camps and evacuee camps, the inspection of all homes that had been damaged, and sanitary surveys of 439 wells. Emergency chlorinating apparatus was installed in two public water-supplies. Several tons of chloride of lime and other chlorine products were distributed for clean-up purposes.

Division of Public Health Education.

The film library was increased, but at the year's end was again found to be too small to meet the demands in some fields. The staff of the Division conducted frequent previews and studies of health films in order that they might provide sound consultative service to potential users.

In co-operation with the Division of Public Health Nursing, the Division of Tuberculosis Control, and the British Columbia Tuberculosis Society, the Division assisted in the revision of materials for mass X-ray surveys.

Much time was devoted to the necessary work of classifying filing materials useful in public health education. These included books, periodicals, and pamphlets. This work again revealed the need of a trained librarian.

In spite of the loss of the editor, the " Health Bulletin " was published and distributed with only slight departures from the normal publication dates.

The orientation programme for new staff members was improved and formed the basis of in-service training for newly appointed Health Unit Directors, Sanitary Inspectors, statisticians, and health educators. A similar course was planned for a new field-worker on the staff of the Junior Red Cross to acquaint her with Provincial public health services.

The Division took a part in the in-service education of Departmental personnel by assisting in planning and collecting materials for courses for study-groups. The Consultant in Health Education gave lectures at the Victoria Summer School for teachers, the public health nursing class at the University of British Columbia, and the senior nursing classes at the Royal Jubilee and St. Joseph's Hospitals.

Consultative service was provided on request to the Department of Education in planning the revised school health curriculum. Work was also done on a handbook of communicable diseases which is being prepared as a teacher's reference.

The staff of the Division assisted in the preparation and implementation of plans for the Canadian Public Health Association meeting held in Vancouver in May.

During the flood emergency the Division complied with requests to compile information and prepare material for distribution. News releases and instructions to householders in clean-up procedures were included.

The Director of the Division was appointed Administrative Assistant to the Deputy Minister of Health, and the editor of the " Health Bulletin " resigned during the course of the year.

PROVINCIAL INFIRMARY.

The Provincial Infirmary continued to maintain patients in three separate units as follows: Marpole, 124 beds; Allco, 100 beds; and Mount St. Mary, Victoria, 105 beds under contract.

All patients admitted were first screened through either the Vancouver General Hospital or St. Joseph's Hospital, Victoria, where each patient was given a thorough examination.

A physician is in charge of all patients. The services of an eye specialist and dentist are provided.

Surgery and other forms of treatment were provided to Infirmary patients at the Vancouver General Hospital, St. Paul's Hospital, the Western School for Rehabilitation, and the Cancer Clinic.

The services of a part-time physiotherapist and a full-time occupational therapist were maintained.

The Women's Auxiliary of the Marpole unit continued their untiring and active interest in the welfare of the patients.

The Superintendent of the Provincial Infirmary welcomed the appointment of an Advisory Committee to assist her. This Committee consisted of two officials of the British Columbia Hospital Insurance Service and a personnel officer of the Civil Service Commission.

LONGEVITY AND CAUSES OF DEATH IN BRITISH COLUMBIA.

An analysis of deaths in the Province is valuable in measuring the general well-being of the people. However, statistics on deaths must also be considered with the incidence of sickness and disease in order to obtain an accurate picture of the health of the people.

It is of interest to note that the death-rate in British Columbia has remained fairly constant during the last two decades. Preliminary figures, excluding Indians, based on the first ten months of 1948, indicate that the crude death-rate increased slightly from 9.8 per 1,000 population in 1947 to 10.2 in 1948.

A consideration of age specific mortality experience in the Province shows a reduction of deaths in the earlier age-groups and the lengthening life-span of

the population. The provisional death-rates for 1,000 population in specific age-groups, based on the first ten months of 1948, were 3.2 in the group 0–19 years, 1.9 in the group 20–39 years, 7.6 in the group 40–59 years, and 47.8 in the group 60 years and over.

A comparison of the 1948 figures with those of two decades ago further reveals gains in longevity in the Province. The age specific death-rate in 1948 in the group 0–19 was only 58 per cent. of the corresponding rate in 1928 and the 1948 rate in the group 20–39 was only 44.2 per cent. of the same rate in 1928. A less significant decrease was also noted in the 1948 rate in the age-group 40–59, as compared with the 1928 rate. In the age-group 60 and over the 1948 rate was 28.9 per cent. higher than the comparable rate in 1928. Progress has been made in gaining control of conditions and influences affecting life to the extent that people are now attaining the older age-groups.

A study of each age-group from 1 to 39 shows that more deaths occurred from accidents than any one other cause. Congenital malformations and infectious diseases ranked equally as the second leading cause of death in the group 1–9 years, while tuberculosis ranked second in the group 10–39. Pneumonia was the third leading cause of death in the group 1–9, and diseases of the heart was third in order of importance in the group 10–39.

The three leading causes of death in the age-group over 60 years were diseases of the heart and arteries, cancer, and intracranial lesions.

Infant mortality has declined both in number and in rate. The rate of 22.8 per 1,000 live births is 22.7 per cent. lower than the rate of 29.5 recorded last year. Premature births, congenital malformations, and injury at birth were the three chief causes of death among infants. This year's rate is one of the lowest rates in the history of the Province.

Deaths from maternal causes were also at a minimum in 1948. The preliminary maternal mortality rate was 0.9 per 1,000 live births, compared with 1.2 for 1947.

The two leading causes of death, diseases of the heart and arteries and cancer, each showed increased rates when compared with 1947 figures. The provisional death-rate for diseases of the heart and arteries per 100,000 population, excluding Indians, was 401.9. This was 7.4 per cent. higher than the rate of 373.9 recorded in 1947. The preliminary cancer death-rate for 1948 was 149.1 per 100,000 population. This figure represents an increase of 3.3 per cent. over last year's rate.

Accidents, the third leading cause of death, had a rate of 76.3 in 1948, compared with 78.8 per 100,000 population in 1947. In the distribution according to type, deaths from automobile fatalities held first place among accidents, accounting for 20.7 per cent. Deaths from accidental falls or crushing were responsible for 14.7 per cent., and drowning accounting for 11.6 per cent.

Nephritis and pneumonia were the fourth and fifth leading causes of death respectively, according to preliminary figures for 1948. Both of these causes showed an increase in rate over the 1947 figures. The nephritis death-rate in 1948 was 40.7, compared with 35.3 in 1947. In 1948 the pneumonia death-rate was 39.2, compared with 33.1 in 1947.

Diseases of early infancy, the sixth main cause of death, was followed by intracranial lesions, tuberculosis, diabetes, and congenital malformations.

REPORT OF THE BUREAU OF LOCAL HEALTH SERVICES.

J. A. TAYLOR, DIRECTOR.

INTRODUCTION.

The term "local health services" denotes public health services at the local or municipal level, embracing public health nursing and environmental sanitation, and is closely allied with the services in tuberculosis control, venereal disease, laboratories, nutrition, and public health education, which, although administered by separate divisions, are interpreted to the community by the field staff in local health services.

The original establishment and continuity of planning for local health services have been, in the main, the task of Dr. J. S. Cull, Deputy Provincial Health Officer, who for eleven years was Director of Local Health Services for the Province. Although the demands on his time and energy were multitudinous, he was able to formulate and, as personnel became available, to expand gradually local health services to the point that there was an unprecedented demand from all areas of the Province for inauguration of full-time health services. His resignation early in 1948, to become Provincial Medical Director of the Red Cross Blood Transfusion Service, created a loss to the Department which was particularly regrettable, since it coincided with the provision of additional finances by the Department of National Health and Welfare to augment public health services throughout the Province. The introduction of the Federal grants provided an opportunity for development of local health services on the basis of the formative planning of Dr. Cull, to whom belongs considerable credit for the progress which was possible during the year.

DEVELOPMENTS IN LOCAL HEALTH SERVICES.

Planning for local health services in British Columbia has evolved around the formation of health units to provide full-time local health services. Eighteen health units have been proposed to provide entire Provincial coverage; eight have already been established, of which three are operating without the direction of public-health-trained physicians. It is the lack of these latter personnel that has continued to hamper the development of complete health unit services throughout the Province.

Although it has been found impossible to establish complete health units as desired, the impetus given by the Federal health grants toward augmentation of public health services has permitted additional progressive steps toward that goal. These developments can be briefly listed as follows:—

(1) To augment the programme of environmental sanitation, ten additional Sanitary Inspectors have been appointed to provide inspection services in existing and potential health unit areas. This fulfils the requests of numerous communities for this type of service.

(2) To expand nursing services as needed; extra public health nurses where required and the employment of registered nurses for bedside nursing care in certain areas. This expansion is only feasible as nursing personnel become available; the demand still exceeds the supply.

(3) To appoint a clerical supervisor and additional clerical staff to assist in the maintenance of records and preparation of reports.
(4) To provide special types of equipment to existing and potential health unit centres to permit a more effective provision of service to the public.
(5) To provide increased laboratory services, consideration is directed toward assisting local hospitals in strategic locations to provide laboratory facilities for both clinico-pathological and public health tests, which will become branch laboratories under the Division of Laboratories.
(6) To expand the programme of environmental sanitation, necessitating a degree of supervision, in particular where Sanitary Inspectors are operating without Health Unit Directors. To provide for this, another engineer has been appointed to the Division of Public Health Engineering.
(7) To provide further development of statistical services within health units, a statistician has been engaged to devote his major attention to the compilation of statistical data in the field. This has been a long-expressed desire of the Health Unit Directors.
(8) To appoint a dentist as the initial step toward the formation of a Division of Preventive Dentistry. He will devote his complete interest to the organization of dental clinics to deal with the increasing problem of dental caries among children.

HEALTH UNIT PROGRESS.

At the close of last year it was intimated that the Cariboo Health Unit, with headquarters at Prince George, was expected to commence operation early in 1948. This prediction became an actuality in February when a public health physician was appointed as Director of the new unit, which serves Prince George, Vanderhoof, Quesnel, Wells, Williams Lake, Lac la Hache, and the intermediate unorganized territory. By June a Sanitary Inspector was added to the staff to provide the complete health unit team. However, the distances between population centres are so lengthy that it is difficult to plan a regularly organized periodic inspection service. Thus, this is one of the areas to benefit from the augmented environmental sanitation programme through the addition of another Sanitary Inspector, who will be centred at Quesnel.

The Cariboo Health Unit was the only one it was possible to open in 1948. Plans had provided for the establishment of a health unit in the Upper Fraser Valley, to be centred at Chilliwack, but this was thwarted by the shortage of medical personnel. In addition, Trail and district are well advanced in health unit planning, even to the point of provision of a commodious well-planned office, while Kamloops district and Courtenay district have also requested inauguration of complete health unit services. In each of these, sanitary inspection services have been added this year to provide almost a complete health unit team, only the Medical Director being necessary to complete the staff.

Resignations of the Directors of the Saanich and South Vancouver Island Health Unit, the Prince Rupert Health Unit, and the East Kootenay Health Unit occurred during the year. These, together with the resignation of the Deputy

Provincial Health Officer, occasioned a set-back to developmental progress in health units.

To fill the vacancy in the central office, the Director of the Central Vancouver Island Health Unit accepted an appointment as Director of Local Health Services, while the Director of the South Okanagan Health Unit (formerly the Okanagan Valley Health Unit) transferred to the Central Vancouver Island Health Unit. The employment of two recently graduated public health physicians permitted the filling of the vacancies in the South Okanagan Health Unit and the Saanich and South Vancouver Island Health Unit.

The former Director of the East Kootenay Health Unit is continuing on a part-time basis as Acting Director of that unit. Prince Rupert Health Unit, minus a public health physician for the second time in its six-year history, is carrying on under the direction of Dr. A. W. Large, while the Peace River Health Unit functions without a qualified Director, as it has for the past five years.

The health services in the Greater Vancouver Metropolitan Health Department continued to show material progress during the year. Conferences were held with the Senior Medical Health Officer to discuss recommendations for expansion of public health services within each of the participating municipalities, toward which this Department offered materially increased grants. Further additional funds were made available to the Metropolitan Health Service as a result of this Department assuming the entire cost of public health laboratory tests and the purchase of all biological products. Finally, opportunities for further expansion were provided through the Federal health grants on the basis of the several approved projects submitted by the Senior Medical Health Officer.

A definite forward step, within the Metropolitan Health Service, was taken when final agreement was reached by the Municipality of West Vancouver, the Municipality of North Vancouver, the Corporation of the City of North Vancouver, and the School Boards of Districts No. 44 (North Vancouver) and No. 45 (West Vancouver) toward the formation of a North Shore Health Unit. This will provide for more effective operation of health services, while providing for more efficient administration and financing of the service. The North Shore Unit will continue to maintain representation on the Metropolitan Health Committee as an integral component of that original body.

The Department acknowledges with gratitude the excellent co-operation of the Senior Medical Health Officer and staff of the Metropolitan Health Department. During the floods, several staff personnel were loaned to the Provincial Department, and on several occasions individual senior officials departed from their own tasks to investigate reported communicable disease incidence outside their own areas. Such co-operation serves to emphasize co-ordination and unity of purpose among local health services toward maintenance of health throughout the Province.

Changes in the senior staff of the Victoria-Esquimalt health service were occasioned during the year. The resignation of the senior Medical Health Officer occurred early in the year, and the position was assumed by the Director of the Saanich and South Vancouver Island Health Unit. Later in the year the Assistant Medical Health Officer resigned to accept a commission in the Royal

Canadian Air Force, his position being assumed by a former practitioner in Victoria.

Increased financial grants by this Department permitted a certain degree of expansion within the Victoria-Esquimalt Health Department. As a result, a public health nursing supervisor was appointed to supervise and correlate the public health nursing programme in these metropolitan areas, while provision was made for office expansion and additional clerical help. The beginning of public health education and mental hygiene programmes within the Victoria-Esquimalt area is possible as a result of approved projects submitted under the Federal health grants.

The scheduled quarterly meetings of the Health Unit Directors, inaugurated last year, were continued, being held in January, May, and September for two- or three-day periods. At these meetings, discussions centred around topics which were submitted in advance by the field staff, resulting in clarification of numerous problems, while explanations of policies and programme ensued. These meetings are felt to be of distinct value in permitting the various Health Unit Directors to meet together to thresh out common problems and develop a united programme.

SERVICES OF PART-TIME MEDICAL HEALTH OFFICERS.

Throughout the Province there are sixty-nine medical practitioners serving as Medical Health Officers for their communities, acting under the " Health Act " as the responsible health authority in the district under their supervision. These physicians have co-operated with the public health nursing field staff, in the areas outside of health units, to promote a degree of public health progress which would never have been possible without their assistance. Programmes of sanitation, communicable disease control, immunization, and infant clinics have all evidenced their support and active participation. Assistance has been available to these health officers, and consultative aid has been provided in numerous instances to deal with problems arising from incidence of communicable disease or inadequate sanitation. Considerable credit is due these men for the time, effort, and interest they have provided toward improvement of public health conditions for their own communities.

LOCAL HEALTH SERVICES DURING FLOOD CONDITIONS.

All parts of this Province were ravaged by floods during the late spring and early summer. The dissemination of garbage and sewage by flood-waters, the contamination of water-supplies, and the evacuation and congregation of communities within evacuation centres created facilities for rapid spread of infection and potential hazards to the health of the public, which were of major concern to the various local health services. In co-operation with the flood-emergency authorities, local health services served throughout the flood and rehabilitation periods to prevent the occurrence of any epidemics, while assisting the families during evacuation from and return to their homes. Immunization centres were organized on short notice all over the Province, while special instructions and advice for treatment of water-supplies and reconditioning of homes were prepared and disseminated by radio, newspaper, and poster. Sanitary Inspectors and public health nurses were borrowed from local health

services in non-flooded areas in Vancouver and Vancouver Island for service in flooded areas, while those remaining carried extra duties.

Floods occurred in the East Kootenay, West Kootenay, Okanagan Valley, Bulkley Valley, Cariboo, and Fraser Valley areas. The only disease-outbreak was a minor epidemic of gastro-intestinal infection among the dyke-workers in one section of the Fraser Valley, a record which speaks well for the effectiveness of local health services during the flood conditions. This record was only established as a result of the closely concentrated effort of Medical Health Officers (part time and full time), public health nurses, Sanitary Inspectors, and various senior officials who worked long hours, at a personal sacrifice of time, doing their best to ensure maintenance of health to the degree that those who had suffered the loss of their homes would not be exposed to the added calamity of sickness.

SCHOOL MEDICAL SERVICES.

One major task of local health services is to provide school medical services to the various schools throughout the Province. This entails physical examination of the school-children, detection of communicable disease amongst pupils and personnel, control of spread of infection, organization and conduction of immunization clinics, and inspection of the school plant and environment, including the sanitary facilities.

The details concerning school medical services are provided in the Medical Inspection of Schools Report. The policy concerning examination of the pupils by the School Health Inspector in Grades I, IV, VII, and X routinely each year has been continued, as being the most practical use of the physician's time. The pupils in the intervening grades are screened by the public health nurse, who refers pupils to the School Medical Inspector for a more detailed examination where necessary.

The Department acknowledges with gratitude the interest, aid, and co-operation of the seventy-four part-time School Health Inspectors throughout the Province, who, at no small sacrifice of time, have carried on school medical services in their area. Their co-operation with the local public health staff is much appreciated, both by the local staff and the senior officials of this Department.

Three years ago a new report form covering environmental sanitation of schools was introduced, which provided in detail a fairly complete analysis of the physical features of the school buildings and grounds. This report form has proved most valuable in providing such information as lighting, heating, ventilation, water-supply, sewage-disposal, and food-handling facilities in cafeterias and lunch-rooms. However, it is now felt advisable to revise this form to provide a more concise follow-up record, since so few of the school buildings change from year to year. It is felt that the original complete report form, with a short concise follow-up report, will provide all the information in detail required by this Department or the local School Board. A committee has been appointed to study this matter and recommend a practical substitute for the present form.

In the last Report, mention was made of a special study being conducted in the Central Vancouver Island Health Unit by this Department and the Child and

Maternal Health Division of the Department of National Health and Welfare. This had reference to the use and application of the Wetzel Grid in assessing the physical status of the school-child. A preliminary report on this study was presented at the Canadian Public Health Association meeting in May, in which certain evidence was shown to prove that the Wetzel Grid did present some advantages over the clinical assessment of the physical condition of the pupil. However, it was pointedly mentioned that further study was indicated before conclusive evidence could be presented. For this reason, a study is being continued on the same co-operative basis for another eight months' period, to be completed in June, 1949. More detailed investigation into emotional tension and nutritional factors as they affect growth and development are being assessed in this further study, and it is expected more worth-while evidence will be garnered as to the practicability of the Grid in comparison with the present school medical examinations.

REPORTABLE DISEASE INCIDENCE.

A complete list of the diseases reported from the various Medical Health Officers throughout the Province during the year is shown in Table I (page 49). From this it will be noted that the total number reported—namely, 23,632—represents a material decrease over the number reported during the previous year. As a matter of fact, it is the lowest year's incidence of notifiable diseases since 1940, and would seem to indicate generally a more healthy picture for British Columbia during last year. Actually the decrease is substantially due to the very low incidence of minor communicable infections of childhood, such as measles, mumps, and whooping-cough. It must, however, be acknowledged that the communicable disease situation in general was a favourable one for British Columbia, as even those diseases common to the population as a whole showed material decrease.

Last year the Province experienced an epidemic year in so far as poliomyelitis was concerned, there being 312 individuals reported. This year there were only 118 cases reported, which is a curious circumstance, in view of the fact that there were epidemics to the east and south where more cases than ever were reported. It is of further major interest that the earliest cases reported occurred in the Peace River District, which had a local epidemic of poliomyelitis for the first time in its history, where 26 cases were reported for the entire year. The onset in the British Columbia portion of the Peace River Block was followed by the occurrence of cases in the Alberta section of the block, and finally by considerable incidence of cases in the Province of Alberta. When it was realized that a minor local epidemic was likely to occur in the Peace River Block, special consultative physicians from other local health services visited the Peace River Health Unit to discuss with the Acting Medical Health Officer and the medical practitioners latest treatment of the infection. This resulted in organized community effort toward provision of physio-hydrotherapy facilities at the Providence Hospital in Fort St. John, so that the area was fairly well able to care for the patients locally without transportation to the larger outside centres.

Reference has been made in previous reports to the fact that measles frequently occurs in epidemic cycles of four to five years, and this would seem to be one of the years between peaks, as only 4,137 cases of measles have been

reported, which is just about one-half of last year's total. Incidentally, the picture of this communicable infection for British Columbia showed definite peaks for 1937, 1941, and 1945, and if the cycle is to remain true, it might be expected that there would be another peak during 1949.

Emphasis can again be directed toward the fact that the number of whooping-cough cases registered at 285, which is a considerable decrease from the 1,500 of last year, but is nevertheless still an unfortunate happening when immunization in the infant and preschool period is known to prevent this infection.

Only one-quarter as many cases of mumps occurred this year as during 1947—namely, 1,008—as compared with 4,789 for the previous year. This again is a communicable infection of childhood which seems to run in cycles with definite peaks, while the intervening years show a considerably varying incidence. This past year would seem to have been one of the low-incidence years, for which credit cannot be given for any particular public health measures, but rather that the disease experience of the population has built up an immune group.

There was a minor decrease in the number of reported cancer cases at 2,492 for this year, as compared with 2,620 for 1947 and 2,521 for 1946. This is an encouraging trend, but it is only of minor note, as it is definitely known that the number of reported cases does not give a real indication of the actual incidence of the disease. The reported cases are only those cases that have been sufficiently disturbed to seek medical attention, and there are still a large proportion of early cases requiring medical treatment that remain unknown and unreported. Educational campaigns are continually being pressed to encourage the public in the early signs and symptoms of cancer and the need for early diagnosis and treatment.

An encouraging trend was shown in the fact that the number of individuals who developed diphtheria this year coincided with the number reported last year, there being 35 reported for 1948 and 34 for 1947. Minor epidemics occurred in Kamloops, Surrey, and one or two other locations in the Province, invariably traceable to carriers. Such epidemics occasion a considerable amount of work for local health services and for the Division of Laboratories. While it is probably gratifying that the incidence has been maintained at such a low level and that these epidemics have been curtailed in their infancy, yet it points to the need for immunization, with reinforcing doses at regular intervals throughout life.

The venereal disease record for the past year also showed decreased incidence, there being only 3,615 cases of gonorrhœa against 4,005 for the previous year and 1,018 cases of syphilis against 1,540 for the previous year. This is gratifying to the Division of Venereal Disease Control, which has been waging an intensive campaign for a number of years and has evolved a very efficient venereal disease control system, in which local health services co-operate through location of contacts and follow-up of the patients. The co-ordinated scheme results in a Province-wide coverage, in which nearly all contacts are investigated and brought to treatment when indicated. Only a programme of continuous personal investigation of cases and contacts, coupled with adequate treatment, will result in defeating these two diseases.

One other large operation in communicable disease is in the Division of Tuberculosis Control, in which case-finding, adequate treatment of patient, and follow-up pay dividends in the recovery of the patients and decrease of the disease. In this a gratifying trend was indicated in the lowering of the incidence of tuberculosis from 2,544 for 1947 to 2,178 for 1948. It is recognized, however, that this infection still constitutes a major public health problem which will require continuous investigation to bring it under control.

Detailed reports of the venereal disease situation and the tuberculosis situation are contained in the reports of the Division of Venereal Disease Control and the Division of Tuberculosis Control which are presented later in this Annual Report.

During the year four cases of tick paralysis were reported, the first reporting of this condition for three years, the last-reported case occurring in 1945 when one patient developed the condition. It is found to be due to a toxin resulting from wood-ticks which have become implanted in the skin, usually following travel in the woods. The cases have all been children and have all responded to medical treatment for removal of the tick, when within eight to twelve hours the symptoms begin to abate and the child displays evidence toward recovery, which becomes complete. It is a condition which parents would be well advised to watch for during the early spring months when the woods of this Province are heavily infested with ticks, which drop onto any passing animal or human who brushes against them.

From time to time instructions have been issued concerning the need to exercise care in the home canning of vegetables and other commodities, pointing out the dangers that can occur if these home-canned products harbour disease organisms, especially of the spore-forming group. This fact was further accentuated this year when two cases of botulism were reported occurring in Central British Columbia, which resulted fatally and which were traceable to spore-formers in home-canned asparagus. This is the second occasion when such fatal incidents have occurred within the last five years. Such deaths are entirely preventable, when canning is properly done and unwholesome food products are destroyed rather than consumed.

TABLE I.—TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1948.

	Cancer.	Botulism.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis (Acute).	Diphtheria.	Dysentery.	Epidemic Hepatitis.	Erysipelas.	Gonorrhœa.	Influenza.	Measles.	Mumps.	Poliomyelitis.	Puerperal Septicæmia.	Rheumatic Fever.	Rubella.	Salmonellosis. Paratyphoid Fever.	Salmonellosis. Other.	Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Vincent's Angina.	Whooping-cough.	Total.
Alert Bay				6					4		3	1	6												1		3			1	25
Abbotsford				135							29	4	24				4			45								7		3	251
Agassiz									2			2								1											5
Alberni														1																	1
Aldergrove														1																	1
Ashcroft				1	2	1						2	1																		7
Baldonnel														3																	3
Beaver Falls														1																	1
Bella Bella			1						1		19																			9	30
Bella Coola				6									11																		17
Blubber Bay				2							38	2	1																		43
Bridge River														1																	1
Britannia Beach				1								7	2				2														12
Burns Lake				5							5	6	12				3			1	1									1	34
Campbell River				38								3																			41
Cariboo Health Unit			1	66	3		15	14			251	91	27	1		5	4				8								1	1	488
Castlegar				3								4	30							2										1	40
Cecil Lake														2																	2
Ceepeecee				1			1				26		1															1			30
Charlie Lake														1																	1
Chemainus																															
Central Vancouver Island Health Unit			1	226	8			10			7	87	118				40	2	2	18			1						4	35	559
Chilliwack				47		1						23	1				3			5			1							19	100
Cloverdale						2														1											3
Coquitlam				9								55					2			6	1							1		4	78
Courtenay			1	7				1			110	89	4				1			5										4	222
Cranbrook														2																	2
Creston														1																	1

TABLE I.—TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1948—*Continued.*

	Cancer.	Botulism.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis (Acute).	Diphtheria.	Dysentery.	Epidemic Hepatitis.	Erysipelas.	Gonorrhœa.	Influenza.	Measles.	Mumps.	Poliomyelitis.	Puerperal Septicæmia.	Rheumatic Fever.	Rubella.	Salmonellosis. Paratyphoid Fever.	Salmonellosis. Other.	Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Vincent's Angina.	Whooping-cough.	Total.
Cumberland			1	5								14								4											24
Dawson Creek														4																	4
Doe River														1																	1
Duncan														9																	9
East Kootenay Health Unit			2	488							7	47	26				12			6	5						2			74	669
Fernie																															
Field				1								1	2						1												5
Fort St. John														26																	26
Gibsons				29	5							106	3				5			1	83										232
Golden				35																											35
Grand Forks		2		2							64		1										1		1						71
Greenwood				5							38		1		1						2										47
Hammond				2								1								1											4
Haney				61								68	11				3			2										4	149
Hazelton														2																	2
Hedley				23								4				1	4				1										33
Hope				98	1				1			8	5				9	1	4	1									3		131
Invermere				8									1																		9
James Island																															
Kamloops			2	85		5						8	57				4			4							4			1	170
Kaslo												1																			1
Fraser Lake				11								17																			28
Garden Bay												3								1											4
Kelowna														1																	1
Keremeos				3									2															2		17	24
Kimberley																															
Ladner				188								42	8				12			6										2	258
Langford																															
Langley Prairie				61								21	21							4								2			109

Lytton				4					1			7									1				4					17
McBride					49			5				2		4			1			1	14						4			80
Malibu														1																1
Masset				17																										17
Mayne Island												4									5									9
Merritt													1																	1
Mesachie Lake														1																1
Michel																														
Mission City				12								17								1	2						1	2		35
Montney														2																2
Nakusp				30								7									4								13	54
Nelson				82					1		6	23	5				6	1	1	2	1								2	9	139
New Denver				18					1			7	4							1										31
New Westminster				85								96	1							2										184
North Okanagan Health Unit				268							2	16	13			2	5			2							1	1	1	7	318
Oak Bay				39								1	6	2			15			10	1							1			75
Ocean Falls												1					1				6										8
Okanagan Falls														2																	2
Oliver																															
Osoyoos																															
Peace River Health Unit				20	13		10					30	28			1	1														103
Pemberton														1																	1
Penticton														2																	2
Pine View														1																	1
Pitt Meadows																															
Port Alberni														3																	3
Port Coquitlam				37								10	4				8			3								1		11	74
Port Moody				1								21		1			27			2							1				53
Powell River				11							20	6	1				3											5		4	50
Premier													2																		2
Prince Rupert Health Unit			1	22			1	1				2	6							9							2			4	48
Princeton				4								1																			5
Qualicum Beach														1																	1
Queen Charlotte City				3			4				31										2										40
Quesnel												50									1										51
Revelstoke																															
Rolla														2																	2
Rose Prairie														1																	1
Rossland													51																		51
Saanich and South Vancouver Island Health Unit			2	208		1			1			42	132	2			27		4	48	11							3		5	486
Salmo																															
Salmon Arm														2																	2
Salt Spring Island				2								4	4					3									1				14

TABLE I.—TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1948—*Continued.*

	Cancer.	Botulism.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis (Acute).	Diphtheria.	Dysentery.	Epidemic Hepatitis.	Erysipelas.	Gonorrhœa.	Influenza.	Measles.	Mumps.	Poliomyelitis.	Puerperal Septicæmia.	Rheumatic Fever.	Rubella.	Salmonellosis. Paratyphoid Fever.	Salmonellosis. Other.	Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Tick Paralysis.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Vincent's Angina.	Whooping-cough.	Total.
Sardis																													4		4
South Okanagan Health Unit			1	386	23	2		1	2		1	977	21				26			15				1			2	15		12	1,485
Smithers				10							300	39					1			1										4	355
South Shalalth											20	1	1				1				1										24
Squamish				102								2																2		1	107
Summerland														1																	1
Surrey						6																									6
Telegraph Creek				3									9																		12
Terrace														1																	1
Tofino											10	5		4	1		5														25
Trail				167				1	1		166	16	40			3	9			2				3						8	416
Tupper Creek														1																	1
Ucluelet														1																	1
Greater Vancouver Metropolitan Health Committee			9	2,437		16		3	24		30	1,979	162	21			138		25	119							1	23		26	5,013
Victoria			2	425	59	1			2			51	138	4			23		2	51	7										5	770
Wells																															
Williams Lake				22								3	1																		26
Woodfibre				3	1						51		1																		56
William Head				1																											1
Zeballos				10							4		1						2												17
Whole Province—																															
Cancer	2,492																														2,492
Gonorrhœa										3,615																					3,615
Syphilis																						1,018									1,018
Tuberculosis																										2,178					2,178
Totals	2,492	2	24	6,087	164	35	31	36	41	3,615	1,238	4,137	1,008	118	2	12	405	7	41	383	157	1,018	3	4	6	2,178	22	66	15	285	23,632

REPORT OF THE DIRECTOR OF PUBLIC HEALTH NURSING.

MONICA M. FRITH, DIRECTOR.

INTRODUCTION.

Public health nursing continued to forge ahead during 1948, bringing improved health facilities to the residents of the Provincial areas of British Columbia. The public health nurse continued to be the essential link in the utilization of those services made available from the various divisions of the Provincial Department of Health and Welfare, from community groups, and from voluntary organizations.

Changes in personnel of both the central office and field staff created many difficulties, which have been met. In June Mrs. Dorothy Tate Slaughter, the capable Director of Public Health Nursing since 1944, left to join her husband in Saudi Arabia. The unprecedented demand for public health nursing service by the general public, coupled with the lack of qualified public health nursing staff, has required many adjustments, which the staff has accepted with willingness and co-operation.

DEVELOPMENT AND NEW SERVICES.

Four new districts were opened in the following communities: Castlegar; Invermere, the centre of the Golden-Windermere district; Burns Lake; and the North Thompson, which includes the Birch Island and Barriere School Districts. In addition, the Surrey public health nursing service, which had formerly carried a partial programme, took over the generalized public health nursing service in the Surrey Municipality. The Mission public health nursing service was expanded to a two-nurse district; the South Okanagan Valley Health Unit added an additional nurse in the Oliver-Osoyoos area and the services of a part-time nurse in Kelowna. An additional public health nurse was assigned to the rural section of the Kamloops public health nursing service. In all, 107 public health nurses provide nursing service in the Provincial areas of British Columbia, which now includes eight health unit areas, twelve single-nurse districts, and twelve centres which serve as headquarters for more than one public health nurse. Two public health nursing supervisors continue to give generalized public health nursing supervision in their district, while the Director and Assistant Director supervise the rest of the Province, as well as administer the service from Victoria. Two public health nurses are centred at the Division of Tuberculosis Control in Vancouver. Assistance has been given to providing some nursing care to small isolated communities, which, because of a small population, would not warrant a resident public health nurse—for example, Beaton, Francois Lake region.

The people of British Columbia have a public health nursing service which is to be envied by other Provinces in Canada and many American States, as approximately 94 per cent. of the population of British Columbia is now covered by the public health nursing service. This is an enviable record, especially when the geography of the Province, travel distances, and rigours of travel and

isolation have to be considered in relation to an organization staffed by women with natural physical limitations and who, of necessity, must meet high academic standards.

PERSONNEL ADMINISTRATION.

It is interesting to note that the staff has increased in numbers from 47 public health nurses in 1942 to 107 at the present time, yet it has not been possible to provide a continuity of service in all districts at all times because of lack of field staff. However, due to improved administrative practices, it is possible, with more flexible utilization of staff from adjoining districts, to render service for short periods of time to the areas without a resident nurse.

During 1948 twenty-four nurses were added to the staff; fourteen transferred within the service, while one transferred to the Division of Venereal Disease Control and another to the Division of Tuberculosis Control. Transfer of staff, after a satisfactory period of service in an area, usually two or three years, is an excellent method of improving the quality of service throughout the Province and at the same time stimulating the interest and ability of the public health nurse by offering new situations that require greater skills, which come with graduated levels of experience in public health nursing practices.

Fourteen nurses resigned from the field staff, five to obtain additional university training, one to take a post-graduate nursing course, one retired, four married nurses left the staff for family reasons, one left for another Province, while three crossed the border to be employed in the United States. Three positions had not been filled by the end of this year.

RECRUITMENT.

The majority of nurses added to the staff were recruited from other Provinces and nursing organizations, as the University of British Columbia has not been giving postgraduate training to a sufficient number of nurses to meet current staff changes and expansion demands. The public health nursing service has maintained its strength, largely because married public health nurses have continued to work and because of a new plan of public health nurse " internship " now under way.

At the present time eight registered nurses are on the temporary public health nursing staff on the nursing " internship " plan. These nurses do not meet the requirements of having completed a course in public health nursing, accredited by the National Organization Public Health Nursing, but are giving a limited type of service under close supervision, with a view to determining their suitability for a public health nursing career, and also preparing themselves for academic training, which becomes more meaningful following actual district experience. Following a satisfactory period of time on the staff, this year one registered nurse qualified for a scholarship under Federal health grants to help her to attend the University of British Columbia. Nurses accepting scholarships return to the Provincial service for a minimum of two years. It is hoped that a similar opportunity may become available to the presently employed registered nurses doing public health work, in order to provide an adequate supply of public health nurses to meet the demands for service being made by the people of British Columbia.

PUBLIC HEALTH NURSING EDUCATIONAL PROGRAMME.

Because of rapid development in science in relation to health and preventive medicine, continuous education of the staff in new developments and health programmes becomes increasingly important.

Staff meetings have continued as an excellent method of co-ordination of the activities of health-workers—clerical, sanitarian, medical, and nursing—so that a united front in matters of policy becomes apparent to the public. At nursing study-groups, public health nurses have been able to build up their knowledge and background on specific subjects. The following topics were included among study-group subjects last year: Mental hygiene, infant welfare, the tuberculosis programme, study of welfare agencies, etc. Miss Ruby Tinkiss, from the Federal Division of Maternal and Child Health, addressed five study-groups on the prenatal and maternal health programme.

Study-group and staff meetings serve an important function in bringing the nurse who works alone in an isolated district into contact with other professional workers meeting similar problems. Study-groups, too, serve as democratic bodies to suggest and test new policies or materials, so that final decisions become the joint decision of the central administration and the field staff. Study-groups have been formed in the north and south of Vancouver Island, North and South Fraser Valley, North and South Okanagan, Kamloops area, Prince Rupert area, Cariboo area, the East and West Kootenays, and the Peace River.

During the year the Director of Public Health Nursing represented the Public Health Nursing Division on a number of committees, among them the Committee on Educational Policy and the Public Health Nursing Committees of the B.C.R.N.A., the Junior Red Cross, as well as Committee on the Co-ordination of Field Experience and Theory offered to the Public Health Nursing Students of the University of British Columbia.

To meet the ever-increasing responsibilities being carried by senior nurses who had been placed in senior positions, with no special training in supervisory practices, Miss Marion Murphy, associate professor in public health, from the School of Public Health, Ann Arbor, Michigan, conducted a ten-day course in supervisory practices. Seventeen nurses attended the course, which was given in Victoria in September, and returned to their districts much more able to cope with the administration, organization, and staff problems of their districts. Tangible results of this course were evident almost immediately in raising the level of performance, as well as morale, of the seniors and supervisors.

Through assistance from the Federal health grants (professional training grant), two experienced public health nurses are obtaining postgraduate courses in supervision and administration at eastern universities. Miss Barbara Smith, who was senior nurse in Prince Rupert, is now attending the School of Nursing at the University of Toronto. Miss Margaret Campbell, who has been supervisor of Kamloops and district, is attending the University of Michigan School of Public Health at Ann Arbor, Michigan. The return of these members of the staff will help to bring the number of supervisors somewhat closer to the desired number.

Student Programme.

The nursing-student programme, which includes both undergraduate and graduate nurses, has continued to be a heavy programme. Thirty-two students from the University of British Columbia course in public health nursing received rural field experience of either a month or two weeks. The Director of Public Health Nursing participated in the lecture programme to the public health nursing students at the University and was chairman of the Committee on Co-ordination of Field Experience and Theory offered to Public Health Nursing Students of the University of British Columbia. Greater co-ordination between the University teaching programme and the student field experience was made possible by more frequent contacts with University teaching personnel, and through revision of the Guides to Student Field Experience for student field-work advisors. It is expected that the new revised Cumulative Record will assist in planning better field experience.

The public health nurses participated in lecture programmes, and short periods of field experience were provided for the nurses-in-training at the Royal Inland Hospital, Kamloops; the St. Eugene Hospital, Cranbrook; the Royal Columbia Hospital, New Westminster; and St. Joseph's Hospital, Victoria. Although the field experience on the undergraduate level has been short, it is helping student-nurses to realize that there is a field of nursing apart from institution work, in which they may wish to specialize.

The orientation programme of the registered nurse on the "internship" plan has required careful planning and attention by public health nursing seniors and supervisors. Public health nurses, too, have assisted with the orientation of other new members of the staff—for example, sanitarians, statisticians, and clerks.

TUBERCULOSIS.

Closer integration with the nursing services of the Division of Tuberculosis Control has been made by the transfer of Miss Doris Bullock, formerly public health nurse on the district nursing staff of the Division of Tuberculosis Control in Vancouver, to the Provincial public health nursing staff, with headquarters remaining at the Vancouver unit.

An additional public health nurse was centred in this office to assist with the case-finding programme of the mobile chest X-ray survey unit, which travels throughout the Province. Included in this was planning of itineraries to suit local health services, organization and field visits to areas where no public health nursing service is available, as well as preparation of educational and organizational material and the general co-ordination of activities in relation to the best utilization of the facilities of the Division of Tuberculosis Control by the local community.

VENEREAL DISEASE.

A close working relationship has continued with the staff of the Division of Venereal Disease Control. Field epidemiology consultant services have been available to the districts and have assisted the public health nurses to continue to become more competent in field epidemiology in venereal disease control. Greater standardization of procedure and records has continued, and has been

assisted by a new venereal disease procedure manual and also by a recently revised book, Venereal Disease Information for Nurses.

INDIAN SERVICES.

Public health nurses continue to give services to Indian reserves by arrangement with the Department of National Health and Welfare. This service has been given this year in the Alberni Canal and Nanaimo districts of the Central Vancouver Island Health Unit, in the Oliver and Penticton areas of the South Okanagan Valley Health Unit, in the East Kootenay Health Unit at Cranbrook, Creston, and Tobacco Plains, at Keremeos, Lillooet, and in the Fraser Canyon. In all areas the public health nurse works with the Indian Agent in matters of communicable disease.

LOCAL PUBLIC HEALTH NURSING SERVICE.

Because the scope of the public health nurses is not always understood, the following highlights may give some appreciation of the public health nurses' work in the district.

An average public health nurse on the Provincial field staff in British Columbia serves a population of about 5,000 people. Generally she lives in a scattered rural area, in the largest population centre, and may travel within a radius of 20 to 50 miles to cover the surrounding area.

She supervises the health of about 1,000 school-children, who usually attend two large schools and eight smaller one- or two-room schools, which she visits on a regular schedule. In the schools she organizes and assists with the school medical examinations. She inspects those children not seen by the doctor and visits in the children's homes to explain physical or behaviour difficulties to the parents. At the school she advises on the lunch programme, helps the teacher with class-room instruction by providing the latest information, and watches over the environment and sanitation of the school. She is for ever watchful of the development of communicable diseases and skin infections. During the year 25,190 school-home visits were made within the Provincial area to interpret to the parents health matters pertaining to the school-child.

The public health nurse supervises about twenty persons with tuberculosis, their families and contacts, and regularly arranges for chest X-rays for them with the travelling chest clinic. A total of 20,450 visits for home supervision were made.

The public health nurse organizes and holds about five child health conferences per month, each having an average attendance of fifteen to twenty infants and pre-school children. In addition, home-visits for infant health supervision is an extensive part of the programme, particularly in those areas where a scattered population makes clinics impractical. During the year 35,672 infant welfare visits and 23,308 pre-school visits were made for general health supervision.

The public health nurse assists in the communicable disease control programme by organizing and operating immunization clinics at strategic areas throughout her district. These may be attended by any members of the community. There were 7,041 persons completing the series of injections for pro-

tection against whooping-cough, 15,721 against diphtheria, 4,244 against scarlet fever, 22,485 against typhoid fever, and 11,568 against smallpox.

Sanitation, particularly in the home, diet, and general health practices are stressed by the public health nurse in her personal contacts.

As the public health nursing service is the community nursing service in the rural parts of British Columbia, more time is being spent on nursing care in the home, primarily for the purpose of teaching some member of the family to carry on under the nurse's supervision. Demonstrations of nursing-care procedure, bathing the baby, and preparation of formula are part of the programme, as well as short-term treatments and hypodermic injections.

Kelowna, in the South Okanagan Valley Health Unit, continues to carry the full bedside-nursing programme, while the community sponsors the housekeeping service known as the "Kelowna Home Service." As most patients at home primarily require housekeeping care, the residents of this community have a well-rounded programme, offering the necessary nursing and housekeeping care in the home.

SPECIAL ACTIVITIES.

The public health nurses had the privilege of attending the Canadian Public Health Association Conference, which was held in Vancouver in May. It was a rare opportunity to mingle with other Canadian and American public health workers, and to become imbued with new enthusiasm. The public health nurses appeared in uniform in a pageant which paid tribute to the work of the public health nurse in British Columbia.

Following upon the Conference, the floods in early June created an emergency health situation, which sent the public health nursing staff into immediate action to meet the changed conditions. Emergency headquarters were set up in Vancouver, with the Assistant Director of Public Health Nursing in charge of the immediate nursing problems in the Fraser Valley. Additional public health nursing staff were sent into the flooded areas to assist the resident nurses, who were on voluntary twenty-four-hour duty during the crisis. As Vancouver Island was the only part of British Columbia untouched by the floods, public health nursing teams were borrowed for emergency service in the Fraser Valley and the Okanagan.

The public health nurses assisted with the organization of health facilities for flooded-out victims, including safety, first-aid, and sanitation measures, prior to the immunization campaign, when 35,000 individuals received protection from typhoid fever in the flooded areas. Many thousands more received reinforcing doses and an incomplete series. As a complete series consists of three doses of vaccine given at regular intervals, the organization required to carry out this tremendous undertaking is difficult to realize.

As the result of time studies of the various activities being carried on by public health nurses, it was evident that more clerical assistance would give the public health nurses more time for professional services, and accordingly more clerical assistance has been made available to public health nursing staff this year, with the result that more nursing time is now being spent on activities best done by a public health nurse.

The public health nursing uniform continues to be an important symbol of the British Columbia public health nursing service. This year, because an

annual uniform allowance was granted, the regulation uniform coat was added to complete the public health nurse uniform. As the value of the uniform has been demonstrated, it is now significant that the adoption of a complete uniform will bring increased recognition of the service by the residents of British Columbia.

Voluntary organizations and community clubs have assisted local health services with educational programmes, with volunteer assistance, and financially by contributing special equipment. Local community clubs, too, have been instrumental in sponsoring, along with the Provincial Health Department, a number of successful dental clinics. Special tribute should be given the Kinsmen Club for the two fine community health centres built by the local Kinsmen Clubs at Langley Prairie and at Cloverdale, which have been made available as headquarters for the public health staff. This is indeed tangible evidence of support of the public health service.

The continued high quality of public health nursing service rendered to the people of British Columbia has been accomplished in spite of difficulties which have seemed out of proportion at times, and is a tribute to the untiring efforts of every public health nurse.

REPORT OF THE NUTRITION SERVICE.

E. M. YVONNE LOVE, CONSULTANT IN NUTRITION.

Nutrition education assumes a place of importance in the Health Department programme, which covers every aspect of public health. Nutritionists have a clear responsibility to make known to the people through the public health staff the vital role which nutrition plays in building and maintaining vigorous health.

The objective of the Nutrition Service is to improve the health of the people by stressing the proper attitude toward food and promoting good food habits. The service is directed (*a*) toward the individual in the home, through the local public health field staff, and (*b*) toward the individual institutions, through assistance in improving the institutional food service. The actual nutrition tors of Public Health Nursing, Public Health Education, Environmental Sanita-service is developed through co-ordination with the programmes of the Direction, and other divisions.

CONSULTANT SERVICE TO LOCAL PUBLIC HEALTH PERSONNEL.

Local public health personnel, in their daily generalized health programme, meet many problems on which nutrition has an important bearing. Technical assistance is provided to public health staff, in order that this vital information may become an integrated part of all health service. Consultants in nutrition have continued to provide local public health personnel with the following services:—

1. STAFF EDUCATION.

Attendance at staff meetings of local health units and public health nursing districts during field-trips has enabled the nutritionists to give reviews of the

pertinent points in nutrition education, to report on recent developments in the field of nutrition, and to discuss the application of this information in the community health programme. A questionnaire, consisting of twenty-five nutrition questions commonly asked, was found to be a most satisfactory means of reviewing nutrition, while at the same time supplying simple, direct statements which might be utilized by the staff in their daily programme. Visits have been made to staff meetings of Prince Rupert, Cariboo, North and South Okanagan, and Central Vancouver Island Health Units, and public health nursing study-groups of Vancouver Island and the East Kootenays. At the time of visits to the various areas, nutritionists have had the opportunity of meeting all of the personnel individually in their own areas, as well as in staff meetings. More time and emphasis on this phase of staff education has proven to be most effective in co-ordinating nutrition in the generalized public health programme.

Through the articles in the Provincial Department of Health's publication, Public Health News and Views, local public health staff have been informed of current items of special interest. Orientation of new staff members, prior to their appointment to field positions, has been found to be most effective, in that the general outline and objectives of the Nutrition Service have been reviewed.

2. Provision of Technical Information, Guidance, and Assistance.

Certain activities of the health unit director and public health nurse require more specialized information than the general interpretation of the daily diet. Technical assistance has been provided in the following projects:—

(*a*) High-calorie diets and reducing diets for use in connection with a special study.

(*b*) Outline of subject-matter, reference material, and suitable projects for a community study-group on nutrition.

(*c*) Assistance in organization and planning of equipment for school-lunch projects.

(*d*) Results of the questionnaire prepared for the Parent-Teacher Federation. This summary has been very useful in relation to the follow-up, in many districts, of a programme of education designed to improve the packed lunch.

The importance of the school-lunch projects as a means of evaluating the nutritional status of the child's meals, and a project through which nutrition education may be directed simultaneously to the school-child and to the parents in the home, has been stressed in all staff meetings. Encouragement has been given whereby public health staff may supply illustrative material and guidance to the teachers utilizing the school-lunch project in the class-room. In addition to a health study, the school-lunch may be considered with other subjects, including geography, science, and art. By correlating these subjects, the school-lunch programme takes on added interest for all concerned.

During the emergency at the time of the spring floods, the nutritionists of the Provincial Department of Health were called upon to provide consultative service to the public health field staff and committees in charge of flood-control. The nutritionists compiled data on adequate emergency rations and gave guidance in food service in evacuee camps.

3. Provision of Nutrition Materials for Distribution by the Local Health Services.

Nutrition films, posters, pamphlets, and exhibits have been collected by the Nutrition Service in collaboration with the Division of Health Education. Illustrative material has been evaluated and constantly rechecked to ensure adequate and up-to-date information on a variety of subjects. When new materials have been received and evaluated, samples have been distributed with Public Health News and Views to each member of the local field staff. During local staff meetings the needs of the local health personnel have been discussed with a view to procuring illustrative material suitable for use in the communities.

A continuous programme of staff education has been directed toward evaluation of nutritional status of school-children and families in the community as a part of the daily generalized health service. Through a consistent flow of practical information, Nutrition Service has endeavoured to promote a healthful attitude and to develop food habits which will ensure adequate meals for everyone every day.

CONSULTANT SERVICE TO HOSPITALS AND OTHER INSTITUTIONS.

This service, which is administered through the Director of Local Health Services, has been directed toward those persons living in institutions. Services have been made available through public health staff in local areas, as well as through other departments of Government. The objective—improvement in attitude to food, resulting in more healthful food habits—has been approached through assistance to administrators and food-service personnel in increasing the efficiency of the food service in institutions.

The service given has included all phases of information, analysis of food value, economy of food service, organization of staff, selection and arrangement of equipment, and the development of a healthful attitude toward the food service. In assisting food-service personnel, the general approach has been to survey existing conditions, suggest recommendations, conduct discussions with all persons concerned, and assist in implementing changes.

In the past year, progress has been made in many of the projects already under way. The analysis of the food consumed in Provincial gaols brought about a change in the gaol rules and regulations, and resulted in rations conforming to recommended allowances for an adequate diet. A periodic check of the food consumption has been made, and related factors, such as necessary equipment, storage, and staff supervision, have been taken into consideration in regular reports. Assistance to Oakalla Prison Farm and the Women's Gaol at Prince George has brought forth encouraging developments. In the project undertaken in the Vancouver unit of the Division of Tuberculosis Control, co-operation of staff has been successful in implementing all of the recommendations to improve the food service and to develop a healthful attitude of staff and patients toward food service. Many changes in the organization of the food service, with the addition of selective menu, have combined to produce a most satisfactory food service. Continued assistance has been requested by Fairbridge Farm School. In this project, attention has been directed toward pro-

duction and consumption of food, based on an adequate diet for the school-children. Although the various studies were similar in many respects, the circumstances required adaptation of available information to existing conditions. Many of the improvements involve considerable time, and thus projects are of a long-term nature.

Considerable time was spent in giving advice to small hospitals. Visits to many of these were made in order to ascertain their needs. Assistance was given in relation to adequate menus, with variations, special diets, selection and arrangement of equipment, food costs, and general organization of the food service. These activities were co-ordinated with the work of the office of the Provincial Hospital Inspector, as well as with local health services.

CO-ORDINATION OF NUTRITION ACTIVITIES.

Meetings of nutritionists, representing the Greater Vancouver Metropolitan Health Services, dietary departments of hospitals, and the Extension Service and the Department of Home Economics of the University of British Columbia, have been held at regular intervals.

Discussion of programmes, common problems, and special projects were most beneficial. A major project was to provide community workers with pertinent information concerning the serving of adequate family meals.

During the year, nutritionists of the Provincial Department of Health assisted in the training of several groups of students. These groups included classes of the Junior Red Cross summer school for teachers, student-nurses and student-dietitians in hospital training-schools, and the public health nursing class at the University of British Columbia. Services available through the Provincial Department of Health were outlined, and nutrition objectives were stressed.

In collaboration with the Division of Public Health Education, assistance has been given to the Department of Education in the revision of the health curriculum for schools. Mutual problems have been discussed with members of the Department of Agriculture, and joint meetings were held whereby the subject of food and health was considered from the standpoint of food production and consumption.

A nutritionist of this Department again represented British Columbia at the Dominion-Provincial Nutrition Committee meeting held in Ottawa in March. The exchange of information and discussion of mutual problems has been found to be most beneficial in evaluating programmes and developing nutrition education material.

In collaboration with the Division of Health Education, nutrition information has been supplied to radio personnel for use on a well-established programme. This programme stimulated many members of the listening public to submit questions. In accordance with the policy of the Provincial Department of Health, each question was referred for answer to local public health personnel in the listener's area.

At a meeting of the Canadian Home Economics Association, a nutritionist from this Department was given the opportunity of presenting the subject of nutrition education from the Provincial aspect. Discussion of this subject with

home ecomonists from many parts of Canada gave a valuable insight into the mutual problems encountered, and the means by which the needs of each Province are being met.

GENERAL COMMENTS AND OBSERVATIONS.

There has been a temporary reduction of staff, since Miss Doris Noble was given an opportunity to take postgraduate study in public health at the School of Hygiene in Toronto. The purpose of the course is to provide a general knowledge of public health with special advanced training in nutrition. The latter studies are under the direction of Dr. E. W. McHenry, professor in public health nutrition, who is one of the outstanding authorities in this field. Much of the nutrition reference material used by this Department is based on the reference manual written by Dr. McHenry.

Attendance at meetings in local areas has continued in accordance with plans to stress staff education in all areas of the Province. New approaches to the serving of adequate meals must be utilized, and the most effective methods incorporated in a continued programme of nutrition education, with attainment of adequate meals for all the people of the Province as the goal.

REPORT OF THE DIVISION OF VITAL STATISTICS.

J. D. B. SCOTT, DIRECTOR.

INTRODUCTION.

The activity of the Division increased over the previous year. Among the most difficult problems to be met by the Division were Indian and Doukhobor registration, although definite progress has been made in the last year.

The value of inspection was again proved worth while.

The Vital Statistics Council for Canada, of which the Director was a member, was most active during the year, and the most important items reported hereunder.

Procedures in an office such as the Division of Vital Statistics can become stereotyped. Efforts were made to stream-line many of the forms and methods carried out in the central office. It was felt that the efficiency of the Division was brought up to a higher level than before.

The Statistical Section acted as a workshop for the whole Health Branch of the Department in regard to statistical problems. In addition, it supplied a great deal of data to other departments of Government as well as to the public.

COMPLETENESS OF REGISTRATION.

INDIANS.

Current Registrations.

The year 1948 brought a considerable improvement over previous years in the completeness and quality of registration of Indian births, still-births, marriages, and deaths. Among the factors contributing to this condition are the payment of family allowance to Indians, the realization by the Indian Superintendent of the importance of accurate vital statistics, and a close liaison between

the Division, the Indian Commissioner for British Columbia, and the Superintendents in charge of the various Agencies.

As in many years past, the Division has enjoyed the whole-hearted co-operation of the office of the Indian Commissioner for British Columbia. Results of inspections by officials of both departments are compared, and in this manner many mutual problems can be overcome. Periodic visits were made to the Indian Commissioner's office during the year, resulting in revision and expansion of certain routines which were designed as a check of the progress of registration. One of the most valuable methods of checking the more recent registrations was the inauguration, in the fall of 1948, of a report from the Indian schools covering pupils enrolled for the first time.

Inspections were made by the Division in seven of the Indian Agencies during the year, while periodic visits which did not entail complete inspection were made in five other agencies.

The main causes of difficulty confronting the Indian Superintendent appear to be the result of poor transportation, poor educational facilities in the more remote areas, and the nomadic nature of many of the Indians. An improvement in transportation facilities, combined with a more frequent contact with whites, is bound to cause an improvement in the registration of this minority group.

In certain instances where Indian Agencies are near the International Border, it has been found that families move seasonally back and forth across the Boundary-line. During absences from British Columbia, births, still-births, deaths, and marriages occur, and most cases these events are within the State of Washington. Owing to a different method of gathering vital statistics records in the United States, the Indians, upon returning to their respective Agencies, are generally unaware as to whether or not proper registrations have been made covering events during their absence. The Indian Superintendents find it quite impossible to check directly as to whether or not registrations have been made but, through the courtesy of Irvin Vaughn, State Registrar of Vital Statistics, Seattle, Wash., an agreement was reached whereby the State office will clear any verifications requested by this Division. In practice this means that the Indian Superintendents will notify this Division of any events which have occurred in the State of Washington, and a check will be made with the State Registrar, who, if necessary, has agreed to take steps to obtain satisfactory registration. Gratitude is hereby expressed to the State Registrar for his co-operation in this regard.

Documentary Revision.

The project of checking, typing, reindexing, and correcting the registrations during the period 1917 to 1946, inclusive, was carried on throughout the year. As a result of this work, the quality of the registrations for the earlier years is being considerably improved, and steps are being taken to obtain delayed registrations when proper records are found to be lacking.

Among the factors contributing to the difficulties in this particular project has been the practice of Indians to change their names at will, thus making it an exceedingly arduous task in many instances to trace identity. Often it has been found that an Indian child has taken as his surname the given name of his father, so that by the third generation all means of tracing identity through

names has been lost. In other instances, changes have been made for no apparent reason.

In order, therefore, to obtain satisfactory results, it has been necessary in several cases for the Superintendent of the Agency concerned to work in close conjunction with the staff of this Division, in order that explanations as to variations in names may be had with the least possible delay.

DOUKHOBORS.

Current Registrations.

At the commencement of 1948 the attitude of Doukhobors toward registration was almost entirely negative. However, as a result of a carefully planned programme, tactfully and diplomatically carried out by a special field representative of the Division, it was found by the spring that the situation was already showing signs of improvement. As the months passed, the results of the work indicated that the policies were meeting with a considerable measure of success.

By the end of the year it was found that most of the Doukhobor factions were willing to supply information for the registration of vital statistics.

Although the Doukhobor problem appears to be the most serious with which the Division must contend in accomplishing completeness of registration, it is quite certain that progress has been made during 1948. There are indications that this progress will continue in 1949. In any case, the Division believes that a long-term view of this problem must be taken.

REGISTRATION OF BIRTHS.

Current Registrations.

There is no lack of proper birth registration, except in a small number of the most isolated areas of the Province and among Doukhobors and Indians, as already noted. Particularly since the advent of family allowances, very few people, even in the most remote areas, are not aware of the requirements of registration.

On the other hand, with the stimulus of family allowance payments, steps must be taken to ensure that there is not overregistration—that is, the registration of one child's birth under several sets of names, such as might permit the payment of several allowances to be made without detection.

In previous years it has been noted that the basis for most fraudulent registrations was a desire on the part of the mother of a child to conceal the fact of illegitimacy. However, during the past year a new situation has been observed—namely, that of false registrations being filed in the belief that a mother was protecting her rights to custody of the child. In practically every case it has been found that false registrations were made through ignorance and a desire to protect the child more than as downright intent to defraud. The Division is nevertheless cognizant of its responsibilities of ensuring as far as possible that only correct registrations are received.

Appreciation is extended to the medical practitioners for the services they have rendered in forwarding notifications of births and still-births to the

appropriate District Registrars, thus assisting all concerned to file registrations with a minimum of delay. The hospitals of the Province have likewise performed a very valuable service to the Division in the submission of the monthly returns of births, and in many instances have assisted the District Registrars in obtaining registrations promptly. Gratitude is therefore expressed to the hospital officials for this assistance.

A new type of birth registration form was prepared during the year and will be put into use commencing January 1st, 1949. Certain details have been rearranged in the hope of having the questions made clearer to the general public. The birth form has been enlarged to cap size in order to give more space for questions and marginal notations, and to standardize the size for microfilm purposes, binders, etc.

Delayed Registration of Birth.

A survey of the delayed registrations of births filed in the last several years reveals that the largest number of registrants were born either immediately prior to the turn of the century or up to approximately 1920. For many such applicants the matter of securing adequate verification to meet the minimum standards adopted by all Canadian Provinces was most onerous. Over a period of many years, records of baptisms have been gathered from numerous churches of the Province, and these have been found very useful in completing delayed registration files. In order to assist the public, steps were taken to secure the loan of many more such records, by such means as writing to the clergymen in charge of churches, by requests to District Registrars, and by personal contact during inspection trips. The result of this campaign was that during the year many thousands of records were gathered, placed on microfilm, and indexed in such a way that they can be of great assistance in supporting applications for delayed registrations.

In addition to the above records, many thousands of old Notices of Birth made by physicians were consolidated, institutional records were obtained, the whole being indexed in such a manner that ready reference may be made for the desired information. Efforts will be continued during the next year to make this library of verification as complete and useful as possible.

Effect of Family Allowance.

It has been the experience of the Division since the inception of family allowances that numerous inaccuracies in registration, such as fraudulent records, misspelling of names, and incorrect dates of events have been brought to light. In many cases it has thus been possible to have the records amended.

Payment of the allowance constitutes a valuable stimulus for prompt registration, particularly with regard to many Indians who have not shown any great desire to file birth registrations except for the remuneration involved.

An excellent liaison exists between the Family Allowance Branch and the Division, and gratitude is hereby expressed for the spirit of co-operation shown at all times by the Family Allowance Branch.

Registration of Deaths.

No difficulty is encountered in obtaining completeness of death registration, except in the most remote areas of the Province and among Doukhobors and Indians. There has, however, been an improvement in both these minority groups during the year, and steps have been taken through the field representatives to ensure that registration is kept at a high standard. With the expansion in the Indian medical services, there has been a marked improvement in the quality of registration, including the certification of cause of death.

Several minor changes were made in the death registration form, preparatory to putting them into operation on January 1st, 1949. Certain details have been rearranged on the form in the hope of having the questions made clearer to the general public. However, in 1949 a further revision will be necessary in the form concerning the statement of cause of death as recommended by the World Health Organization, effective January 1st, 1950.

Registration of Marriages.

Generally speaking, the Division believes that virtually all legal marriages are registered. However, among two groups—namely, Indians and Doukhobors—there is a problem created by these people being married by their own customs rather than those prescribed by the " Marriage Act."

Steady progress is being made with respect to the former through the influence of the clergy. It is felt that the situation will continue to improve as the contact between Indians and whites becomes more frequent. On the other hand, the Doukhobors, owing to their religious beliefs, are not served by the clergy of any denomination and thus have little means of gaining a new point of view beyond their own natural desire to break away from the old sectarian beliefs. Although most Doukhobors persist in marrying according to their own customs and without the solemnization of the ceremony by a clergyman as such, an increasing number of young persons were married by civil ceremony during the past year. This is an indication that the customs which were so rigidly followed by the older people are losing their significance to the younger generation.

Completed marriage registers are checked routinely at the time of issuance of each new register. In addition, many registers which have been issued over a period of years and which are not completely filled in have been recalled so that the entries therein could be checked. In this manner many delayed registrations of marriages were effected. Also, all Certificate of Publication of Banns forms, when received, are checked with the incoming registrations in order to locate any unregistered marriages.

DISTRICT REGISTRARS' OFFICES, ETC.

Twenty-six district offices and sub-offices in the Province were inspected. Also, the offices of seven Indian Agencies were visited. In addition, frequent visits were made to the offices at Vancouver, North Vancouver, and New Westminster, and one visit was made to the Kootenay area to check on the progress of registration of vital statistics of Doukhobors. A larger number of inspec-

tions had been planned for the year, but owing to the disastrous flood conditions prevailing in the late spring, all such arrangements had to be cancelled.

During the last few years a growing need has been felt for larger space for the office of the District Registrar of Births, Deaths, and Marriages at Vancouver. This has been partly occasioned by a great increase in population in that area, as well as a growing number of civil marriages.

As the Provincial Government purchased during the year a building on Burrard Street, near the Court-house, arrangements were made for the transfer of the District Registrar's office in the spring of 1949 to space allocated in this building. In the years gone by, no suitable space has been available for interview-work and only one office has been available for civil marriages. However, with the new location it will be possible to conduct interviews with a great deal of privacy. In addition, provision has been made for private offices for two Marriage Commissioners.

Once again it was found that many District Registrars were new appointees since the previous inspection, and it was thus possible to render assistance and given instructions, particularly to those who had had no former experience in this type of work. Through inspections made and personal contacts, it has been proved that a very good spirit exists between the District Registrars and the central office. Apart from instructing District Registrars in their duties and discussing various problems with them, including the methods of gathering registrations and advising the District Registrar of progress in various types of certification and record-keeping, inspections have been used as a means of checking the growth and shift of population. Information so gained is passed along to the senior statistician in order to verify estimates of population within certain areas in the Province.

At the close of the year there were seventy-three registration districts under the supervision of a District Registrar, and, in addition, there were twenty-four sub-offices within these districts. Thirty-eight of the District Registrars were Government Agents and Sub-Agents, forty District Registrars and Deputy District Registrars were members of the British Columbia Police, six were other Government employees, and the remaining thirteen were not Government employees. In addition, the eighteen Indian Superintendents of the Province acted as ex officio District Registrars of vital statistics for Indians.

VITAL STATISTICS INFORMATION FOR HEALTH UNITS.

The system by which verifications of births, deaths, and still-births were reported to health units during the previous year was extended to include all the health units and the Metropolitan Health Committee in Vancouver. In all instances except the latter, a small card is prepared by the District Registrar upon receipt of each registration of birth, death, or still-birth. These cards are then forwarded currently to the health unit director. However, in Vancouver, such a system would be exceedingly onerous, so a variation of the system was put into operation. The District Registrar in this instance prepares a carbon copy of each registration at the time his own office copies are being prepared, and these duplicates are forwarded daily to the Metropolitan Health Committee.

STATISTICAL SERVICES.

Vital statistics have been called the book-keeping of health. Within this function lies the duty of the Division to compile and analyse figures arising from vital statistics registrations. Various types of statistical services are also made available to all divisions within the Provincial Department of Health.

Monthly summaries of registrations are completed by this Division showing breakdown by age, sex, racial groups, place of residence, place of occurrence, and others. Under this category the infant and maternal mortality, deaths by causes and age-groups are of particular value, since they are an important measure of the state of health in the Province.

Assistance in the preparation, tabulation, and presentation of monthly and annual reports is rendered to the Divisions of Tuberculosis and Venereal Disease Control. Current diagnoses of tuberculosis cases are recorded in this office in order to keep all records as up to date as possible. Periodically the Division is called upon to assist with special requests and assignments with regard to tuberculosis and venereal disease.

The information given on public health nurses' records is transferred to punch-cards and tabulated. Each month a summary is completed showing the amount and type of work done by the nurses. In addition, the Division maintains a central clearing office for the public health nurses' school and family records.

Among other services rendered for different divisions are the reports of School Environmental Sanitation and Medical Inspection of Schools.

The Division has aided in a programme aiming to develop complete reporting of cancer cases within the Province. Information given on the cancer report forms is punched on statistical cards. Each year all the information given on the punch-cards is tabulated and compiled in table form for further analysis.

Requests for statistical information received from business firms, other Government departments, or individuals are handled free of charge. Special tabulations of vital statistics in Greater Vancouver are run for the Metropolitan Health Committee. In addition, duplicate punch-cards relating to deaths in Greater Vancouver are made for this Committee. Monthly tables giving vital statistics information for Greater Victoria are also compiled for the City Medical Health Officer of Victoria.

Special assistance was given by the Statistical Section to the British Columbia Hospital Insurance Service with regard to detailed figures on population, births, and deaths in the Province over a period of years. Statistical work was also done for the Wetzel Grid study in the Central Vancouver Island Health Unit area.

Boundaries of school areas have been gazetted and are likely to remain fixed, apart from subdividing them. They provide an excellent basis for outlining health unit boundaries, several school areas often making up one health unit area. Commencing the first of the year, all relevant punch-card statistical applications were coded according to school boundaries. This will provide information for health unit directors and other personnel of the Branch. Health

unit boundaries cannot yet be considered as finalized, and perhaps may never be. However, just so long as they attempt to follow combinations of school areas, if at all possible, it should be possible for the Division to compile adequate health unit area statistics from the data on its files.

Mechanical Tabulation.

Continuous use was made of the mechanical equipment of the Division during the year both for routine monthly tabulation and indexes and for special assignments. At the end of the year virtually all of the marriage index punch-cards from 1872 to date had been punched. During the forthcoming year the indexes will be sorted and listed on the tabulator. At the same time the death index punch-cards for the period 1872 to 1925 will be commenced.

The Division gave considerable assistance to the Divisions of Tuberculosis Control and Venereal Disease Control, environmental sanitation and public health nursing services, the compilation of the Annual Report of Medical Inspection of Schools, and cancer reporting.

Due to the creation of new services in the Government, both equipment and personnel were loaned to the Social Security and Municipal Aid Tax, the Bureau of Economics and Statistics for the hospital insurance plan, and also the Taxation Branch of the Department of Finance. It was felt that this co-operation should be extended to these services because of their urgent need, even although it was at some sacrifice to the schedules of this Division.

MANUAL OF INSTRUCTIONS FOR DISTRICT REGISTRARS, MARRIAGE COMMISSIONERS, AND ISSUERS OF MARRIAGE LICENCES.

Parts II, III, and IV of the Manual of Instruction for District Registrars, Marriage Commissioners, and issuers of Marriage Licences were distributed to all district officials. Part I had been previously distributed in October, 1946. The complete manual is comprised as follows:—

Part I—"Vital Statistics Act."
Part II—"Marriage Act."
Part III—"Change of Name Act."
Part IV—Alphabetical List of Places in British Columbia.

The first three parts contain comprehensive instructions for the Acts concerned, together with rulings which have been received from higher authorities from time to time and miscellaneous instructions. This is the first such detailed instruction manual to be put into use by any of the Canadian Provinces, and only a few of the States of the United States have prepared such consolidated instructions. Copies were therefore distributed to the Provincial vital statistics offices, as well as the Dominion Bureau of Statistics, each of the State Registrars and the National Office of Vital Statistics in the United States. The publication was very well received, and experience has shown that it has filled a real need in supplying to the District Registrars instructions covering numerous situations with which they have not heretofore been confronted. In passing it should be noted that through transfers of members of the British Columbia Police, who also are District Registrars, many new appointees have had no experience whatsoever in this type of work, and a comprehensive guide of some sort is essential if the work of the Division is to be carried out satisfactorily.

The fourth part shows the vital statistics registration district in which the place is included, whether in organized or unorganized territory, the statistical area, and school district number. This publication has been very useful, not only to health personnel of the Branch, but also to a number of other departments.

VITAL STATISTICS COUNCIL FOR CANADA.

In October the Vital Statistics Council for Canada met in Ottawa for the fifth meeting. The agenda was very full, the most important items being the Report on the International Statistical Classification of Diseases, Injuries, and Causes of Death and matters relative to the recommendations of the World Health Organization, the consideration of the model Vital Statistics Act, the minimum standards required for delayed registration of birth, and many other items of a technical nature.

INTERNATIONAL STATISTICAL CLASSIFICATION OF DISEASES, INJURIES, AND CAUSES OF DEATH.

The World Health Organization adopted on July 24th, 1948, Regulation No. 1, regarding nomenclature and the compilation and classification of statistics with respect to diseases and causes of death.

Article 1 requires that members of the World Health Organization shall compile and publish annually statistics of causes of death in accordance with the said regulations on a calendar-year basis and in accordance with the classification, nomenclature, and numbering as set out in the list given in the manual under International Statistical Classification of Diseases, Injuries, and Causes of Death annexed to the regulation.

Article 2 requires that the coding of mortality statistics shall be in accordance with the regulation.

Articles 3 and 4 require that each member shall publish the above statistics of diseases on (*a*) territory as a whole, (*b*) principal towns, (*c*) national aggregates of urban areas, and (*d*) national aggregates of rural areas, and they shall be published in accordance with the detailed lists for group (*a*) above and, if this is not possible, in accordance with the Intermediate List of 150 Causes. Article 5 requires that groups (*b*), (*c*), and (*d*) should be published according to either the Intermediate List or, if this is not possible, of the Abbreviated List of 50 Causes.

Articles 6, 7, and 8 prescribe the breakdowns of sex and age grouping.

Article 9 adopts a form of medical certificate of the cause of death almost similar to the one now in use. Article 10 requires that medical certification of the cause of death shall be the responsibility of the physician as far as possible. This means that the present method of following the rules of joint causes of death will be discontinued. Consequently, it may be expected that there will be a very considerable change in the statistics of certain causes of death.

Articles 13 to 17 deal with morbidity in a somewhat similar manner to those outlined in the above mortality statistics. It may be noted that the list is a combined mortality and morbidity code and will undoubtedly be of the utmost value for comparative purposes. The need for an up-to-date morbidity code has been felt for a long time.

The effective date for these regulations will be January 1st, 1950.

There is a tremendous amount of work to be done, both by the Dominion Bureau of Statistics and the respective Provinces, in connection with the preparation and the adoption of these regulations.

Model Vital Statistics Act.

The Model Vital Statistics Act was drafted by the Vital Statistics Conference in December, 1947; it was revised by the committee of the Conference of Commissioners of Uniformity of Legislation in Canada and presented to the Vital Statistics Council. Very full discussions were held on controversial sections, and the matter was again referred by the Council to the sub-committee of the Conference of Commissioners of Uniformity of Legislation which, in turn, reported this matter to the committee of the parent committee in December, 1948. At the end of the year the matter had not been reported to the respective Attorneys-General. It is expected that during the forthcoming year the draft model Act will be thoroughly discussed by interested organizations in British Columbia and certain recommendations may be made to the 1950 Legislature.

Model Marriage Act.

At the time of writing the last Annual Report the verbatim report of the fourth Council meeting, which took place on December 5th, 1947, had not been received, the Division being unrepresented. Hence it was unaware that the Council had decided to take no further action toward the making of a draft Model Marriage Act, except to suggest that each Provincial representative refer the matter back to his Deputy Minister. The reason lay in the fact that not all members were responsible for the administration of the respective Provincial Marriage Acts.

There was a question whether the Federal Department of Trade and Commerce, of which the Dominion Bureau of Statistics is a part, had any legal responsibility in the solemnization of marriages, in view of the provisions of the "British North America Act," which specifically states that this subject is a Provincial matter.

The Council felt that while a model Marriage Act is necessary, yet, because of the question of jurisdiction, a conference would have to be held under other auspices. The work which a committee of the Council had already done will be a most valuable document to any interested body, such as the committee of the Conference of Commissioners of Uniformity of Legislation in Canada.

Minimum Standards for Delayed Registration of Birth.

In 1944 the Dominion and Provincial Conference of Vital Statistics passed Resolution No. 10, recommending that minimum standards of evidence required to effect birth registrations be accepted by each Province. Subsequently, it was found that some of the Provinces had not adhered to this resolution, and the standards for delayed registration were being questioned by certain agencies, including the Canadian National and the Canadian Pacific Railway pensions schemes, the Old-age Pensions Board, life insurance companies, etc. It was decided to reconstitute the committee on this matter. The standards were reaffirmed and endorsed by the Council. Since that time it is understood that

each Province has agreed to these recommendations. British Columbia has been adhering to them since February 22nd, 1945.

ADMINISTRATION OF THE "MARRIAGE ACT."

One of the primary duties of the Division is the administration of the "Marriage Act." Responsibilities under this Act include the qualifications of persons for marriage, caveats, adequate proof of divorce, proof of age and consent of parents for minors, presumption of death and orders for remarriage. The "Marriage Act" further provides that ministers and clergymen must be duly registered with the Division to be eligible to perform marriages in the Province. Considerable investigation as to the background of new religious organizations, their present status, and possibility of continued existence is made before registration is accepted. Such investigations include personal visits by the Inspector of Vital Statistics so that he may assess the statements made regarding application for registration, in so far as they pertain to the number of adherents, possible growth, and continuity of existence.

ADMINISTRATION OF THE "CHANGE OF NAME ACT."

A consolidation of the Forms C.N. 2 and 3, covering an application for change of name, were made. Additional instructions were outlined on these forms and on Form C.N. 1, as well as in the covering letter. This had the effect of stream-lining the work of this part of the Change of Name Section.

GENERAL OFFICE PROCEDURES.

Following the installation of an electrical cash register in November, 1947, several improvements have been made in the general office routine dealing with searches and certificates, etc. A new Application for Cash Mail was drafted during the year and is to be put into effect on January 1st, 1949, with the idea of giving greater direction and control and speeding up the large volume of correspondence.

Similarly our Application for Interdepartmental Free Searches and Certificates was revised and is proving to be both workable and labour-saving, not only to this Division, but also to the receivers.

The filing system of the Division was completely revised and enlarged, with new equipment adding greatly to its efficiency.

The Microfilm Section was very busy during the year microfilming all the hospital reports received since 1917, in addition to virtually all the information useful for producing evidence for delayed registrations. This included old Doctors' Notices of Birth, church records, registers of institutions, etc.

New equipment has been installed for printing of positives, to be issued instead of certified true copies, presently typed. This will mean exact reproduction of the documents and will reduce the chances of error to *nil.*

During the year a short form of paper birth certificate was introduced instead of the long-form certificate. These certificates contain the same content as the plastic birth certificates. Certified true copies were issued where full data were needed.

Short-form paper marriage certificates were introduced. However, it was found that these were not acceptable in divorce proceedings in the Supreme Court, and it was necessary to issue certified true copies in lieu of them.

No change has been made in the certificates of death, although the provisions of the draft Model Vital Statistics Act requires that short-form death certificates should be issued routinely.

All current marriage registrations are checked to ensure that the marriage has been performed by a duly registered clergyman or a Marriage Commissioner.

As experience of previous years has shown that there was practically no uniformity in applications for remarriage submitted to the Director in accordance with section 45 of the "Marriage Act," specific forms were drafted and put into use. It has been found that this system has enabled the Division to deal much more rapidly with such applications.

The Forms M.2—Statutory Declaration, M.3—Notice of Marriage, and M.4—Marriage Commissioner's Certificate of Compliance contained many details which were duplicated. A consolidation was therefore made, eliminating the unnecessary information and placing the three forms on one sheet. Likewise Forms M.8—Application for Permit for an Immediate Marriage and M.10—Permit for an Immediate Marriage contained duplications and were revised so that all details now appear on one form, although the headings have been retained in order to refer to the respective sections of the "Marriage Act." These changes have materially reduced the time taken both by the applicants for marriage licences or civil marriages and by the clerks assisting them.

PROBLEMS OUTSTANDING AT THE END OF THE YEAR.

Goal in Registration.

The ultimate aim of the Division is not only to obtain registration of every birth, death, marriage, and still-birth, but to have each registration of the highest possible quality. As previously noted, there is practically no lack of registration, except among Indians and Doukhobors, and both of these situations are receiving very careful attention. Transportation and educational facilities are continually improving. This has a definite bearing on completeness of registration in the remote areas. It is believed that the time is very near when non-registration will be more a matter of wilful neglect than of ignorance, for in reviewing the few cases where births are known to have occurred, but registrations have not been made, it is almost invariably found that the child was illegitimate and the mother had left the hospital, etc., without leaving any trace of her whereabouts. Upon analysing the returns from cemeteries, it has been found that there is no lack in registration of deaths, and ample means of maintaining a continuous check of this situation are available. There is likewise every reason to believe that the checks on completeness of marriage registrations are very effective. Therefore, in the future more and more emphasis will have to be placed on quality of registration.

Since the introduction of short-form birth and marriage certificates, experience has shown that there are cases where individuals still require more details than are shown on the abbreviated certifications. Rather than revert to

the old style of long certificates, it is intended to use photographic prints as widely as possible. Such copies can be produced for a reasonably low unit cost and eliminate any possibility of error. As the ultimate success of such a system depends very largely on the quality of registration, a great deal of attention must in future be paid to ensuring that all copies are neat and contain every detail required on the registration form. It naturally follows that any correction which is made, or any variation used in the colour of the ink on the original record, will adversely affect the appearance of photographic prints. Measures have been taken to advise the District Registrars of this situation, and request their co-operation in accepting only the highest quality of records.

At the time of investigation of each fraudulent or improper registration, the reasons for the record being so filed are carefully noted so as to be aware of any overregistration. With the stimulus of family allowance payments, this sidelight on incorrect registration cannot be overlooked. There is, therefore, little doubt that there will be more cases where investigations are necessary than heretofore.

General Office Manual.

Several sections of a manual of general office procedures have been prepared, but owing to the magnitude of this undertaking it will be some time yet before it can be completed, assembled, and printed. Like the Manual of Instructions for District Registrars, it will be prepared on a loose-leaf system so that amendments may be made from time to time. Once this manual is in use, it is hoped that it will be of great value, as there are so many details in connection with an office of this type that it is easy for slip-ups to occur when personnel changes.

Certification.

In view of the introduction to the Division of short form certificates as a general policy and the use of positive prints in lieu of the cap size certificates, a certain amount of educational work will have to be done amongst lawyers, District Registrars, and the public generally regarding the types of certification issued.

International List of Diseases, Injuries, and Causes of Death.

The adoption of World Health Organization Regulation No. 1 means definite responsibilities to the Division.

In the first place, death and still-birth registration forms and instructions thereto, the Physicians' Pocket Reference to the List, and Vital Statistics Handbook will have to be distributed to physicians, hospitals, District Registrars, etc.

Information will have to be given to all practising physicians emphasizing the importance of certifying the proper order of events on the statement of cause of death on the death registration in view of Article 10 of the above regulation.

The use of the new medical certification form places the responsibility for indicating the train of responsibility on the signing physician. It is assumed, and rightly so, that the certifying medical practitioner is in a better position than any other individual to decide which of the morbid conditions led directly to death and to state the antecedent conditions, if any, which gave rise to this cause.

Hence, except in the case of certain basic rules governing a relatively small number of cases, causes of death will be coded according to the physician's statement. Undoubtedly, health unit directors will be asked to give information on this subject to the local medical associations.

The format of many of the vital statistics tables will be changed, including the Annual Report of the Division. It will be necessary for the Division to begin to capitalize on the advantage created by the establishment of this combined mortality and morbidity code.

Model Vital Statistics Act.

A great deal of effort and cost has gone into the draft of the Model Vital Statistics Act. Although a final draft has not been submitted to the Division, it is understood the best items in all the Vital Statistics Acts of the various Provinces have been incorporated. It is not known whether the present British Columbia " Vital Statistics Act " should be amended to include the most important items or rather to have the Act repealed and the new Act to come in force. In any case there will have to be a very close consideration on these matters by the Attorney-General's Department and members of the Division before the matter is finally referred to the Legislature.

Public Health Statistics.

During the coming year the Division will have to give a great deal of study to its policy in regard to the devolpment of local health statistics. With the establishment of more and more health units and an enlarging public health personnel, a challenge has to be met. The Division of Vital Statistics has the responsibility to give advice and direction on statistics to health unit directors and others in the field. Data cannot just be collected for the sake of compiling tables, but rather the Division must interpret and advise. During the current year, personnel has been added to the Division through the means of the Federal grants, but so far only the fringes of the problem have been touched. Adoption of the evaluation schedules recommended by the American Public Health Association, application of survey methods to the various public health problems, and the building-up of health unit statistics are only a small part of the picture. This is one of the major problems of the Division which will have to be tackled at once.

REPORT OF THE DIVISION OF LABORATORIES.

C. E. DOLMAN, DIRECTOR.

INTRODUCTION.

During 1948 the Division of Laboratories performed a total of nearly 365,000 examinations, of which almost 300,000 were carried out in the central laboratories in Vancouver. Although there was a slight decline in the demands upon each of the branch laboratories, tests done in the central laboratories increased by approximately 10 per cent. Thus the small decrease in turnover which occurred last year probably represented, as foretold, only a brief interruption of the upward trend in public health laboratory-work. This trend, manifest in British Columbia for the past fifteen years, was greatly accellerated during and shortly after the war, for reasons fully explained in previous Reports. Resumption of a reduced rate of increase is expected, which will reflect both the expanding population of the Province and the Division's programme enlarged to whatever extent the available staff and accommodation permit.

The actual amount of services rendered during the year increased considerably more than the 10 per cent. shown for total tests done. The types of tests continually become more exacting, and much investigational work bearing on the performance of improved tests cannot be listed in the statistical tables. Again, there has been a tendency, fostered by the central laboratories as a deliberate policy, for the more complicated tests to be referred by branch laboratories to Vancouver. This tendency is apparent in the fact that some 20 per cent. of all tests made in the central laboratories related to specimens from sources outside the Greater Vancouver area. Until the last few years, this figure averaged only 10 per cent. Total examinations made in the central laboratories are listed, under appropriate headings, for the years 1948 and 1947 respectively in Table II.

TABLE II.—DIVISION OF LABORATORIES STATISTICAL REPORT OF EXAMINATIONS DONE DURING THE YEAR 1948.

	British Columbia (excluding Vancouver Metropolitan Area).	Vancouver Metropolitan Area.	Total in 1948.	Total in 1947.
Animal inoculation	232	637	869	809
Blood agglutination—				
Typhoid-paratyphoid group	3,356	9,680	13,036	12,564
Brucellosis	1,606	4,578	6,184	4,729
Infectious mononucleosis	159	580	739	562
Miscellaneous	14	12	26	30
Cultures—				
M. tuberculosis	707	1,901	2,608	1,777
Typhoid-Salmonella-dysentery group	1,111	3,947	5,058	5,175
C. diphtheriæ	1,217	13,472	14,689	12,838
Hæmolytic staphylococci and streptococci	584	2,508	3,092	2,697
Gonococcus	.....	10,322	10,322	11,219
Miscellaneous	449	815	1,264	913
Direct microscopic examination for—				
Gonococcus	3,733	30,257	33,990	34,589
M. tuberculosis (sputum)	5,170	3,845	9,015	8,884
M. tuberculosis (miscellaneous)	707	1,901	2,608	1,777
Treponema pallidum	61	544	605	854
Vincent's spirillum	149	290	439	362
Ringworm	1	0	1	1
Intestinal parasites	114	346	460	429
Serological tests for syphilis—				
Blood—				
Presumptive Kahn	18,921	92,818	111,739	105,845
Standard Kahn	5,063	18,876	23,939	19,300
Quantitative Kahn	1,087	4,751	5,838	5,217
Complement fixation	4,717	18,147	22,864	18,504
Cerebrospinal fluid—				
Complement fixation	575	2,566	3,141	3,309
Quantitative complement fixation	38	257	295	262
Cerebrospinal fluid—				
Cell count	336	1,252	1,588	1,832
Protein	485	2,094	2,579	2,877
Colloidal reaction	569	2,572	3,141	3,249
Milk—				
Bacterial count	554	867	1,421	1,229
Coli-ærogenes	554	867	1,421	1,229
Phosphatase	300	577	877	740
Water—				
Total bacterial count	.....	851	851	832
Coli-ærogenes	5,254	1,676	6,930	5,240
Unclassified tests	94	330	424	229
Totals	57,917	234,136	292,053	270,103

TESTS FOR DIAGNOSIS AND CONTROL OF VENEREAL DISEASES.

As in previous years, tests relating to the diagnosis and control of syphilis and gonorrhœa accounted for almost three-quarters of all tests performed by the Division. It does not follow that these tests represented an equally high proportion of the total work done, since many other types of tests are more complex and time-consuming.

The policy was continued of estimating quantitatively the reagin content of all blood specimens giving a positive Kahn reaction, and of all cerebrospinal fluid specimens giving a positive Kolmer-Wasserman reaction. The system was adopted of reporting results in terms of the final dilution of serum giving

complete precipitation and of spinal fluid giving complete complement fixation respectively. This is not so arbitrary as the former system of units, and in the long run should prove less confusing for the physicians. The Divisions of Laboratories and of Venereal Disease Control issued a joint statement to all physicians in the Province explaining the reasons for the change. These two Divisions made good use of numerous opportunities for close co-operation during the year. Although most of the sero-diagnostic tests showed slight increases over last year's figures, these may be accounted for mainly in terms of enlarging public interest in routine blood tests. A continued decline in darkfield examinations for *Treponema pallidum* suggests that the downward trend in the incidence of primary syphilis, noted in last year's Report, was maintained during 1948.

During the summer, United States consular offices suddenly announced a Federal Government regulation requiring all persons entering the United States for periods exceeding six months to present evidence that a blood test for syphilis had been performed by an authorized laboratory. This enactment has caused considerable inconvenience in the central laboratories from travellers bringing in specimens for immediate examination. Earlier in the year, arrangements were made with a neighbouring State to accept reports, for pre-marital purposes, on tests done in our central laboratories.

In late September, the Laboratory of Hygiene, National Department of Health and Welfare, Ottawa, organized a three weeks' refresher course in syphilis serology for the benefit of senior serologists in the various Provincial laboratories. Miss Mabel Malcolm attended this course as representative of this Division and found it most helpful. The course was organized by Dr. R. H. Allen, of the Laboratory of Hygiene staff, who is to be congratulated on the excellent arrangements. Upon her return from Ottawa, Miss Malcolm assumed charge of our sero-diagnostic department. The central laboratories participated in the fourth survey launched in November by the Laboratory of Hygiene, as a means of verifying the sensitivity and specificity of the various serological tests performed in the Provincial laboratories throughout Canada. The results of the survey will not be known for several months.

TESTS RELATING TO TUBERCULOSIS CONTROL.

All types of tests involved in the laboratory diagnosis of tuberculosis again increased. Requests for animal inoculations were more numerous than ever. Some of these had to be rejected, and cultural examinations made instead, owing to lack of guinea-pigs. The main reason for this lies in the completely inadequate and unsuitable quarters available for laboratory animals, to which reference has been made in previous Annual Reports. These critical accommodation difficulties have entailed postponement of the projected comparison between guinea-pigs and hamsters as test-animals for tuberculosis work. However, opinion elsewhere has not shown overmuch enthusiasm for the hamster in this particular field.

GASTRO-INTESTINAL INFECTIONS.

Although there were several outbreaks of staphylococcal food poisoning and one of botulism during the year, no major Salmonella-Shigella epidemics

(typhoid-paratyphoid-dysentery infections) were identified. A wide variety of Salmonella strains were nevertheless isolated, mostly from sporadic cases or familial outbreaks. A disturbing number of these came from food-handlers.

In all, 75 Salmonella strains and 20 Shigella strains were isolated from different individuals during the first eleven months of 1948. These came from all parts of the Province, but the great majority were from patients domiciled or hospitalized in Vancouver. The distribution of these strains according to types was as follows: *S. newport,* 23; *S. typhi,* 20; *S. typhi murium,* 13; *S. paratyphi B.,* 10; *S. bareilly,* 5; *S. oranienburg,* 4; and *S. derby,* 4. Of the 20 Shigella strains, 19 were *Sh. flexneri* and 1 *Sh. sonnei.*

The rather meagre epidemiological information usually available indicates that these infections were of man-to-man conveyance. The laboratories obtained no evidence of animal-to-man transmission.

As in previous years, branch laboratories were encouraged to send on to Vancouver all specimens of excreta for cultural examinations. The Victoria laboratory was the only one to examine any significant number of such specimens. The primary isolation and subsequent identification of members of the Salmonella-Shigella groups now entails keeping on hand too great a variety of media, and requires a degree of experience too specialized, for branch laboratory resources. Indeed, the central laboratory was pleased to refer all Salmonella cultures isolated therein to Dr. L. E. Ranta, of the Western Division of Connaught Medical Research Laboratories, by whom their identification was finally made. The physician thus received an early notification from us that a Salmonella culture had been isolated from his patient. On receipt of Dr. Ranta's report, a second notice was sent to the physician, indicating the particular type of Salmonella identified. This system has now been followed for several years. It is proposed in the near future to publish a summary of the findings over the past five years. Briefly, these suggest that a widening variety of Salmonella strains are endemic in British Columbia.

Botulism Outbreak.

Two years ago three fatalities at Nanaimo due to botulism, type E, were reported. Early in 1948 two deaths occurred at Grand Forks which were identified in the central laboratories at Vancouver as due to type A botulism. The former outbreak was traced to home-canned salmon. The recent episode was due to home-bottled asparagus. In both instances the preserving methods used were extremely primitive and careless, suggesting that still more health education is necessary in this field. The fact that the diagnosis was apparently not suspected by the attending physicians in either outbreak also suggests that the profession should bear in mind the characteristic symptomatology of this rare, but extremely dangerous, form of food intoxication. The Nanaimo and Grand Forks outbreaks are incidentally the only known examples of botulism in Canada in which the casual micro-organism was actually isolated from the incriminated foodstuff. Further, the corresponding organisms were in each instance isolated from near-by garden soil. Both outbreaks have been recorded in appropriate journals (*vide infra*).

BACTERIOLOGICAL ANALYSES OF MILK AND WATER SUPPLIES.

An encouraging indication of efforts to improve the basic sanitation of the Province was the increased number of milk and water samples examined. Use of air mail facilities, or of specially constructed ice-containing boxes, permitted shipment of specimens to the central laboratories from greater distances than heretofore. A better distribution of Sanitary Inspectors in some areas of the Province also promoted this service. There is room for more effective follow-up of the laboratory findings.

The Bang's disease incidence among dairy cattle apparently remains high. Although the milk-supply of the City of Vancouver has been pasteurized for two years, human brucellosis still occurs in other parts of the Province, and some Vancouver physicians suspect sub-acute and chronic cases of the disease are fairly common still in this city. The majority of such infections, if correctly diagnosed, are presumably contracted from milk or milk products, or from some other source of Brucella organisms, encountered outside the city limits. But there have been occasional examples of faulty pasteurization, as shown by the results of phosphatase tests. Moreover, cream has apparently been sold unpasteurized in city markets. Cheese is also a potential source of brucellosis, although probably less dangerous than cream in this respect. It should be emphasized that *Brucella abortus* is the only member of the Brucella group so far identified in human or bovine infections in this Province.

There was further evidence from several quarters during the year of the public's anxiety for safe water-supplies, as was indicated by the increased number of samples submitted to the laboratory for analysis. This service was particularly valuable to the Fraser Valley area during the period of the recession of the flood-waters.

OTHER TYPES OF TESTS.

Blood agglutination tests for the typhoid-paratyphoid group of infections again increased slightly, while similar tests for brucellosis underwent an increase of nearly 30 per cent.

In the diagnosis of brucellosis, the findings of the public health laboratory may be of crucial importance. But this does not mean that laboratory tests alone may be expected to give a conclusive answer to a queried diagnosis of brucellosis. The results of blood agglutinations and opsone-cytophagic tests may be confusing and even contradictory. In view of this, the laboratories discourage any practice suggesting routine requisitions for these tests.

Cultures for *C. diphtheriæ* showed an increase of approximately 15 per cent. Diphtheria remains far more prevalent in the Province than it should be. Bearing in mind the proven efficacy of diphtheria toxoid, when properly administered in the pre-school years, with reinforcing doses given at appropriate intervals thereafter, every case of diphtheria should be viewed as a challenge to the self-esteem of public health workers. Small outbreaks occurred in various parts of the Province, but were quickly brought under control. One outbreak in Vancouver was of larger dimensions, and involved in all some eleven persons, with two fatalities. This episode and one at Kamloops were traced to convalescent carriers prematurely released from isolation on the basis of three negative nose and throat swabs taken on successive days. There is good evi-

dence that these criteria for the release of convalescents are inadequate. This question was made the subject of a paper published in the Canadian Journal of Public Health (*vide infra*).

On two or three occasions during the year the central laboratories isolated strains which gave pseudo-positive virulence tests upon inoculation into guinea-pigs, but were not *C. diphtheriæ*, as judged by cultural or biochemical reactions or by the patient's response to treatment. In one instance an organism having characteristics intermediate between those of *C. pyogenes* and *C. hæmolyticum* was isolated from a tonsillar membrane of a person complaining of a sore throat, with slight fever. Such findings raise problems in connection with quarantine. They also emphasize the necessity of requiring all branch laboratories to submit all doubtful cultures for *C. diphtheriæ* to the central laboratories for confirmatory tests. The central laboratory was pleased to avail itself of the restored verification and typing service offered by Dr. E. T. Bynoe, of the Laboratory of Hygiene at Ottawa. The findings on numerous strains sent him during the year coincided with ours in every instance. His typing of *gravis* strains furnished epidemiological information of considerable value.

GENERAL COMMENTS.

There has been a noteworthy tendency for an increasing percentage of specimens to reach the central laboratories from sources outside Vancouver. This has been deliberately fostered, in the belief that comparatively few types of public health laboratory tests now require a report so urgently that hasty judgments based on provisional tests are warranted. Many new refinements have been introduced in recent years, and at the same time micro-organisms have themselves shown striking capacities to deviate from classical, text-book descriptions. Only those laboratory-workers confronted regularly with fairly large numbers of the various tests in question can keep familiar with their commoner idiosyncrasies. Hence, branch laboratories were urged to take every advantage of air mail facilities and other methods of improved communication, and to refer difficult and unusual types of tests to the central laboratories in Vancouver.

TABLE III.—NUMBER OF TESTS PERFORMED BY BRANCH LABORATORIES IN 1948.

Examination.	Kamloops.	Nanaimo.	Nelson.	Prince Rupert.	Victoria.	Total, 1948.	Total, 1947.
Animal inoculation	.....	.....	.....	.....	194	194	85
Blood agglutination—							
Typhoid-paratyphoid group	195	144	445	55	21	860	1,584
Brucellosis	195	171	103	21	119	609	841
Miscellaneous	.....	.....	.....	.....	.....	.....	.....
Infectious mononucleosis	.....	.....	.....	.....	8	8	32
Cultures—							
M. tuberculosis	.....	.....	.....	.....	214	214	103
Typhoid-paratyphoid-dysentery group	2	.....	15	6	238	261	303
C. diphtheriæ	566	11	9	.....	2,282	2,868	2,617
Hæmolytic staphylococci and streptococci	158	.....	58	.....	2,282	2,498	1,801
Gonococcus	1	.....	.....	.....	743	744	1,175
Miscellaneous	56	.....	9	.....	.....	65	84
Direct microscopic examination for—							
Gonococcus	379	208	396	190	1,455	2,628	3,470
M. tuberculosis (sputum)	269	1,117	1,188	319	3,794	6,687	7,477
M. tuberculosis (miscellaneous)	22	.....	18	12	194	246	146
Treponema pallidum	.....	.....	.....	17	48	65	64
Vincent's spirillum	24	.....	10	6	86	126	169
Ringworm	.....	.....	1	.....	13	14	52
Intestinal parasites	20	.....	78	.....	182	280	342
Serological tests for syphilis—							
Blood—							
Presumptive Kahn	.....	.....	.....	.....	16,944	16,944	15,738
Standard Kahn	3,353	3,783	6,675	1,279	2,770	17,860	17,983
Quantitative Kahn	.....	48	167	.....	.....	215	1,403
Complement fixation	.....	.....	.....	.....	2,770	2,770	2,347
Cerebrospinal fluid—							
Kahn	69	92	.....	16	.....	177	309
Complement fixation	.....	.....	.....	.....	448	448	376
Cerebrospinal fluid—							
Cell count	69	111	40	46	461	727	604
Protein	69	99	.....	5	363	536	506
Colloidal reaction	13	79	.....	28	439	559	465
Milk—							
Bacterial count	99	8	734	442	1,026	2,309	2,045
Coli-ærogenes	.....	.....	734	442	1,026	2,202	1,902
Miscellaneous (phosphatase and reductase)	44	.....	.....	.....	980	1,024	762
Water—							
Total bacterial count	.....	.....	63	.....	519	582	1,027
Coli-ærogenes	171	358	877	452	789	2,647	2,813
Unclassified tests	48	28	39	2	250	367	279
Totals, 1948	5,822	6,257	11,659	3,338	40,658	67,734	.....
Totals, 1947	5,649	8,304	11,694	3,462	39,795	.....	68,904

FLOOD EMERGENCY.

The floods in the Fraser Valley and elsewhere in the Province brought special problems to the Division, as they did to other divisions of the Department of Health. The central laboratories in Vancouver were very much involved in mobilizing and facilitating the distribution of biological products for use in the affected areas, and subsequently undertook the task of testing water samples from flooded wells. These two emergency services were carried out in a spirit of cordial co-operation with Dr. G. R. F. Elliott and R. Bowering, who were in charge of the Provincial Department of Health's programme in

the Fraser Valley. Miss D. E. Kerr, Assistant Director of the Laboratories, and Mrs. M. Allen, in charge of the office staff, deserve special mention for their efficient and selfless efforts throughout the emergency. To the Fraser Valley communities in the flooded areas, sufficient T.A.B. vaccine was distributed, during a period of a few weeks only, for the immunization of some 60,000 persons.

Biological Products.

Apart from the Fraser Valley communities, intensive immunization campaigns against typhoid and paratyphoid A and B fevers were launched in territories covered by the Peace River, Cariboo, and East Kootenay Health Units. In many parts of the Province a very satisfactory proportion of the population has now received prophylactic T.A.B. vaccine. It should be emphasized that the specific protection afforded by this product wanes fairly rapidly, and should be renewed by "booster" or reinforcing doses at regular intervals. Moreover, T.A.B. vaccine confers no protection against other members of the Salmonella group, or against the Shigella (bacterial dysentery) group.

The distribution of biological products for the prevention and control of communicable disease reached new records for 1948. Over 50,000 packages of various products were released for distribution by the Division. This activity represents one of the least spectacular, but most important, services of the central laboratory. Only a few examples can be given to suggest what this work may mean in lives, health, and money saved. Sufficient vaccine virus was distributed to vaccinate nearly 50,000 persons against smallpox. Diphtheria toxoid for the immunization of roughly 40,000 children, pertussis (whooping-cough) vaccine for 30,000 children, and T.A.B. vaccine for roughly 80,000 persons were also released free of charge to practising physicians and health officials throughout the Province. The resulting benefits to the people of British Columbia are inestimable.

Scientific Meetings attended.

The Director attended the annual meeting of the Western Regional Group, Associate Committee on Medical Research, National Research Council of Canada, held in Edmonton in mid-February. He read a paper on "Separation and Purification of Staphylococcus Enterotoxin."

The Director also acted as chairman of the Epidemiology Section, Canadian Public Health Association, which held its annual meeting in Vancouver in May. Apart from organizing the scientific programme for this Section, two papers were presented by the Director and associates, and these have since been published.

Again the Director attended a meeting, held under the auspices of the Laboratory of Hygiene in Ottawa early in December, of the Technical Advisory Committee on Public Health Laboratory Services. While there, he read a paper on "Influenza to the Ottawa Bacteriology Society." Afterwards he went to London, Ont., for the annual meeting of the Laboratory Section, Canadian Public Health Association, where he presented two scientific papers. These meetings were all very worthwhile.

SCIENTIFIC PUBLICATIONS.

The following papers by members of the Division of Laboratories were published during 1948:—

Dolman, C. E.: "The Sanitarian's Place in Public Health," Canadian Public Health Journal (January), 1948, *39*, 41.

Dolman, C. E.: "Oral Immunization," American Journal of the Medical Sciences (March), 1948, *215*, 327.

Dolman, C. E.; Hudson, Vivienne G.; and Kerr, Donna E.: "Diphtheria Outbreaks due to Premature Release of Convalescent Carriers," Canadian Public Health Journal (August), 1948, *39*, 305.

Dolman, C. E., and Kerr, Donna E.: "Two Fatal Cases of Botulism from Home-bottled Asparagus," Canadian Medical Association Journal (October), 1948, *59*, 412.

In closing, appreciation is expressed of the excellent spirit shown by the staff in the continual struggle to maintain high standards in the face of difficult and discouraging circumstances. The Assistant Director, Miss Donna Kerr, must be credited with a large share of credit for this accomplishment.

REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL.

G. R. F. ELLIOTT, DIRECTOR.

INTRODUCTION.

There would appear to be a 22.5-per-cent. decrease in the total cases and a decrease of 25.2 per cent. in the rate of venereal disease reported in British Columbia during the year 1948 as compared to 1947. This is the second consecutive year a substantial decrease has been noted in this Province, following a consistent rise since 1940. It is felt this decrease is noteworthy since the vigorous efforts on the part of the epidemiological staff to trace contacts, the new diagnostic clinic formed at the Vancouver City Police station, and sundry other small blood-testing surveys carried out amongst mariners and other groups have done much to find previously unreported cases.

The drop in incidence, though due in part to the receding war years with the abnormal living conditions, is believed to be largely accounted for by the increased efforts made in case-finding and the earlier and more rapid treatment of cases and of contacts. Other factors concerned are the excellent co-operation of private physicians in reporting and following up cases, the assistance of health units and nurses, the ready help given by various public groups in helping to combat facilitation, and the gradual dissemination of knowledge of venereal disease among the general population.

The provision of free drugs and specialist consultative services to private physicians continue to be offered by this Division. These services are freely used and go far toward ensuring adequate treatment according to the most modern standards, as well as adequate after-care and supervision, and help to maintain a friendly relationship and co-operation with the private physician.

The ready and generous help and co-operation given to this Division by other Provincial divisions, as well as by the local authorities and other public

services, have been very much appreciated. Again special mention in this regard should be made of the Division of Laboratories, whose efforts for meeting the ever-increasing demands of this Division have been so successful and so understanding.

TREATMENT.

In view of the great amount of venereal disease research being carried on throughout the world at the present time, it becomes necessary from time to time to make changes or modifications in treatment to conform with the latest views. Such changes have been evident in this Division during the past year, though there has been some reluctance to abandon completely the older and well-tried methods of treatment which have shown such a high degree of success in the past.

Penicillin has been used to an ever-increasing extent, and appears to be slowly and steadily replacing the older and more-prolonged methods of treatment in many stages of venereal infection. This has been a time-saving factor and has led to a marked shortening of the period of treatment. It is hoped also that it will lead ultimately to a diminution in the number of persons who cease attending before completing their full course of treatment.

The routine use of neoarsphenamine has been discontinued by the clinics of this Division. Mapharsen is now used in almost all cases where arsenicals are indicated. This change, besides being in accordance with modern trends, is considered to offer a wider margin of safety for the patient.

The Division has continued its policy of admitting selected cases of syphilis to the Infectious Diseases Hospital, Vancouver, for intensive penicillin treatment. The number of beds available was reduced to six during the latter half of the year, owing to the extra bed requirements of the Vancouver General Hospital during rebuilding operations. In spite of this, however, there has been very little decrease in the number of patients admitted for treatment during the year.

Streptomycin has been made available for the treatment of resistant cases of gonorrhœa where treatment by ordinary methods has failed. The impression has been gained in this Division, however, that true failures are rare in the treatment of gonorrhœa with penicillin, apparent relapses being due in most instances to reinfection.

Clinics continue to be operated as before, with the one addition of a daily male diagnostic clinic at the Vancouver City Gaol. This clinic has already proved itself most useful in the detection of new cases of venereal infection, as well as in renewing contact with patients who have lapsed from treatment or surveillance.

Increasing efforts are being made to provide for the routine blood-testing of all women in pregnancy and, where these are found to be positive, of carrying out full anti-syphilitic treatment. It is only by this means that prenatal (congenital) syphilis can be eradicated, with a corresponding reduction in still-births, infant mortality, and child suffering.

EPIDEMIOLOGY.

The workers in the field of epidemiology continue to show most gratifying results in case-finding and case-holding. This is due in a large measure to a

high standard of persistence, resourcefulness, and tact on the part of the workers. A close liaison has been maintained by the workers in this Division with the public health nurses in the field, as well as with the nurses on the staff of the Vancouver Metropolitan Health Committee and the various health units throughout the Province.

Valuable assistance has been given throughout the year by the Medical Health Officer of the City of Vancouver and by the Vancouver Police Department. Their help has been readily and freely given and has been especially valuable in locating suspected venereal disease cases and contacts and, where necessary, in bringing these cases in for investigation and treatment.

During the year there were three meetings held of interested parties concerned with facilitation and the control of venereal disease in this Province. Attending these meetings were authorities from the Vancouver City Police Department, the British Columbia Police, British Columbia Hotels Association, Liquor Control Board, Vancouver City Licence Inspector, representatives of the United States Armed Services, as well as the Senior Medical Health Officers of the Cities of Vancouver and Victoria.

These meetings have had as their main purpose the discussion of the various aspects of facilitation and the methods to be adopted for dealing with this problem. The friendly nature of the discussions and the very willing and active co-operation of the participants have been most helpful in developing this aspect of venereal disease control. As a result of suggestions put forward at these meetings, many of the trouble spots in facilitation in the City of Vancouver have been markedly improved.

As already mentioned, as a result of the success of the female clinic at the Vancouver City Gaol, a diagnostic clinic has been set up in the male section of the Vancouver City Gaol. The clinic is conducted by a member of the nursing staff of this Division and is concerned primarily with the detection of syphilitic infection. Serological tests are carried out on 95 per cent. of all male prisoners. The investigation has been on a voluntary basis, but in only a few instances has the blood-testing been refused. The results obtained from these examinations have well repaid the time and energies involved.

Blood-testing surveys have been carried out at the medical centre of the ship-owners' association and on a small scale amongst the Indians at a small reserve.

SOCIAL SERVICE.

In September of this year there was clarification of the place of the social worker in venereal disease control, and a change in the programme of the Vancouver clinic medical case-worker. The Social Service Section formerly conducted the programme aimed at the control of premises which facilitate the spread of venereal disease. This programme has now been taken over by the Epidemiology Section, leaving the social worker free to make her specific contribution to combating venereal disease. An increasing number of persons is being referred to her with social problems, such as severe emotional stress, domestic difficulties, illegitimate pregnancy, and the need of financial assistance. Juveniles who are developing behaviour problems are also referred for guidance. Daily ward rounds are made at the rapid-treatment centre in an endeavour

to give more intensive case-work service to this group of patients during hospitalization.

EDUCATION.

General public education on venereal disease has now become the responsibility of the Division of Public Health Education, which is working in close conjunction with the Division of Venereal Disease Control.

Lectures on various aspects of venereal disease and its control have been given throughout the year to student-nurses, lay-student organizations, and to social workers.

During the year the following articles were published by members of this Division: The paper "Medical Shock and Death following Neoarsphenamine Therapy for Syphilis," written by Dr. B. Kanee, Consultant in Syphilology at this Division, and Dr. G. R. F. Elliott, Director of this Division, was published in the July issue of The Canadian Medical Association Journal; "Pre-natal (Congenital) Syphilis with Interesting Diagnostic Findings," written by Dr. Kanee, was published in the November issue of The Canadian Medical Association Journal; the paper "Some Recent Developments in Venereal Disease Epidemiology in British Columbia" was read by the Director at the Canadian Public Health Association Conference held in Vancouver in May of this year. Reprints of all these articles have been obtained and distributed to the medical profession and other interested parties in this Province.

During the year an excellent booklet entitled "Venereal Disease Information for Nurses," prepared by this Division, was published, and is being circulated for professional educational purposes.

Agreement has been reached by the Vancouver General Hospital and the Divisions of Tuberculosis Control and Venereal Disease Control for the establishment of a library for use particularly by interns, nurses, and other staff members. The contribution of this Division will ensure the inclusion of a section on venereology and the various phases of venereal disease control, thereby making available and readily accessible adequate and up-to-date reference material on this subject.

A valuable addition in the field of professional education has been made in the decision of this Division to appoint a public health nurse as Nursing Educator. This individual will have as her responsibility the co-ordination of educational work related to the nursing and welfare personnel taking training in this Province. Groups of public health nurses, social welfare workers, and undergraduate nurses visit this Division during their training period, and it will be the Nursing Educator's responsibility to assure that their education in regard to venereal disease is complete. In addition, the Nursing Educator will establish a working relationship with those nurses' training-schools throughout the Province where the students do not have the opportunity of spending time with this Division in an attempt to carry out a similar educational programme amongst these nurses. Much time and effort has been expended in recent years on lay education regarding venereal disease; it is felt that the education of professional personnel has been neglected to some extent, and it is hoped the above appointment will rectify this condition as it pertains to the nursing and welfare field in this Province.

GENERAL.

During the year the redecoration of the Vancouver clinic, mentioned in the 1947 Report, was completed, and the resulting improved appearance has been marked.

At the present time the study mentioned in the 1947 Report regarding the number of newly reported cases of venereal disease who are transient persons, or persons who have been diagnosed elsewhere prior to taking up residence in British Columbia, has progressed on the Dominion level, and it is hoped figures will be available for the annual report of this Division.

The Director attended the conference of Venereal Disease Control Directors of the Provinces held at Ottawa in March. Much valuable information and exchange of ideas were obtained at this meeting, and a further meeting is being planned for February, 1949, in Ottawa.

The shortage of full-time medical personnel remains exceedingly acute. This situation exists not only in this Division, but is also found throughout the Department of Health in this Province.

Late in the year the Director of this Division was given additional responsibilities in regard to the Federal health grants, and, as a result, it has not been possible to spend the time required in this Division. The Division, however, was most fortunate in obtaining a well-qualified physician with wide clinical experience, who has been placed in charge of all clinics, with headquarters at the Vancouver clinic. In addition to this, a highly qualified physician has been appointed on a part-time basis as physician in charge of the Victoria clinic. These two appointments, and particularly the former, are extremely fortunate and will do much to improve treatment procedures and establish and improve liaison with other medical authorities in this Province.

The part-time clinic physicians continue to be rotated. The calibre of these men remains high, and there is no dearth of applicants.

During the year, as is normal in all such divisions to-day, staff changes occurred. It is felt that the loss of Mrs. Lorna Marshall should be mentioned. Mrs. Marshall was one of the senior clinic nurses at this Division, and when she decided to leave for Eastern Canada, it was a definite loss to this Division, since her work and contributions had always been of the highest calibre.

Late in 1948 Miss Jean Gilley, branch secretary of this Division, received a well-earned promotion to the position of research assistant. The work in this new position will be primarily concerned with the Federal health grants at first. Miss Gilley has made an outstanding contribution to the success of this Division, and although the loss of her direct services to this Division is regretted, it is felt she has much to contribute to the general health administration problems of this Province, and the opportunity to use this talent is present in the new position.

The addition of the increased Federal grant has done much to add to the control of venereal disease in this Province, and this assistance has been very much appreciated.

Finally, the co-operation and understanding of the Deputy Minister of Health and all members of his staff in the central office has been most helpful.

REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL.

W. H. HATFIELD, DIRECTOR.

INTRODUCTION.

The Division of Tuberculosis Control is pleased to report considerable improvement in its programme during the year 1948. The most urgent problem has been that of insufficient bed facilities. In order to handle the tuberculosis problem in British Columbia adequately, it will be necessary to have approximately 500 more beds than are available at the present time. It is hoped that the money that has now been allotted will complete 250 beds of the proposed 500-bed unit. Plans for this new institution in Vancouver have been completed, and it is hoped that construction will be started early in 1949.

The addition to the Vancouver unit, which will house new surgical and teaching facilities and an auditorium, is nearing completion, and it is hoped to have this unit in full operation by March, 1949.

A number of additions and changes that have been previously recommended for the Tranquille unit have been started during the year. New homes have been provided for the medical staff, and an addition to the nurses' home is under way. Further internal improvements have been carried out in the existing buildings.

The announcement from Ottawa that grants are to be made to the Provinces for expansion of services has allowed for certain new developments. A programme to cover a number of years has been planned and submitted to Ottawa in connection with these new grants, and at the end of the year certain projects have been planned to expand the work of the Division in the year 1949. Projects that have been approved are:—

(1) Survey X-ray equipment to be loaned to local hospitals and health units.
(2) Occupational therapy for patients in their homes.
(3) Equipment for the Tranquille unit.
(4) Equipment for the surgical unit in Vancouver.
(5) Postgraduate training.
(6) Medical library.

From time to time other projects will be submitted up to the amount of the annual tuberculosis grant. All these new developments fit into a definite pattern that has been planned over a period of time, and with the provision of adequate beds in the Province the tuberculosis control programme will be completely rounded out. One of the most difficult situations with which the Division has been confronted, however, is the problem of getting properly trained medical staff to carry out the work of the institutions and clinics, and, to this end, reports have been submitted indicating the necessity for a complete revision of medical salaries.

In the over-all picture of tuberculosis control in the Province it is encouraging to note that there has been a greater drop in the death-rate this year than in any previous year in the history of the Province. The 1948 preliminary tuberculosis mortality rate for the total population was 40.7 per 100,000 in 1948 as compared with 50.3 in 1947; for the other-than-Indian population, 28.3 in

1948 and 36.2 in 1947; for the Indian population, 507.1 in 1948 and 581.5 in 1947. Also, despite approximately the same number of people being X-rayed in the survey-work, there is a decrease in the number of new cases being found and a shift in these new cases from the younger to the older age-groups.

We are pleased to report at the end of the year that the Vancouver unit has been certified by the Royal College of Physicians and Surgeons of Canada as a postgraduate training centre in chest disease.

CLINICS.

The clinics operated by the Division during 1948 remained the same as in the previous year. It is unfortunate that it has been impossible to have physicians attached to the travelling diagnostic clinics, except in one instance. The employment of specialist physicians is necessary in order to carry out this work, and with the salary rates that are presently paid, it has been impossible to obtain such physicians for the service. It has been necessary for consulting services to be confined to the taking of X-ray films in the rural areas and forwarding these to the main units of the Division for interpretation.

The stationary survey clinics continue to increase in the number of examinations, which in turn throws an increasing load on the stationary diagnostic clinics. This is particularly apparent in the Vancouver area.

The mobile units have carried on in the same pattern as previously, doing almost the same volume of work as in 1947. The preliminary total examined by all survey clinics during the year was 184,600. Of that total, 1.7 per cent. were referred to diagnostic clinics, which is slightly lower than the rate in previous years. Of the group referred for further study, 429 or 14.1 per cent. were diagnosed as tuberculous. These tuberculous diagnoses were as follows: Primary, 1.6 per cent.; minimal, 65 per cent.; moderately advanced, 28.7 per cent.; far advanced, 4.7 per cent. Thus 0.2 per cent. of the total examined were found to be tuberculous. Of those diagnosed, 139 required active treatment, and of those at the end of the year, 78 had been admitted to hospital.

In the diagnostic clinics 37,718 examinations were made, which is an increase of 10.3 per cent. over the previous year and 24.9 per cent. over 1946. The out-patient pneumothorax work remains at a fairly constant level of 8,074 treatments during the year. The total number of examinations, including all clinics, both survey and diagnostic, was 222,318. Including out-patient treatment work, the total number of patient-visits to all clinics and survey units was 231,121, which is a decrease from the previous year of 12,458.

INSTITUTIONS.

The acute situation in regard to the number of beds still remains the same, although, as mentioned, plans have now been completed for the start of a new institution in the City of Vancouver. There has continued to be a long waiting list for institutional care. Even when the cases on the waiting list are limited to acute, active pulmonary tuberculosis, there is still an interval of some months between date of application and date of admission to institution. As new institutions take time to build, it will probably be another eighteen months at a minimum before any relief in the bed situation can be foreseen. In the meantime, improvements have been made in the existing institutions so as to be able

to render more advanced forms of treatment and better service in general. The most notable improvement is at the Vancouver unit, where the building provided by the British Columbia Tuberculosis Society will allow this institution to carry out every form of active treatment for the tuberculous patient and will make this one of the best-equipped and best all-round treatment units of its kind in North America.

Many of the changes that have been recommended for the improvement of the facilities at Tranquille have been accomplished during the year. New homes for the doctors have been completed. The much-needed addition to the nurses' home is well on its way to completion. The electric current has been changed from direct to alternating. With further training of medical staff it has been possible to do chest surgery again at Tranquille.

There have been no new developments at the Victoria unit.

It is necessary to report again that St. Joseph's Oriental Hospital, which is considered by the Division as unsatisfactory for the care of tuberculous patients, is still in operation.

NURSING.

Correlation of the various branches of the nursing service was effected on a full-time basis approximately one year ago. It was necessary during the year to devote much time and effort to projects dealing with standardization of policies and routines on a Provincial level.

Programmes for staff orientation and patient education were outlined and have been adapted to local circumstances in the various units. Further improvement and expansion of the nursing service to meet present-day standards and progress in other phases of the tuberculosis programme will be possible through central planning based on helpful suggestions from the nurses in institutional, clinic, and district services.

Recruitment of professional nurses has improved during the past few months. A total of 102 nurses are employed in the various branches of the Division. The shortage of nurses at the Tranquille unit is less acute, as shown by the following comparative figures. In the Reports for 1946 and 1947 the number of professional nurses ranged from twenty-five to thirty-two, while at the present time there are thirty-eight full-time and four half-time nurses.

The educational programme for undergraduate and postgraduate students is progressing favourably. Satisfactory progress is being made in reorganization of the course at the Victoria unit in accordance with recommendations for uniformity of policies and opportunities for students in both centres.

The Division, through the Vancouver and Jericho Beach units, is co-operating in providing clinical experience for the practical-nurse students enrolled in the one-year course at the Technical School in Vancouver. Participation in this project will benefit the various units of the Division by providing a source of supply of auxiliary nursing personnel with uniform basic preparation.

SOCIAL SERVICE.

During 1948 the situation with regard to social service staff at the Tranquille unit did not improve, but it was possible to maintain staff in the other units.

A short staff-training course was given with the assistance of a member of the medical staff, who gave a series of talks on psychosomatic aspects of other diagnostic groups than tuberculosis. It was also possible during the year to have a psychiatrist as consultant for some problem cases in Vancouver.

In November, 1947, the Provincial Supervisor of Social Service was appointed to the Assessment Committee on Institutional Revenue. This contact has proved very valuable in giving the Supervisor an opportunity to interpret to the members of the Committee some of the problems facing patients in tuberculosis institutions.

During the year the boarding-home for women was closed, and so far has not been replaced. Placement problems, not only with regard to women patients, but for long-term chronic patients who have intermittent positive sputum, have reached the point where there does not seem to be any possible place for many of these patients to go.

REHABILITATION.

It is planned during the forthcoming year for the Division to take over the rehabilitation-work initiated by the British Columbia Tuberculosis Society.

LOCAL HEALTH SERVICES.

Further improvement in the local health service makes it possible to operate the field-work of the Division more smoothly, and every co-operation has existed between the Division and local services.

BUDGET.

There will be an increase in the Provincial expenditure for tuberculosis during the forthcoming year due to factors beyond the control of the Division—namely, increased commodity prices and increased wages. Further increases due to the expansion of facilities of the Division, such as routine X-ray examination of patients admitted to general hospitals, rehabilitation services, post-graduate courses, etc., will be provided under the new Federal health grants. The only new facility to be opened during the forthcoming year which will be a part of Provincial expenditure is the addition to the Vancouver unit, the operating costs of which will be part of the Provincial budget.

CONCLUSIONS.

As reported in the previous year, all facilities of the Division are still taxed to the limit. Clinics are becoming overcrowded. In Vancouver this will be largely rectified with the opening of the new addition, but the New Westminster clinic has reached a stage where additional space is essential.

In order to bring about further advances in the control of tuberculosis in the Province, it is necessary to have a considerable number of additional beds. It is sincerely hoped that by the end of another year it will be possible to report that bed facilities are becoming more adequate to meet the need.

REPORT OF THE DIVISION OF PUBLIC HEALTH ENGINEERING.

R. BOWERING, DIRECTOR.

INTRODUCTION.

The Division of Public Health Engineering is primarily concerned with environmental factors that affect health. Engineering public health service is concerned with the adjustment of the environment so that man may enjoy better health. The Division is often called the Division of Environmental Sanitation.

The technical staff of the Division includes engineers and Sanitary Inspectors. All members of the technical staff must have either a degree in engineering or a certificate in sanitary inspection.

Included within the scope of the Division of Public Health Engineering are water-supply sanitation, sewage-disposal, milk-plant sanitation, industrial-camp sanitation, shell-fish sanitation, sanitation of eating and drinking places, sanitation of housing and tourist resorts, sanitation of cold-storage locker plants, and the many miscellaneous items which are included in the term " environmental sanitation." This report will deal with these various features under specific headings.

WATER-SUPPLY.

There are over 150 separate water-supply systems in British Columbia. It is estimated that these water-supply systems serve 75 per cent. of the population of the Province with drinking-water. One of the most important responsibilities of the Division of Public Health Engineering is to be sure that these public water-supply systems provide a safe water.

The " Health Act " requires that plans of all new waterworks construction be approved by the Deputy Minister of Health. Approximately $2,000,000 worth of waterworks construction was approved in 1948. In studying the plans for approval, the source of supply and the distribution is gone over very carefully in order to see that no public health hazards exist. In many instances the Division is able to suggest alterations in the plans that are of benefit to the local water authorities.

In addition to approval of plans, sanitary surveys of a number of existing water-supplies were carried out. In several instances treatment of the water was recommended. In this regard it is interesting to note that in two widely separated cities of the Province, Cranbrook and Prince Rupert, plebiscites were held on the question of chlorinating the local water-supply. In both cases the people supported this public health measure by a very good majority.

In addition to public water-supplies, the Division is interested in the private water-supply used on farms and in certain small villages. It has been the policy of the Division to have all water samples taken by qualified personnel after having made a sanitary survey of the water-supply source in question. With the increase in the staff of Sanitary Inspectors that was made in 1948, it will soon be possible to provide this type of service throughout the entire Province. In this way the sanitary quality of the water used by the rural population is being improved year by year.

In 1948 a considerable number of chemical analyses of water-supplies through public water systems was made by the laboratory of the Division of Public Health Engineering of the Department of National Health and Welfare. This made it possible for the Department to give advice on improving the potability of certain waters.

It is hoped that in 1949, with the appointment of an Assistant Public Health Engineer, that adequate inspection of the water-treatment plants which are now established in the Province can be made, to see that all these plants are operating at maximum efficiency.

SEWERAGE AND SEWAGE-DISPOSAL.

Sewerage and sewage-disposal is an important feature of the work of the Division of Public Health Engineering. Sewerage and sewage-disposal falls naturally into two classes—the private sewage-disposal system and the public sewerage system. British Columbia was one of the earliest authorities (on the State or Provincial level) in North America to require approval of plans of sewerage and sewage-disposal systems by the Department of Health. For this reason, the sewerage systems in British Columbia, on the whole, are built to a good standard. Another important result is that pollution of streams and tidal bodies of water has not become as serious a problem in British Columbia as it has in some of the other Provinces and States of North America.

In 1948 plans and specifications covering the proposed construction of approximately $2,000,000 worth of sewerage-works were approved by the Health Department after checking by the Division of Public Health Engineering. The year 1948 also saw the coming into operation of the new modern sewage-treatment plant at Penticton.

It was mentioned in the 1947 Report that a large sewerage system had been planned for the Municipality of Saanich. Unfortunately the people of the municipality turned this plan down, and, as a result, this important municipality is without a sewerage system. It is felt that one of the biggest problems of the Division is the lack of sewerage construction in certain urban areas. This is particularly true in the case of unorganized areas. It is hoped that some concrete suggestions can be made in 1949 for a renewed approach to this problem.

The standard plans that have been prepared for the construction of septic tanks and private sewage-disposal systems have been very widely distributed and very widely used. This has resulted in improvements in new installations, and it is already beginning to lessen the number of complaints regarding insanitary sewage-disposal in certain rural areas.

The Province still has not a Provincial plumbing code. An important task which should be performed in 1949 is the establishment of such a code.

MILK SANITATION.

For the first time in many years there was no major milk-borne epidemic in British Columbia. This is probably a result of the increase in the use of pasteurized milk. While there is still a considerable amount of raw milk sold in the Province, it is now possible to buy pasteurized milk in all of the major cities and towns in British Columbia.

Milk sanitation in British Columbia is under the jurisdiction of the Department of Agriculture as far as the grading of dairy-farms is concerned and as far as the licensing of pasteurizing plants is concerned. The quality of the milk itself is a responsibility of local health authorities. The work of the Division of Public Health Engineering is mainly a consultative service to local health services. The day to day sampling and supervision of the milk-supplies is a responsibility of the local Sanitary Inspectors. With the increase in the number of Sanitary Inspectors, the problem of having milk samples examined in the Provincial laboratory is becoming more and more acute. It is hoped that steps can be taken to increase the capacity of the Division of Laboratories within the next year.

SHELL-FISH SANITATION.

The work of the Division on sanitary surveys of oyster leases was greatly hampered this year because of the floods. The staff that was gathered for the sanitary survey of oyster-beds had to be used for flood-control work, and, as a result, the shellfish-bed work had to suffer.

The largest single sanitary survey of an oyster-bed that was done in 1948 was the sanitary survey of Esquimalt Harbour.

The Division also drafted a proposed set of shell-fish regulations which have been mimeographed and sent to the various oyster-growers for comments. It is expected that these regulations will be made effective in 1949. A visit was made to the shellfish-growing areas and shucking and packing plants in Washington State by the Director in order to compare shellfish-control measures in Washington State with those in British Columbia.

The collection of samples of clams for testing for toxicity continued throughout 1948. The sampling-work was extended in 1948 to areas on the northern coast which had not been adequately tested before. It is the opinion of the writer that sufficient samples to determine adequately the extent of shell-fish toxicity in British Columbia waters are not being taken.

The programme for the control of clam and mussel poisoning is a combined effort by the Federal and Provincial Departments of Fisheries and the Federal and Provincial Departments of Health. No deaths from shell-fish poisoning have occurred in British Columbia since 1942.

INDUSTRIAL-CAMP SANITATION.

As reported in the 1947 Annual Report, a new set of regulations dealing with sanitation of industrial camps came into effect on January 1, 1947. The year 1948 was, therefore, the second year in which these regulations were in effect. One of the gratifying results was that the number of complaints regarding industrial camps was the least received by the Department in many years.

Regular inspections of industrial camps has now become a routine part of the work of local Sanitary Inspectors. This means that the health unit areas were very well covered in 1948. With the expansion of the sanitary inspection staff into non-health unit areas, it is expected that in 1949 there will be very few industrial camps in the Province that will not be inspected by a qualified Sanitary Inspector.

The number of inspections of fish-cannery camps was down in 1948 as these inspections are usually made in June and July, and at that time the staff were all engaged in flood-control work.

SANITATION OF TOURIST RESORTS.

Detailed inspections of tourist camps have now been carried out for a period of three years. During 1946 and 1947 a special inspector was appointed for tourist camp work. In 1948 it was felt that the work had got a reasonably good start, and the responsibility of tourist camp inspections was placed on the local Sanitary Inspectors. Although in some areas where there is a large number of tourist camps this threw a heavy additional load on the Sanitary Inspectors, it is felt that a very good coverage of the tourist camp facilities was made in 1948. The Division now has reports on 565 tourist camps.

It was very encouraging to note that most tourist camp operators were anxious to comply with the regulations and with the suggestions of the Sanitary Inspectors.

Whenever a new tourist camp applies for registration with the Travel Bureau of the Department of Trade and Industry, a request for an inspection by the Sanitary Inspector is made to the Division of Public Health Engineering. The original inspection by the local Sanitary Inspector is then made the basis for recommending to the licensing authority as to whether or not registration should be accepted.

The application of the regulations this year has shown several weaknesses in the presently established regulations, and it is proposed that certain amendments and additions to the regulations should be given consideration. It is hoped that the regulations will be strengthened and improved in the year 1949.

SUMMER CAMPS.

Summer camps for children are exempted from the Regulations governing Tourist Camps. They do, however, come under the "Welfare Institutions Licensing Act." This Act is administered by the Inspector of Hospitals and Institutions. As mentioned in the 1947 Report, the Division inspected a large number of summer camps on behalf of the above agency. In 1948, owing to the fact that the flood emergency was on during the time when summer camps normally would be inspected, the number of summer-camp inspections was reduced. However, a number of reinspections of camps was carried out at the request of various camping officials, and it was found that in general the camping operators had made many of the improvements suggested in the report following the 1947 inspection. It is felt that, with a continuation of this policy, summer camps will be greatly improved in the next few years.

ENVIRONMENTAL SANITATION OF SCHOOLS.

Under the "Public Schools Act" the inspection of environmental conditions in and around schools is a responsibility of the local School Boards, but is usually administered by local health services. Since 1945 the Division has been receiving reports of detailed inspections of schools covering structural and sanitary conditions. Detailed reports on 342 schools were received in 1948.

It was noted that many improvements had been made following reports of inpections made in 1945, 1946, and 1947. With the expansion of the sanitary inspection staff of the Division, it is expected that a fairly large number of schools will be reported on for the first time in 1949.

SANITATION OF EATING AND DRINKING PLACES.

The year 1948 was the second year of enforcement of the Regulations governing Eating and Drinking Places, which were passed late in 1946. Early in the year 1948 a survey of glass-washing facilities in beer-parlours was made in co-operation with the Liquor Control Board. A total of 196 beer-parlours were covered by this survey. Of these 196 beer-parlours, 41 had in operation mechanical dish-washers of an approved type. These mechanical dish-washers were made in British Columbia. Before the coming into force of the regulations, only 3 of the beer-parlours covered by the survey had installed mechanical dish-washers. Of the rest, 64 had installed three-compartment sinks and 63 had installed two-compartment sinks. This represents a tremendous improvement over the method of glass-washing in use in beer-parlours in British Columbia prior to the passing of the regulations. The inspection of beer-parlours is now a routine part of the work of Sanitary Inspectors throughout the Province. In most districts where full-time Sanitary Inspectors are employed, beer-parlours are inspected three or four times a year.

Inspections of restaurants are made by Sanitary Inspectors in health units and in other areas where Sanitary Inspectors are appointed. Forms are used which list the various items of restaurant sanitation. From these forms it is possible for both the local health authorities and the restaurant operators to tell whether the sanitation of each restaurant is satisfactory, improving, or not. With the appointment of the new Sanitary Inspectors to cover areas not included in health units, it is expected that by the end of 1949 almost all of the restaurants in the Province will have been inspected three or four times during the year.

FROZEN-FOOD LOCKER PLANTS.

The year 1948 was the first complete year in which the Regulations governing the Construction and Operation of Cold Storage Locker Plants were in operation. These regulations require that plans and specifications governing the construction of all new frozen-food locker plants be approved by the Deputy Minister of Health. The regulations do not require the licensing of existing plants on an annual basis. There were seventeen approvals of plans of either new locker plants or extensions to existing plants in 1948. At the end of the year the Division had knowledge of seventy-six plants either in operation or under construction. A fairly detailed inspection report was made on forty-eight of the seventy-six plants. This survey showed that the forty-eight plants had a total of 29,072 lockers, or an average of about 600 lockers per plant. It is expected that complete reports will be made on the remaining twenty-eight plants early in 1949. These reports will be followed by routine inspections by local Sanitary Inspectors throughout the year.

INCREASE IN STAFF OF SANITARY INSPECTORS.

There was a large increase in the number of Sanitary Inspectors employed by the Provincial Department of Health during 1948. At the end of 1947 there were nine Sanitary Inspectors employed, and these men were attached to various health units in the Province. During 1948 it was decided to appoint Sanitary Inspectors in areas where health units had not yet been established. Money obtained through the Federal health grants was used for this expansion. At the end of 1948 ten new Sanitary Inspectors had been appointed, increasing the staff to nineteen. In addition, C. R. Stonehouse was appointed as Chief Inspector.

It is expected that in 1949 the sanitary inspection staff will be further increased to cover the entire Province. It is also expected that at least two new engineers will be appointed to the staff of the Public Health Engineering Division.

THE FLOODS.

No report of the Division of Public Health Engineering for 1948 can be complete without some mention of the floods. A more complete report of the activities of the Department in this emergency appears elsewhere in this book. However, the floods occupied the full attention of the Division from late in May until early in August. Most of the work of the Public Health Engineering Division was done in the Lower Fraser Valley. During the flood emergency ten extra Sanitary Inspectors were placed in the Fraser Valley. Two of these Sanitary Inspectors were from the City of Vancouver and eight were from other parts of the Province. In addition, the services of four public health engineers were made available to the Provincial Department by the Department of National Health and Welfare.

During the early stages of the floods, the main sanitation effort was directed toward the sanitation of work camps and evacuee camps. As the flood-waters began to subside, the work of the Division of Public Health Engineering included the inspection of all homes that had been damaged by the flood and the sanitary surveys of all wells. Sanitary surveys were made of a total of 439 wells. There were only two public water-supplies seriously affected by the flood. Emergency chlorinating apparatus was installed and used on these supplies until the emergency was over. Also several tons of chloride of lime and other chlorine products were distributed for the cleaning-up of homes, dairies, barns, etc., that were contaminated by the flood-waters. During the flood emergency, good liaison was maintained between the Division of Public Health Engineering and the other divisions of the Health Department, and the result was a freedom from overlapping of work by various members of the public health service.

GENERAL OBSERVATIONS.

In 1948 the biggest single piece of work of the Division of Public Health Engineering was in connection with the floods. The flood-work occupied almost three months of the Director's time and a similar portion of the time of most of the Sanitary Inspectors. The work of approval of plans was not quite as heavy in 1948 as it was in 1947. As a result of the Federal health grants, the staff of Sanitary Inspectors was more than doubled, and this threw a tremendous

amount of administrative work on the Chief Inspector. The continued use of more uniform record systems in the local areas made it much easier for the Division to evaluate the work of the Sanitary Inspectors in the field. This increase in administrative work has made it more and more essential that at least two new engineers be appointed.

The Division wishes to express thanks to the Division of Laboratories for its co-operation in the examination of samples of water, sewage, and milk. The Provincial Police Department deserves mention for its valuable work in the inspection of sanitary complaints and industrial camps in outlying districts. In this connection it is hoped that the calls on the Police Department will be less frequent in the future, as there are now Sanitary Inspectors located in practically all parts of the Province. The Division would also like to record its thanks to the officials of the Division of Public Health Engineering of the Department of National Health and Welfare for their whole-hearted co-operation on many public health engineering problems. Other members of the staff of the Provincial Department of Health and Welfare have given invaluable assistance, for which the Division of Public Health Engineering is very grateful.

REPORT OF THE DIVISION OF PUBLIC HEALTH EDUCATION.

KAY BEARD, CONSULTANT.

INTRODUCTION.

The year 1948 has been marked by a decided increase in the amount and variety of the work carried out by this Division. The increasingly wide scope of the work is evidence that public health education as a special field is a vital part of a modern public health programme. British Columbia is among the leaders in Canadian public health, in that it is the third Province in Canada to realize the value of a health education programme developed by persons with specialized training in public health education. Because the staff has been limited, progress has been slow in some fields, but the accomplishments during the three years since the inception of this Division have resulted in marked improvements in many phases of health education. One of the most noticeable improvements has been that other divisions have been able to pass on to the Health Education Division many of the educational matters for which they were formerly responsible, with the result that more time could be devoted to the development of their own programme. At the same time, health education matters could also receive more concentrated attention than was possible before the existence of this Division.

LOCAL HEALTH SERVICES.

During the past year, particular attention has again been given to meeting the requests of the field staff. Because the local public health service is the basic service, it is most important that as much assistance as possible be given to the field staff in planning and conducting local health education programmes. Assistance was provided through a number of channels.

PRINTED MATERIALS.

Supplies of posters and pamphlets for general distribution through local health services have been greatly increased during this year. Much of the increase has resulted from the production of new materials by the Department of National Health and Welfare. Further expansion will have to be seriously curtailed, however, until more storage-space is available. The present over-crowding of supply-rooms presents many difficulties in developing an efficient system of distributing supplies. The policy of making available all public health literature produced by the Department of National Health and Welfare through local health services is being continued. All requests made by the public in British Columbia to the Department of National Health and Welfare are referred back to the local public health personnel throughout the Province. This policy is another step in developing the local programme in public health education, since it provides the local personnel with new opportunities to interpret their service.

All new public health films about which information was available were previewed during the year, and, from these, suitable films were selected for addition to the film library. Films of interest to the Department of Education were referred to that Department for preview, and on several occasions joint previews were held.

The use of films by the field staff has increased noticeably. This development has reached such proportions that at times the present supply of films on some subjects is insufficient. Plans are in progress for expanding the film library to meet these demands.

Increased assistance to the field staff and to interested organizations in the selection of films to serve a definite purpose has been provided by this Division. Such assistance necessitates a fairly complete knowledge of all the films available, and of the purpose for which each film can be used.

With the anticipated increase in health education staff during the next year, it should be possible to prepare lecture notes to accompany all films. Such material has been requested on numerous occasions, but lack of staff and lack of a suitable projection-room prevented the completion of this material.

The regional office of the National Film Board has provided valuable service in supplying films for preview and in loaning films not included in the public health library.

A complete revision of the film catalogue is necessary and should be completed early in the new year.

The proposed purchase of 16-millimetre sound-film projectors and film-strip projectors for all existing and planned health units, from funds available under the recently established Federal health grant, will make possible a much wider use of these visual materials and greatly increase the opportunities of the field staff for effective public health education.

Assistance was provided to the Divisions of Public Health Nursing and Tuberculosis Control in the revision of materials for use in organizing mass X-ray surveys. In co-operation with the British Columbia Tuberculosis Society, materials and procedures for the use of public health personnel in organizing surveys were planned. These are now in use. This information is contained

PROVINCIAL LIBRARY,
VICTORIA, B. C.

in two manuals. One provides advice concerning the organization and conduct of surveys; the other includes suggestions and sample materials for education and publicity. The bringing of this material together into two manuals has helped to reduce some of the difficulties previously encountered in preparing for such large-scale surveys.

REFERENCE MATERIALS.

Another phase of the work of the Health Education Division has been the collection and filing of reference materials in the form of library books, periodicals, and pamphlets on a wide field of subjects related to public health. This reference material is used to supply information requested on special subjects by both the central office and the field staff. The value of this service increases substantially each year as new material is added. The task of classifying and indexing now requires the full-time services of a trained librarian. It is hoped that a suitable person may be available early in the new year.

A project for the provision of basic public health reference books to all local public health offices has been submitted under Federal health grants. The acceptance of this project will make possible the provision of a few of the most widely used reference books for all field staff.

PUBLICITY.

Throughout the year the health education staff prepared news releases on request for other divisions, but there is still much to be done in developing this phase of the programme.

The Health Bulletin, issued monthly by this Division, continues to be the chief means of supplying information on public health to the press, as well as to doctors, high schools, and other interested groups throughout the Province. If the anticipated increase in staff is realized during 1949, it should be possible to produce a printed bulletin with a much larger circulation. Such a publication would be a valuable means of providing sound public health information to the public of this Province and would assist tremendously in the task of informing the public about the public health services available throughout British Columbia.

PRE-SERVICE TRAINING.

The programme for the orientation of new staff members, which proved its value during 1947, has been expanded during this year. Courses to acquaint new staff members with the policies and procedures of this Department have been planned for health unit directors, sanitarians, statisticians, and one health educator. In addition, through arrangement with the Junior Red Cross, a similar course was planned for a new field-worker on their staff. This worker is now engaged in organizing Junior Red Cross branches in schools throughout the Interior of the Province, and the knowledge of the services provided by the Provincial Health Department is proving to be a valuable background for the enrichment of local Junior Red Cross programmes.

As the planning of pre-service training courses progresses, it becomes increasingly evident that such courses more than pay for the time and effort

expended. New staff members begin their duties with a background of information regarding policies and programmes which can save costly mistakes and delays, and which greatly increases the satisfaction the new worker derives from his part in the public health programme.

The proposed enlargement of the health education staff should make possible the preparation of orientation manuals, which are becoming more and more necessary as this phase of the programme expands. The planned increases in all professional staff, made possible through Federal health grants, should result in much greater demands for orientation courses.

IN-SERVICE EDUCATION.

Assistance was provided to the Division of Public Health Nursing in collecting materials for the course for senior public health nurses held in September of this year.

Throughout the year public health nursing study-groups have been provided on request with references and outlines for use in the planning of study programmes, which constitute an important phase of in-service education for public health nurses.

A series of lectures on public health was given by the Health Education Consultant as part of the Junior Red Cross course at the Summer School for Teachers held in Victoria. Lectures on public health education were also given to the public health nursing class at the University of British Columbia and the senior nursing classes at the Royal Jubilee and St. Joseph's Hopsitals as part of a series on public health services.

SCHOOL HEALTH CURRICULUM.

Throughout the year the staff of this Division has provided advice on request to the Department of Education in the planning of the revised school health curriculum. A representative of this Division attended several conferences throughout the year and took part in a curriculum workshop held during the Summer School. A handbook on communicable diseases is being prepared as a teacher reference, and should be completed soon.

A staff of trained health educators could provide valuable assistance to the school health programme throughout the Province. It is to be hoped that this most important phase of the programme can be expanded within the next few years.

CANADIAN PUBLIC HEALTH ASSOCIATION.

For the first time in ten years the Canadian Public Health Association met in British Columbia. The meeting was held in Vancouver in May of this year in conjunction with the annual meeting of the Washington State Public Health Association and Sanitary Inspectors' Institute. Responsibility of planning for the meeting was vested in the Health Department of this Province. Public health workers in both Victoria and Vancouver devoted much time and effort to ensuring the success of this conference. The Division of Health Education was represented on the planning committees by A. H. Cameron, at that time Director of the Division, and Mrs. Marion Galt, health educator. These persons were responsible for details concerned with publicity and organization of the

meetings and for the preparation of material for the printed programme. Several months of concentrated planning resulted in a conference which was outstanding in its educational value as well as its efficient organization.

A paper on " Evaluation of Materials in Health Education " was presented by the consultant to the Health Education Section and was later published in the official journal of the association.

GENERAL COMMENTS.

Floods.

The emergency resulting from the Fraser Valley flood resulted in requests to the Division of Health Education for assistance in finding information and in preparing materials for distribution. The Division assisted in the preparation of news releases and instructions to householders in clean-up procedures. A detailed description of the work of the Health Department in this disaster is contained elsewhere in this report.

Accommodation.

The improved accommodation planned for this Division in the new temporary building on Superior Street was needed for other purposes, but some additional office space fairly close to the present basement office became available in August. This has done much to lessen the former congestion and improve working conditions for the senior staff. Storage-space for supplies and working conditions for office staff in charge of supplies are still unsatisfactory, however. Increases in staff which are being planned will again make the present office space inadequate.

Staff Changes.

During this year, staff changes have been numerous. A. H. Cameron, who was appointed Director of the Division of Health Education in 1947, was promoted to the position of Administrative Assistant to the Deputy Minister in April of 1948, a change which, although it benefited the Department as a whole, was a distinct loss to this Division.

Miss Marion Dundas, who became Mrs. Galt in June of this year, resigned her position in October. Miss Hope Spencer, a graduate in arts and sociology, accepted a position with this Division in the same month.

Miss Joan List, a graduate in arts and physical education, was again employed on a temporary basis during the summer months and has accepted a permanent position with this Division at the beginning of the new year.

Through a project submitted under the Federal health grants, it will be possible to add two health educators to the staff and to provide them with post-graduate training in public health when suitable persons can be found. The present salary schedule presents great difficulties in obtaining qualified persons, however. Salaries and annual increases are lower and requirements more rigorous in this Division than in those allied fields from which most applicants should be chosen.

The demand for health education services from the field staff, from other divisions, and from related services has increased tremendously during the past

year. With the development in the whole public health service made possible through Federal assistance, a rapid expansion of this Division will be necessary to meet the additional requests for assistance in health education. The recruiting of additional staff thus becomes a major project for the new year.

REPORT OF THE PROVINCIAL INFIRMARY.

MRS. MARY LAW, R.N., SUPERINTENDENT.

The Provincial Infirmary continued to provide custodial care for incapacitated patients at the Marpole and Allco units and at Mount St. Mary in Victoria. Special and acute treatment was provided at the larger general hospitals in Vancouver and Victoria.

Bed capacities were as follows: Marpole, 124 beds; Allco, 100 beds; Mount St. Mary, 105 beds (under contract).

The waiting list remained at approximately 100. The principal demand was for care of bed patients or potential bed patients. (Care of these can be provided only at Marpole or Mount St. Mary because only ambulatory men are sent to Allco.)

The plan inaugurated in 1947, by which all new patients are given a thorough physical examination at either the Vancouver General Hospital or St. Joseph's Hospital, Victoria, has been continued. The assistance of the medical staffs of these hospitals was much appreciated.

Physiotherapy and occupational therapy services were expanded during the year.

Chest X-rays were taken on all patients by the mobile clinic under the direction of the Division of Tuberculosis Control.

Staff changes decreased during 1948, and a greater stability seemed evident. A system involving the use of meal tickets by employees became effective November 1st. Each employee's work was evaluated, some employees were reclassified, and salaries were adjusted.

Although the pressing need for beds and improved accommodations continued to present difficulties, practically no major complaints were received from the patients themselves.

The Superintendent welcomed the appointment early in the year of an Advisory Committee, which met regularly to discuss problems and suggest solutions. This Committee consisted of two members of the Provincial Hospital Insurance Service and a personnel officer of the Civil Service Commission.

A physician was in charge of all patients. He visited on a regular schedule and was on call at all times.

The services of the Vancouver General Hospital were used for examinations and surgery, and surgical treatment of patients with eye conditions was also performed at St. Paul's Hospital.

An oculist and a dentist paid regular visits to the infirmary.

Two patients attended the Western School for Rehabilitation to assist them in learning to walk.

Several patients were referred to the cancer clinic.

The Women's Auxiliary to the Marpole unit, the Sisters of St. Anne in Victoria, and several other voluntary groups again displayed a keen and untiring

interest in the welfare of the patients. These workers made possible weekly drives during the summer and on suitable days in the winter, and provided motion pictures, an electric motor for the occupational therapy section, cupboards, display-racks, small tools, and books. The annual garden party and other entertainment for the patients were again included in the year's programme.

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