

PROVINCE OF BRITISH COLUMBIA

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FORTY-SEVENTH REPORT

OF THE

PROVINCIAL BOARD OF  
HEALTH

FOR THE

YEAR ENDED DECEMBER 31<sup>ST</sup>

1943



PRINTED BY  
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

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1944.

PROCEEDINGS OF THE BOARD OF

THE CITY OF NEW YORK

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THE CITY OF NEW YORK



OFFICE OF THE PROVINCIAL SECRETARY,

VICTORIA, B.C., January 18th, 1944.

*To His Honour W. C. WOODWARD,*

*Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Report of the Provincial Board of Health for the year ended December 31st, 1943.

G. S. PEARSON,

*Provincial Secretary.*

PROVINCIAL BOARD OF HEALTH,  
VICTORIA, B.C., January 18th, 1944.

*The Honourable Geo. S. Pearson,*  
*Provincial Secretary, Victoria, B.C.*

SIR,—I have the honour to submit the Forty-seventh Report of the Provincial Board of Health for the year ended December 31st, 1943.

I have the honour to be,

Sir,

Your obedient servant,

G. F. AMYOT, M.D., D.P.H.,  
*Provincial Health Officer.*



## THE PROVINCIAL BOARD OF HEALTH.

The Provincial Board of Health of British Columbia is the Lieutenant-Governor in Council, under the provisions of the "Public Health Act." For the year 1943 the members of the Provincial Board of Health were:—

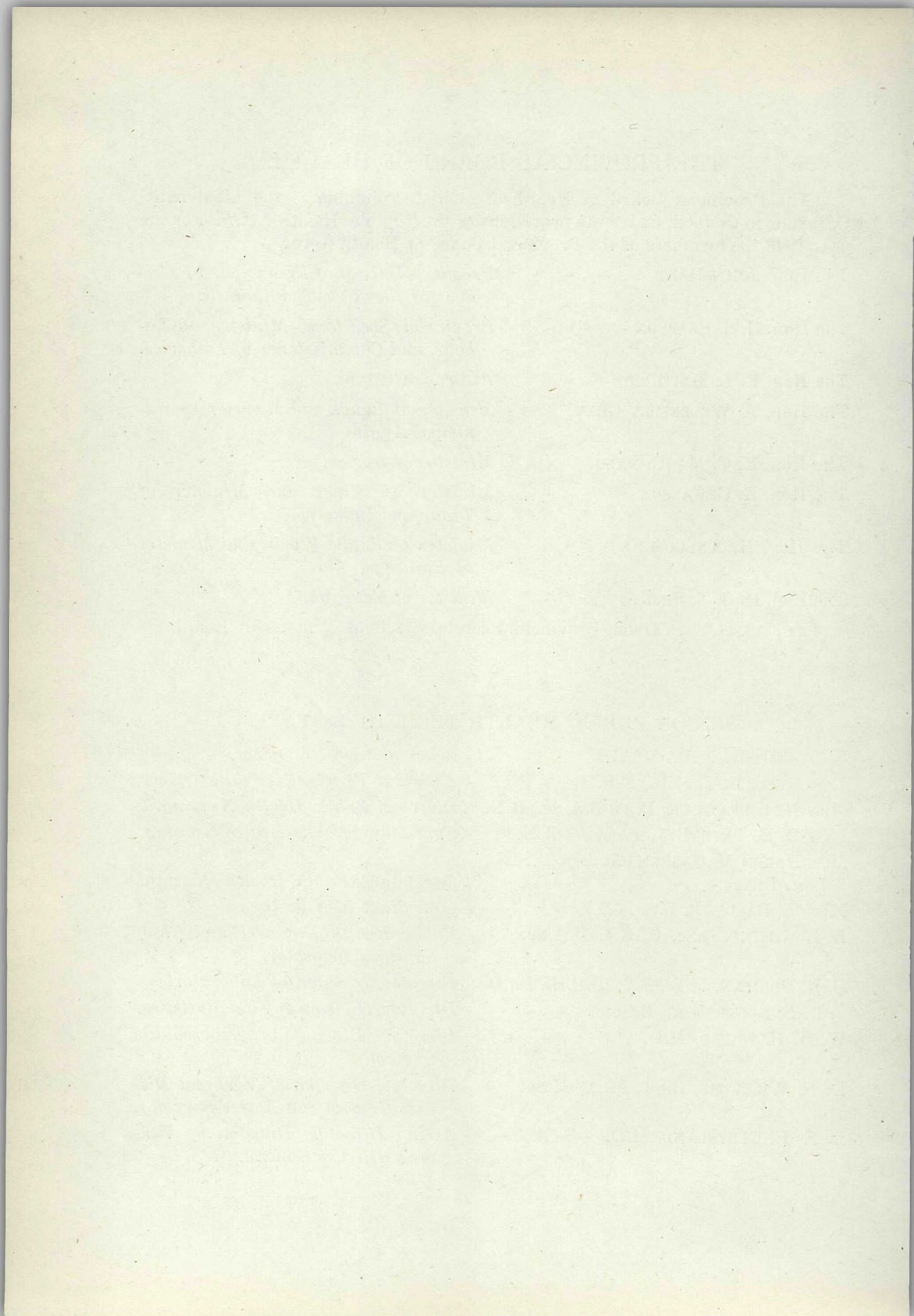
The Hon. JOHN HART - - - -	<i>Premier, Minister of Finance, and President of the Executive Council.</i>
The Hon. G. S. PEARSON - - - -	<i>Provincial Secretary, Minister of Labour, and Commissioner of Fisheries.</i>
The Hon. R. L. MAITLAND - - - -	<i>Attorney-General.</i>
The Hon. A. WELLESLEY GRAY - - - -	<i>Minister of Lands and Minister of Municipal Affairs.</i>
The Hon. K. C. MACDONALD - - - -	<i>Minister of Agriculture.</i>
The Hon. E. C. CARSON - - - -	<i>Minister of Mines and Minister of Trade and Industry.</i>
The Hon. H. ANSCOMB - - - -	<i>Minister of Public Works and Minister of Railways.</i>
The Hon. H. G. T. PERRY - - - -	<i>Minister of Education.</i>
The Hon. G. S. Pearson, Provincial Secretary, acts as Minister of Health.	

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## SENIOR PUBLIC HEALTH TECHNICAL STAFF.

G. F. AMYOT, M.D., D.P.H. - - - -	<i>Provincial Health Officer.</i>
J. S. CULL, B.A., M.D., D.P.H. - - - -	<i>Assistant Provincial Health Officer.</i>
Miss H. KILPATRICK, B.A., B.A.Sc., R.N. - - - -	<i>Director, Public Health Nursing.</i>
Miss D. E. TATE, B.A.Sc., M.A., R.N. - - - -	<i>Consultant, Public Health Nursing.</i>
Miss HELEN M. CARPENTER, Dip. P.H.N., B.S., R.N. - - - - - - - -	<i>Consultant, Public Health Nursing.</i>
Miss M. BALDWIN, B.Sc. (H.Ec.) - - - -	<i>Consultant in Nutrition.</i>
R. BOWERING, B.Sc. (C.E.), M.A.Sc. - - - -	<i>Public Health Engineer and Chief Sanitary Inspector.</i>
C. E. DOLMAN, M.B., B.S., D.P.H., Ph.D. - - - -	<i>Director, Division of Laboratories.</i>
J. D. B. SCOTT, B.A., B.Com. - - - -	<i>Director, Division of Vital Statistics.</i>
W. H. HATFIELD, M.D. - - - - - - - -	<i>Director, Division of Tuberculosis Control.</i>
D. H. WILLIAMS, B.Sc., M.D., M.Sc. - - - -	<i>Director, Division of Venereal Disease Control (on Active Service).</i>
D. E. H. CLEVELAND, M.D. - - - - - - - -	<i>Acting Director, Division of Venereal Disease Control.</i>







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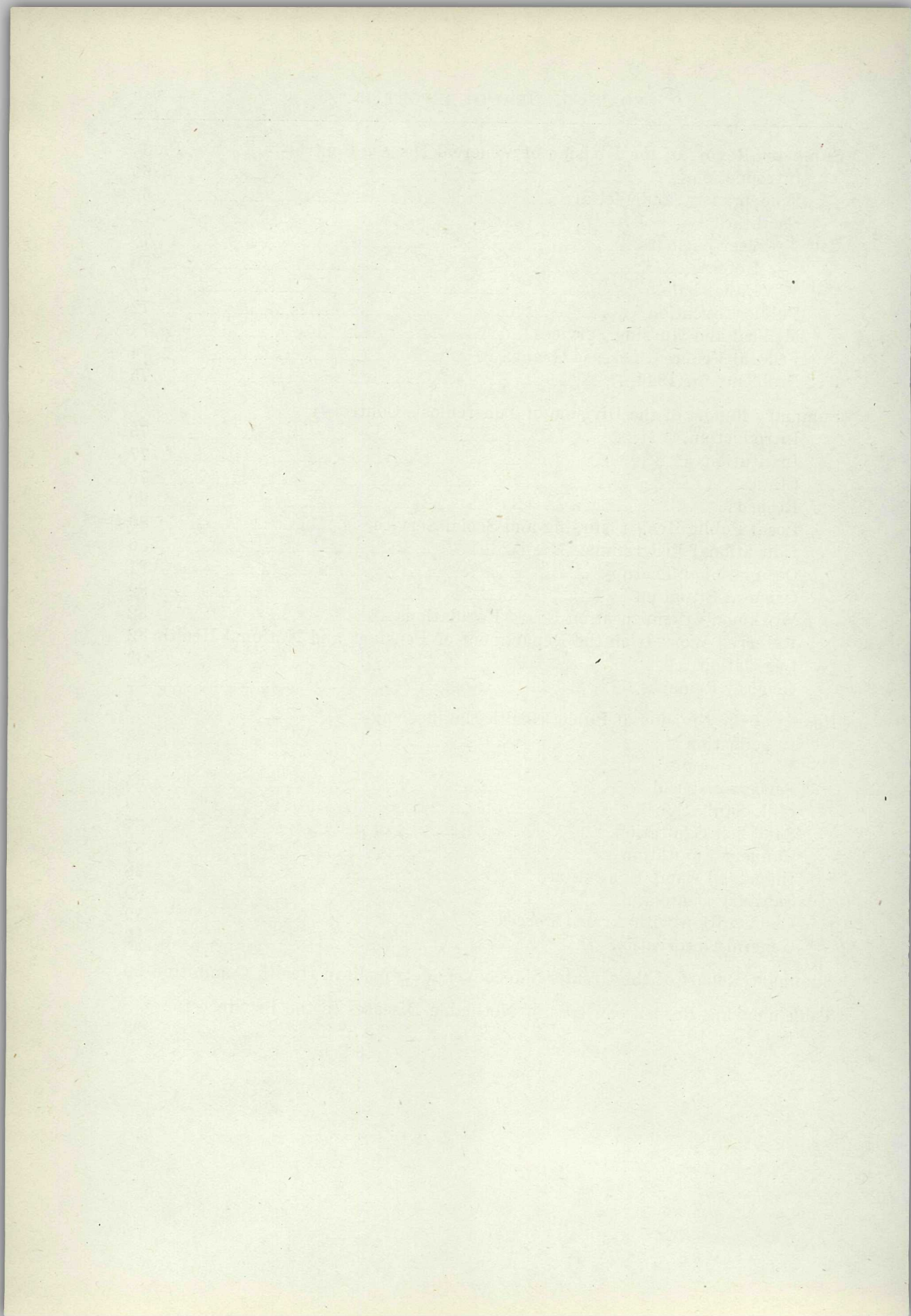
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# REPORT *of the* PROVINCIAL BOARD OF HEALTH

YEAR ENDED DECEMBER 31st, 1943.

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G. F. AMYOT, M.D., D.P.H., PROVINCIAL HEALTH OFFICER.

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## INTRODUCTORY REMARKS.

The passing of the year 1943 brings to a close a period in which many urgent and unforeseen demands were made upon the public health services of the Province. In reviewing the year there is some justifiable satisfaction in the continued progress of these services planned and carried out to meet the health needs of the people.

Senior technical officials of the Provincial Board of Health and other personnel have made suggestions, recommendations, plans, and readjustments to deal with the many unprecedented and often seemingly unsurmountable problems. They were seriously handicapped by reduced staff and equipment in their endeavours to protect not only the health of residents of British Columbia but their welcome, though temporary, guests serving in both the armed forces and in war or other essential industries.

The whole-hearted spirit of co-operative effort and loyalty of the personnel of the Provincial Board of Health has provided the people with many improvements in service and made possible a practical, logical, and steady progress in the health programme. The support of the Minister and the Cabinet along with the help and co-operation of the officials of other Provincial Departments and Services has aided in this advance. These officials have helped in removing difficult obstacles and given their advice in solving related problems.

The Assistant Provincial Health Officer and Director of the Bureau of Local Health Services, Dr. J. S. Cull, has, in addition to the numerous duties required of him by the above-noted positions, also acted as Epidemiologist. In this capacity he has directed the control of the acute communicable diseases throughout the Province, co-operating with the local Health Officers. He has also dealt with any special problems outside the jurisdiction of the various Divisions and Services. Dr. Cull's attitude of co-operation, coupled with his ability to plan and implement changes and his general spirit of progressiveness, has been invaluable in maintaining and advancing the Provincial and local Public Health Services in the Province of British Columbia.

The able and experienced secretary to the Provincial Health Officer, Miss Alison Chrow, aided by her well-trained staff in the main office of the Provincial Board of Health, has performed loyal and outstanding service in the past year. Her cheerfulness and admirable spirit of co-operation have helped to unify the activities of the extensive services of the Provincial Board of Health.

The help and co-operation and sympathetic understanding of the public in general, members of School Boards and Councils, local public health and other officials, men's and women's organizations, public-spirited leaders in the com-



munities and business, the medical, nursing, and teaching and other professions have all contributed to the advance in services. Thus the conclusion of a successful health year for the Province of British Columbia has been the result of a co-ordinated effort.

Particular mention should be made of the invaluable help and co-operation given by the medical services of the three branches of the Canadian Armed Forces. Special tribute is also due the American Armed Forces, officials of the United States Government, and the management of certain construction companies who have so generously helped in times of emergency with the solution of many health problems in the northern areas of the Province. The American and Canadian Armed Forces have also assisted by the careful and routine reporting of cases of all communicable diseases to provide the Provincial Board of Health with a complete picture of the communicable disease situation existing in the Province at all times. The use of the Canadian Army facilities for control of civilian contacts during a small outbreak of diphtheria in the Terrace area was of tremendous value in assisting the local health authorities in quickly bringing the epidemic under control. Medical officers of both Canadian and American Armed Forces have on numerous occasions provided medical and other allied services to the civilian population where no civilian services were available. This is the practical type of co-operation which the Provincial Board of Health so appreciates.

On the other hand, the Provincial and local health services have assisted and in many ways co-operated with the Armed Forces, industry, and other organizations engaged directly with the war effort. These Provincial and local health services have played an important and effective part in the war effort in a very silent but effective manner.

This report, for the second time, is being published as soon after the termination of the old year as possible and outlines the health services carried on, emphasizing the highlights of the programme and the progress made during a difficult war year.

### HIGHLIGHTS OF THE YEAR 1943.

The highlights of the health programme and the progress of the year are summarized in the following part of the report. Most of the items mentioned are dealt with in more detail in other sections of this report under the various Divisions and Services concerned.

#### INFLUENZA.

A considerable increase in upper respiratory infections, including colds, sore throats, la grippe, and a mild type of influenza, was prevalent during the year, particularly in March and again the last week of November and during the month of December. However, this increase was not unexpected nor as great as that experienced from the same group of diseases in December, 1940, and January, 1941.

#### TYPHOID EPIDEMIC, VERNON.

An epidemic of typhoid fever occurred in Vernon. It was traced to a raw-milk dairy, and closing of the dairy brought the situation under control.



Details of the epidemic are described in the report of the Division of Public Health Engineering.

#### EPIDEMIC OF DIPHTHERIA, TERRACE.

A small outbreak of diphtheria occurred in Terrace which was quickly brought under control. Both the co-operation of the Canadian Army during the investigation in providing buildings to house those persons who were in contact with the cases and the help of the District Command Hygiene Officer aided the local health authorities in bringing the epidemic quickly under control.

#### DOMINION COUNCIL OF HEALTH.

The Provincial Health Officer attended the two meetings of the Dominion Health Council in Ottawa in the spring and fall. The Dominion Council has as its members the nine Provincial Health Officers, representatives of labour, farmers, city women's organizations, and rural women's organizations. The chairman is the Deputy Minister of the Department of Pensions and National Health. Many important Dominion-wide and interprovincial and Provincial public health problems were discussed and dealt with at these meetings. Transportation and expenses of the Provincial Health Officers are paid by the Department of Pensions and National Health.

Before the spring meeting of the Dominion Council of Health the Provincial Health Officer attended the conference of State and Provincial Health Officers held in Washington, D.C., in conjunction with the conference of State and Territorial Health Officers called by the Surgeon-General of the United States Public Health Service. Many public health problems of an international importance were discussed at this meeting. The Provincial Health Officer terminated his term as vice-president of the conference in 1943.

A meeting of the Canadian Nutrition Council was held at the time the Dominion Council met in Ottawa. It was attended by the Provincial Health Officer. Miss Mary Baldwin, Nutritionist with the Provincial Board of Health, also attended as official representative of the Province. Plans for a nation-wide nutrition programme were discussed and developed at this meeting.

A British Columbia Provincial Nutrition Committee was formed and held several meetings during the year at which plans were made for an extensive and greatly needed programme of nutrition.

#### NATIONAL HEALTH INSURANCE.

National Health Insurance has been dealt with at each of the last three meetings of the Dominion Health Council. Discussion of the many problems took a great deal of time. A presentation by the Dominion Health Council was made before the Social Security Committee of the Federal Government. All Provincial Health Officers attended. To be successful any Health Insurance programme must be closely allied with the preventive and public health services and include in its plans provisions to ensure the proper use of preventive measures if it is to meet successfully the health requirements of the people.



### COMMITTEE ON EMERGENT EPIDEMICS, CANADIAN MEDICAL ASSOCIATION.

A meeting of the Committee on Emergent Epidemics of the Canadian Medical Association was held in Ottawa early in December, at which the chairman of the Epidemic Committee of the British Columbia Medical Association attended as the representative from British Columbia. Detailed minutes of this meeting have been received by the Provincial Health Officer for guidance should an epidemic develop requiring co-ordination of the existing public health services with those of medicine, nursing, hospitals, and other allied groups.

### COMMUNICABLE DISEASE REGULATIONS.

After two years of study and work, the Communicable Disease Regulations for the Province of British Columbia have been completely rewritten, simplified, and made more comprehensive and practical to meet the problems arising in communicable disease control. When approved by the Lieutenant-Governor in Council these regulations will be printed and distributed to all those concerned.

### IMMUNIZATION PROCEDURES.

An extensive increase has taken place in the immunization of persons in British Columbia, particularly children. By this method of protecting children against diphtheria, scarlet fever, whooping-cough, smallpox, typhoid fever, and tetanus it is possible to prevent widespread epidemics of these diseases which would seriously tax and disrupt already overloaded hospital, medical, and nursing services in a period of war. Such immunization procedures, though always of great importance in peace-time, are a real war measure at the present time. The biological or immunization products are provided to all physicians by the Provincial Board of Health.

### LOCAL HEALTH SERVICES.

#### NEW CENTRAL VANCOUVER ISLAND HEALTH UNIT.

The Central Vancouver Island Health Unit was organized in November, 1943, to serve a strategic and greatly overcrowded war area. It includes the cities of Nanaimo and Ladysmith, with the surrounding area known as the Ladysmith-Nanaimo rural school district and the Parksville-Qualicum-Coombs area. The plan for this Health Unit had been accepted by the two cities over eighteen months previously, but it was impossible to organize the service until a suitable physician trained in public health could be obtained. Dr. Hershey was released from the Okanagan Valley Health Unit and appointed as Director of this new Health Unit. He was replaced by Dr. Avison from Toronto. The fact that the Okanagan Valley Health Unit won a place on the National Health Honour Roll of the Canadian Public Health Association for 1943 is an indication of the ability of Dr. Hershey as a Director of this type of local health service. The new Unit is progressing satisfactorily.

#### PEACE RIVER HEALTH UNIT.

The Peace River Health Unit deserves particular mention at this time, due to the manner in which the Director, Dr. J. A. Taylor, and the members of his



staff have met the numerous and often difficult public health problems arising in the area due to the influx of persons in connection with the construction of the Alaska Highway. This pioneer rural area with its few small villages suddenly had to receive many times its normal population. It was forced to meet new public health problems pertaining to lack of sewage-disposal, water-supplies, and other facilities. There has been no major epidemic in that area during the year. Also the incidence of venereal disease has been kept very low. The Peace River Health Unit deserves great credit for its handling of the unforeseen emergency created by the Dawson Creek fire and explosion.

#### PRINCE RUPERT HEALTH UNIT.

Dr. Roger Knipe on obtaining his public health degree in the spring took over the direction of the Prince Rupert Health Unit, following the resignation of Dr. Macdonald to join the Royal Canadian Army Medical Corps. Dr. Knipe, aided by his staff, has further developed the health services of the Unit to meet the increasing difficulties in this area, many of which are accentuated by overcrowding due to the war activities. An extensive and broad programme of public health is now in operation to meet the needs of the people.

#### PART-TIME MEDICAL HEALTH OFFICERS.

The practising physicians in the rural parts of British Columbia who undertake, on a part-time basis, the duties of School Medical Inspectors and local Medical Health Officers, along with their increased and oftentimes difficult private practices, are to be congratulated for the services that they have provided to the people under these offices. At times it has been impossible to give the same type of service expected in peace-time but, nevertheless, the most urgent matters have usually been dealt with satisfactorily.

#### TRAINING OF PUBLIC HEALTH PHYSICIAN.

A fellowship was obtained for a physician honourably discharged from the Medical Services of the Air Force to enable him to take his training in public health to alleviate the serious shortage of trained public health physicians. Unfortunately, after completing one term of the course leading to D.P.H. at the School of Hygiene, Toronto, this physician was forced to discontinue his studies due to illness. There is still urgent need of at least one more trained public health physician to undertake special duties requiring training in public health.

#### PUBLIC HEALTH NURSING.

##### NEW PUBLIC HEALTH NURSING DISTRICTS.

Four additional Public Health Nursing Districts have been opened in Powell River, Williams Lake, Alberni, and Princeton, and, in addition, a new nurse has been added to the Peace River Health Unit and the Saanich Health Unit. The latter appointments bring these services back to their former strength, which had been curtailed due to a previous shortage of Public Health Nurses.



### CONSULTANTS IN PUBLIC HEALTH NURSING.

To meet the urgent need for adequate supervision to assist the local Public Health Nurses to deal with the many new problems they have to face from day to day, two Public Health Nursing Consultants have been added to the staff, following a year's postgraduate training at Columbia University School of Public Health Nursing. To further meet this urgent need for Public Health Nursing Consultants two outstanding Public Health Nurses of the Province were granted fellowships by the Commonwealth Fund of New York City to attend courses in postgraduate public health, leading to a degree of Master of Public Health. One of these nurses is undertaking her studies at Johns Hopkins School of Public Health, Baltimore, Maryland, and the other at the Michigan School of Public Health at Ann Arbor, Michigan. These nurses will return to the Province at the termination of their postgraduate studies to assume their duties as Consultants.

### CARS FOR PUBLIC HEALTH NURSES.

Considerable difficulty has been experienced in procuring cars for Public Health Nurses whose territories are large and mostly rural in character. Formerly most of the necessary cars were provided by the Public Health Nurses themselves and an allowance paid for their use for official purposes. Since the gas rationing this procedure has had to be changed and cars purchased for this purpose by the Provincial Board of Health. This has worked satisfactorily, but has placed a tremendous strain on the budget of the Provincial Board of Health. - A request for a supplementary vote for this expenditure had to be made to meet this need.

### DIVISION OF LABORATORIES.

The Division of Laboratories has experienced a tremendous increase in the number of specimens submitted for examination and has found considerable difficulty in meeting these new demands. Early in the new year a fourth converted dwelling was added to the other three in Vancouver housing the central laboratory, which has relieved to some extent the shortage of accommodation.

The entire staff of the central Provincial Laboratory deserves a great deal of credit for the manner in which they have accepted the new demands on their time caused by the increased load. In addition to their regular duties the bacteriologists and other technicians give considerable of their own time on a voluntary basis to aid in the technical phases of the blood donor programme sponsored by the Canadian Red Cross Society.

The Royal Canadian Army Medical Corps has signified its appreciation of the laboratory services provided to the Armed Forces, and now pays a small fee to compensate the laboratory to some extent for some of the services rendered to the Armed Forces. This mark of appreciation is a valuable contribution to the Provincial Laboratory budget.

There has been an increased use of biological products corresponding with the increased immunization programme carried on throughout the Province of British Columbia. These biological products are distributed through the central laboratory of the Provincial Board of Health in Vancouver.



## DIVISION OF VITAL STATISTICS.

### WAR SERVICES.

It is still necessary to undertake a great deal of searching of records for the Armed Services. The demand of these services is now stabilized but will likely continue at the present level until the end of the war, after which there will still be need for considerable amount of verification of official records.

The Division has closely co-operated with the Ration Division of Wartime Prices and Trade Board in providing information regarding deaths and marriages in order to provide a check on the issuance of ration books.

### MICROFILM EQUIPMENT.

Following the attack on Pearl Harbour, arrangements were made to photograph all the records of births, deaths, and marriages on microfilm so that these records could be used at all times, while the originals could be stored in a safe place. The microfilm equipment, even with a high priority, only arrived during the fall of 1943 and is now in use.

In the meantime, all vital records were placed in a bomb-proof vault, which is also moisture- and fire-proof and heated to the proper temperature to preserve these irreplaceable records. As these records have to be used from day to day it was necessary to place some members of the staff of the Division of Vital Statistics in the bomb-proof vault to do the searching. This has meant considerable extra work for the staff of the Division, but the difficulties will be gradually eliminated when the microfilm is put into full use. British Columbia is the only Province in Canada utilizing this modern method of preserving vital records.

### INDIAN REGISTRATION.

Special effort has been made to improve the registration of Indian births, deaths, and marriages, including legislation, adoption of new forms requiring returns of the births of pupils entering Indian schools for the first time.

### STAFF.

The Director of the Division, with the co-operation of his staff, has very ably met the many and unforeseen demands made on the Division during the year. Its programme has been one of continual change and improvement.

## DIVISION OF TUBERCULOSIS CONTROL.

### NEED FOR MORE TUBERCULOSIS HOSPITAL BEDS.

More tuberculosis beds are urgently needed to treat tuberculosis. Every possibility to procure extra beds for this purpose has been canvassed and it is hoped that during 1944 a solution will be found to this problem.

### STAFF SHORTAGES.

There has been a considerable turnover of staff in the tuberculosis institutions, which at times has created situations difficult to overcome. However,



with the co-operation of the other members of the staff and a certain amount of reorganization the institutions have continued to operate at a high standard of efficiency.

The readjustment of salaries and wages in the Tranquille Institution has helped improve the conditions for the various members of its staff. Provision for better transportation facilities between Kamloops and the institution has also assisted considerably in improving the morale of the staff.

#### REORGANIZATION OF CASE-FINDING PROGRAMME.

Perhaps the most outstanding development in the Division of Tuberculosis Control during the year has been the programme planned for chest surveys of industries. One mobile and one transportable new type of X-ray unit utilizing inexpensive small films has been donated to the Division by voluntary public-spirited organizations in the Province, especially the British Columbia Tuberculosis Society. This new equipment will be used first in the survey of all war industries and then for the general population. Reorganization and remodeling of the Vancouver clinic has taken place to enable the clinic to take many more chest X-rays per day than was formerly possible using similar miniature X-ray equipment. This should provide a much better index of the tuberculosis situation in the Province than ever before.

#### DIVISION OF VENEREAL DISEASE CONTROL.

##### STAFF LOSSES.

The Division has maintained services to meet the growing demands for venereal disease control. Many difficulties have been experienced but most of these have been dealt with satisfactorily. This in spite of the loss of the Director, Dr. Donald H. Williams, who is on leave of absence and is now Colonel in charge of the combined Army V.D. Services and the new Division of Venereal Disease Control under the Department of Pensions and National Health, and other staff losses.

Mr. Cecil Rhodes was loaned to the Dominion Government for three months during the year to assist the new Division of Venereal Disease Control with their educational programme. Finally the services of Mr. Rhodes were requested on a permanent basis by the Department of Pensions and National Health and he was released from the Provincial Services to undertake this broader programme.

##### FREE DISTRIBUTION OF DRUGS.

There has been an increase in the distribution of free sulphathiazole tablets through all physicians and hospitals for use in the treatment of gonorrhœa cases throughout the Province. This has aided materially, both in improving the treatment and in bringing more cases to light.

##### CONTROL OF NON-CO-OPERATIVES.

The non-co-operative patients who continue to spread venereal disease and neglect treatment have been dealt with under the "Venereal Disease Control Act" and placed in Oakalla Gaol or in hospitals, when necessary, to prevent further spread of the disease.



### DOMINION-PROVINCIAL VENEREAL DISEASE CONFERENCE.

A Dominion-Provincial conference with members of the Armed Forces and representatives of Great Britain and the United States was held in Ottawa during the fall. It was attended by the Acting-Director of the Division of Venereal Disease Control and the Assistant Senior Medical Health Officer and Epidemiologist of the Metropolitan Health Department of Greater Vancouver. Many interprovincial and international problems in connection with venereal disease control were dealt with at this conference. The results of the conference should be far-reaching and should improve and correlate the Provincial and Dominion programmes considerably. The new Dominion programme was discussed at the meeting. It is anticipated that with the help of the Federal authorities a great deal of progress will be made in the year 1944. In addition, the Dominion Government has made a substantial grant to the Division of Venereal Disease Control to enable it to extend the services in connection with the follow-up and epidemiology of venereal disease in the Province.

### CO-OPERATION OF POLICE.

The co-operation of the Provincial Police, other police forces, and many civilian groups and organizations has aided considerably in the control of venereal disease. More assistance must be given by these organizations in the future.

### DIVISION OF PUBLIC HEALTH ENGINEERING.

The Public Health Engineer and Chief Sanitary Inspector for the Province of British Columbia, Mr. Reginald Bowering, has performed very excellent service in the field of environmental sanitation. Unfortunately, it has been impossible to provide him with greatly needed assistance because of the shortage of trained personnel.

### CONSULTANT IN FOOD AND MILK CONTROL.

Plans are under way to appoint a Consultant in Food and Milk Control to assist Mr. Bowering in these important fields of work and at the same time undertake certain other duties in connection with the general problem of environmental sanitation. It is also anticipated that as soon as available, another Public Health Engineer trained in engineering and public health engineering will be added to the staff as an assistant.

In spite of the difficulties a great deal of progress has been made in the field of public health engineering with the help and co-operation of local authorities and certain companies and organizations.

### SURVEY OF FISH-CANNERIES.

An extensive survey of the general sanitation, living facilities and conditions, including water-supply and sewage-disposal, has been made of most of the operating fish-canneries. This collected material will be utilized to guide the companies in providing improved and suitable accommodations for their workers. The work on the survey was performed by an engineering student from the University of British Columbia during the summer months under the



direction of the Public Health Engineer. Co-operation of the Assistant Commissioner of Fisheries and his staff aided in the successful conduct of this survey.

#### SAFETY OF PUBLIC WATER-SUPPLIES.

Continual and extensive surveys of public water-supplies have been continued and many improvements in the safety of the water-supplies have been made. The most outstanding contribution in protecting the water-supplies to be used by various communities in the Province of British Columbia, including the Armed Forces and the war industries, was made through the contribution of modern chlorinating equipment and maintenance by the Department of Pensions and National Health. This advance in providing a safeguard for the safety of existing water-supplies will benefit the health of the people in the Province to a great extent. It is to be regretted that more education of the public to accept this modern and safe method of water-protection was not possible. Many of the smaller cities in British Columbia had already shown the way by chlorinating, and thus protecting, their water-supplies.

#### INVESTIGATION OF SHELL-FISH BEDS.

A number of investigations of shell-fish beds have been made and it is anticipated that with the addition to the staff of a Consultant in Food and Milk Control, satisfactory regulations can be passed and supervision provided to protect directly the shell-fish consuming public and, indirectly, the industry itself.

#### PLAGUE SURVEYS.

Because of the presence of plague among the rats in one of the American Pacific Coast cities, the plague survey party that has been working throughout the Province of British Columbia confined its activities during 1943 to the study of the rat conditions in the coastal cities of British Columbia. The results of this survey are well worth while and should assist the various municipalities in controlling this serious potential health hazard.

#### SHORTAGE OF TRAINED SANITARY INSPECTORS.

There has been a serious shortage of qualified Sanitary Inspectors to meet the growing needs of local communities. However, some improvement has been brought about by the use of competent persons training in sanitary inspection work.

#### PUBLIC HEALTH EDUCATION.

A continuous programme of public health education is conducted by all the Divisions of the Provincial Board of Health as well as by all local health services. However, this is not yet sufficient to meet the demands of the people for public health information that will help them to improve their health. It is anticipated that when a suitable person with the proper background and qualifications can be found he will be added to the staff of the Provincial Board of Health to develop a Division of Public Health Education and further extend this very important phase of public health.



## LECTURES AND NEWS RELEASES.

The Provincial Health Officer, the Assistant Provincial Health Officer, the Directors of Divisions, the Provincial Nutritionist, and the other senior members of the staff have given many lectures, talks, and demonstrations in connection with the public health needs of the people. They have also prepared literature and other material, including newspaper releases.

The Provincial Health Officer attends a large number of meetings and takes part in discussion and the planning of programmes so that public health measures can be incorporated wherever possible to the advantage of the people.

## ADMINISTRATIVE PLAN.

The administrative plan of the Provincial Board of Health Services was published in the 1942 Annual Report of the Provincial Board of Health. No essential change has occurred; therefore, it is not repeated this year. This summary of the administration plan has been printed as a pamphlet and is available for distribution on request.

## THE HEALTH OF THE PEOPLE OF BRITISH COLUMBIA.

The following is a brief summary of the health of the people of British Columbia, based on the statistical data available. The information used was that obtained from the registrations with the Division of Vital Statistics during 1943. As there are always a number of delayed registrations, the figures of which were not available at the time of writing this article, it will be seen that the figures herein are only *preliminary*. For instance, at the time of writing, January returns which will include some December figures have not been received. It is felt that a summary of this nature should be of considerable interest.

The health of the people of British Columbia is reflected only to a certain extent in the mortality figures for 1943 and care should be exercised in studying these, if correct impressions are to be gained. The preliminary death-rate in 1943 was 11.5 which was an increase of one death per 100,000 population over the previous two years. Again there is an increase in the actual number of deaths at ages 60 and over—5,874 in all. Over one-half (59 per cent.) of the total deaths in the Province were in this age-group—one out of every five deaths were of persons between the ages of 40 and 59; approximately 9 per cent. between the ages of 20 and 39, and 12 per cent. under 20 years of age.

There were 703 infant deaths (children dying under 1 year of age) in British Columbia in 1943. This figure represents 57 per cent. of the deaths under 20 years of age. The preliminary infant mortality rate was 36.9 per 1,000 live births which is slightly higher than the 1942 figure compiled by the Dominion Bureau of Statistics. There were forty maternal deaths in 1943, giving a provisional rate of 2.1 per 1,000 live births. This shows a decided decline from the 1942 final rate, which was 2.6, and that for 1941, which was 2.7.

Of primary importance in a study of this nature is the necessity to ascertain the leading causes of death. Causes of death naturally fall into certain broad groups. As was done in last year's report, "Diseases of the Heart" and



"Diseases of the Arteries" have been grouped together to form one cause of death.

A study of the leading causes of death for all ages reveals that diseases of the heart and arteries were responsible for more deaths than any other condition, accounting for 3,277 in all. Cancer was the second leading cause of death; 1,250 persons died of this disease. The third cause of death was accidental deaths, and the fourth was tuberculosis; 573 persons died in the Province from tuberculosis in 1943. This gives a provisional tuberculosis mortality rate of 66.2 per 100,000 population. This shows a slight decline from the 1942 rate of 67.5. If Indian deaths are excluded the provisional tuberculosis rate becomes 47.1. Nephritis ranked fifth as a cause of death, followed by pneumonia. Diseases of early infancy was the seventh cause of death and influenza ranked eighth, accounting for 211 deaths in all, slightly more than double the deaths for last year. Cerebral hæmorrhage ranked ninth and diabetes tenth.

To gain a full appreciation of the mortality picture of the Province of British Columbia the effect of Indian deaths on certain specified diseases must be considered. In general, Indian mortality exerts little influence on the ranking of the leading causes of death in the age-groups 30 years and over. It is under 30 years of age that the most significant differences occur; 65 per cent. of all Indian deaths were under 30 years of age; over 20 per cent. were under 1 year of age; and 35 per cent. were under 5 years of age.

Thirty per cent. of all Indian deaths was due to tuberculosis, over three-quarters of these deaths were among Indians under 30 years of age. Tuberculosis mortality figures and those of other diseases such as pneumonia and influenza are affected very unfavourably by Indian mortality. Indians are the wards of the Federal Government and so do not constitute a direct responsibility of the Provincial Board of Health. However, they cannot be ignored in a public health programme as long as they present a threat to the health of the rest of the people.

If a strictly accurate picture of the responsibility of the Provincial Board of Health is to be estimated, Indian deaths must be excluded from a study of this nature. Therefore the following statistics are exclusive of Indians. The figures must be analysed with an eye to both the cause thereof and the means of prevention to be of assistance to the Provincial Board of Health in its programme. A study of the chief causes of death of infants under 1 year of age reveals that prematurity ranked first, accounting for over one-third of the deaths in this age-group. Undoubtedly, improved prenatal and postnatal care could reduce this figure considerably. The second cause of death among infants was found to be congenital malformations. This cause does not respond to treatment as readily as many others, but improved prenatal care can exert favourable influences. The third cause of death among infants was injury at birth; and pneumonia was fourth, accounting for a little over 5 per cent. of all infant deaths.

Among pre-school children accidents were the leading causes of death. Thirty-seven of the 106 deaths between the ages of 1 to 4 years were caused by accidents. Most of these deaths could have been prevented if more care had been taken by the parents. The second cause of death in this age-group was influenza and pneumonia third. Tuberculosis ranked fourth.



Between the ages of 10 and 39 years the leading cause of death was accidental death. Many of these deaths are preventable as are those caused by tuberculosis, which ranked second. The Division of Tuberculosis Control of the Provincial Board of Health has in recent months greatly increased its case-finding which, with continued application, should ultimately, because of early diagnosis and treatment, reduce greatly the number of deaths due to tuberculosis.

The chief cause of death between the ages of 40 and 59 years was disease of the heart and arteries. The second leading cause of death in this age-group was cancer. It is unfortunate that these degenerative diseases should take such a heavy toll in these most productive years. Deaths from these diseases can be prevented or at least postponed until later years if diagnosed and cared for at an early stage. Accidental deaths ranked third in this middle-age group.

Diseases of the heart and arteries ranked first in the ages over 60. The second cause of death in this age-group was cancer and nephritis was third.

When the figures are examined for communicable diseases it is found that the 1943 figures in general compare favourably with those of previous years. Especially is this so in the case of spinal meningitis. However, one outstanding exception is influenza. The 1943 figure of 211 deaths is more than double that for 1942. Also the situation in regard to measles and whooping-cough is far from favourable. The very existence of deaths from communicable diseases is a constant reminder that the methods designed to control and eliminate them must be continued without relaxation. The public health worker and private physician alike must be continually on the alert to discover the presence of communicable diseases and institute control measures. For further information regarding communicable diseases reference should be made to the Epidemiological Report of the Bureau of Local Health Services on page V26 where an analysis is made of increases and decreases in comparison with previous years.

The field of public health is continually expanding. To-day it is concerned not only with measures to prevent illness and premature death, but also with those designed to prevent premature crippling and invalidism. It must also plan means of lengthening the life of the people. Also its attention must be concentrated on reducing the number of deaths caused by degenerative diseases in people at the time of their maximum economic use to society. Now, more than ever, with an acute man-power shortage, it is doubly important that emphasis be placed on this aspect of public health. On account of the limitations of the statistical data at hand at the moment pertaining to British Columbia, little or no mention has been made in this article of the injuries which, all too frequently, disable; or of the many diseases which although not in themselves serious enough to kill do incapacitate, temporarily at least. Sufficient is now known about the common cold, for example, to place it as one of the most important causes of loss of time in industry. To mitigate such minor diseases much can be done by the general populace in practising good health habits, particularly in regard to having an adequate and varied diet, proper rest, exercise and relaxation. These are the fundamentals which must oft be reiterated, especially in war-time with the withdrawal of so many physicians for service in our Armed Forces.



The subject of this article tends to be misleading as the main emphasis is on the mortality picture in the Province rather than on the morbidity or sickness aspects of the health of the people. It is impossible to give an adequate analysis of the current health conditions of the people without statistics of the incidence of many of the common illnesses, especially those of the non-fatal type. It will only be after health insurance has been implemented that a true picture of the morbidity situation can be obtained.

### **BUREAU OF LOCAL HEALTH SERVICES.**

In all phases of public health activity, whether at the National, Provincial, or local level, it is not only advantageous but almost necessary, if progress is to be made, to detach oneself from routine and endeavour to appraise both the policies in effect at the time and the practicability of the results which are being achieved thereby. Unfortunately, the year 1943 has given little opportunity for this to be done. The continuation of the war has meant the creation of numerous additional problems, reflected not only in shortages of staff but also in the impossibility to secure qualified replacements, which has meant adjustments and readjustments all along the line. Again it is felt that much credit can be given to the full-time public health workers in this Province for the willingness with which they have shared the increased burdens and responsibilities which have been thrown on their shoulders as the months of 1943 passed. In spite of difficulties and numerous readjustments in all sections of the Bureau of Local Health Services, nevertheless, a considerable amount of progress and advance can be reported. The highlights of the various sections—namely, Public Health Nursing, School Medical Services, Notifiable Diseases, Full-time Health Services, Preventive Dentistry, Public Health Education, and Public Health Engineering—will be taken up under the headings which follow.

#### **PUBLIC HEALTH NURSING.**

The report of the Director of Public Health Nursing is appended herewith and gives a broad picture of the changes in personnel that have taken place during the year just ended. It is gratifying to be able to report that four new Public Health Nursing Districts were established in the Province at Alberni, Powell River, Williams Lake, and Princeton. Prior to 1943 it had been found necessary to reduce the public health nursing staffs in two of the Health Units from four to three nurses. During the past year it has been possible to now bring these Health Unit staffs again up to full strength. As previously, it has been necessary in a few instances to approve the appointment of nurses untrained in public health to fill the gaps. In spite of this and even although it has been possible to secure some Public Health Nurses from other Provinces, there still remain six public health nursing positions vacant for which so far no suitable candidates can be found. It is hoped that when the new University class graduates in the spring of 1944 that some easing of the shortage may result. While such a shortage is not only unfortunate and does create difficulties, nevertheless this situation is not without its brighter side for there has been a very definite increase in demands for public health nursing services. Perhaps in no time in the history of British Columbia has the public been so



conscious of the need for adequate public health nursing service and made such sincere efforts to establish and finance such a service. This is not the result of chance, but can be very largely credited to the splendid work that the Public Health Nurses and Health Units have carried on in past years and the manner in which these workers have sold their programmes to the communities. In addition, the educational work carried on by Provincial and local health workers has played its part in bringing about this increased health consciousness. More and more people, as well as districts, are coming to realize that money spent both for public health nursing service and adequate full-time local health service is cheap insurance against the high cost of sickness, preventable disease, hospitalization, and other costs related to ill-health.

A very definite effort has been made by a number of Public Health Nurses during the past year to bring about a closer relationship between the service provided by themselves and the local hospital. In this they have succeeded very well and there is no doubt that this has increased the effectiveness of their public health nursing programme. As more districts become co-ordinated in this way there will be further progress in the prenatal and infant welfare programmes of public health nursing services.

The reorganization of a number of branches dealing with various phases of welfare work into the Social Assistance Branch of the Provincial Secretary's Department opened the way for a number of constructive discussions with senior officials relating to correlation and co-operation in the field by Welfare and Public Health Workers. The thought that was expressed in last year's report—namely, that both Welfare Workers and Public Health Workers should serve the same area and, perhaps, work from the same district office—seems to be the most practical solution to a closer integration of these two services. It is hoped that sometime in the next few months it may be possible to put this thesis to a practical test.

The annual "Institute for Public Health Workers" was held this year during the four days just prior to the Easter holiday. The programme was somewhat modified from last year, with more time allowed for group discussions. No outside speakers were used and with the exception of one talk by the Assistant Superintendent of Welfare all material was presented either by the technical staff of the Provincial Board of Health or Health Unit personnel. During the four days that the Institute was held the majority of the discussions were centred around the new Nutrition Programme and Rural Sanitation. A further innovation was made in that the Public Health Nurses were given an afternoon to meet by themselves with the Director of Public Health Nursing and discuss their own problems, and also to draw up any resolutions or suggestions that they felt desirable for the further planning of the general public health programme throughout the Province. The Sanitary Inspectors also met as a group with the Public Health Engineer and similarly discussed their particular problems. The Health Unit Directors met with the Provincial Health Officer and discussed administration on both the Provincial and local levels. Later, an opportunity was provided for a meeting of the Health Unit Directors and Sanitary Inspectors together with the Provincial Health Officer, and finally a meeting was held by the Provincial Health Officer with not only the Health Unit Directors and Sanitary Inspectors but all Directors of the Divisions of the Provincial Board



of Health. This proved to be a very successful meeting and many points of correlation between the fields of work of those present were clarified. This new type of programme enjoyed an enthusiastic reception and further development of the same idea for the Institute in 1944 should provide a stimulating meeting for all those in attendance.

The "News Letter" from the Provincial Board of Health to the Public Health Nurses throughout the Province has continued circulation on a monthly basis and is an effective medium of instruction and education. The participation in this by the Public Health Nurses themselves is rather disappointing, but it is hoped that it will come to be realized that the more one puts into an effort of this type the more one can expect to benefit.

### SCHOOL MEDICAL SERVICES.

With regard to the medical inspection of school pupils it was deemed advisable for the school-year 1943-44, because of the continued shortage of physicians, that the same policy of the preceding year should be continued. This meant that only the children in Grades I., IV., VII., and X. would be examined as a routine measure, and, in addition, School Medical Inspectors would also examine such children from the other grades as were referred to them by either the teachers or the Public Health Nurses. In those districts where only one-room schools were the rule, arrangements were made whereby the School Medical Inspector examined all pupils in one-third of the schools last year, another one-third in the year just ended, and the remainder of the one-room schools in his district the following year. In this way all school children are given an examination at least once every three years. At the present time, due to the shortage of physicians and also the tremendous burden which all of them are carrying, this seems to be the most practical solution available for School Medical Inspection. Many of the physicians are appreciative of this effort to relieve some of their burden.

The new report form which categorizes the pupils of the various grades in so far as their health status is concerned has proven to be a very practical one and in the Medical Inspection of Schools Report for the school-year 1942-43 information will be available on the health status of school children according to this grading, which it has not previously been possible to obtain. In addition, an idea will be gained from this report on the relative protection secured by immunization of school pupils against certain preventable diseases. Again during the year just past there has been a very considerable amount of immunization carried out among the children of school-age, both by local Health Officers and School Medical Inspectors. This is all to the good, but at the same time points out that the amount of immunization carried out during infancy and the pre-school period has not reached the desired level. It is during these years before school when certain preventable diseases take their toll and it is then that every effort should be made to have the young child immunized.

The co-operation received from the various School Medical Inspectors throughout the Province during these busy times has been very good.

### EPIDEMIOLOGY AND NOTIFIABLE DISEASE.

A table on pages 93 to 97 shows the number of reported cases of notifiable disease. The total number reported—namely, 27,259—represents a slight



decrease from that reported during the previous year. In 1942 the figures showed a total of 28,772 cases reported. In so far as the occurrence of communicable disease was concerned, 1943 can be considered a very favourable year. When one considers the movements of population that are taking place at present, together with the overcrowding which exists in all the large centres throughout the Province, it is rather surprising that the number of reported cases was not considerably in excess of the figures shown. Except in a few instances where marked increases or decreases occurred, the number of reported cases of the various diseases was roughly of the same order as last year. The figures for chickenpox, encephalitis, erysipelas, paratyphoid fever, scarlet fever, and whooping-cough show no great change from the previous year. On the other hand, dysentery of all forms has shown a considerable increase from 39 cases last year to 143 cases in 1943. Only 720 cases of measles were reported for 1942, but in the year just past more than 8,000 cases were reported. Mumps decreased very considerably from a figure of more than 12,200 to 4,717. Poliomyelitis (infantile paralysis) showed a dramatic reduction from 47 in 1942 to only 8 cases for the year 1943. Rubella (German measles) showed approximately 30 per cent. decrease to a total of only 546 cases. Typhoid fever showed an increase from 28 cases to 63.

Cancer showed a slight decrease from 920 cases in 1942 to 905 cases for the year just past. These, of course, are very inaccurate figures, since it is still less than the annual number of deaths occurring from this disease. It is rather unfortunate that the efforts made by the British Columbia Medical Association and the Provincial Board of Health to improve the reporting of this disease have had little or no effect. At the present time we still have no accurate indication of the incidence of cancer in the general population of this Province. Cerebrospinal meningitis showed a decrease from 96 cases in 1942 to 66 cases during the year just past. The occurrence of these cases is no doubt related to the increased mingling of various groups of people coming to this Province from all parts of Canada. Undulant fever showed a decrease from 29 reported cases to 13. The reporting of this disease is extremely poor, and the figures given cannot be considered in any way a criterion of the true incidence of undulant fever.

Diphtheria showed a reduction from 60 cases to 28 cases in 1943. This is a gratifying reduction, but, on the other hand, when one realizes that this is a preventable disease, it is a matter of regret that even 28 cases should occur. Since 1929, when immunization against this disease was commenced, the number of cases decreased annually until a low of 9 cases was reported in 1939. From then cases increased to the peak of 60 cases in 1942, and it is hoped that the reduction during the year just past is the commencement of a decline to fewer cases than we have ever had before. Many parents are still too lax from the point of view of protecting their children against this preventable disease. This is most regrettable and more particularly when one is aware of the availability of the means of immunization and the effort which is being put forth by all full-time public health workers and a number of the School Medical Inspectors and the part-time Health Officers to show parents the wisdom of this protection. Figures on deaths from diphtheria are so far only available to the end of October, but up to that time during 1943 there had been 2 deaths.



During 1942, 692 cases of influenza were reported and during 1943 this figure rose to 3,903. While this is indicative of a considerable increase in upper respiratory infection, nevertheless there is no accurate indication of the incidence of influenza either during the past months or at the present time. There is no doubt but that there has been a considerable increase in upper respiratory infection during the past few months which has been classified as various types of outbreaks such as common cold, winter cold, stomach flu, la grippe, influenza, etc. The variety of symptoms experienced by individuals during this time would make it appear that there has been a variety of strains of infecting organisms responsible for the symptoms. There is no evidence that the disease is of the epidemic type of influenza which was prevalent in the period 1918-19.

Typhoid fever, as mentioned above, showed an increase from 28 cases in 1942 to 63 cases for the year just ended. The bulk of these cases, numbering 51, occurred in one outbreak at Vernon. This was perhaps the most outstanding and spectacular outbreak of communicable disease in 1943 and served to emphasize the need for adequate and rigid supervision of the milk-supply by local health authorities. Epidemiological investigation revealed the fact that all of these cases were receiving milk from one dairy which was supplying raw milk from a Grade B farm. While the cause of the epidemic has not, as yet, been definitely concluded, nevertheless the evidence at hand would make one suspect that a carrier in the dairy was the likely cause of the outbreak. The first case occurred on October 22nd and the last case on November 18th. During that time the total of 51 cases occurred and 1 death. This outbreak serves to further emphasize the potential dangers of raw milk and the need for safeguarding community milk-supplies either by commercial pasteurization or home pasteurization, where necessary. Only as the safeguarding of milk by pasteurization becomes more common will the actual outbreaks and the potential threat of the same from milk-borne disease decrease. Too many people think that tuberculosis is the only disease likely to be transmitted by milk, and that if tuberculin testing of cattle is carried out there is little or no danger from raw milk. Too much emphasis cannot be placed on the fact that not only tuberculosis but also typhoid and paratyphoid fevers, undulant fever, septic sore throat, diphtheria, scarlet fever, bacterial food poisoning, and bacillary dysentery can be spread by contaminated raw milk.

As far as is known, no human case of equine encephalomyelitis occurred in the Province during 1943.

Again, as in 1942, a number of cases of a mild disease were reported, but apparently communicable, in which the typical symptom was a varying degree of jaundice. No known deaths were directly attributed to this disease. This disease, as well as the typhoid outbreak at Vernon and other outbreaks of communicable disease during the year continued to emphasize the need for a trained Epidemiologist on the staff of the Provincial Board of Health. At the present time it is not possible to make proper or complete investigations of these outbreaks. It is hoped that the time may not be too far distant when it may be possible to secure a person specially trained in the public health aspects of the dairy industry, food handling, and general sanitation.



An outbreak of bacillary dysentery occurred in Telegraph Creek during the fall of the year, and because of the severity of the outbreak and the absence of any resident physician it was felt advisable for one of the senior officials of the Provincial Board of Health to make a visit to this section of the Province. There had been a number of cases of dysentery scattered irregularly during the first six months of the year, but toward the end of July there was a considerable increase and, although it is not known definitely, it is estimated that there were some fifty or sixty cases of this type of disease during the year. From early in August until about the middle of September there had been a total of ten deaths of Indians from bacillary dysentery. The evidence collected made it look as if the disease had originally been introduced by a visitor, early in 1943, coming to Telegraph Creek from Yukon where it was reported that there had also been an outbreak of an acute form of diarrhoea. This visitor was apparently still suffering from a mild form of the disease at the time of coming to Telegraph Creek. The resistance of the inhabitants of this small and isolated community was no doubt at a low ebb as a result of a most unfortunate communicable disease experience during the previous twelve months. They had had two outbreaks of influenza, an outbreak of measles, and also an outbreak of rubella. These outbreaks had occurred one after the other during the preceding year and had affected a very considerable proportion of both adults and children. There have been a few odd cases during the last few months of the year but nothing of an epidemic nature.

#### FULL-TIME HEALTH SERVICES.

In last year's report under this heading mention was made of the fact that a new Health Unit for the Prince Rupert district had been created. During this past year a still further advance was made in local health administration in that the fifth full-time district Health Unit was formed in British Columbia. As far back as the spring of 1942 arrangements were completed for the establishment of a Health Unit in the Nanaimo-Ladysmith area in which the funds and resources of these two communities would be pooled for the more effective carrying-on of public health activity. Unfortunately, due to not being able to locate a public health physician to assume the directorship of this Health Unit almost eighteen months went by before it was possible to have this organization swing into action. Finally it was possible to secure a public health physician from Ontario to take over as Director of the Okanagan Valley Health Unit thus making it possible for Dr. J. M. Hershey to undertake the problem of final organization of the Central Vancouver Island Health Unit. This Unit serves the Cities of Nanaimo and Ladysmith, the Parksville-Qualicum-Coombs district, and the Nanaimo-Ladysmith rural school district. The project is jointly financed from local funds and grants from the Provincial Department of Education and the Provincial Board of Health. The staff are all full-time, thoroughly qualified for their particular work, and consist of the Director, who acts as Medical Health Officer for the area, four Public Health Nurses, one Sanitary Inspector, and a Statistical Clerk. It was in November, 1943, that this local health organization began to function and the development of a complete and generalized public health programme in this section of the Province will be watched with interest by all. The presence of a military camp, together with numerous public health problems in this particular section of Vancouver



Island, made it imperative that a full-time Health Unit be established as soon as possible. It is indeed unfortunate that lack of available staff has resulted in such a delay.

Special mention was made in last year's report of the splendid programme being carried on by the Okanagan Valley Health Unit. A number of staff changes have been necessary in this Unit, but the standard of the work has continued as before. The extensive immunization programme, the improvement in rural sanitation as well as in milk and food control are splendid examples of work that can only be carried on to such a degree by a full-time and adequately staffed local Health Unit. The people served by such a service from Oyama in the north through Kelowna, Summerland, and Penticton to Naramata in the south realize full well the relatively low cost to them of the health protection which they are receiving and give splendid support to their local health authorities. Dr. D. B. Avison, of Toronto, assumed directorship of this Unit in November, at which time Dr. Hershey moved to Nanaimo.

In the annual report for 1941 mention was made of the winning of an award in the 1940 Canadian Rural Health Conservation Contest by the Peace River Health Unit. Further honours of a similar nature came to British Columbia when early in 1943 the announcement was made that the Okanagan Valley Health Unit was the winner of the only award made outside of the Province of Quebec. Five similar awards were made to Health Units in this Eastern Province. It is of interest to recall that such awards are made not necessarily to the healthiest community, but rather for the effectiveness with which the community health problems are being met. The judging is carried out following the submission of a detailed, fact-finding questionnaire to a group of carefully selected health experts. Each Health Unit is appraised on what health measures it has taken to safeguard its water-supplies, to furnish safe sewage-disposal, to reduce infant and maternal deaths, combat and prevent communicable diseases, including tuberculosis and venereal disease, to protect and safeguard milk and other foods, to promote effective co-operation with the physicians and dentists of the community in furnishing necessary services to all who need them, and, finally, to educate the community in understanding the ways and means of preventing sickness and death and of maintaining good health. The fact that an award was granted to this entry from British Columbia is indicative of the high standard of programmes carried out and service being rendered to the people of this part of the Province. Much of the credit for this work must be given to Dr. J. M. Hershey as Director of the Okanagan Valley Health Unit for the effort which he has put forth during the time that he has been in charge. It is hoped that 1944 may bring an announcement of another award having been granted to British Columbia in the National Health Honour Roll. This is the name now being used for what was formerly known as the Canadian Rural Health Conservation Contest.

It was mentioned in last year's report that a Health Unit had been finally established in Prince Rupert and public health work in this activity has made steady progress since that time. The number of problems previously existent and those that have occurred since and that have been taken care of have amply justified the formation of this Unit. In June of 1943 Dr. J. A. Macdonald, who was then Director of the Prince Rupert Health Unit, left to join the Royal



Canadian Army Medical Corps, and it was extremely fortunate that Dr. R. G. Knipe had just returned to British Columbia at that time from taking post-graduate public health training at the University of Toronto. Dr. Knipe assumed the directorship of this Unit at that time and has steadily advanced the public health programme in that area. He was successful in being able to complete satisfactory arrangements for the Health Unit to serve the unorganized territory east of Prince Rupert as far as Terrace, Copper City, and Usk. In addition, his supervision has also been extended to include the Fort Simpson district, islands adjoining the mouth of the Skeena River, and the Queen Charlotte Islands. Further, Dr. Knipe has also established in a very satisfactory manner in connection with his Unit a branch Clinic of the Division of Venereal Disease Control. A very effective piece of work is being carried on through this Clinic at the present time.

The continuation of activity in the Peace River district in connection with the completion and maintenance of the Alaska Highway has meant a very active year for the Peace River Health Unit. It was possible to bring the public health nursing staff of this Unit again up to its full strength of four Public Health Nurses during the year. This has considerably relieved the burden on the three who were carrying the load and has also enabled this Health Unit to provide a more concentrated public health nursing service to the Village of Dawson Creek and immediate vicinity where the bulk of the population is concentrated.

Some idea of the problems arising may be gleaned from the fact that in the Village of Dawson Creek, with a normal population of some 600-800 and without an adequate water-supply or sewage-disposal system, the population was suddenly increased until at the present time there are more than 1,700 people within the municipal limits. Dawson Creek and the immediately adjacent territory had a normal population of possibly some 1,100 people and at the present time there are at least 4,500 people in the same area. It is extremely fortunate indeed that arrangements were finally completed during 1943 for the establishment of a suitable water-supply for the central area of the village. This was made possible through co-operation between the village, Provincial Government, Federal Government, and the American army authorities in Canada. The water system is now being installed and in essence it is an additional distribution system tied in to the water system constructed and developed for the American army facilities in the immediate vicinity of Dawson Creek. This is a considerable advance over the former system of buying water by the barrel from the carrier who delivered it in the old-fashioned water-wagon. The next obvious requirement is a suitable sewage-disposal system to adequately dispose of the additional waste water brought about through the availability of the new supply through the distribution system under construction at the moment.

Fort St. John, also in the Peace River district, had a similar improvement brought about in the nature of an adequate water-supply from wells. This was possible again through co-operation between the Provincial and Federal Governments. Medical service for residents of Fort St. John and the territory north of the Peace River has been a rather acute problem for many months. Unfortunately, the only practising physician in the territory became ill and was forced to leave the district. In the interim, emergency service has been provided through the kind and courteous co-operation of American army physicians.



It is hoped that it may be possible to interest another physician in taking up practice in Fort St. John in the near future. A great deal of credit is due to Dr. J. A. Taylor, Director of the Peace River Health Unit, for the splendid work that he has carried out under difficult conditions, not the least of which are weather and transportation.

The Saanich Health Unit continues under the directorship of Dr. J. L. Gayton. He has continued to make progress with public health administration in his area, including revision of programme from time to time to meet varying conditions. For part of the year Dr. Gayton was only spending 50 per cent. of his time as Health Officer for this area, the remainder being spent in industrial medical service with Yarrows, Limited. This latter work was completed some time ago and Dr. Gayton is back as full-time Director. Three nurses were carrying the load in this Health Unit for some months, but fortunately it was possible to again bring the staff up to the full strength of four Public Health Nurses during the year. A considerable amount of bedside-nursing is carried on by the Public Health Nurses in this Unit because of the fact that this large municipality has only one resident physician.

The Metropolitan Health Board for the Greater Vancouver area has completed another year of effective health-work. A summary report by the Senior Medical Health Officer is appended and gives the highlights for the year 1943. This Metropolitan Health Board has continued for some seven years now on a voluntary basis through agreement by the various participating municipalities, but it is of interest to note that plans are under way for the establishing of this administrative organization on a legal and more permanent basis. It is hoped that during 1944 this reorganization will be brought about.

The many part-time local Health Officers throughout the Province are to be congratulated for the splendid co-operation and help which they have rendered during the past year. The shortage of physicians has increased their burden of practice manyfold, but in spite of this they have found time to give consideration to the health of their community and also to carry out immunization work and such surveys or investigations as were requested. It is unfortunate indeed that sufficient staff in the central office of the Provincial Board of Health is not available to make it possible for the senior officials to visit local areas throughout the Province at regular intervals in order to discuss problems with these part-time Health Officers and also give them such help as would be possible by periodic visiting. It is to be hoped that in the post-war period such additional staff as would be required can be obtained and in this way improve the effectiveness of local health services where it has not been possible up to that time to organize full-time Health Units.

#### PUBLIC HEALTH EDUCATION.

The year 1943 has again been a very active one in the field of public health education, not only for the various Divisions but also for the central office of the Provincial Board of Health. All senior officials on numerous occasions have met and held discussions with community groups, including School Boards, Municipal Councils, Nursing Associations, Parent-Teacher Associations, and other official and voluntary groups. However, in spite of this, much still remains to be done. Hardly a week goes by in the year but that further evi-



dence is provided concerning the need for a very widespread educational campaign covering the broad field of public health. Recent outcries of enthusiastic but misguided groups of individuals on various subjects, including among other things the safeguarding of water-supplies by chlorination, the dangers of raw milk and the abolition of same by pasteurization, has shown the need for the dissemination on a much wider basis of authentic and scientific information before public opinion can be depended upon to support the various measures which public health authorities know will result in nothing less than a protected and improved community health.

It is hoped that the time may not be too far distant when a Division of Public Health Education may be established in charge of a well qualified and thoroughly trained public health educator to direct this programme of health education through the various channels available. The various Divisions carry on a certain amount of public health education in relationship to their own field of work, but unfortunately there is no correlation of this information with a generalized public health programme. In addition, it is further becoming evident that to make public health education really effective health educators will be needed at the local level as staff members of Health Units. Plans are under way to test the effectiveness of this just as soon as a properly trained individual can be obtained. Opinions differ somewhat as to the basic training needed by such a person, but the general consensus of opinion seems to lean toward an educational background with a short period of experience in teaching, followed by postgraduate training in public health.

Unfortunately, during the school-year 1942-43 it was not possible to arrange the usual series of lectures to the students at the Provincial Normal School in Victoria. However, arrangements are under way for a series of lectures to be given early in 1944 to the present class. These, as before, will be given by senior technical officials of the Provincial Board of Health and will cover, among other things, public health administration, local health services, public health nursing, tuberculosis control, venereal disease control, vital statistics, and community sanitation with particular reference to the rural district. All of the senior technical officials of the Provincial Board of Health have again acted as voluntary lecturers to the Public Health Nursing students at the University dealing with their particular and various fields of work. In addition, a number of lectures were also given to the Social Service students at the University.

No increase in the supply of public health literature has occurred as yet. Copies of some of the more worth-while publications are not available and will not likely be procurable now until after the end of the war. A considerable number of letters to expectant mothers has again been sent out during the year; this again being made possible through the co-operation of the Canadian Welfare Council. During 1943 more than 6,800 prenatal letters were sent to 568 expectant mothers who requested this service. Postnatal letters covering the first year of the baby's life were sent to 3,568 mothers who requested them; a total of almost 43,000 individual postnatal letters being forwarded. Requests for letters covering the pre-school ages totalled 814 while those for the school-age period totalled 143. It must again be remembered that the above figures only relate to the area outside of the Greater Vancouver Metropolitan Health



Area, since, as was mentioned in last year's report, arrangements were made for requests for letters from people in this area to be handled locally.

The policy referred to last year in which the name of the person sending in a request for one of the above letters is forwarded to the local Public Health Nurse has proven to be a worth-while step. More and more people are not only becoming aware of the activity of their local Public Health Nurse but also of the variety of services which she provides for their community.

#### PREVENTIVE DENTISTRY.

Unfortunately, many of the local dental clinics which have functioned in the past have not been able to carry on during this last year. In some cases there are no local dentists, while in others the dentists have been so busy as not to be able to find time for preventive clinics. The Provincial policy remains the same—namely, that of making grants available to local dental clinics when organized on a community basis such as mentioned in previous reports. The Provincial Board of Health has still been unable to secure a dentist qualified in children's preventive dentistry to carry on any work in the more distant sections of the Province. The Langford area has been very fortunate in that it was possible to make arrangements with one of the Victoria dentists to carry on a limited amount of work on a weekly basis in that area.

As mentioned in previous reports, communities are coming to realize more than ever before the value of and need for some form of preventive and periodic dental care. There is no shortage of requests from many districts throughout the Province for local dental clinics, but unfortunately under the present conditions it is not possible to supply this service. Extensive dental decay was one of the major physical defects of school and pre-school children prior to the war and one hesitates to make any statement as to its prevalence to-day. Certainly, a very considerably augmented number of dentists will be required in the post-war period to deal with the problem.

#### PUBLIC HEALTH ENGINEERING.

The full report of the Public Health Engineer is appended and outlines in a rather concise manner not only the tremendous expansion which has taken place in the work of this Division, but also the variety of activities dealt with. The safeguarding of public water-supplies and the correction of a false sense of security in the public mind is perhaps one of the most pertinent subjects in the field of sanitation at the present time. The appended report shows up many of the fallacies in arguments used by individuals not acquainted with the true facts of the case. Pasteurization of milk is another subject on which progress is being made but about which there is much inaccurate information in the public mind. It is sincerely hoped that it may not be too long until it is possible to add to the staff of this Division a man trained in veterinary science and public health to act as a Consultant in Food and Milk Control who can act not only in a consultative capacity in this field but also relieve the burden on the Public Health Engineer in so far as non-engineering sanitation problems are concerned.

Fortunately there were no known cases of mussel poisoning during 1943, but the joint survey as between the Department of Pensions and National



Health, the Fisheries Research Board of Canada, and the Provincial Board of Health indicated the advisability of continuing the ban on the taking of clams and mussels on the west coast of Vancouver Island. In fact, during the summer it was found necessary to extend this ban to the east coast of Vancouver Island and also the mainland coast of British Columbia. In addition, the Federal Department of Fisheries extended their ban on the taking of clams commercially from September 30th until October 30th in order to protect the public from any possible outbreak of poisoning due to these particular shell-fish. The detailed survey of canneries along the coast during the summer was a definite advance and it is hoped that a new regulation will make it possible to improve not only the sanitation but the standard of housing in these places. The continuation of the war has meant spending considerable time with Army Hygiene Officers relative to sanitary problems arising in connection with the encampment and stationing of large numbers of troops at various centres throughout the Province. This has been particularly true in the Prince Rupert and Peace River districts.

### REPORT OF THE DIRECTOR OF PUBLIC HEALTH NURSING.

MISS H. KILPATRICK, B.A., B.A.Sc., R.N.

As the work of the year is reviewed, in spite of the many problems considerable progress can be reported.

A significant fact is that four new Public Health Nursing Districts were established and staffs were increased in each of two districts from three to four Public Health Nurses. This brings the number of Public Health Nursing Districts to thirty-nine. It does not, however, mean that only thirty-nine centres in the Province are served by Public Health Nurses. A Public Health Nursing District may be confined to one city or larger centre, it may be a municipality, or it may serve a section of unorganized territory or any combination of these three. The determination of boundaries depends upon many things such as the size of the population, and its distribution, roads, facilities and conditions for travelling. A centre may decide that a public health nursing service is desirable, and may proceed to organize it. Subsequently people in the surrounding country learn of the service and request an extension to include them. Thus districts grow. Much can be said in praise of the Public Health Nurses in the field for their co-operation and willingness to add to their districts in order that the service may be made available to the greatest possible number of people. At the present time, very few districts can be extended. Limitations to extension may be natural boundaries or it may be that to increase the distances travelled would mean that the proportion of time spent in travel would be entirely out of balance in comparison with the time required to perform the various services expected of a Public Health Nurse.

It would seem fitting to review the location and distribution of established Public Health Nursing Districts. Districts now served by Public Health Nurses are as follows:—



## PUBLIC HEALTH NURSING DISTRICTS.

*On Vancouver Island—*

Saanich Municipality (established 1919; Health Unit established 1926): This district is served by a Health Unit with a staff of four Public Health Nurses.

North Saanich (Sidney) (established December, 1942): The unorganized territory of North Saanich is served by one Public Health Nurse stationed at Sidney.

Esquimalt Rural Public Health Nursing Service (Langford) (established 1919): This district includes all the area from Langford Lake and Metchosin through Sooke to Jordan River, exclusive of Albert Head and Colwood. It is served by one Public Health Nurse stationed at Langford.

Cowichan Health Centre (Duncan) (established 1920): This district extends to include Duncan and the surrounding area to Bamber-ton and Shawnigan Lake to Chemainus, Crofton, and Westholme, and to centres on the shores of and around Lake Cowichan. It is served by four Public Health Nurses stationed at Duncan.

Central Vancouver Island Health Unit Area (Health Unit established November, 1943): This includes, at the present time, all the area from and including Ladysmith, north through Nanaimo and district to include the Qualicum-Parksville area. The area is served by a total of four Public Health Nurses—one stationed at Ladysmith, two in Nanaimo, and one in Parksville.

Courtenay-Comox (established 1941): This includes the City of Courtenay and the unorganized territory of Comox. It is served by one Public Health Nurse who is stationed at Courtenay.

Port Alberni, 1928-32 (re-established 1938): One Public Health Nurse serves the City of Port Alberni.

Alberni (established 1943): One Public Health Nurse serves the City of Alberni.

Areas on Vancouver Island in which a public health nursing service is not available include the localities of Cumberland, Campbell River, and other northern parts of the Island and the west coast outside of the southern tip of the Island, Port Alberni and Alberni. There is no service, as yet, on any of the Gulf Islands.

*Fraser Valley—*

Coquitlam and Fraser Mills Municipalities (established 1941): These two municipalities and the unorganized district of Essondale are served by one Public Health Nurse who is stationed in Maillardville.

Maple Ridge Municipality (established 1938): This municipality is served by one Public Health Nurse who is stationed in Haney.

Dewdney (established 1938): This district includes Mission Village, Mission Municipality, and the unorganized districts extending along the river to include Deroche. It is served by one Public Health Nurse stationed in Mission Village.



Abbotsford-Matsqui-Sumas (established 1935): This district includes Abbotsford Village, the Municipalities of Matsqui and Sumas, and the unorganized area of Huntingdon. It is served at present by two Public Health Nurses stationed at Abbotsford.

Chilliwack City (established 1930): One Public Health Nurse serves the City of Chilliwack.

Chilliwack Municipality (established 1928): Two Public Health Nurses serve the Municipality of Chilliwack.

A Branch of the Victorian Order of Nurses provides some service in Surrey Municipality. Areas in the Fraser Valley not served by a Public Health Nurse include Municipalities of Delta, Langley, Kent, and Pitt Meadows; Cities of Port Coquitlam and Port Moody; and smaller centres adjacent to Coquitlam Municipality.

*Coast—*

Prince Rupert Health Unit (established 1942): This Unit serves, in addition to Prince Rupert, Terrace and some small centres and islands. There are two Public Health Nurses stationed in Prince Rupert.

Powell River (established 1943): One Public Health Nurse, stationed at Powell River, serves the Villages of Cranberry Lake and Westview and the unorganized territory of Wildwood and Powell River.

Gibsons Landing (Elphinstone) (established 1937): One Public Health Nurse employed by a local Victorian Order of Nurses Branch provides some service to Gibsons Landing, Sechelt, and Roberts Creek.

*Interior and Okanagan Valley—*

Kamloops (established 1927): This city is provided with a partial service by one Public Health Nurse.

Vernon (established 1924): This city at present has a school nursing service. (Further developments are anticipated in the coming year.)

Revelstoke (established 1930): One Public Health Nurse, stationed at Revelstoke, serves Revelstoke and surrounding unorganized territory south and west to include Arrowhead, Begbie, Mount Cartier, and other centres.

Armstrong and Spallumcheen (established 1924): This district is served by one Public Health Nurse stationed in Armstrong.

Lumby (established 1939): This district includes Coldstream Municipality and also Oyama, Lumby, Shuswap Falls, Reisdig, and other small centres. It is served by one Public Health Nurse stationed in Lumby.

South Okanagan Valley Health Unit (established 1940): This area includes Kelowna City, Kelowna Rural which extends north to Oyama, and includes the territory in the environs of Kelowna, and the Summerland, Peachland, and Westbank areas, as well as Penticton, Naramata and surrounding area. It is served by four



Public Health Nurses—two stationed at Kelowna, one each at Summerland and Penticton.

Keremeos (established 1925): This district includes Keremeos, Cawston, Olalla, and Hedley, and is served by one Public Health Nurse stationed at Keremeos.

Princeton (established 1943): One Public Health Nurse stationed at Princeton serves Princeton, Allenby, and Copper Mountain.

Oliver (established 1928): This district, extending north to Okanagan Falls and south to Osoyoos and Inkameep, is served by one Public Health Nurse employed by a local Victorian Order of Nurses Committee.

Areas in this section not served include a small section between Vernon and Spallumcheen, Salmon Arm area, through to the borders of the Revelstoke area and to the City of Kamloops. There is no public health nursing service between Chilliwack Municipality and Kamloops, nor are Merritt, Lillooet, or Clinton served.

*Cariboo and North—*

Williams Lake (established 1943): This district, served by one Public Health Nurse stationed at Williams Lake, extends north to McLeese, Soda Creek, and Macalister, south to Forest Grove and to Bridge Lake, together with Dog Creek and through to and including Horsefly.

Quesnel (North Cariboo) (established 1940): This district, served by one Public Health Nurse stationed at Quesnel, extends north to Strathnaver and south to Castle Rock and Marguerite, through to Baker Creek and to Wells and Barkerville.

Prince George (established 1942): This district, served by one Public Health Nurse stationed at Prince George, extends to include Prince George and district east to Isle Pierre and Chief Lake, west to Hansard, and includes Salmon Valley and Shelley, and south to Woodpecker.

Peace River Health Unit (established 1935): This Health Unit serves the Peace River district. There are four Public Health Nurses on the staff—one stationed at Fort St. John, one at Progress, one at Rolla, and one at Dawson Creek.

*Kootenay—*

Creston (established 1941): This district includes centres in the Creston Valley as well as Kitchener and Yahk, and is served by one Public Health Nurse stationed at Creston.

Cranbrook (established 1940): In addition to Cranbrook, this district includes the area to and including Moyie and to and including Galloway and Fort Steele and Wycliffe. It is served by one Public Health Nurse stationed at Cranbrook.

Kimberley (established 1941): The Kimberley district extends to include Marysville, Meadowbrook, and Ta Ta Creek, and is served by one Public Health Nurse stationed at Kimberley.



Fernie (established 1927) : The one Public Health Nurse, stationed at Fernie, serves that city and Coal Creek.

In the East Kootenay the area from Galloway to Fernie and east of Fernie, including Michel and Natal, is not served by a Public Health Nurse, nor is the territory north of Ta Ta Creek through to Revelstoke.

Nelson (established 1932) : The City of Nelson is served at present on a temporary basis by a nurse who is not qualified in public health.

(Rossland: Arrangements have been completed for the establishment in January, 1944, of a public health nursing service in the City of Rossland.)

(Trail: Some service is provided by one nurse under the supervision of the Victorian Order of Nurses in Trail City only.)

*Greater Vancouver Area.*—It should be noted that service is provided under the Greater Vancouver Metropolitan Health Committee by Public Health Nurses for the Cities of Vancouver and North Vancouver and the Municipalities of North Vancouver, Richmond, West Vancouver, and Burnaby, as well as for the unorganized territory of the University and District Lot 172.

Branches of the Victorian Order of Nurses are located in Vancouver, North Vancouver, West Vancouver, Burnaby and North Burnaby carrying on the programme of that organization.

*Victoria, New Westminster, Oak Bay, and Esquimalt.*—The Cities of Victoria and New Westminster and the Municipalities of Oak Bay and Esquimalt employ graduate nurses who devote their entire time to a school programme.

A branch of the Victorian Order of Nurses also serves Victoria, Esquimalt, and Oak Bay.

In New Westminster a visiting nursing service is provided through the Red Cross.

It will be seen from the foregoing the extent of public health nursing services available in this Province. Although in certain sections there are wide areas wherein no Public Health Nurses are stationed yet, it is estimated that over 80 per cent. of the population in this Province has available to it some public health nursing service. There is still much to be done, but on reviewing the past three years it is seen that not only have ten new districts been established but much has been accomplished in the extension of districts to eliminate the lack of service in areas which previously were on the borders but not included in a public health nursing district. As time goes on, the number of such gaps between districts is being reduced. The desirable thing in most instances might have been to add another Public Health Nurse or to form a new district served by a Public Health Nurse, but under present conditions the supply of Public Health Nurses is limited. The Public Health Nurses already employed have, therefore, been called upon to make the adjustment necessary to an extension of territory. This they have willingly done. The very fact that people are desirous of extending the public health nursing programme is in itself a tribute to the work of the Public Health Nurses.



### PERSONNEL.

Public health nursing in this Province has passed another milestone with the appointment of two new Consultants. Until 1940 the Public Health Nurses in the field had no supervision. In 1940 with the appointment of a Director of Public Health Nursing some instruction and guidance could be given on a Provincial basis. This was very limited simply because the Public Health Nurses, stationed as they are all over the Province, could not be visited by one person at sufficiently frequent intervals.

In September of this year, Miss Dorothy E. Tate returned from a year of study on a Rockefeller Fellowship. During that time she successfully completed a course in supervision and administration in public health nursing at Columbia University, leading to the degree of Master of Arts. This was then followed by a period of observation and study of practices in various parts of the United States.

In October the Provincial Board of Health was fortunate in being able to obtain the services of Miss Helen Carpenter, who comes to this Province after having done public health nursing work in Ontario. Miss Carpenter has had considerable experience in public health nursing supervision and administration and prior to her appointment had just completed a course at Columbia University, leading to the degree of Bachelor of Science in Nursing.

In September two Public Health Nurses resigned to undertake postgraduate study, having been awarded fellowships by the Commonwealth Fund of New York. They are at present taking courses leading to the degree of Master of Public Health. One is studying at Johns Hopkins University, Maryland, and the other at Ann Arbor, Michigan. Both of these Public Health Nurses are obliged to return to positions in this Province under the terms of their fellowship.

At the present time the Province is divided into three areas, the Public Health Nurses in each of which are supervised by either the Director or one of the Consultants in Public Health Nursing. This has led to considerable improvement over previous years, but the supervisory areas are still too large to permit adequate supervision. The Director is responsible for the supervision of approximately the same number of Public Health Nurses in the field and must carry, in addition to administrative responsibilities, the guidance of the Consultants. Next year it is anticipated that on the return of the two Public Health Nurses now studying at Johns Hopkins University and at the University of Michigan the services of two more Consultants may be available. At such time the Province would be divided into four, making each supervisory area smaller with a Consultant more readily available to the Public Health Nurses in that area. The Consultants would then in turn be responsible directly to the Director of Public Health Nursing whose time could be wholly devoted to administrative duties.

Two Public Health Nurses were recipients of bursaries through funds allotted to the Canadian Nurses' Association by the Federal Government. Both of these Public Health Nurses are on leave of absence for four months, from October to February, to attend McGill University, where a short postgraduate course is offered. In the absence of these two Public Health Nurses, one district has been temporarily closed while the other is being served by a substitute.



In addition to the changes occasioned by the release of the four Public Health Nurses to permit them to undertake postgraduate studies, many other changes in personnel have taken place. Of the fifty-two Public Health Nurses at present employed, fifteen entered the field of public health nursing for the first time during the year 1943. Also two, previously employed in the work elsewhere, accepted positions and eight made changes from one district to another. There were twelve resignations—five by reason of marriage, one retired, one to enlist in the R.C.A.M.C., one to accept a public health nursing position elsewhere, and two for other reasons.

This turnover in personnel is one of the greatest problems. Changes in personnel made during the years 1941, 1942, and 1943 may be shown as follows:—

	1941.	1942.	1943.
Number of positions*	44	47	52
Number of transfers	8	11	8
Number of resignations	8	9	12
Number of new appointments	10	11	17
Total number of changes in personnel	26	31	37
Percentage change in personnel	59	66	71

\* The figure shown under this heading is the number of positions available at the end of each year as shown. Generally the opening of a new district or an addition to staff requires additional personnel; however, it was necessary in a few cases to meet more critical situations in some areas by reducing staffs in other areas. The increase shown in this column, therefore, does not necessarily correspond with the increase in new public health nursing districts.

In reviewing the records for the years 1941 to 1943, inclusive, it was seen that of the forty-four Public Health Nurses employed on January 1st, 1941, only twenty-one were employed through 1943. Also of these twenty-one nurses five have changed positions twice and six have changed once. Of the remaining ten, five have been in their present positions over five years, with two of these being in the same positions for fifteen years or more. The length of service in the public health nursing field in the Province of the fifty-two Public Health Nurses employed as at December 31st, 1943, was as follows:—

18-19 years	1	6-7 years	3
16-17 years	1	5-6 years	5
15-16 years	1	4-5 years	4
13-14 years	1	3-4 years	1
12-13 years	1	2-3 years	6
8-9 years	2	1-2 years	9
Under 1 year	17		

In three years, to fill a maximum number of fifty-two positions, eighty-one different Public Health Nurses have been appointed. When transfers as well as appointments of those new to the field are considered, it is found that a total of 108 appointments have been made. In addition, one qualified Public Health Nurse and three unqualified Public Health Nurses were appointed temporarily.

It can readily be seen from the foregoing summary showing turnover of staff that adequate supervision is essential if standards are to be maintained. The present supervisory staff cannot be considered to be adequate. It does, however, meet some of the needs and it is hoped that those Public Health Nurses who are at present preparing themselves for supervisory work may



undertake some of this work on their return. Furthermore, because of the investment of public moneys in this service and because the responsibility for supervision of the technical phases of the work is assumed by the Provincial Board of Health, proper supervision to ensure a sound investment and to maintain high standards is essential.

It should be mentioned that Public Health Nurses transfer from one district to another for some definite reason. It is the established policy of the Provincial Board of Health to place an experienced Public Health Nurse in a newly established district, or in a district where only a single nurse is required. Such positions cannot be taken by recent graduates. Sometimes a programme must be reorganized and only an experienced Public Health Nurse can undertake such work. One such change may involve the moving of up to three nurses. These essential transfers do involve expense, since the cost of moving to new districts to meet the needs of the work are assumed by the Provincial Board of Health. It must be remembered that it is the local public health nursing board that makes the appointment of Public Health Nurses. These boards, however, look to and expect the Provincial Board of Health to locate and recommend the candidates for the positions.

Steady progress has been made through the year in the development of satisfactory public health nursing programmes in local areas. Education of the people by the Public Health Nurses was in some measure responsible for the development of the newly established Central Vancouver Island Health Unit, with headquarters at Nanaimo. It is the Public Health Nurses who, in their contact with the people, show by precept and example some of the additional services that can be made available through the establishment of a health unit which gives a completer local public health service.

The revision and development of suitable and adequate record forms is a necessary part of the provision of public health nursing service. To meet the changing needs the public health record system which was first put into use in 1934 must constantly be revised and improved. During the year considerable work was done on, among others, the tuberculosis record forms.

"P.H.N. News and Views" is the news-letter distributed to public health workers. It was issued regularly each month. Through this channel information and recommendations on many subjects are made available to those in the field. Permission has been obtained in several instances from the editors of scientific and technical journals to permit publication of articles of interest particularly to Public Health Nurses in "P.H.N. News and Views." In no instance where the request was made was such permission refused. Over a period of time material on "Nursing Care in War Emergencies," which was presented as a series of six lectures to nurses in Vancouver, was included with issues of "P.H.N. News and Views." It is through this publication also that public health workers are kept aware of developments in public health in this Province. This year a column of questions and answers was instituted—questions on a great variety of subjects were received from workers in the field. These were then answered in the succeeding issue by the individual within whose field the subject lay.

The annual "Institute for P.H. Workers" was held in Victoria on April 19th to 22nd, inclusive. With the exception of two Public Health Nurses who



could not leave their districts because of their work, all Public Health Nurses attended. The main subjects dealt with at this Institute were the Nutrition Programme and Sanitation. Other topics presented for discussion were the work done by the Social Assistance Branch, Mortality Trends in British Columbia, and services to meet war situations. Ample time was given to discussion of the topics mentioned and of problems arising in the field. It is felt that through the presentation of the views of the field workers themselves practical measures to meet the need can best be formulated. The annual Institute has always been a great source of information and inspiration, but until the present time there has been very little opportunity to assist the Public Health Nurses with the application of newer ideas to their programmes. Some but not all Public Health Nurses have been able to carry this out without assistance. In the future, as a result of the appointment of the two Consultants in Public Health Nursing, this situation should be more adequately met. Here again is an example of the improvement that can be anticipated with the greater development in the field of supervision.

### REPORT OF THE CONSULTANT IN NUTRITION.

MARY F. BALDWIN, B.Sc. (H.Ec.).

Dietary surveys carried out in Canada during the past several years as well as the examination of men called up for defence training show clearly that poor diets and malnutrition are common in Canada. The main dietary deficiencies as shown by the surveys are in order: Vitamin B complex, Vitamin C, calcium, iron, Vitamin A, and protein. This means that Canadian diets could be improved by the adequate use of dried beans, carrots, whole-grain cereals, citrus fruits, cheese, green and yellow vegetables (fresh), liver, milk, dark molasses, certain pork products, peanut butter, potatoes, and tomatoes. Since the effects of this malnutrition are not immediately obvious there is often less concern over this public health problem than over some others. This, however, does not mean that it is less important! Realizing this, the Federal Government established the Division of Nutrition Services of the Department of Pensions and National Health in November of 1941 to guide a programme of nutrition education in Canada.

The Forty-sixth Annual Report of the Provincial Board of Health referred to the appointment of Miss Mary Baldwin as Consultant in Nutrition in October, 1942. Since that time there has been considerable organization for nutrition education on the Provincial and local levels and a programme has been carried out in a number of centres in the Province. The purpose of the Provincial programme is the same as that of the national programme and the programme is carried out in close co-operation with Nutrition Services. This purpose is to improve the eating habits of Canadians and in so doing improve their standard of health. This involves, firstly, convincing the people that eating the proper foods will make a difference to their health; secondly, making them familiar with the proper foods; and, thirdly, showing them how they can secure and serve these foods to themselves and families at a price which they can afford to pay.



Early in the New Year a Provincial Nutrition Committee, with Dr. G. F. Amyot, Provincial Health Officer, as chairman, was formed to guide the programme in the Province. On this committee are a total of twelve members representing various educational agencies and organizations in the Province. Miss Baldwin is secretary of the Provincial committee. To date two meetings of the committee have been held, one in January and another in May of 1943. There is as well an advisory body to this committee which is made up of home economists and specialists in related fields.

The effectiveness of the educational programme in the various parts of the Province depends on the formation of a representative local committee of public-spirited men and women who can advise regarding local nutritional problems and effective measures for attacking these problems. Generally speaking, local home economists, public health personnel, welfare field service staff, and storekeepers as well as local organizations are represented on these committees. The organizing in the initial stages is done with the co-operation of the local public health personnel, in most cases, the Public Health Nurse. There are no advisory bodies, at the local level. To date there have been thirteen local committees formed in the Province.

The usual educational methods are used to reach all groups in the community, adults and children, men and women. Talks, demonstrations, exhibits and displays, showing of films, distribution of literature, the printing of articles in newspapers are the methods most frequently used. The information conveyed by these methods is non-technical and is based on the foods to be eaten each day rather than on a technical discussion of food elements such as the minerals, vitamins, carbohydrates, etc., which make up the foods. This policy is in line with that of Nutrition Services and also in line with the purpose of the programme which is to persuade people to choose and eat the proper foods rather than merely to give them an understanding of the elements making up these foods.

There are at present three Nutritionists working on this programme in British Columbia: Miss Baldwin, appointed by the Provincial Board of Health in October, 1942; Miss C. MacLeod, appointed by the British Columbia Division of the Canadian Red Cross Society in January, 1943; and Mrs. Frances Copeland, appointed by the Greater Vancouver Health Committee in May of 1943. Each of these workers has a clearly defined territory to work in and in this way duplication and overlapping are avoided. The Nutritionists carry out similar programmes in each of their respective areas and meet periodically to discuss their programmes and make use of one another's experiences.

In carrying out a programme in a given area, Nutritionists make use of all resources of the community in such a manner as to offer a maximum of information with the minimum of time spent in the area. Trained personnel available for voluntary work in this field, as in others, is limited in number. Late in the fall a plan using lay leaders to carry information to women's groups was tried in one area of the Province. It is too early to report on the effectiveness of this plan.

Apart from the development of the above-mentioned general programme in the Province, the work of the Consultant in Nutrition has included advising other Government departments, particularly the Department of Education and



the Social Assistance Branch of the Department of the Provincial Secretary, on nutritional matters, answering correspondence from the general public on matters relating to nutrition, and representing the Provincial Health Services on various local, Provincial, and National organizations, such as the Women's Regional Advisory Committee, the British Columbia Nutrition Committee, the Health League of Canada, and the Canadian Council on Nutrition. It has also included serving as chairman of a committee formed to draw up plans for and manage the operation of a cafeteria in the Parliament Buildings for the use of Civil Servants and Government employees. A feature of this cafeteria is the serving of nutritionally balanced meals at a reasonable cost.

In conclusion, it could be stated that the results to date have demonstrated a need for the development and improvement of the programme outlined above. Large areas of the Province have yet to be visited for the first time and, where local committees have been already set up, these require guidance in the expansion of the programmes under way. The greatest assistance which could be given at the present time would be an increase of trained personnel to carry on the work.

## SUMMARY REPORT OF THE DIVISION OF VITAL STATISTICS.

J. D. B. SCOTT, B.A., B.COM., DIRECTOR.

### INTRODUCTION.

The Division of Vital Statistics has two main functions to perform. The first is the registration, collection, tabulation, and analysis of births, deaths, and marriages and other associated data like adoptions, divorces, changes of name, etc., occurring within the Province. The second is to provide statistical analysis and services for the Provincial Board of Health. It must co-operate with the other Divisions of the Provincial Board of Health in carrying out the public health programme laid down by the Provincial Health Officer.

The ensuing report endeavours to give an idea of what has been done during the year and also what remains to be done in the future. It will be noticed that many of the activities of the Division and the progress made have been summarized either under the heading of "The Division's Contribution to the War Effort" or else under the heading "The Effect of the War on the Division of Vital Statistics." Under these headings subjects like the volume and extent of the verifications done by the Division, the services performed in connection with legal procedures relating to vital statistics, various lists of births, deaths, and marriages supplied, the handling of the death records of overseas casualties, comments on the volume of registrations received, problems in staff turnover, and the protection and preservation of records are included. A summary of the problems in connection with the completeness of birth and other registrations has been made. Particular reference is made to Doukhobor and Indian registration problems. Legislation, both new and proposed, governing the administration of the Division has been mentioned. Details of active co-operation between the Provincial Board of Health and its Divisions have been outlined. The Dominion-Provincial Conference on Vital Statistics is reviewed.

In general, the report purports to show a greater degree of activity along most lines than in comparison with the previous years. The Division itself has



grown in size but so also has its obligations and problems. The report, finally, concludes with a review of the most important problems to be encountered in the future.

#### THE CONTRIBUTION OF THE DIVISION OF VITAL STATISTICS TO CANADA'S WAR EFFORT.

The Division of Vital Statistics' contribution to Canada's war effort was greater in 1943 than in any previous year of the war. Only the most important items of assistance in the war effort are outlined herein.

*Documentation for Dependents' Allowance Board.*—Vital Statistics records pertaining to members of the Armed Forces must be carefully scrutinized and documented. As the Division of Vital Statistics is the official repository for evidence of this nature in the Province of British Columbia assistance was given to the Dependents' Allowance Board in searching and certifying 18,788 records. This was an increase of almost 10 per cent. over the year previous. The total number of records so documented since the outbreak of war was 60,651.

*Military Verifications.*—In addition, it was necessary to supply 4,786 verifications of births and marriages, etc., for recruiting purposes. All recruits to the Air Force must supply proof of age and any army recruits around the age of 17 or 18 must also supply proof of age. Whenever an individual about to enlist does not present his birth certificate the instructions are to write this Division for free verification. Rather than return the verification to the individual the Division requests the address of the recruiting officer from the applicant, if it has not already been supplied, and sends the verification directly to him, notifying the applicant of the action taken. It was found that verifications in the hands of potential recruits were sometimes tampered with to suit the individual's purpose. This represented a small decrease of 286 verifications from the year previous. This slight drop may be explained by the fact that the Dependents' Allowance Board do not require certificates of verification but prefers to have the complete marital documentary history of a member of the Armed Forces checked on a single completed form (D.A.B.-4). Instructions, after representations were made by the Division, were sent to recruiting officers stating that verifications of marriage and birth of dependents, etc., in the event they were not able to present certificates of their own at time of application, was unnecessary. The elimination of these verifications ended a certain amount of duplication in documentary certification.

*Fees waived for Military Purposes.*—The Division continued to waive the statutory fees for delayed registration of birth (114), legitimation of birth (41), alteration of Christian name (4), and correction of documents (68), etc., providing it was for military purposes. Each of these foregoing processes require considerable time and effort. A complete report was made on each of these cases to the Dependents' Allowance Board in Ottawa.

*Co-operation with National Registration.*—The Division continued to carry on other obligations previously undertaken to assist in the war effort. A monthly list containing the name, age, and date and place of death of deceased persons 16 years and over was tabulated and sent to Ottawa to the National Registration authorities. The Division also undertook the collection of the National Registration cards of every deceased person from the undertakers. Furthermore, a



printed notice is enclosed with every marriage licence to the effect that notification should be made to the local postmaster of any marriage or change of address.

*Co-operation with National Selective Service.*—The Division continued to supply the National Selective Service authorities in British Columbia with a monthly list of single, divorced, and widowed men dying between the ages of 16 and 45. Certain military call-up notices have been returned to the National Selective Service in the mail marked "deceased." The Division carefully searches its records to verify the alleged death, sometimes without success.

*Co-operation with Wartime Prices and Trade Board.*—For the greater part of the year the Division of Vital Statistics supplied the Rationing Division of the Wartime Prices and Trade Board with both lists of deceased persons and also of brides and grooms according to residence. At the close of the year, however, it was decided that a list of deceased persons only was necessary in the future. The Division enclosed a printed notice with every marriage licence or change of name regarding the duty to register with the Ration Division.

*Verifications for Persons in Enemy-occupied Countries.*—The Department of External Affairs of the Federal Government approached the Division in order to provide verification of birth of British Columbia born persons now living in enemy-occupied countries. While the number of such verifications issued has been small the Division has been assured that verifications of this nature are most important in establishing identity when arranging for a possible repatriation of such persons.

The Division has endeavoured to help the men in the Armed Forces as much as possible whenever it came in direct contact with them. Often they, or their intended brides, were about 21 years of age and every effort was made to facilitate the obtainment of proof of age and proper consents which is required before a marriage licence can be issued. They were given advice and assistance regarding vital statistics procedures, relating both to this Province and elsewhere.

*Statistics of Overseas Casualties.*—In normal times the Division of Vital Statistics is able to give a fairly representative statistical picture of the mortality experience of the population of the Province. With the outbreak of war and the transfer of many men overseas this can no longer be done as accurately as before unless an adjustment could be made. Future mortality and population studies would be subject to a statistical bias due to the absence from the known figures of the personnel of Canada's Armed Forces who were killed or died overseas during their period of enlistment. Recognition of this fact led the Dominion Bureau of Statistics and the Department of National Defence as well as all the Provincial vital statistics offices throughout the Dominion to co-operate in obtaining all such available information on duplicate standard death registration forms. This Division endeavoured to secure information of a personal and statistical nature not shown on the military or naval records, and upon completion of the certificate one copy is retained on the files of the Division and the other forwarded to the Dominion Bureau of Statistics. Ultimately special compilations will be made from these data.

The Division of Vital Statistics made an indirect contribution to the war effort through its policy of co-operation with the other Divisions of the Provin-



cial Board of Health. From a statistical standpoint, this Division endeavours to be the workshop for the other Divisions and hence, just as their contribution to the war effort has increased, so indirectly has that of this Division.

### THE EFFECT OF THE WAR UPON THE DIVISION OF VITAL STATISTICS.

The effect of the war upon the Division of Vital Statistics was marked in 1943 even apart from those items already dealt with under the heading "The Contribution of the Division of Vital Statistics to Canada's War Effort." The continued increase in the number of births is a direct sequel of war-time activity, especially of an industrial and military nature.

*Volume of Registrations.*—The volume of registrations received was greater than the number received in any previous year. The following is a table showing the increase in registration over a ten-year period, 1934 to 1943:—

Year.	Live Births.	Deaths.	Marriages.	Still-births.	Adoptions.	Divorces.	Total.
1934.....	10,616	6,393	4,821	230	158	-----	22,218
1935.....	10,987	6,927	5,020	232	183	264*	23,618
1936.....	11,186	7,254	5,465	236	80	463	24,684
1937.....	13,033	7,981	6,232	254	109	536	28,145
1938.....	13,812	7,455	6,158	259	134	652	28,470
1939.....	13,176	7,626	7,897	279	150	608	29,736
1940.....	15,616	8,386	9,694	280	163	687	34,826
1941.....	17,025	8,617	9,828	308	191	563	36,532
1942.....	18,346	8,916	10,905	313	157	847	39,484
1943.....	20,068	9,918	9,476	338	249	886	40,935

\* Act in force May 1st, 1935.

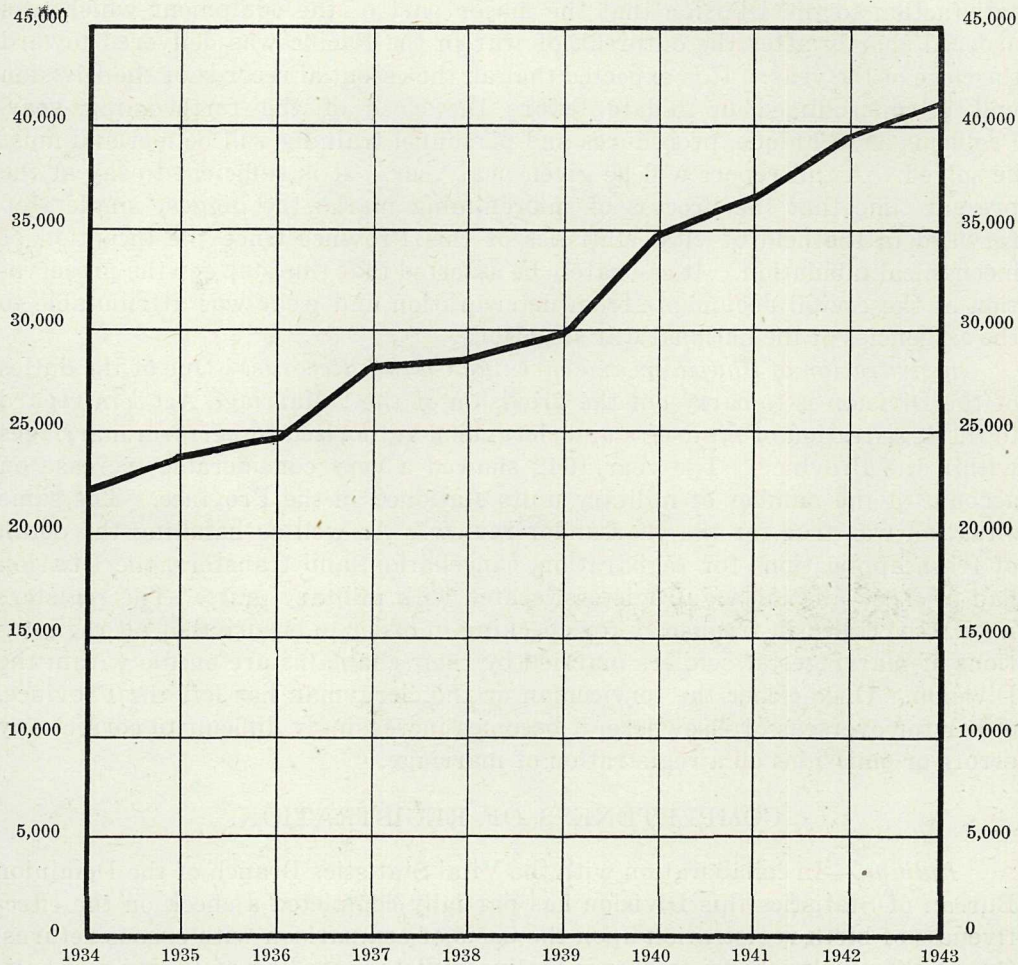
The decrease in the number of marriages would indicate that the reservoir of persons of potentially marriageable age has been decreased sufficiently to make a further increase impossible. Conditions remain just as favourable for marriage as in the year previous on account of the greater economic security afforded either by maximum employment at relatively high wages for those in industry and by assurance of payment of Dependents' Allowance for those in the Services. The increase in the number of divorces registered may be attributed jointly to both the unsettled social and economic condition in a time of war and also to the fact that some of the parties seeking a divorce may be in a better financial condition to afford the legal costs.

*Staff Turnover.*—One of the major problems encountered by the Division of Vital Statistics in the previous year was that of staff turnover. The year 1943 showed a marked improvement. Naturally the effect of inexperienced staff in the previous year left its mark on the work of the Division and mistakes have to be rectified. At the close of 1943 the Division had thirty-six persons on the staff—three more than at the close of the previous year. During the year 1943, fourteen persons left the Division; six of whom obtained leave of absence on account of military service, one transferred to the main office of the Provincial Board of Health, and three resigned in order to continue their education; the rest resigned in the hope of bettering their positions or for personal reasons, such as marriage, etc. Fortunately those members of the staff who had been formerly classified as key personnel remained with the Division. Great credit



goes to these members of the staff in particular, as well as to the junior members who have worked hard in order to carry on the work of the Division.

TOTAL NUMBER OF REGISTRATIONS OF LIVE BIRTHS, DEATHS, MARRIAGES, STILL-BIRTHS, ADOPTIONS, AND DIVORCES REGISTERED IN THE DIVISION OF VITAL STATISTICS FOR THE TEN-YEAR PERIOD 1934 TO 1943.



*Records safeguarded.*—Apart from the adjustments which the staff had to make in connection with the problems arising out of numerous changes of personnel within the Division, they also had to assist in planning and carrying on new procedures occasioned by the transfer of all the original records of births, deaths, marriages, adoptions, divorces, and other miscellaneous records to a new bomb-proof, fire-proof, and water-proof vault located several miles away from the central office of the Division. They were well aware of the cardinal principle of public administration—namely, the necessity to give the public the best possible service with a minimum of inconvenience and delay. Generally speaking, it would appear that this principle has been successfully adhered to by the staff in spite of the difficulties of having the records, which are so fundamental to its operation, apart from the office. If it had not been



for the fear of enemy action it is possible that such a vault would not have been built for some time. It is a matter of great satisfaction to the Division that its vital records are housed in such a safe place.

*Microfilm.*—Under the heading "The Effects of the War upon the Division of Vital Statistics" the necessity for microfilming the vital records of the Province was outlined extensively in last year's report. It is a matter of extreme satisfaction to the Division that the major part of the equipment which was ordered shortly after the outbreak of war in the Pacific was delivered toward the close of the year. It is expected that all the essential records of the Division will be microfilmed up-to-date before the close of the forthcoming year. Problems of technique, procedures and personnel training will be met and must be solved. A full report will be given next year. It is sufficient to say at the present time that the process of microfilming marks the biggest single step forward in the field of vital statistics of this Province since the inception of mechanical tabulation. It can safely be asserted that this step for the preservation of these vital documents from deterioration and wear was attributable to the exigencies of the national war situation.

*Registration of Chaplains and checking Church Records.*—One of the duties of the Division is to carry out the provision of the "Marriage Act" in regard to the registration of ministers and clergymen authorized to perform marriages within the Province. The year 1942 showed a very considerable increase on account of the number of military units stationed in the Province. The same situation was true for the year under review. As well as handling the detail of fresh applications for registration, cancellation, and transfers, the Division had to check all marriage registers located with military units. The registers have to be called in frequently for checking in order to ensure that all registrations of marriages of soldiers married by their chaplains are on file within the Division. Once either the serviceman or the clergyman has left the Province, either for overseas or elsewhere, it becomes increasingly difficult to correct any errors or omissions on a registration of marriage.

#### COMPLETENESS OF REGISTRATION.

*Indians.*—In collaboration with the Vital Statistics Branch of the Dominion Bureau of Statistics this Division has partially completed a check on the effectiveness of birth registration upon the basis of comparison with census returns. One of the results shown to date is the incomplete recording of Indian and half-breed registrations of birth. Commencing with the fall school term a return on all pupils entering both Indian public and residential schools has been required. Furthermore, the doctors, Indian nurses, priests and missionaries, and others interested in Indian work have been circularized by letter asking for their co-operation with this Division in securing full registration of Indian births, deaths, and marriages. The new registration forms were distributed through the Indian Agent. Officials of the Department of Indian Affairs have shown a keen interest and have given the Division every assistance.

*Doukhobors.*—The registration of the births of Doukhobor children has always proved a great problem to the Division. For the past six years the Division has had a special representative working amongst the Doukhobor com-



munities in the Kootenay area of the Province. In spite of the traditional attitude of these people toward registration of vital statistics it was felt that progress was being made, although it was sometimes slow. However, in the last month of the year registration came to a virtual standstill as a result of the stand of the Doukhobors on the matter of registration with the National Selective Service. It is felt that this will only be a temporary situation and that sooner or later the long-time trend of continued improvement of registration of Doukhobor births will again be in evidence.

*Methods of checking Births.*—The customary checks made by the Division to ensure registration of birth were carried on as usual. The co-operation of the physicians in sending in notifications of a live birth or a still-birth has continued to be excellent in spite of the extraordinarily heavy demand on their time. Hospitals, both public and private, have continued to send in most regularly and without exception their monthly return of births. The final method of checking on birth registration—namely, a return from all schools (public, private, and elementary correspondence school) in the Province of pupils entering school for the first time—brought in a fewer number of unregistered births than in previous years.

It is felt that five to six years hence the returns from the school teachers for pupils entering school for the first time will show almost perfect registration of birth. The reason is very evident when it is remembered that under the present rationing system it is necessary for the parents of every child to produce a birth certificate or a baptismal certificate before a newborn child is entitled to its share of rationed commodities. As a matter of fact, many births are registered either on the day of birth or very shortly thereafter and in almost 100 per cent. of the cases birth certificates are issued for rationing purposes at the time of registration. In other words, from the standpoint of completeness of birth registration the current problem of birth registration is being solved in an eminently satisfactory manner.

*Registration of Deaths.*—Registration of deaths has not presented any fundamentally different problems in 1943 from that experienced in previous years. Before a burial permit for a deceased person can be secured the death must be registered. Both physicians and undertakers have continued to co-operate fully with the Division with the effect that virtually every death in the Province has been registered. One or two instances have come to the attention of the Division where coroners have failed to register a death following an inquest or inquiry. Commencing with December the Division will receive a list of all coroners' inquests and inquiries monthly from the Attorney-General's Department. Also, it is planned to secure in the forthcoming year a quarterly return of burials and cremations from all superintendents of cemeteries and crematoria, in accordance with the provisions of section 17 of the "Vital Statistics Act."

*Registration of Marriages.*—It is the duty of every minister, clergyman, or priest to send in a registration of a marriage within forty-eight hours after it has been performed by himself. These returns have been both prompt and complete.

*Indian Marriages.*—Special efforts were made by the Division during the year to ensure better registration of Indian marriages. For the first time



special marriage registers were printed using the new Indian registration form as the format. These registers are the property of the Province but were distributed to all the Indian missionaries. They will be called in periodically for checking in order to ensure as complete registration of Indian marriages as possible.

*Doukhobor Marriages.*—The Division has always had a very considerable problem in connection with Doukhobor marriages. Only a few Doukhobors are married by a minister or clergyman or by means of a civil ceremony. Hence records of these marriages are of little or no statistical value. The Doukhobor ceremony of marriage as such is not recognized as a valid marriage in the Province. Hence no registration of such a ceremony can be received. At present the Division has no accurate knowledge of the number of such Doukhobor ceremonies. It is desirable that some method should be worked out whereby these ceremonies would be on a sound legal basis. This problem is one which may be solved by means of legislation at some future date.

*Mechanical Tabulation Difficulties.*—Under an agreement made in the year 1938 between the Bureau of Economics and Statistics of the Department of Trade and Industry and the Division of Vital Statistics, the Bureau undertook to provide the Division of Vital Statistics with tabulations and compilations of statistical data in such form as may be required from time to time. This agreement was made because the majority of the tabulation equipment of the Division was transferred to the Bureau as a matter of Government policy, leaving only a sorter and two key-punches with the Division. As a result the Division has had to depend upon the Bureau for the majority of its statistical compilations, both for the other Divisions of the Provincial Board of Health and itself. However, as a result of negotiations whereby the Bureau agreed to handle a very considerable volume of war-work deemed essential to the war effort but outside of the Provincial service, the Division experienced very considerable difficulty in obtaining even a minimum of its regular monthly tabulations. Various annual report tabulations were long delayed; in fact, some were not completed even at the close of the year, notwithstanding the necessity for the information in the direction of the various aspects of the public health programme of the Province. Make-shift arrangements had to be made to obtain partial analysis. In some cases work was done in the Division which could have been performed under normal circumstances in the Bureau with perhaps one-quarter or one-fifth of the effort and time. However, it may be stated that just before the close of the year the Bureau had ceased to do work outside of the Provincial service and it is expected that within the period of a few months that the normal volume of work usually tabulated for this Division will be done as formerly within a reasonable time. In other words, this is one of the effects of the war upon the Division of Vital Statistics which had to be met and handled as best the staff could do with the limited equipment at hand.

#### LEGISLATION.

*The "Vital Statistics Act."*—This Act was amended to provide for the compulsory registration of Indian births, deaths, and marriages. Previously the sections of the "Vital Statistics Act" dealing with Indians within the meaning of the "Indian Act" did not make registration mandatory. However,



as a result of representations from the Indian Affairs Branch of the Department of Mines and Resources of the Federal Government plus the opinion of the Division that such an amendment was advisable, the Act was amended to make its provisions applicable to every one in the Province of British Columbia, including Indians.

The following is a brief outline of the amendment. Included was a provision for special registration forms for the Indians. The Act also stated that the Indian registration forms should be kept separate from the registrations for the rest of the Province. Also, every Indian Agent was made ex officio a District Registrar of Births, Deaths, and Marriages for Indians and he has the same duties as the ordinary registrar under the "Vital Statistics Act."

It is felt that the Indian Affairs Branch will have less difficulty in the future with matters relating to documentary proof of ages and other vital statistics matters than previously experienced. The legislation was also desirable from the standpoint of making it possible to reduce the amount of incomplete registration amongst the Indians. Documentation of Indians serving in Canada's Armed Forces sometimes proved difficult in the past on account of unsatisfactory Indian vital statistics records. Statistics obtained from these records also must necessarily be incomplete. It is expected as a result of this legislation that there will be a gradual improvement in registration amongst those who are classed as Indians within the meaning of the "Indian Act."

*Proposed Amendment re Doukhobor Marriages.*—It has been previously pointed out in this report that the situation regarding Doukhobor marriages is most unsatisfactory. The status of marriages "by Doukhobor custom" has a very important bearing in regard to the legal rights and responsibilities of the parties, the status of their children, and in regard to the distribution of property upon the death of one of the parties. Recommendations have been made that legislation be requested by the Division to enable Doukhobor marriages to be recognized as valid if performed under certain conditions such as the issuance of an ordinary marriage licence, the authorization of a suitable person to witness the marriage, and the subsequent registration of the event itself. This matter of so-called "Doukhobor marriages" is a most vexatious problem not only to the Division but also to other Government departments administering matters relating to the Doukhobors. Consequently the whole subject is being given very careful consideration.

There was no revision of either the "Marriage Act" or the "Change of Name Act" during the year 1943.

#### CO-OPERATION WITHIN THE PROVINCIAL BOARD OF HEALTH AND ITS DIVISIONS.

The policy of having the Division act as an adviser on forms, codes, statistical procedures, and format of reports has been carried out in accordance with the general plan of co-ordinated effort outlined by the Provincial Health Officer. The Division continued to render very tangible assistance to the Divisions of Tuberculosis Control and Venereal Disease Control respectively in the preparation, tabulation, compilation, and presentation of their monthly and annual reports. Acting in his capacity as Supervisor of Medical Records to the Provincial Board of Health, the Director of Vital Statistics checks all statistical and medical forms for duplication of data and uniformity in questions, etc.



*Service to Division of Tuberculosis Control.*—Various fundamental changes were made in the record system of the Division of Tuberculosis Control occasioned by the necessity of stream-lining the amount of work for record purposes. As a result of new techniques a greater volume of persons will be X-rayed for evidence of tuberculosis than ever before. The amount of record-keeping must be kept to a minimum on account of both the necessity of handling as many patients as possible within the shortest time and also by the limitation of obtaining suitable clerical staff. In the designing of the new system efforts have been made to make pertinent statistical data readily available for the purposes of daily administrative control.

In order to appraise the Division of Tuberculosis Control of any possible cases of tuberculosis which were heretofore unknown the Division of Vital Statistics has supplied its District Registrars with a form letter addressed to the Director of the Division of Tuberculosis Control regarding certain essential particulars of a death which has been registered with the local Registrar. This form letter is sent immediately upon filing of the death registration in the district office. The Division also continues to compile a monthly list of all tuberculosis deaths which is sent regularly to the Division of Tuberculosis Control. However, the notices sent by the District Registrars reach the Division of Tuberculosis Control much earlier than the list and hence in the case of a previously unknown case contact-finding can be commenced immediately.

*Service to Division of Venereal Disease Control.*—The Division of Vital Statistics in the latter part of the year has given the services of its technical adviser on records, located in Vancouver, to the Division of Venereal Disease Control to partially assist in the completion and handling of one of its most highly technical statistical records. This record comprises a most complete statistical summary of either a syphilis or gonorrhœa patient during the period of his treatment with the Division.

*Other Services.*—This same Vancouver representative of the Division of Vital Statistics also has undertaken to supervise the epidemiological returns made weekly by both Divisions of Tuberculosis Control and Venereal Disease Control to the central office of the Provincial Board of Health located in Victoria.

The Division of Vital Statistics has undertaken the responsibility of compiling the statistical data from the newly revised medical inspection of schools report. These report forms have been applied to the punch-card system and thus make available a potentially greater breakdown of statistical information on the examination of school children than was heretofore possible. The Division continues to assume responsibility for the daily report of the Public Health Nurses—this is another punch-card application.

Statistics on cancer notification have also been punched and tabulations have been made as and when requested by the Provincial Health Officer.

The Division of Vital Statistics continued to give assistance to the Bureau of Local Health Services of the Provincial Board of Health both regarding supplying information of a statistical nature such as population estimates, etc., for both established and proposed Health Units. Access to the records of births and deaths (exclusive of illegitimate children) filed with the local District Registrars was granted to the established Health Unit directors in order



to assist them in their day-to-day work within the area. Without such information a local public health programme cannot function effectively.

The Division of Vital Statistics continued to carry on the editing and publishing of the Provincial Board of Health Bulletin. In all, 183 pages of material were mimeographed in the year 1943. The circulation of the Bulletin was in excess of 625 copies. This represents a cut of almost 50 per cent. in circulation over the year previous. This was done as a measure of war-time economy—only those persons or agencies who definitely requested the Bulletin are now receiving it, apart from certain designated individuals or agencies. An effort must be made in the forthcoming year to have more articles contributed by members of the staffs of the different Divisions. This year practically no material was received from these sources.

It may again be reiterated that it is the aim of the Division of Vital Statistics to be the workshop of public health for the Provincial Board of Health. Only some of the most important work done by the Division has been listed above.

### THIRD DOMINION-PROVINCIAL CONFERENCE ON VITAL STATISTICS.

On October 7th, 1943, representatives of the nine Provinces, the Dominion Government, and other interested organizations such as the Canadian Medical Association, the Canadian Public Health Association, the Canadian Tuberculosis Association, the Welfare Council, the Life Insurance Officers Association, and the Health League of Canada met in Ottawa for the first conference on vital statistics in twenty-five years. Such a conference was long overdue as over this period of time many subjects required discussion and decision. The following subjects are only a partial list of the matters considered:—

*Tabulations by Residence.*—One of the most important decisions made at the conference was to tabulate the majority of the printed vital statistics tables released by the Provinces and the Dominion Bureau of Statistics on a basis of residence rather than according to the place of occurrence of the event. The reason for the decision to make this fundamental change was on account of the number of births, deaths, or marriages which were occurring in urban areas, particularly cities like Vancouver and Victoria, where the persons concerned were residents of the adjoining municipalities. Urban birth-rates become distorted through inclusion of non-resident births in tabulations on a basis of place of occurrence. Often mortality rates on the basis of place of occurrence of the death are extremely high in the case of a city like New Westminster, simply because all the hospitals serving a large surrounding area are concentrated within the city limits. Tabulation by place of residence will give a far more accurate picture of the vital statistics of organized areas. Certain minimum basic tables will have to be compiled on a basis of place of occurrence, especially for deaths from accidents and communicable diseases. These changes will come into effect with the tabulation of the 1944 vital statistics for the Provinces and the Dominion.

*Indian Vital Statistics.*—Representatives of the Indian Affairs Branch of the Department of Mines and Resources were present at the meeting and as a result of their representations it was decided by the delegates to endeavour to comply with the request of the Indian Affairs Branch to segregate the registra-



tion of Indians within the meaning of the "Indian Act" from the registrations of the rest of the population. It was decided to give a year's trial to the new registration forms especially drafted for Indians which are now in use in British Columbia. When these forms were originally drafted they were designed with this purpose in view.

*Uniformity in Forms.*—Consideration of the present forms used by the Provinces for the registration of births, still-births, deaths, and marriages was given by the delegates present with the result that revisions will be sought that will tend to make the recording of vital statistics more uniform throughout the Dominion.

*Standardization of Published Data.*—There was some discussion on the standardization of statistical data published in the annual reports of the various Provinces, but no final decision was reached. Each Province felt that it had its own particular problems which it must highlight, although there was a general agreement that certain basic tables should be shown in each Province's report. This is a subject which was left for further study at another conference in the future.

*Divorce Statistics.*—A full discussion was held on the subject of divorce statistics in Canada. It is felt that the Dominion Bureau of Statistics should provide a lead in the determination of what was required in the way of uniform statistics and then it would be the responsibility of the Provinces to endeavour to secure whatever data had finally been decided upon after the subject had been fully discussed at the next conference.

*Premature Births and Still-births.*—A report was made by the Vital Statistics Branch of the Dominion Bureau of Statistics on the subject of "Treatment of Live Births under Twenty-eight Weeks' Gestation, and the Definition of a Still-birth." The practice of the Dominion Bureau of Statistics in regard to the treatment of a prematurely born foetus where the period of gestation was given as less than twenty-eight weeks but where the child was born alive but lived less than twenty-four hours, is to consider the event statistically NO BIRTH. The effect of discarding live births under the conditions mentioned above was to lower the infant mortality rate from at least one to four per thousand live births, possibly more. In contrast the criterion in England and Wales and the United States is that "No child that shows any evidence of life after birth" is classed as a still-birth. It was decided by the conference that infants who are live-born in a clinical sense were to be included in both the birth and death statistics even although the period of gestation is stated to be less than twenty-eight weeks or six and one-half months. The redefinition of a still-birth was left for further study.

*Delayed Registration Standards.*—The subject "Adoption of Canadian Standards for Delayed Registrations of Birth" was one of the major topics of discussion at the conference. At the present time there is little or no uniformity on this matter between the respective Provinces. A committee was organized to work on this problem in the forthcoming year. The committee consists of the Deputy Registrar of Vital Statistics for the Province of Alberta, the Acting-Recorder of Vital Statistics for the Province of Manitoba, and the Director of Vital Statistics of this Province. It was felt that as high a standard as possible should be set for delayed registration of birth in view of the doubt



cast by some users of vital statistics records on the authenticity of certain delayed registrations of birth.

*The Need for Up-to-date Statistics.*—At the present time the annual reports of the various Divisions and also the Report of the Vital Statistics Branch covering the Dominion as a whole are usually published anywhere from one year to two years later. Naturally much of the subject-matter has lost its timeliness and is of little interest to the general public. The conference felt that methods must be worked out whereby faster releases of information could be made. Apart from sending transcripts promptly to Ottawa at the end of each month covering current registrations, it was suggested that some procedure should be worked out whereby the preliminary work done by the Divisions could be used by the Dominion Bureau of Statistics in order to save coding and punching-time. Before such a procedure is feasible uniform codes and coding practices must be adopted throughout Canada, including classification of causes of death. This presents a problem to British Columbia as this Province's classification of causes of death has not been according to the rules set for Canada but on the basis of the physician's own statement of cause of death, which is the practice followed by England and Wales at the present time.

*General Remarks.*—Many other subjects of importance to the Registrars were discussed both in the conference and outside its confines. The conference itself presented an opportunity for the Provincial Registrars to meet each other for, in most cases, the first time. It was most stimulating to be able to exchange opinions and experiences on subjects of mutual interest. Because the conference was so successful a recommendation was made that it be held annually thereafter. Indications are such at the present time as to portend such action.

Because of careful synchronization of dates with the conference the Director of the Division was able to attend the annual conventions of both the American Public Health Association in New York and the Canadian Public Health Association sessions in Toronto and Ottawa. Opportunity was also given him to visit the vital statistics divisions of the Provinces of Alberta, Saskatchewan, Manitoba, Ontario, and the New York city and state offices. These inspections of other divisions were most valuable. Ideas were gleaned which will be tried in British Columbia and will be adopted if found applicable.

#### DISTRICT REGISTRARS' OFFICES, ETC.

At the close of the year the Division of Vital Statistics had eighty-six district offices and fourteen sub-offices. There are 120 Marriage Commissioners and thirty-five Issuers of Marriage Licences appointed under the "Marriage Act." Necessarily, inspection of district offices should be carried on regularly. This is one of the fundamentals of a sound registration system emphasized by the Chief of Vital Statistics of the United States Census at the recent Dominion-Provincial Conference. It was his opinion that unless the vital statistics system was functioning satisfactorily on a local basis that the accuracy and validity of any statistics would be subject to question. The Division shares this concept in an endeavour to strengthen the local registration system. Some thirty-six district offices were inspected during the year and five out of the nineteen Indian Agencies of the Province were also visited. Some of these offices had never been previously inspected and the inspection proved most worth while from the



standpoint both of checking on the records kept in the district offices and instructing the District Registrars and their deputies on points in connection with their work. Generally speaking, it was found that the District Registrars took a very keen interest in their work for this Division. They have co-operated well throughout the year and have been prompt in sending in their returns. It may be said that our working relations with the various district offices have been most cordial and effective. The Division plans to continue its inspections hoping to visit each office within a period of every two to three years.

#### ADMINISTRATION OF THE "MARRIAGE ACT."

*Registration of Denominations.*—One of the biggest problems confronting the Division in the administration of this Act is in connection with the qualifications of a religious denomination making application for the first time for authority for its ministers or clergymen to perform marriages within the Province. The governing authority of the denomination must submit evidence in conformity with the provisions of section 4 of the "Marriage Act." Decision must be made by the Registrar (Director of Vital Statistics) as to whether the religious body is sufficiently well established both as to continuity of existence and as to recognized rites and usages respecting solemnization of marriage to warrant, in his opinion, the registration of its ministers and clergymen as authorized to solemnize marriage. A certified copy of the record of the minister's ordination or appointment, and a copy of the by-laws or rules of church government containing the rites and usages of the body as to the appointment of ministers and clergymen as well as those respecting the solemnization of marriage are required. It is considered that some evidence regarding the value of the church property, the extent of its endowment, and its financial position generally is necessary as affecting the question of continuity of existence referred to in clause (d) of section 4 of the "Marriage Act." Determination of the continuity of existence is usually the crux of the matter upon which the decision rests as to whether to recognize a religious body or not.

During the year ten denominations applied for registration under the "Marriage Act." One, the Ukrainian Orthodox Church of North America, was recognized. The decision of the Registrar refusing registration was appealed in one instance and the decision of the Supreme Court held in favour of the Registrar. One or two other applications were in order with the exception of minor details which prevented recognition for the time being. It is not the policy of the Division to recognize any denomination of a "mushroom growth" type of organization as this does not appear to be the intent of the "Marriage Act."

*Validation of Marriages.*—It was necessary to validate a number of marriages which were performed in good faith by ministers unregistered under the "Marriage Act." Three of these were American army chaplains who were unfamiliar with the regulations regarding marriage in this Province. Several cases remained outstanding at the close of the year where either the clergyman concerned or the parties to the marriage could not be located. However, it is anticipated that validation of these marriages will be completed at an early date.

*Accounting for Marriage Licences, etc.*—A fundamental change was made regarding the accounting for marriage licences and civil marriages. Under a



ruling received from the Attorney-General's Department the fees paid at the time of application for a marriage licence are immediately brought to revenue instead of being kept in suspense until expiration of the three-day waiting period which was the former procedure. Furthermore, the fee for civil marriage is not payable at the time that notice for an intended civil marriage is posted but rather is payable at the time of marriage. The change is one relating almost to purely internal administration and has little bearing on the public. So far it appears to be working out well.

*Minors.*—The Division is quite strict in demanding a proper proof of age in the case of any one wishing to be married who might possibly be a minor. Very often it was difficult for minors to either produce proof of age or consent of their parents if they came from a very isolated part of the Province or else came from some other Province. A ruling was received from the Department solicitor which pointed out that the term "writing" in the "Interpretation Act" allowed the Division to receive telegrams giving proof of age or divorce or consent of parents. The Issuer or Marriage Commissioner has to be satisfied that the telegram is *bona fide* and if he is in doubt he is at liberty to withhold the licence until such time as he is given what he deems to be satisfactory proof or consent. Usually telegrams are sent by the Issuer specifying that the reply be directed back to himself. The result of this ruling has been to permit the issuance of a licence following the customary three-day waiting period instead of creating a delay of a number of extra days, as was the case formerly.

*Immediate Marriages.*—There is provision in the "Marriage Act" for the issuance of immediate marriage licences if the reasons stated by the applicant are such as to satisfy the Issuer that it is expedient and in the interests of the parties that an intended marriage be solemnized forthwith. The Division has had many applications for an immediate marriage licence, especially by soldiers who, on short notice, are either being posted elsewhere in the Dominion or overseas, or who are about to go on a leave. The policy of the Division has been that no immediate marriage licence or no marriage by civil contract will be performed unless the consent in writing of the officer in command is first given. This policy is applicable to the three services. The Division understands that the parties to the intended marriage are investigated by both the officer in command and also the chaplain of the unit to which the man belongs. It is felt that hasty or improper marriages have been prevented by means of this check. The Division has a number of applications for immediate marriage licences from citizens of the United States. As a general rule no marriage licences or civil marriages are allowed in such cases unless the parties have previously carried on correspondence with the Division indicating their desire to be married and setting forth their qualifications as to age, marital status, consent of parents, occupational status, etc. It is not the policy of the Division to give any encouragement whatsoever to hasty marriages.

#### PROBLEMS OUTSTANDING AT THE END OF THE YEAR.

*Goal in Registration.*—The first and perhaps most fundamental problem of the Division remains the necessity for full and complete registration of births, deaths, and marriages. It must ever be the aim of the Division of Vital Statistics to secure every registration of a vital statistics event that occurs within



the Province without delay and with full and true particulars. Vital records of all kinds are the raw materials of statistics used in planning, appraisal, or study of public health programmes, population movement, and a variety of social services. Moreover, there are increasingly numerous occasions on which it is necessary to have official documentary proof of the status of a particular individual with respect to nativity, marital condition, and familial relationships, or death. In view of these requirements full and complete registration must ever be the goal of the Division of Vital Statistics.

Problems relating to Indian, Doukhobor, and other minority groups in the Province where registration is difficult to obtain must be given consideration by the Division in the forthcoming year.

*Standards for Delayed Registration, Correction of Documents, Legitimation Procedures, etc.*—The necessity for the adoption of a high standard of delayed registration of birth forces on the Division the desirability of setting up adequate registration rules early in the forthcoming year. The experience gained in the operation of such rules of delayed registration should prove valuable in determination of the standards which will be set for Canada as a whole.

An associated matter is the necessity to set standards for procedures in regard to the changes of a given name under the "Vital Statistics Act," correction of documents, and checking of statements made in connection with the legitimation of birth.

The Division must always strive towards assisting to a greater degree the Provincial Health Officer and the other Divisions under his jurisdiction. Better statistics on the local health level must be evolved for better guidance of local health problems, especially those where health units have been established. All possible help must also be given to the Bureau of Local Health Services regarding estimates of population, birth and mortality statistics, epidemiological statistics, training of statistical clerks, and statistical analysis of the Provincial Public Health Nurses' work. The Division must give more attention to the analysis of its own vital statistics. Studies must be made regarding recent trends in infant mortality, maternal mortality, the communicable diseases, and on causes of accidental death within the Province. It is felt that there are statistical data here which would provide excellent material for preventive health education if the statistics are properly compiled and presented, especially graphically. More use must be made of the Provincial Board of Health Bulletin as a medium for releasing information of this type. Other problems will press themselves upon the Division in the forthcoming year, but these must be considered as of paramount importance and dealt with accordingly. The experience of the Division in the past year has been that its staff has a spirit of co-operation and interest in the work that will ensure a strong effort toward solution of these problems in the forthcoming year.

## REPORT OF THE DIVISION OF LABORATORIES.

C. E. DOLMAN, M.B., B.S., M.R.C.P., D.P.H., PH.D., DIRECTOR.

### INTRODUCTORY COMMENTS.

All estimates of the probable turnover of work in the Division during 1943 were greatly exceeded. Already, by the end of November only, there was



a 15-per-cent. increase in numbers of tests done in the central laboratories as compared with the total for the whole year 1942. When the figures for the whole year's work are available it is probable that they will reveal a greater rate of increase than in any previous year of the Division's history. Moreover, this task has had to be faced without commensurate enlargement of the staff. The branch laboratories likewise handled more work under difficulties.

Some alleviation of the chronic accommodation problems was afforded by the acquisition and conversion of the fourth cottage on Hornby Street, Vancouver, which was put into use in February. The greater part of the space thus afforded, however, was relegated to the work of the Red Cross Blood Donor Service.

### TESTS RELATING TO VENEREAL DISEASE CONTROL.

The persistently upward trend noted for the past eight years in serodiagnostic tests for syphilis was especially pronounced in 1943. During the first eleven months of the year, over 79,000 specimens of blood were received for such tests by the Vancouver laboratories, 23 per cent. more than were received during the whole of the previous year. As forecast in the last annual report, early in the year a new system was instituted to bring the procedures into conformity with the recommendations of the special conference held at Ottawa in the summer of 1942.

The tests performed on Red Cross blood donors steadily increased during the year, accounting largely for the higher totals in this category. Of nearly 20,000 donors now tested, those showing a positive or doubtful serological reaction for syphilis have comprised less than 0.3 per cent. Such findings, at times of great scarcity of staff, make the case-finding value of these tests on blood donors of too little significance to warrant their continuance; especially when the more important pre-marital tests are not being carried out in the Province owing to lack of laboratory facilities. There never has been even a theoretical danger of the transmission of syphilis through the medium of reconstituted dried blood serum, since the processing of the blood involves filtration, in addition to freezing and drying. It is indeed gratifying, therefore, that the decision should have been made very recently by the National Committee of the Red Cross Blood Donor Service to forego further serological testing on blood donations. This decision will bring, in the new year, a real measure of relief to a particularly hard-pressed section.

Beginning in October, the Division entered into an agreement with the Department of National Defence whereby the latter agreed to pay 15 cents for each blood specimen examined from army recruits, a small postage allowance being also made. Although it will not cover the total cost of all laboratory-work done for the Armed Forces, the sum involved is most acceptable. The branch laboratories have no part in these arrangements, since they are not engaged in the examination of blood specimens from army recruits. Moreover, with the exception of Victoria, none of the branch laboratories is sufficiently staffed and equipped to undertake the complement-fixation test.

During the year, approximately one person will have been blood-tested for every seven residents of the Province—surely a remarkable figure. The importance of the tests carried out by this Division in helping to bring about the



creditably low incidence of syphilis in this Province is seldom publicized, but can hardly be exaggerated. Special acknowledgment is due to Miss E. M. Allan, Serologist in charge, for the excellent way in which she, and the team of technicians and assistants working with her, have coped with so many difficulties.

Appreciable increases occurred in the numbers of direct microscopic examinations for gonococcus, and more particularly in cultural examinations for this organism. Various changes in technical staff concerned with the smear examinations presented special difficulties, since this is a trying assignment, requiring not only a good deal of concentration on a rather dull task, but also an awareness of the fact that the old criteria for microscopic identification of gonococci may stand in need of revision. Treatment by the sulpha drugs is quite possibly modifying the appearance of smears in many instances, and may also conceivably change the colonial form on culture. The mere use of the oxidase reactions for identifying gonococcus colonies would seem insufficient in the light of accumulated experience. This is especially true when the cultural method is resorted to, despite undertakings to the contrary, as a means of diagnosis, instead of as a more sensitive method of detecting residual gonococcal infection in known chronic cases. This whole question of the laboratory diagnosis of gonorrhœa requires intensive re-examination, and it is regrettable that, so far from being able to conduct a badly needed investigation in this field, the Division had the greatest difficulty in coping with the large numbers of smears received daily, finding it necessary at times to distribute these among several workers of various degrees of experience.

#### ANIMAL INOCULATIONS.

An increase of about 50 per cent. was shown in the number of animal inoculations. This was due both to greater demands for guinea-pig inoculation of suspected tuberculous material and to the need for virulence tests on suspicious diphtheria-like organisms. Many troubles were met in maintaining the necessary supply of guinea-pigs.

#### GENERAL COMMENTS ON OTHER TESTS.

Although the greatest increases occurred in tests relating to the diagnosis and control of syphilis and gonorrhœa, almost all sections of the work showed expansion. War-time conditions were largely responsible for marked fluctuations in turnover of the various tests, which led to frequent crises in the sections concerned. Outbreaks of dysentery, scarlet fever, or diphtheria, for instance, occurred in the Armed Forces stationed in British Columbia during the year, so that large numbers of additional stool specimens and throat swabs were sent in with little warning. Several new army regulations involving public health laboratory-work became operative during the year; while the more awakened interest in the health of industrial workers, particularly in the Vancouver shipyards, was reflected in requests for Kahn test surveys, and for stool cultures on food-handlers.

Again, the very proper interest taken by the Armed Forces in their milk and water supplies occasioned numerous special examinations in these cate-



gories. Fortunately, the war has caused many raw-milk distributors in Vancouver to go out of business, so that a reduction in the numbers of routine monthly examinations of raw-milk samples taken by city sanitary inspectors permitted the laboratories to meet these special requests. In passing, it should be mentioned that certain of those raw-milk distributors which remain in business are not purveying safe milk. There was a notable increase in the number of probable cases of human brucellosis (undulant fever) identified in the laboratories, especially in the latter part of the year. It is more than regrettable that in this Province which has a high incidence of Bang's disease among its cattle not one municipality has a compulsory milk pasteurization by-law in operation.

Chlorination of the water-supplies of certain coastal cities, including Vancouver, Victoria, and Nanaimo, was put into effect towards the end of the year as a result of a Federal Government order, made under the "War Measures Act," chapter 206. This order was based on the failure of the water-supplies in question to conform to the internationally accepted U.S. Treasury Standards for bacteriological analysis of potable water-supplies. The fact that these supplies were only of fair quality from the bacteriological standpoint has been proclaimed for several years. The main point is that, for the duration of the war at least, these coastal cities enjoy a safe water-supply.

Miss V. G. Hudson, the Bacteriologist responsible for milk and water examinations; Miss J. McDiarmid, the Bacteriologist in charge of throat-swab examinations and tuberculosis cultures; and Mrs. J. Hardy, the Bacteriologist in charge of cultural examinations of faeces for typhoid-paratyphoid-dysentery infections, all deserve special commendation for skilful and conscientious performance of their duties in an exceptionally trying year.

#### DISTRIBUTION OF BIOLOGICALS.

The amounts of vaccines, toxoids, and serums distributed free of charge by the Division showed a very substantial increase again this year, far exceeding the estimates. Products to the value of nearly \$20,000 will have been distributed during the year, the great majority of which, as active immunizing agents, represent cheap and secure investments in effective barriers to infection within the community. Only a few years ago, less than one-quarter of this sum was spent annually for the same purpose, and a far greater proportion of the products distributed became out-dated. It is gratifying that faithful, persistent teaching of the public by Provincial and local Health Services should be reaping dividends in the shape of readiness—indeed, sometimes eagerness—of parents to have their children protected by immunization.

During the year two new products—diphtheria toxoid and pertussis vaccine (combined) and alum-precipitated diphtheria toxoid—were added to the list of biologicals prepared by Connaught Laboratories, and are available on requisition to the Division. The former product permits protection against both diphtheria and whooping-cough to be conferred by a single series of three injections, given preferably during the first year of life; while the latter has the advantage over ordinary diphtheria toxoid of requiring only two injections.

By careful scrutiny of every requisition, and by writing frequent reminders to return unused products to the laboratories for redistribution, many hundreds



of dollars were saved. Mrs. Allen, who exercised general supervision over the office-work of the laboratories, included the handling of requisitions for biologicals among her special responsibilities, and deserves commendation for the efficiency displayed.

#### RED CROSS BLOOD DONOR SERVICE.

As already intimated, the year saw a big increase in the undertakings with respect to the laboratory aspects of the Provincial Red Cross Blood Donor Service. It may be pointed out that the success and scope of this service has from the beginning hinged upon the laboratory supervision voluntarily offered by this Division. Numerous difficulties involving equipment, accommodation, and technical personnel were met and surmounted during the year, and the laboratories are now believed to have reached the maximum turnover which they can handle—namely, about 2,500 donations monthly. The arrival of two long-awaited centrifuges, and a co-operative arrangement made with Shaughnessy Military Hospital for sterilization of the outfits for taking blood, relieved two bottle-necks in equipment facilities. Shortage of technical personnel was temporarily remedied by employment of two university graduates as technicians, one of whom came from another Province. Finally, the need for yet more space to provide additional serum-separating units was met by enclosing and converting the space between the backs of the third and fourth houses into two such units, with an ante-room adjacent for centrifuging the blood. The costs of this construction and of renovating the fourth house were borne by the Provincial Government. It may be recalled that, except for the two centrifuges mentioned above, all the major apparatus used for this work—refrigerators, sterilizer, and additional centrifuges—are the property of the Provincial Government. Further, the equivalent of two or three employees' full time has been given to the task of supervising the preparation of the apparatus, and the serum separation and pooling, as well as to typing, sterility testing, and Kahn testing of the various specimens. Thus, a very significant contribution has been made by the Government, through this Division, to what is admittedly the most important life-saving function of the Red Cross during the present war.

During the year a total of approximately 17,300 blood donations were handled by the laboratories, nearly double last year's number. Of this total, roughly 7,300 donations came from new contributors. In the whole group of new and former donors, only forty-five, or 0.26 per cent., showed any degree of positive or doubtful serological reaction to syphilis. This rate is little more than one-tenth that revealed by pre-marital blood-testing in many of the States where such tests are compulsory. No doubt this remarkable figure reflects the admittedly low incidence of syphilis in British Columbia relative to many other parts of North America. At the same time, one of the most effective ways of collecting together a group of 10,000 syphilis-free citizens would seem to be to send out a call for blood donations for transfusion into fighting forces and civilians. As stated earlier, in view of the foregoing figures, the decision to discontinue routine Kahn-testing of donors will not result in any serious reduction in case-finding, and should permit the laboratory during the new year to carry out serological surveys among groups with a higher incidence of syphilis.



From the beginning, blood-typing has been carried out on each new donor. At the outset, this was thought necessary to ensure pooling in the correct type proportions for maximum absorption of agglutinins. Later, it was shown that if sufficiently large pools were made, pooling in certain type proportions was a superfluous precaution. However, Federal Government officials having expressed the view that in coastal areas subject to the risk of enemy raids there should be a large reservoir of persons of known type, typing of new donors was continued. Many thousands of Vancouver citizens have now been typed in these laboratories, and large additional numbers have also been typed under St. John Ambulance Brigade auspices. The existence of this reservoir, and the obviously reduced likelihood of heavy enemy raids, is held to warrant discontinuance of blood typing. The new year will thus find the laboratory relieved of another burden, and hence able to concentrate on the all-important task of maintaining shipments of serum at the maximum possible level.

Since the laboratories first undertook this work in December, 1941, about 4,000 litres or 3,330 gallons of serum have been shipped to Toronto for final processing. This represents sufficient material for roughly 12,000 transfusions. The record low rate of contaminations continues to be unapproached by any other shipping centre in Canada. Less than 3 per cent. of the serum harvested in British Columbia has shown contamination while many other centres shipping whole blood (and therefore spared the risks incurred during the separation process) have shown contamination rates five to ten times as high. In view of the general unsuitability of the laboratory buildings for work of this kind, of the fact that structural alterations were frequently sprinkling dust and spores over the rooms in use, and of the constant pressure upon the staff to cope with an increased turnover of donations, this phenomenally low contamination rate may be deemed an index of exceptionally conscientious technique and excellent supervision.

This work remained the major responsibility of the Chief Bacteriologist, Miss M. Malcolm, who was assisted by three technicians and four cleaners, paid for full-time work by the Red Cross; and a large group of part-time volunteers, including members of the laboratories' own staff, who gave up afternoons or evenings to help with this important work. Miss Malcolm has made a great success of this task, from the standpoint of managing a large and heterogeneous group of workers as well as from that of consistently increasing output.

#### COMMENTS.

Excellent relationships obtained during the year with the medical profession, medical officers of the Armed Forces, personnel associated with the Greater Vancouver Metropolitan Health Area, and with other Divisions of the Provincial Board of Health. The customary valued co-operation was maintained between the Division and the Department of Bacteriology and Preventive Medicine at the University, and Connaught Laboratories, Western Division. Students from both Bacteriology and Nursing Departments visited the Vancouver laboratories, while Miss D. E. Kerr, Assistant Director, gave two demonstrations to the Public Health Nurses on requisition forms, outfits, and methods of sending in specimens. Various persons attached to other Divisions of the Provincial Board of Health, or to the Armed Forces, were shown over the laboratories and



initiated in greater or lesser detail into the facilities offered. Miss Rushworth and Miss Johnson, technicians at the Prince Rupert and Nelson branch laboratories, paid the central laboratory visits, the former for a week's refresher course. Numerous distinguished visitors, including Hon. E. W. Hamber, President of the British Columbia Division, Red Cross Society; Mr. Justice Gordon, President of the Canadian Red Cross Society; Major-General Pearkes, G.O.C. Pacific Command; and Dr. R. D. Defries, Director of the Connaught Laboratories and School of Hygiene, University of Toronto, were conducted around the laboratories during the year. Extremely few complaints, and an unusually high number of compliments, were received. The importance of the work of the Division, and the increasing difficulties it has to meet, are apparently recognized by all those using its services, as well as by those visitors who have been in a position to compare the laboratory's output in terms of working conditions with those of public health laboratories elsewhere.

In closing, the Director desires to record his warmest thanks and appreciation to the whole staff for their splendid spirit and fine calibre of work throughout the year. Miss Kerr, Assistant Director, deserves a special tribute for the unending energy, resourcefulness, and tact which she has brought to bear upon the numerous difficulties which had to be faced during the year. The achievements recorded in this annual report would have been considerably dimmer had Miss Kerr's contributions towards them not been available.



TABLE I.—STATISTICAL REPORT ON EXAMINATIONS DONE DURING THE YEAR 1943.

Examination.	Out of Town.	City.	Total in 1943.	Total in 1942.
Animal inoculations.....	96	341	437	309
Blood agglutinations—				
Typhoid-paratyphoid-dysentery group.....	958	3,545	4,503	5,347
Brucellosis.....	238	909	1,147	1,335
Miscellaneous.....	4	55	59	74
Cultures—				
M. tuberculosis.....	167	394	561	404
Typhoid-paratyphoid-dysentery group.....	860	1,117	1,977	1,670
<i>H. pertussis</i> .....	—	44	44	85
<i>C. diphtheriæ</i> .....	898	8,532	9,430	9,626
Hæmolytic staphylococci and streptococci.....	1,428	7,380	8,808	8,998
Gonococcus.....	652	5,061	5,713	3,977
Miscellaneous.....	211	299	510	360
Direct microscopic examination for—				
Gonococcus.....	2,052	17,800	19,852	17,861
M. tuberculosis (sputum).....	1,289	4,578	5,867	6,958
M. tuberculosis (miscellaneous).....	178	250	428	362
Treponema pallidum (dark-field).....	15	227	242	152
Vincent's spirillum.....	25	239	264	375
Tricophyton (ringworm).....	2	76	78	43
Helminths (parasites).....	14	56	70	72
Serological tests for syphilis—				
Blood—				
Presumptive Kahn.....	15,124	70,764	85,888	5,349
Standard Kahn.....	4,604	12,017	16,621	64,097
Complement fixation.....	3,127	8,603	11,730	—
Hinton.....	—	—	—	10,659
Kline.....	—	—	—	5,783
Cerebrospinal fluid—				
Kahn.....	413	1,392	1,805	1,613
Complement fixation.....	302	994	1,296	—
Cerebrospinal fluid—				
Routine.....	350	713	1,063	1,001
Colloidal reaction.....	391	1,329	1,720	1,575
Milk—				
Bacterial count.....	161	1,111	1,272	1,745
Coli-ærogenes.....	161	1,111	1,272	1,745
Phosphatase tests.....	40	546	586	742
Br. agglutinins.....	—	—	—	585
Water—				
Total bacterial count.....	40	657	697	846
Coli-ærogenes.....	1,580	1,046	2,626	2,313
Special examinations.....	—	121	121	241
Miscellaneous.....	211	277	488	409
Totals.....	35,591	151,584	187,175	156,711



TABLE II.—NUMBER OF TESTS PERFORMED BY BRANCH LABORATORIES IN 1943.

Examination.	Kamloops.	Kelowna.	Nanaimo.	Nelson.	Prince Rupert.	Victoria.	Total, 1943.	Total, 1942.
Animal inoculations—								
Typhoid-paratyphoid-dysentery group						76	76	
Brucellosis		38			26			
Miscellaneous	71	15	168	192	87	323	1,302	1,387
Cultures—		12	42					
Typhoid-paratyphoid-dysentery group		69				176	297	597
<i>C. diphtheriae</i>	52	42	30	7	474	95	667	1,740
Haemolytic staphylococci and streptococci	19	129		191	72	1,655	2,047	2,086
Gonococcus						3,398	3,398	572
Miscellaneous	1	15		10			26	33
Direct microscopic examination for—								
Gonococcus	247	46	340	205	1,074	4,347	6,259	8,076
<i>M. tuberculosis</i>	489	195	741	1,215	506	4,395	7,541	6,477
<i>Treponema pallidum</i> (dark-field)					56	142	198	
Vincent's angina	24	3	25	45	386		483	293
Helminths (parasites)		20		14			34	
Serological tests for syphilis—								
Blood—								
Kahn	2,630	631	1,772	2,852	5,510	18,977	32,372	45,418
Hinton						12,293	12,293	
Complement fixation						381	381	
Spinal fluid—								
Kahn			56			380	809	518
Complement fixation	43	17	100	45	110			171
Routine		11	47					62
Colloidal reaction								
Milk—								
Bacteriological examinations	54	30	63	147	70	925	1,289	1,312
Miscellaneous		1,154	124	88			1,366	1,034
Water—								
Bacteriological examinations	88	199	95	133	471	146	1,132	1,202
Miscellaneous	10	17	81	31	97		236	204
Total, 1943	3,728	2,643	4,012	5,175	8,939	47,709	72,206	
Total, 1942	3,318	2,734	4,615	3,647	8,678	48,190		71,182



## SUMMARY REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL.

D. E. H. CLEVELAND, M.D., ACTING DIRECTOR.

### INTRODUCTION.

The year 1943 in the history of the Division of Venereal Disease Control will be conspicuous as one in which a number of new developments had their inception, changes of considerable importance occurred in its internal economy, and the fruition of certain schemes began to appear. Among the developments which had their origins in earlier years in which progress is to be noted has been the closer interrelationship between the venereal disease control programme of the Armed Services and that of the Division; also a very active educational campaign among those remaining in civilian life.

There are no startling figures to be presented indicating outstanding progress in the reduction of the amount of venereal disease, nor are there any indications of regression at any point.

Arising from the constantly increasing military and industrial activity in the northern part of the Province, referred to in the 1942 Summary Report, completely equipped venereal disease clinics have been opened at Prince Rupert and Dawson Creek. The latter town is the chief centre of the Peace River area, part of which lies on the Alberta side of the Interprovincial Boundary. The opening of a clinic here will to a large extent relieve British Columbia from the necessity of depending extensively upon the generous share of responsibility which the Provincial Health Department of Alberta has gratuitously assumed in the past for the control of venereal disease on the western side of the boundary.

The British Columbia Provincial Police have been quick to appreciate the importance of the work of the Division, and this organization has always been ready to render valuable assistance in the areas served by these new clinics. The Provincial Police, while not courting publicity, have by their active collaboration shown that they are thoroughly imbued, individually and collectively, with a social conscience and a keen and intelligent appreciation of public health view-points, especially with reference to venereal disease. This law enforcement agency also presents a refreshing attitude in that all its members appear to have no difficulty in realizing that, quite apart from its public health significance, prostitution is an offence against the Criminal Code of Canada, and all who in any way whatsoever are gainfully implicated with it are amenable to criminal prosecution.

### EPIDEMIOLOGY AND WELFARE.

There has been a very definite increase and expansion of the work of this Section during 1943. This can be accounted for by the fact that Medical Health Officers, private physicians, and medical officers of His Majesty's Forces are taking a keener interest in interviewing patients concerning the alleged sources and contacts to their infection. Collaboration with the Armed Forces has been more satisfactorily established in matters of epidemiological investigation of civilian contacts and alleged sources of venereal disease infections. In the courses of instruction in venereal disease control measures given to Medi-



cal Officers of the three Services the epidemiological aspect of the venereal disease control programme has been emphasized with encouraging results. The information now supplied by the Armed Forces for contact investigation shows that a better appreciation of the importance of epidemiological investigations is apparent. During the last six months of this year, 360 persons in the Province of British Columbia were reported as alleged contacts to venereal disease by the Armed Forces. Of these, fifty-two were found positive for gonorrhœa, seven positive for syphilis, and twenty-one showed no evidence of venereal disease. In fifty-eight reports the information was insufficient for follow-up, no name or address was given. It was impossible to locate fifty-three persons because of inadequate information. Forty-six persons are still under investigation.

During 1943, 132 reported cases of venereal disease were contracted from persons picked up in beer-parlours as against eighty-four cases in 1942. This alarming increase has been brought to the attention of the Chairman of the Liquor Control Board. He has expressed and already demonstrated his willingness to co-operate in reducing this incidence.

Venereal disease reported infections acquired in alleged bawdy-houses in Vancouver have increased from forty-five in 1942 to fifty-eight in 1943. Of these fifty-eight cases, forty-eight had gonorrhœa and ten had syphilis.

There were eleven persons committed to Oakalla under the "Venereal Diseases Suppression Act" during 1943—eight women and three men. Four women were committed to the Infectious Diseases Hospital for investigation and treatment. Five women were detained in gaol for treatment of venereal disease.

#### FACILITATION.

(a.) *Beer-parlours.*—There has been observable a tendency toward relaxing supervision in beer-parlours and a number of small hotels. It has been noticed that certain beer-parlours have figured conspicuously month after month amongst the list of resorts where infected women were picked up by patrons who made assignations with them which resulted in the spread of venereal disease. The partitions erected in 1942, while doubtless exercising a restraining influence, have proved to be ineffectual when managers or employees were unsympathetic or indifferent to the policies which had led to their installation. Interviews with representatives of the Liquor Control Board and the Hotel-keepers' Association have been held in which these matters and the policies of the Division were frankly presented and discussed, and there are some indications that the results have not been wholly negligible.

(b.) *Hotels.*—In the latter months of the year the policy was adopted of addressing to the management of each hotel a personal letter each month when that particular hotel was named by a clinic patient, from which a venereal infection was alleged to have been contracted. The letters are personal in character and give no information beyond stating the month when the occurrence was alleged to have taken place. A prompt response was usually evoked, reflecting attitudes varying from regret and intention to continue to exercise vigilance and discrimination to virtuous and incredulous indignation—in sum, "It couldn't (didn't) happen here!" The attitude of the Division in all such correspondence has been to assume that the manager is jealous of the good



name of his establishment, and would never knowingly permit any persons or activities in it which lead to his being named as participating in a criminal offence, and entreating him to increase his vigilance and employ all precautions. It is gratifying to report that one hotel beer-parlour in Vancouver has had its licence suspended on account of the undesirable reputation which it was acquiring, and eight hotels received warning letters from the Hotel-keepers' Association. This took place without any special pressure having been exercised by the Division.

(c.) *Dance-halls.*—These resorts, and one or two in particular, continue to offer a problem which has thus far proved insoluble. Those specially referred to have facilitated in the contraction of numerous venereal infections. These have occurred with proportionately greater frequency among members of the Armed Forces than among civilians. This may be accepted as a commentary on the need for more widespread supervised recreational facilities, especially those catering to men of the Services who are strangers and at loose ends in the evenings, and where dancing has a prominent place. As far as can be learned at the end of 1943, not a single case of venereal infection has been alleged to have been contracted from girls met at the United Services canteens. The privileges of these recreational centres are extended only to members of the forces and the merchant marine; these are not permitted to bring female companions with them, and the women and girls who entertain them are selected with extreme care and carefully supervised.

In 1942 the attempt was made in the case of one notorious dance-hall to exclude unescorted girls. Although there was a pronounced drop in infections laid at the door of this establishment during the period that this rule was enforced, the business of the resort fell off so seriously that the restrictions were withdrawn by the management before it was forced out of business. The view has been recently and forcibly expressed by those concerned that if the business of a resort is so largely dependent upon the class of patrons who spread venereal disease that their exclusion threatens to close the doors, it would be a public gain if this restriction was widely applied.

An increasing number of committals under subsection (2), section 2, of the amended "Venereal Diseases Suppression Act," both to the Infectious Diseases Hospital and Oakalla Prison Farm, during 1943 has had it is believed a salutary effect on other patients who were refusing to accept or continue with treatment, or otherwise flouting the provisions of the Act, which make submission to investigation and treatment compulsory in certain circumstances. There are signs that the idea that this law was toothless is being undermined.

In addition to the valuable work carried out by the Educational Supervisor, education of officers, commissioned and non-commissioned, of the Armed Forces has been carried out. A number of the latter have been detailed to attend the Vancouver clinic to learn the elementary principles of treatment, male nursing procedures in venereal disease, and epidemiology. Commissioned officers, the larger number being from the R.C.A.F., have attended the clinic also to study more advanced work, including laboratory and clinical diagnosis, and have participated in the weekly staff conferences of the Medical Consultants.

The last few months of the year saw the beginning of a regular monthly conference of the Venereal Disease Control Officers of the Western Commands



of the Armed Services. These have been held monthly in the office of the Acting-Director and under the latter's chairmanship. The exchange of experience and free discussion of mutual problems thus provided for has already proved very valuable.

From January 1st, 1943, to December 31st, 1943, 1,000 Vancouver women were reported as contacts of syphilis, gonorrhœa, or both. Of this number, 525 were reported by military informants and 475 by civilian informants.

Of the 1,000 reports, 104 infections were reported as acquired from pick-ups in dance-halls, 99 from pick-ups in beer-parlours, and 58 from inmates of bawdy-houses. These 58 bawdy-house reports are from well-known houses of prostitution in Vancouver, and the number does not include prostitutes working in hotel-rooms.

Total number of reported venereal disease infections  
acquired from persons met in beer-parlours during  
1943 in British Columbia ..... 132

For previous three years—

1940 .....	40
1941 .....	53
1942 .....	84

Number of reported venereal disease infections acquired in  
alleged bawdy-houses in Vancouver, British Columbia,  
during past four years:—

	Gonorrhœa.	Syphilis.	Total.
1940 .....	21	5	26
1941 .....	41	5	46
1942 .....	44	1	45
1943 .....	48	10	58

Total number of cases of reported venereal disease  
infections acquired from persons met in dance-halls  
during 1943 in British Columbia ..... 118

For previous three years—

1940 .....	27
1941 .....	29
1942 .....	56

#### PUBLIC EDUCATION.

The educational feature of the year was the British Columbia Industrial Health Education Week from February 15th to 20th. This took the form of a venereal disease educational programme sponsored by the Junior Boards of Trade and Chambers of Commerce, several Kinsmen Clubs, and the Division of Venereal Disease Control. This very successful campaign reached nearly 200,000 employed workers and distributed nearly half a million pamphlets and leaflets.

In addition to this, in May, the Supervisors of Education and Nursing travelled over an extensive area in the Kootenays and Lower Fraser Valley, lecturing to public meetings, various organizations, and high schools.

The experimental high school lecture programme initiated in 1942 has become an established and important part of the Division's educational pro-



gramme. The drug-store window display has continued in use and a new and improved one is now ready for circulation. The distribution of literature on a selective basis to institutional and school libraries, etc., has been continued. An interesting observation has been that placing books on venereal disease in commercial lending libraries has not been a success, the simple and obvious reason being that patrons of these libraries rent books for entertainment and not education.

Six new pamphlets have been purchased, printed, or reprinted for distribution by the Division. Several pieces of newspaper publicity and special articles in national publications have appeared, one radio talk (a Province-wide broadcast of Dr. G. F. Amyot's address to the Vancouver Junior Board of Trade at its opening campaign luncheon) and a number of lectures were delivered during the year.

Plans are completed for provision by the Vancouver Junior Board of Trade of a group of trained public speakers who will lecture under Division direction on the non-clinical aspects of venereal disease during 1944. A small committee from the Vancouver Council of Social Agencies will undertake the education of clubwomen in Vancouver in the essentials of Community Control of Venereal Disease.

The Education Section has suffered the loss to private practice of Dr. J. M. Tedford, Physician in Charge of Education; and Mr. H. C. Rhodes, Educational Supervisor, who has been appointed to the important post of Consultant in Education to the Federal Division of Venereal Disease Control. Miss Pauline Capelle, P.H.N., Nursing Supervisor, will replace Mr. Rhodes.

#### MEDICAL AND NURSING SERVICES.

In August, the Acting-Director made a tour of Prince Rupert, Prince George, and the Peace River area. As well as inspecting the newly opened clinics at Prince Rupert and Dawson Creek, local medical officers of the Canadian and American Armed Forces and the British Columbia Provincial Police were met and conferred with. An intimate view of local problems and conditions was thus gained, information was interchanged of medical and epidemiological value. Meetings with civilians, local medical practitioners, and members of the Prince Rupert Ministerial Association and the executive of the Prince Rupert Junior Board of Trade were held. The journey into the Peace River area was made with the kind assistance and co-operation of the Alberta Provincial Health Department, the Deputy Minister of Health and the Director of the Department of Social Hygiene being members of the party. In this way an insight was gained into the joint problems of the British Columbia and Alberta Provincial Health Departments, since they inevitably must share in the venereal disease control problems of this area which is divided between the two Provinces.

There are at present in active operation venereal disease clinics at Vancouver, Victoria, New Westminster, Oakalla Prison Farm, Trail, Prince Rupert, and Dawson Creek. The New Westminster and Oakalla clinics are operated by members of the Vancouver clinic staff who make weekly visits.

Interne service is unobtainable at present, and this situation may be expected to continue for some time.



Short, semi-intensive courses of treatment (twenty-six weeks) in selected cases of early syphilis have been employed during the past year with no ill results up to date. Nine female and fifteen male patients have received or are receiving this semi-intensive course. Negotiations are in course of being for the utilization of the heat cabinet recently installed in the Physiotherapy Department of the Vancouver General Hospital for the treatment of sulfa-resistant cases of gonorrhœa.

The volume of work showed an increase over last year; 47.6 per cent. or almost one-half as many new patients were admitted during 1943. The women's Oakalla clinic showed a sharp increase in the patient-load, having more than doubled itself during this year.

Education of nurses has continued to be a major project. One hundred and sixty-two undergraduates and thirty-three graduates received instruction in venereal disease control. Members of the nursing staff also assumed an active rôle in lay education.

Two nurses were actively engaged in epidemiology for approximately four months and since that time have attended the epidemiology meetings. This experience has been both interesting and developmental and has tended to promote better understanding of mutual problems.

The services of Mr. A. Cowan, who had been carrying out most satisfactorily routine laboratory procedures and male nurse's duties, were lost on his departure to continue medical studies at McGill in August, but the Division was fortunate in securing the services of Mr. S. Wolfe, who has given general satisfaction in carrying on these duties. The acquisition of a colorimeter for the laboratory has proved of value in many respects, including hæmoglobin determinations.

	1942.	1943.
Patients admitted for examination.....	1,530	2,159
Number of new patients per working-day..	6	9
Syphilis admissions .....	213	330
Gonorrhœa admissions .....	685	643
Patients on treatment at end of year.....	1,320	1,403
Syphilis patients discharged .....		485
Gonorrhœa patients discharged .....		516

#### FEDERAL VENEREAL DISEASE GRANT.

A major project which the Division has concentrated its efforts upon during the month of June has been the "Federal Grants to the Provinces for Venereal Disease Control." An appropriation of \$175,000 is contained in the main estimates of the Department of Pensions and National Health for the extension of Provincial venereal disease control programmes. The allotment for British Columbia will be a total of approximately \$8,868.54. A prepared plan was sent for the guidance of the Division which was asked to indicate in accordance with this plan how this money could be used to the best advantage. A comprehensive statement of the present Provincial venereal disease control organization, programme, and budget was prepared. Some recommendations were added for extending epidemiological and welfare services throughout the rural areas of the Province.



### PROBLEMS FOR 1944.

An ever-present difficulty which will have to be surmounted sooner or later is the provision of hospital care for venereal disease patients. There are three classes of cases which on occasion require hospitalization:—

- (1.) Non-co-operative patients who are confined under the compulsory provisions of the "Venereal Diseases Suppression Act," but who are of an age or class for whom incarceration in Oakalla Prison Farm would be most undesirable.
- (2.) Patients who present complications of their venereal infections which call for bed-rest and hospital care.
- (3.) Patients with syphilis in its earliest and most readily communicable stage, for whom no accommodations exist until the risk of communicating their disease is reduced to a minimum. The only place where such patients can be hospitalized is in a bed in the Infectious Diseases Hospital. At times when there are numerous cases of acute communicable disease in the community (which means throughout most of the autumn, winter, and spring months) it is virtually impossible to get these patients admitted.

Satisfactory arrangements for securing fever-therapy for sulfa-resistant cases of gonorrhœa have not yet been completed.

### SUMMARY REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL.\*

W. H. HATFIELD, M.D., DIRECTOR.

The Division of Tuberculosis Control has had a most active year during 1943. The continuance of war has brought many problems in connection with tuberculosis control, making necessary many adjustments in the work of the Division. Throughout British Columbia, particularly in the lower mainland area, there has been an increasing population, creating serious housing problems. There has been an increasing number of tuberculous cases coming from other parts of Canada; for example, at the Vancouver clinic approximately 10 per cent. of the cases who have come from other Provinces and have requested a chest examination at this clinic have been shown to have tuberculosis. During the year there were eighty-two new cases in this clinic alone.

In addition to war conditions having produced changes more conducive to the spread of tuberculosis in communities, changing staff and decreasing technical personnel in the Division have necessitated certain alterations in the general programme and procedures.

It was decided that in order to bring about a maximum control of tuberculosis in the Province every possible effort should be made to locate tuberculosis and to this end the case-finding programme of the Division has been markedly expanded.

The finding of new cases brings about the problem of isolation and treatment and for this reason the Division has had to readjust its policy to provide

\* The statistics in this report are preliminary figures only and must be regarded as provisional until publication of the detailed report of the Division.



greater out-patient facilities and has had to discharge patients from hospital earlier in order to provide accommodation for treatable cases.

New accommodation for the treatment of patients with tuberculosis has been needed for some time, but when it became apparent that this could not be obtained immediately readjustments of staff and type of work had to be made.

One of the major problems concerning staff has not been so much difficulty in obtaining the required number as in obtaining personnel who have had sufficient, or any, training for the particular position for which they were required. In general this tends to produce a poorer service and throws an extra strain on trained personnel who have to carry out teaching and supervision of the remainder.

Some improvement in staff conditions has been made, particularly at Tranquille, where there were some adjustments of salary and better facilities for transportation provided.

The death-rate from tuberculosis of 66.2 per 100,000 population according to preliminary figures has not changed materially in 1943 when compared to the rate of 67.5 in 1942. The actual numbers were in 1942, 557; in 1943, 573. These are divided into whites 329 in 1942 and 335 in 1943; Indians 162 in 1942 and 178 in 1943; Orientals 66 in 1942 and 60 in 1943. There has been a slight increase in the actual number of deaths, but it should be mentioned that there has also been an increase in the population and the Provincial death-rate has, therefore, not increased. The population of the Province in 1943 was estimated to be 865,000 persons.

In regard to new cases, there were 1,550 found during 1943 as compared with 1,420 in 1942. The most interesting fact concerning new cases is that many more minimal cases have been found. In our travelling clinics, for example, there were 110 cases found of which 69 or 63 per cent. were minimal cases. With an expanding case-finding programme of this type the number of minimal cases found should greatly increase, thus improving the opportunities for cure, decreasing the amount of infection in the community, and shortening institutional stay.

The number of known cases at the end of 1943 totalled 9,358, giving a ratio of known cases to deaths of about sixteen to one. Excluding Indians, the number of known cases totalled 8,201, giving a ratio of known cases to deaths of about twenty-one to one.

Every attempt has been made during 1943 to produce a greater correlation between the work of the Division and that of local health services. Basically the responsibility for the control of a communicable disease is that of the local health service. It would be illogical and impracticable to expect the local health services to attempt to provide the specialized tuberculosis services furnished by the Provincial Board of Health through the Division of Tuberculosis Control. Developing case-finding, arranging for groups to be examined, follow-up of contacts, supervision of positive cases in the home, are phases of the work carried on by local health services. The Division of Tuberculosis Control provides machinery for carrying out surveys, technical advice on diagnosis and methods of treatment, and operates institutions for the care of tuberculous cases that require specialized services. In general, it is felt that a well co-ordinated plan has been developed between the Division of Tuberculosis Control and the local health services.



## INSTITUTIONS.

All institutions of the Division have been working to full capacity during the year. The total number of patients admitted during the year was 812. This is approximately the same rate of admission as pertained in 1942. A slight reduction in total bed capacity was made by the elimination of fourteen beds in the Vancouver Unit in order to provide increased clinic facilities for out-patient treatment. As there was an increase of male over female applications during the year it was necessary to convert some of the female accommodation into male accommodation.

In carrying out the Division's policy of attempting to make the number of available beds fit into the number of cases requiring treatment further study was made of methods of admission, types of case for admission, length of institutional stay, and the problems of discharging patients from hospital.

An improved analysis of cases prior to admission is now being made and where it is felt that the patient has suitable home conditions and does not require any specialized care he is left in his home, where he is treated by the local physician and followed up through the local public health nursing service.

At one point in the year an analysis made showed that there were 120 patients in tuberculosis institutions who had received maximum institutional benefit but for whom no satisfactory arrangements could be made outside of hospital. The inability to make satisfactory arrangements was due to finances, housing, or personnel to care for the patient in the home. Pressure for beds has necessitated every consideration being given to placing the patient back into the home at the earliest possible moment. It has been necessary to re-emphasize municipal responsibility in this regard. The Division of Tuberculosis Control was inaugurated to provide specialized services which the local health services could not provide and to correlate all tuberculosis activities throughout the Province in order to bring about the best possible method of tuberculosis control.

The Division takes the responsibility for medical treatment when the patient arrives at a tuberculosis institution and provides technical care as long as the patient requires such institutional care. Upon discharge the housing of the case is basically the responsibility of the local authority, the Division providing consultative advice from a medical standpoint and technical out-patient treatment wherever its clinics are located.

A number of conferences was held as to how the patient could best be handled after discharge—in his own home, a boarding-home or a nursing-home. It is hoped that by the beginning of 1944 a completely co-ordinated plan in this regard will have been formulated.

During the year every attempt was made to maintain the standard of medical care given to the patients while in institution, although this has resulted in a greatly increased pressure on the technical staff. The increase of surgery, pneumolysis, collapse therapy, and bronchoscopy has produced a heavy load for the few trained persons capable of doing this type of work. More staff for this work has become a necessity if the present standard is to be maintained.

With regard to the general staff of the institutions, there has been a marked shortage of nurses, particularly at the Tranquille Unit. Other staff has changed rapidly, and the standard of those available has fallen, requiring a greater



number to do the same volume of work as heretofore. In order to avoid reducing efficiency the supervisory staff has had a greatly increased strain thrown upon it.

With regard to the number of beds available in this Province for the treatment of tuberculosis, it is necessary to again stress the necessity of providing increased accommodation at the earliest possible moment. The Division recommends that a 500-bed institution be planned and that 300 beds be immediately constructed with auxiliary services for the 500, the other 200 beds being added as necessary. It further recommends that this institution should be placed in or around Vancouver. We have repeatedly recommended and again stress the necessity of a surgical unit in Vancouver. This would require an additional floor on the unit which when constructed would free the top floor of the City of Vancouver Isolation Hospital which is at present being used by the Division.

Other new construction required by the Division is a new home for nurses at Tranquille, at least three new houses for professional staff and a general reconditioning of existing facilities. A separate listing of all the requirements of the Division in regard to capital expenditure and repairs and renewals of buildings and equipment has been submitted.

The fire which occurred at Tranquille at the end of 1942 destroyed the canteen and fire-hall and ambulance quarters and all the equipment in the building. It was necessary, therefore, in 1943 to replace both building and equipment. The canteen is now housed in a separate building. The fire-hall, which will be fully fire-proof, is now under construction. A new fire-engine, complete with equipment and pumper, and a new ambulance have been provided.

Careful attention has been given this year to the food requirements of patients in institution. At Tranquille an increased production on the farm and the canning of goods from the farm have greatly aided in supplying the dietetic requirements of that institution.

Several conferences have been held concerning libraries and an attempt has been made to put the library work of the Division on a more scientific foundation. The Division would like to suggest that a library service co-ordinating all Government institutions be developed and the services of trained librarians be made available to all these institutions. The value of this work has been quite clearly shown in the Division of Tuberculosis Control.

#### CLINICS.

In line with the policy of endeavouring to locate every case of tuberculosis within this Province the Division has greatly extended its case-finding facilities. The equipment for the taking of miniature X-ray films, which had been on order for many months, finally arrived towards the end of the year. This equipment was donated to the Provincial Government by the British Columbia Tuberculosis Society, the Vancouver Municipal Chapter of the Imperial Order Daughters of the Empire, and the Vancouver Kinsmen Club. With its arrival the Division was able to offer widespread industrial surveys. This was initiated in the Vancouver area and will later be carried to other parts of the Province. The ambulatory bus type of unit has proved very effective and with it we are able to take approximately three hundred 4- by 5-inch films a day. Another miniature X-ray unit will be available early in 1944 and the survey facilities



will thus be doubled. To begin with, X-ray surveys outside of stationary clinics are being carried out mainly in industry. The Canadian Pacific Air Lines in New Westminster was the first plant to be surveyed, 1,300 employees being done in one week. Work was then started in the shipyards.

In order to provide X-ray survey facilities for families and those outside of the larger industries and to handle the new cases of tuberculosis found in out-patient clinics a complete change in clinic facilities was made in Vancouver. There are now two clinics on the ground floor of the Vancouver Unit—one a survey clinic and the other a treatment-diagnostic clinic. In the treatment-diagnostic clinic there are facilities for all forms of X-ray, bronchoscopy, dental work, medical examinations, laboratory services, and some beds for patients to remain in during the day for observation or immediate treatment.

With the depletion of medical staff a change of system which is proving quite efficient has been carried out. All new cases coming to the clinics are considered in the survey category and after having only brief notes taken and a miniature X-ray film are allowed to go. All negative cases are provided with a small card which the individual is asked to keep with his registration card. It is the aim of the Division to eventually X-ray every person in British Columbia and to have repeated X-ray examinations done as frequently as facilities will permit, with the ultimate goal an annual X-ray of each individual.

In the travelling clinics a change has been made with the nurse X-ray technician covering as wide an area as possible and X-raying as many people as are referred by the local health units. The consulting clinician reads the X-ray films and goes to the areas periodically, seeing only the tuberculous cases, suspects, and problems in chest diagnosis. By thus concentrating their work the travelling clinicians are able to serve larger areas.

In addition a consultive service is offered throughout the Province for cases that any physician feels need examination between the visits of the travelling clinics. X-rays may be taken, consultation forms completed and forwarded to any centre of the Division for interpretation and advice. This service has considerably expanded in 1943. There were 671 referred X-rays in 1942 and 1,353 in 1943, of which 119 were new tuberculosis cases.

The volume of work through the clinics has materially increased during the year and the inauguration of the miniature X-ray travelling unit at the end of the year has greatly stepped up volume. During the last month of the year the Division has been X-raying 500 people per day. In New Westminster there has been a material increase in work so that the clinic is operating there now approximately two weeks per month. Increased and improved facilities for the clinic in New Westminster is a definite need.

In addition to the travelling clinics' routine work they have carried out some work for the Department of Indian Affairs. The following Indian Schools were done during the year: Cranbrook Residential School, Sechelt, Alberni, Nanaimo, Kuper Island, Le Jac, Hazelton, Williams Lake, Lytton, and Kamloops. The total number of centres visited by travelling clinics remains as heretofore at about eighty. The travelling clinics held 644 clinics during the year and the stationary clinics at Vancouver and Victoria operated as usual.



## RECORDS.

A complete revision of the Division's records was made to attempt further simplification. This has been accomplished and the Division will now keep a number of its own statistical records in co-operation with the Division of Vital Statistics which will be relieved of some of the work they have been doing heretofore. By consultation with the Division of Vital Statistics it is felt that a well co-ordinated system of records has been developed. A minimum of records is being kept on all survey-work, producing great simplification and allowing speed of operation. New ledger forms for recording have been prepared and will be introduced at the beginning of 1944. Data for cross-classification of tuberculous patients are recorded as formerly on punch-cards.

An improved follow-up system has been developed within the Central Office of the Division. All patients are followed up six months after their discharge from hospital and then at yearly intervals. A record system has been developed in this regard to show the final results of treatment and what happens to the tuberculous patient after his discharge from sanatorium and return to community life.

## LOCAL PUBLIC HEALTH NURSING AND SOCIAL SERVICE.

*District Nursing.*—There has been an increase in the number of districts covered by Public Health Nurses, thus allowing a greater follow-up of tuberculous cases. Local nursing services, a part of local health services, play a most important part in the control of tuberculosis. As public health nursing services become increasingly available for the population the tuberculosis service to the individual continues to improve and is a most potent measure of tuberculosis control. It has been possible to transfer more of the responsibility for the carrying-out of the tuberculosis programme to Health Units with the expansion of local health services.

*Social Service.*—There has been considerable development in medical social service work and a straightening-out of some of the rather complex social problems which confront those handling tuberculous patients. A great deal of the time of the social service staff has been taken up with the problem of getting patients out of institution. This problem should be greatly simplified with the adjustment of provincial-municipal arrangements and a clearer understanding by the municipalities of their responsibility with regard to housing of the tuberculous patient after he has received treatment in a tuberculosis institution.

It would seem that the time has arrived when there should be attached to each institution of the Division of Tuberculosis Control a trained medical social worker who will devote her time to problems of the patient while in institution and when the pre-institutional and post-institutional social service work should be done by a social worker on the district, either as a municipal or provincial worker.

## EDUCATIONAL PROGRAMME.

The major change in the educational programme of the Division during the year has been in connection with student nurses and student social workers.

A conference was held with regard to student nurses with representatives of the Registered Nurses' Association and the superintendents of training-



schools of the Vancouver General, St. Paul's, and Royal Columbian Hospitals. It was decided to set up at the Vancouver Unit a training centre for student nurses and to provide a six weeks' course of instruction in tuberculosis and infectious disease technique. All student nurses in the Province, except those in the Victoria training-schools, will have the opportunity of taking this course. A full-time teaching supervisor has been appointed and a complete curriculum drawn up. In this way the student nurse will receive experience on the wards, out-patient clinic, and in the district with the Metropolitan Health Service. All students will be on a straight eight-hour day and will be truly students, being given a course of lectures, clinics, and demonstrations. They will have a library at their disposal and will be carefully supervised in all their work.

The Division fully realizes the importance of training student social workers and of providing opportunities for training in medical social work. The Consultant in Tuberculosis Social Service is devoting a considerable portion of her time to this work. It is felt, however, that if this training is to continue, as it undoubtedly should, that a full-time teacher should be appointed as the Division has facilities for teaching medical social work.

A greater responsibility is being taken by local health services with regard to the general educational programme of the Division. The policy of the Division is to supply local health services with literature, moving-picture films and projectors and for the educational programme to be developed and organized by the local health service.

During the year the Division assisted the Indian Affairs Branch with a poster contest throughout the Indian Schools of British Columbia. A perpetual challenge cup for a health educational programme in tuberculosis was presented by the British Columbia Tuberculosis Society for the school giving the best programme in this regard during a year. This trophy was won by the Hartley Bay day school in 1943.

The small book, "Lessons in Tuberculosis," has been revised and reprinted. A handbook covering the whole subject of tuberculosis has also been prepared. This volume will act as a text-book for student nurses, social workers, public health nurses, graduate nurses, health officers, and physicians. It has been well reviewed and the introduction was written by Dr. Defries, Director of the School of Hygiene and Connaught Laboratories, University of Toronto. The book was turned over to the printers at the end of the year and will be available early in 1944.

#### OCCUPATIONAL THERAPY.

Some further development has taken place in connection with occupational therapy. The work at Tranquille and Victoria was carried on much as heretofore. There has been an improved arrangement developed with the Vancouver Occupational Industries by which that industry has been able to become self-supporting during 1943. This industry is not now confined entirely to tuberculous patients, but takes in other handicapped individuals. In Vancouver there has been a closer follow-up of patients discharged from institution and there are greater opportunities for occupational therapy for any tuberculous case in the home. The Metropolitan Health Committee has provided a full-time occupational therapist who devotes her energies to the tuberculous patient in the home.



### ORIENTAL SITUATION.

Early in the year Japanese in-patients were all removed from Vancouver to New Denver where the British Columbia Security Commission has provided a new sanatorium of 100 beds.

This freed a number of beds at St. Joseph's Oriental Hospital, which up to that time had been overcrowded with a waiting-list. To-day the work in that hospital is practically entirely confined to Chinese. Endeavours have been made to stimulate surveys amongst the Chinese population, but a certain amount of passive resistance has been encountered amongst the Chinese. The local health services in Vancouver and Victoria have been endeavouring to organize surveys amongst this group which has a relatively high tuberculosis mortality rate. The Division of Tuberculosis Control has offered every facility it can to assist with this work.

### WORKMEN'S COMPENSATION BOARD REGULATIONS.

During the year the Workmen's Compensation Board had a regulation passed making tuberculosis a compensable disease for employees of hospitals and sanatoria who had been shown not to have the disease at the time of employment.

The Division of Tuberculosis Control has been asked to keep a central record file on all employees of Government institutions coming under these regulations. The institutions concerned will do annual X-ray examinations of their employees as far as possible and where this is not feasible the Division of Tuberculosis Control will furnish facilities. As an additional control measure attempts are being made to X-ray all inmates as well as employees on an annual basis.

### REFERRED WORK FROM THE DEPARTMENT OF PENSIONS AND NATIONAL HEALTH.

As the war progresses the work referred by the Department of Pensions and National Health has increased with a growing number of men from the active army referred for admission during the year. During 1943, we received twice as many applications as in 1942. This is another reason for increasing bed capacity in this Province and it is hoped that there will be a co-operative effort between Provincial and Dominion authorities in providing increased accommodation for tuberculous patients.

### LEGISLATION.

The problem of clarifying legislation relative to tuberculosis has been referred to the Provincial Health Officer who, after due study and consideration, is revising the Public Health Regulations to make them more specific in their power. It is his intention to give the local health authorities who are basically responsible for isolation and the control of communicable disease more definite powers in carrying out essential control measures.

### GENERAL REMARKS.

Although there have been many difficulties during the year, particularly in regard to obtaining staff and necessary equipment, it is felt that many pro-



gressive steps have been made and the work in tuberculosis control has been intensified. Great credit must be given to the more permanent members of the staff who have assumed increased duties and responsibilities with interest and enthusiasm. It is only the co-operative interest that prevails amongst the staff of the Division that has allowed the many changes to be quickly and efficiently put into practice.

There has also been every co-operation between the Division of Tuberculosis Control, the Metropolitan Health Committee, the local health units and other health services. We appreciate the assistance given by other sections of the Provincial Secretary's Department and other Departments of the Government.

The Division has also received considerable help from voluntary organizations, notably those engaged in Christmas Seal activities. These are represented by the British Columbia Tuberculosis Society, the Municipal Chapter Imperial Order Daughters of the Empire, and the Kinsmen Club in Vancouver; the Kinsmen Clubs in North Vancouver, West Vancouver, and New Westminster; the Municipal Chapters Imperial Order Daughters of the Empire in Prince Rupert, Kelowna, and Vernon; and the Kiwanis Club in Nanaimo. The Board of Directors of the Vancouver Preventorium has continued to provide accommodation for children under fourteen years of age.

It is expected that there will be continued progress in tuberculosis control in British Columbia in 1944. The programme of the Division is comprehensive and ambitious. Many changes in administrative and technical procedures had to be made during the year. It is hoped that the recommendations mentioned herein will, if implemented, result in still greater advances in controlling tuberculosis in British Columbia.

## REPORT OF THE PUBLIC HEALTH ENGINEERING DIVISION.

R. BOWERING, B.Sc. (C.E.), M.A.Sc., PUBLIC HEALTH ENGINEER  
AND CHIEF SANITARY INSPECTOR.

The Public Health Engineering Division exercises supervision and control over such environmental factors as may have an effect on the public health. These factors include water-supplies, sewage-disposal, milk plant sanitation, cannery and industrial camp sanitation, investigation of sanitary complaints and public nuisances, and other miscellaneous features of environmental sanitation. Although there is only one technically trained officer in this Division, much valuable assistance is given by Sanitary Inspectors attached to local Health Units, by British Columbia Provincial Police Officers, and by officials of the Federal Division of Public Health Engineering. For the first time, the Division obtained the services of an engineering student from the University of British Columbia, Mr. F. M. Bunnell, for the summer months. With this assistance, the Division was able to make a detailed sanitary survey of a large number of the fish-canneries on the coast. It is hoped that more students will be available in succeeding summers.

There are now a number of certified Sanitary Inspectors located throughout the Province. These Sanitary Inspectors do not come under the supervision of the Public Health Engineering Division, but are responsible to the local Medical Director of the Health Unit in which they serve. The Public Health Engineering Division performs a consultive service for these men.



There is an urgent need in the Division for a man trained in veterinary science and public health to carry on a more intensive programme of food and milk control.

The tremendous development of the north country that was noted in the 1942 report continued into 1943. This activity necessitated several trips to the Prince Rupert and Peace River District. Excellent co-operation was obtained from officers of the Department of Pensions and National Health, and from the United States Public Health Service Officers in Northern British Columbia.

The various activities of the work of the Division will be discussed under separate headings.

### WATER-SUPPLIES.

It is estimated that over 75 per cent. of the people of the Province receive water from public water-supply systems, of which there are over 150. Most of these are publicly owned. Due to the topography and climate, the majority of the water-supplies are drawn by gravity from mountain streams or lakes. There are very few public water-supplies in the Province drawn from wells or springs.

As a rule, the water-supplies have excellent physical and chemical qualities. The water consuming public judges a water on the characteristics of temperature, taste, odour, colour, turbidity, and hardness or softness. Since the bacteriological condition of the water cannot be determined by the average water consumer, it often does not assume any great importance in his appraisal of the public water-supply. From the public health point of view this is unfortunate, because it is difficult to convince people that their water-supply, whose excellence may be almost legendary due to its superficial qualities, is contaminated with potentially harmful bacteria. Since chlorine is the element usually used to destroy harmful bacteria in water, there is often a fear that chlorine will spoil their imaginary "pure" water.

The belief has grown in the past that if water is drawn from a watershed area upon which there is no habitation, the water cannot be contaminated with harmful bacteria. For this reason, some of the large water-supply operators post guards at strategic points on the watershed boundary. These guards have instructions to prohibit the entry of any person who cannot prove by doctor's certificate that he has had a negative Widal test. This is not a sound method of protection, since the Widal test is only specific for typhoid fever, and there are many other diseases that may be carried by water. In addition, a positive Widal test does not necessarily mean that the person is suffering from, or is a carrier, of typhoid. Also it is doubtful as to whether guarding is effective in keeping all trespassers off a watershed. Another unfortunate effect of guarding watersheds as a sole method of protection is that since this method is widely publicized, people dwelling in smaller communities often are under the opinion that their water-supply is well guarded, whereas the truth is, that outside of the two larger centres, there are less than five guarded watersheds in the Province.

Results of sanitary surveys and series of bacteriological examinations carried out during the past year have shown that many of the water-supplies, even where there is a guarded watershed, are contaminated with faecal bacteria in numbers greater than the maximum considered consistent with safety by health



authorities the world over. In many cases, chlorination of the public water-supply has been advised by this Division. This advice has not always been utilized by the local health or water officials. However, there are now fourteen public water-supplies being chlorinated in British Columbia. It is expected that this number will increase in 1944, as several waterworks operators are planning to install chlorinating equipment during the coming year. In each instance where the water has been chlorinated, there has been a gratifying reduction in the number of faecal bacteria (intestinal bacteria) present in the water.

As mentioned in last year's report, the Federal Government, under authority of the "War Measures Act," ordered chlorination of five of the Coast water-supplies. Of these, three are now chlorinated and the other two will be early in 1944. It is interesting to note that this action of the Federal Government was not without precedent, since in 1939, at the outbreak of the war, the British Ministry of Health ordered the sterilization of all water-supplies in the country, so that the use of chlorine in public water-supplies is almost universal in Great Britain to-day.

In the coming year the Division will conduct additional sanitary surveys of water-supplies. Chlorination equipment will be inspected from time to time, since, in order for chlorination to be effective, the equipment must be properly installed and operated satisfactorily.

There are several water-supplies in the Province where filtration is advisable as well as chlorination. It is hoped that this phase of water purification will advance in the post-war period.

#### SEWAGE-DISPOSAL.

Most of the larger communities have public sewerage systems. There are relatively few sewage-treatment plants since the larger centres of population are located near salt water where the sewage is disposed of by dilution. Disposal by dilution is the most suitable method in many instances, but there are several cases where the method is not entirely satisfactory for the protection of bathing-beaches and oyster-growing areas. Also in harbours where there are a considerable number of floats, log-booms, and boats the restriction of water movement interferes with the dilution process to such an extent that some of the harbours are grossly contaminated. Local sewer authorities should study the sewerage systems, with the object of ascertaining as to whether the construction of sewage-disposal plants would be advisable as a post-war reconstruction project. Several of the Interior towns have sewage-disposal plants. In Vernon, the plant capacity was doubled in 1943 by the construction of new units of a modern type.

Most of the new sewerage-work in the Province was done in connection with defence housing projects. There was some difficulty in procuring plans of these systems for approval as required by the "Health Act." It is the intention of the Division to prepare material in the early part of 1944 giving standard instructions regarding the proceedings to be followed in submitting for approval plans and specifications of sewerage-work. These instructions will be sent to all municipalities and to consulting engineers.

One of the largest problems facing the Division is the sewerage of unorganized communities. There are several large unorganized communities where



a public sewerage system is urgently needed. Several surveys of these have now been made, and it is hoped that some method may be found of financing sewerage construction-work. There are several methods now whereby an unorganized community may construct a sewerage system. The first is by organizing as a city or district municipality and borrowing money to pay for the sewer. The second method is by organizing as an improvement district, under the "Water Act," for the purpose of building sewers. Since the building of sewers requires money, and since sewers do not yield a revenue, as a water system does, it is sometimes difficult to find a majority of the ratepayers in the district who will vote to pass the necessary by-law to raise money for sewerage construction-work, particularly where the nuisance created is more offensive to a neighbouring community than it is to the community lacking the sewer. This problem of lack of funds for construction of necessary works to improve sanitation is one that is continually confronting the Division. Various methods of solving the problem have been suggested by interested parties. Since several other Departments of the Government are involved in the problem, this Division would like to see a committee formed, consisting of representatives from all the Departments concerned, to study and investigate the problem from various angles and to propose a satisfactory solution to deal with the disposal of sewage in unorganized territory.

#### MILK SANITATION.

Although milk sanitation is one of the major features of environmental sanitation, the inspecting and grading of dairy-farms is not a function of the Provincial Board of Health but of the Department of Agriculture. The principal function of the Division of Public Health Engineering, therefore, lies in the inspection of engineering features of pasteurizing plants.

It is generally recognized by public health authorities that pasteurized milk is the only milk that is consistently safe for human consumption. In order for milk to be pasteurized within the meaning of the Act it is necessary for this Division to inspect pasteurizing plant, equipment, and technique in order to ensure that the pasteurizing process is properly conducted. A number of plants were inspected during the year. In addition, the plants in the two major cities are inspected by personnel of the local Health Department.

Although the demands for pasteurized milk by military authorities have resulted in the establishment of pasteurizing plants in some areas, there are still a large number of communities in the Province where pasteurized milk is unavailable. Milk plant equipment is still difficult to obtain. It is hoped that in the post-war reconstruction period many new pasteurizing plants will be established.

There was a very serious milk-borne typhoid epidemic at Vernon in 1943, with fifty-one cases and, to date, one death. The patients all were consumers of raw milk from one dairy. This, following (elsewhere in the Province) a scarlet fever epidemic in 1942 and a typhoid epidemic in 1941, both milk borne, further demonstrates the danger of raw milk and that the present methods of control of the raw-milk supply are inadequate. There is also need for a change in the "Milk Act" to permit municipalities and local health authorities to have greater local control of their milk-supply. At present the dairy-farms are inspected and graded on points of equipment and dairy methods by Veterinary



Inspectors of the Department of Agriculture. The quality of the milk itself is not used as one of the criteria in grading a dairy. When the grading is being done, cattle are not tested to see whether they are infected with germs which cause undulant fever in men. It may be seen, therefore, that the words "Grade A" on a milk-bottle cap do not guarantee to the consumer that the milk is of satisfactory quality or that it is free from disease germs, but merely states that the farm on which the milk was produced is rated a "Grade A" dairy-farm.

It is anticipated that during 1944 a man, trained in veterinary science and public health, will be added to the staff of this Division in order that a better co-ordinated and more intensive milk-control programme can be put into practice.

#### SHELL-FISH SANITATION.

One of the important duties of the Division of Public Health Engineering is the sanitary inspection of oyster-producing areas. In this Province oysters are usually cultured on foreshore lots leased from the Provincial Government. These leases are not granted for oyster-culture purposes unless the Provincial Board of Health, along with other interested Departments, approves of such lease. Therefore, before a new lease is issued, a thorough sanitary survey of the lot is conducted by the Division of Public Health Engineering. If necessary, this survey is made at two or more seasons of the year and extends over several tide-cycles. The inspection of existing leases is necessary also from time to time in order to ascertain whether any new sources of contamination have been introduced. Two extensive oyster lease surveys were made during the year, with the assistance of the engineering student referred to above. There is still room for improvement in methods of sanitary supervision of equipment and technique of plants handling and shucking oysters and other shell-fish. It is hoped that during the summer of 1944 additional engineering students will be available to assist in making sanitary surveys of oyster leases.

#### CANNERY SANITATION.

As stated before, an important advance was made in the field of fish-cannery inspection during the year 1943. With the assistance of an engineering student from the University of British Columbia, thorough sanitary surveys of twenty-two fish-canneries were made. These include all of the salmon-canneries on the mainland coast and on the east side of Vancouver Island. Inspections by the Provincial Board of Health do not include the inspection of the actual fish products, but is confined to inspection of the environmental conditions of the cannery-workers.

Large-scale maps of each cannery were drawn and the important sanitary features shown. These included the location and size of all the housing units, privies, sewers, pig-pens, wells, wharfs, sheds, and cannery plants, with relationship to each other and to the high- and low-tide water marks. By using these maps future Inspectors will be able to observe as to whether the required improvements have been made. It is hoped that the remaining fish-canneries in the Province may be similarly surveyed in 1944.

Among the points brought out by this extensive survey the following may be of interest: The population in the camps, on the average, is composed of



about 70 per centum native Indians, 20 per centum Chinese males, and 10 per centum whites. Most of the female labour in the canneries is done by native Indian women and the male labour by Chinese men. The key men are generally whites.

The offal-disposal problem, which used to be one of the major troubles in the early days of salmon-canning, has now been solved by the use of reduction plants. In only three of the canneries inspected was the offal disposed of by dumping at sea. In two of these cases the dumping-site was well chosen.

Toilet facilities at most of the canneries leave considerable room for improvement. Privies are generally of the over-the-water type, with the result that faecal material is deposited on the beaches and left open to the atmosphere for many hours of each day. Where water-closets are provided the sewers rarely extend to minimum low water. As far as the health of the public is concerned, this is one of the most hazardous features at the salmon-canneries. Steps will be taken to improve this situation during the coming year.

The water-supplies at the canneries are generally safe.

Pigs are kept by the Chinese at most canneries. The pig-pens are, as a rule, kept in fairly clean condition, although some are too close to other dwellings.

In most of the cannery camps the provision of garbage collecting and disposal facilities is inadequate. This is due partly to the habits of the majority of the people living in the canneries and partly to lack of interest on the part of the cannery operators.

Regarding housing, the white residents are usually well housed. The Chinese accommodation is improving but overcrowding (according to Western standards) still exists. The Indian housing problem has always been difficult, principally due to the fact that, as a rule, only one small inadequate hut is provided per family. Families vary in number from two to nine or ten. It is obvious, therefore, that there is considerable overcrowding in some of the Indian huts. The newer houses are better. Many of the older Indian huts are poorly constructed and are in a dilapidated condition.

The above, in general, are the major problems to be faced in cannery sanitation. Most of these problems require for their solution the co-operation of the employees as well as action on the part of the employers. The Native Brotherhood of British Columbia (an organization of Coast Indians) is planning to educate its members to co-operate with the cannery operators to achieve a better standard of sanitation. There is room, also, for more education of the Indians by the Indian Affairs Branch.

#### INDUSTRIAL CAMP SANITATION.

As in other years, a considerable number of industrial camps were inspected by the Division of Public Health Engineering, by Sanitary Inspectors attached to local Health Units, and by British Columbia Provincial Police Officers. The condition of the camps was, on the whole, better in 1943 than in 1942. This improvement is partly due to the shortage of labour and the necessity of employers providing good camp conditions in order to keep the men. The number of new camps in 1943 was less than in 1942, the peak year for the opening of new camps. Some of the building materials, unavailable in 1942, were released in 1943. There were relatively few complaints regarding camp conditions dur-



ing the year. In the areas where Health Units are established inspection of camps was greatly facilitated, since the local trained Sanitary Inspector was always in reach and available for return visits when required. With the establishment of Health Units to cover the whole Province, in the post-war period, local trained Sanitary Inspectors will be able to inspect most camps. This will inevitably result in improvement.

Sanitary surveys of the hop-picking camps in the lower Fraser Valley were continued. This will be extended during 1944, with a view to formulating a set of practical regulations for the improving of public health conditions for workers in such camps.

### SANITARY COMPLAINTS.

Many sanitary complaints are received each year. There were less in 1943 than in 1942. Most of these are of minor importance, although a considerable amount of time is required in their investigation. Many of the complaints are investigated by local Medical Health Officers, local Sanitary Inspectors, and by British Columbia Provincial Police Officers.

Numerous complaints were investigated concerning the disposal of septic tank effluents into ditches and small watercourses. Many of these problems can only be solved by the construction of sewerage systems. Two complaints concerned pollution of a stream by industrial plants, and several complaints referred to odours emanating from fish products plants. Another recurring cause of complaint relates to garbage collecting and disposal in unorganized communities. Here again, the problem may only be solved by the expenditure of money, and this is outside the province of the Provincial Board of Health. As stated before, it is suggested that a committee be formed of officials of interested Departments to study methods of dealing with problems of this nature.

### CO-OPERATION WITH ARMED FORCES.

In keeping with the policy of the Provincial Board of Health to render all assistance possible to the Armed Forces, the Division has on several occasions during the year assisted the Armed Forces in solving sanitary problems. This included inspection of pasteurizing plants, water-supplies, methods of disposal of sewage, and in several cases inspection of food sanitation methods.

### GENERAL OBSERVATION.

During the year the work of the Division was still greatly influenced by the development of the north country due to the Pacific war. The influx of workers into the Province was less than in 1942. This resulted in greater stability in construction camps and communities in the North.

Regarding water treatment, the chlorination of the water-supplies of Greater Vancouver was the most important development.

An improvement was made in the method of inspection of canneries, and it is proposed to continue this programme during the summer season of 1944. In the coming year it is proposed to make sanitary surveys of some of the larger unorganized communities with a view to finding out whether sewerage systems are needed. This information will be valuable for the post-war reconstruction period.



The Division would like to record its thanks to the Division of Laboratories for its co-operation in examining samples of water, sewage, and milk; to the Provincial Police for their inspection of sanitary complaints in outlying districts; and to the Division of Public Health Engineering of the Department of Pensions and National Health for its valuable co-operation on water-supply problems within the Province. The Division also desires to acknowledge, with thanks, the unstinted and valuable assistance rendered by the other members and staff of the Provincial Board of Health.

#### SUMMARY REPORT OF THE GREATER VANCOUVER HEALTH AREA.

Public health services for some of the municipalities in the Greater Vancouver Area agreed to a co-ordinated direction plan on November 1st, 1936. On June 1st, 1938, the Municipality of Burnaby was added. At this time Burnaby was administered by a Commissioner, but with the readjustment of finances an elective body took over administration on January 1st, 1943. The elected representatives reviewed the activities of the Health Service and although the grant from the Rockefeller Foundation terminated on May 31st, 1943, agreed unanimously to continue as a member. On September 1st, 1943, the governing bodies of the Municipality of West Vancouver voted to join up with North Vancouver Health Unit in the formation of the North Shore Unit of the Greater Vancouver Metropolitan Health Committee. This most recent addition gives a co-ordinated health set-up almost geographically complete. The only lack is a small city and two smaller municipalities in what would be a natural area with common objectives and problems. The monetary assistance by the Rockefeller Foundation and their evident belief in the soundness of the plan were factors of some significance to the people of West Vancouver in asking to participate.

During the year the Area experienced a considerable increase in population, both with new arrivals and through natural processes. The considerable influx of people has caused, or, better, aggravated, the housing problem, which in mid-1941 showed 13 per cent. of houses in Vancouver City to be overcrowded.

The infant deaths showed a somewhat greater rate but still-births were lower, so that the total shows no marked change. In a special study of some 149 infant deaths occurring in 1942 inadequate housing, inadequate income, and ignorance were shown to be contributing factors in a few instances. Prematurity was, of course, the main cause of death.

*Communicable Diseases.*—The endemic rate for scarlet fever continues to be high, but the attacks are mild with very few showing complications. The quarantine period has been reduced to three weeks in mild cases without complication and a study of 500 cases shows a relatively low secondary case rate. A limited amount of active immunization is carried out but it has not been stressed as with other antigens.

Diphtheria immunization has been pushed and the age-level for mass immunization extended to include all grades in primary schools for both reinforcing and initial treatments. Three cases with two deaths occurred and a number of carriers was found, thus indicating need for continued emphasis for the use of immunization procedures.



While no cases of smallpox occurred, a greater number of citizens was vaccinated than at any time since the serious outbreak of 1931.

Whooping-cough was quite prevalent and four deaths occurred. The use of pertussis vaccine and the combination of pertussis and diphtheria toxoid are being pressed, particularly for infants and pre-schools. Three of the deaths were in babies under four months of age.

Measles, chicken-pox, and mumps show the highest incidence.

Acute anterior poliomyelitis was present in seven instances. In this regard the Vancouver Kiwanis Club has offered two fellowships to enable two individuals to take the course in the Sister Kenny method of treatment. The Provincial Board of Health provided sufficient funds to allow a physician engaged in physiotherapy to take a short course in the Kenny treatment.

Tuberculosis continues to show high morbidity and mortality rates. Mass X-ray surveys have been instituted jointly with the Division of Tuberculosis Control of the Provincial Board of Health and industrial organizations.

The venereal diseases are showing increasing rates, necessitating an increase in the intensity of the drive to curb these diseases and suppress prostitution. The Area does, however, continue to show in the Military Command the lowest rate of infection of any Command in Canada. The Provincial Division of Venereal Disease Control operates the venereal disease clinic and provides all drugs for treatment and expert consultative services. Increased follow-up is being undertaken by the local Public Health Nurses.

No changes were instituted in the very limited pre- and post-natal programmes, but the maternal mortality rate continues to be low.

Some child health centres were placed on a conference-appointment basis with better child health education.

School health services were improved and a School Health Advisory Committee set up in Vancouver and Burnaby school systems. These committees should serve to bring the teaching profession into a closer relationship to health-work.

Dental hygiene services were extended in Vancouver and considerable progress made in all three municipalities—namely, Vancouver, Burnaby, and Richmond—presently enjoying this type of service. Plans are developing for the establishment of a dental programme in the North Shore Unit. Grants in aid are received from the Provincial Board of Health for the Burnaby programme and are anticipated as an aid in developing the North Shore dental service.

General health education by means of radio and popular lectures was used on numerous occasions.

In Vancouver City a new Rat-control By-law was adopted and periodic examination of rat and flea samples was instituted in co-operation with the Federal Government and Provincial Health Services.

Environmental sanitation services were extended in West Vancouver, Burnaby, and Vancouver.

No changes were instituted in the milk and food control programme and no outbreaks occurred from either food intoxications or infections.

With assistance from the Greater Vancouver Health League, educational nutritional services were started in June.



With assistance from the Imperial Order Daughters of the Empire, an Occupational Therapist was added to the staff in the effort to aid recovery and facilitate rehabilitation of tuberculosis cases.

With co-operation from the British Columbia Medical Association, considerable progress was made in the institution of industrial hygiene. All shipyards, Boeings, and a few other firms have adopted health services.

With assistance from the Federal Government by way of the Canadian Nurses' Association, a student training programme was adopted with a full-time Adviser directing. Miss Trenna Hunter, who received special training at McGill University in supervision, is the appointee.

*Staff Changes.*—Doctors Fraser and Sager resigned from Burnaby and were replaced by Dr. A. W. Black, graduate in Public Health from the London (Eng.) School of Hygiene. The nursing staff has been retained at full strength, although 20 per cent. were replaced. The institution of full-time Sanitary Services in Burnaby and West Vancouver necessitated replacements in this field.

Considerable use has been made of volunteers from various agencies with very gratifying results.

The splendid co-operation afforded by the Provincial Board of Health and many other health and social agencies is much appreciated.



TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF  
BRITISH COLUMBIA FOR THE YEAR 1943.

	Cancer.	Cer. Sp. Meningitis.	Chickenpox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	Gonorrhoea.	Influenza.	Measles.	Mumps.	Paratyphoid fever.	Poliomyelitis.	Rubella.	Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping Cough.	Total.
Abbotsford			67							22	117	22			13	4								66	311
Agassiz			1								7				1									9	18
Alberni											6														6
Alert Bay			5		3			1		140	30	10						4						1	196
Armstrong			3					1			5	75				2	10	1				2		14	111
Ashcroft			7								5	2												5	19
Atlin								2		52		29													83
Bella Bella						9				41	8				4	2	1				2				67
Bella Coola		2	1							11		1					2								17
Blubber Bay			6	1		2				56													1		66
Blue River										3															3
Bralorne			24								1	66						3							91
Britannia Beach			22							186	6	42			4								8		271
Burns Lake			3							19		9			1										32
Campbell River			89							16	13	23				1							11		153
Castlegar			3							110	3	2			1	25	14						10		168
Ceepeecee			10							34		11													55
Chase.			1			2				34	53	7													97
Chemainus			34							18	16	10				2							1		81
Chilliwack			69								94	54		1		22							30		272
Coal Creek			6					2		16		23			2	11							16		74
Coal Harbour																									
Cobble Hill			25								9	36			1								8		79
Copper Mountain																									
Coquitlam			14								95	3				13									
Courtenay		2	48					1		241	25	132			39		4					3		9	134
Cranbrook			2							10	2	14				2								4	36
Creston			2					2		3	24	1			3	8								7	50
Cumberland			16								4	11			3									6	40
Duncan			40					1		222	92	56			2	2	1					1			417
Carried forward		4	498	1	3	13		12		1,234	615	639		1	74	104	30				2	3	3	328	3,564



TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF BRITISH COLUMBIA  
FOR THE YEAR 1943—Continued.

	Cancer.	Cer. Sp. Meningitis.	Chickpox.	Conjunctivitis.	Diphtheria.	Dysentery (all forms).	Encephalitis.	Erysipelas.	Gonorrhea.	Influenza.	Measles.	Mumps.	Paratyphoid fever.	Polymyositis.	Rubella.	Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Whooping Cough.	Total.
<i>Brought forward</i>																									
Enderby		4	498	1	3	13		12		1,234	615	639		1	74	104	30				2	3	3	328	3,564
Esquimalt			12							53	21	9				3	1				1		2	102	2
Fernie			53								49	5				9							35	151	
Field			11								7					3	5						52	78	
Fraser Lake			2							45	11	1					1							60	
Garden Bay			42							24	65	98					1						2	230	
Golden										13	43	10					2							70	
Grand Forks			5								6	11			2		4							98	
Greenwood		1	8							27	7	1												46	
Halcyon Springs			10																					66	
Hammond			3							50	9	3					1								
Haney																									
Hazelton										7	35	2			21		1							45	
Hedley										2														23	
Hope																									
Invermere			10							65		15				1	4					1		7	96
Ioco			4							14	4	19					1							49	
James Island			15								21	6			1									43	
Kamloops		2	35							59	108	211				7					4	3	1	51	481
Kaslo			1													3								3	13
Kelowna and District			58							502	212	416			8	14	2							135	1,347
Keremeos																									
Kimberley			30								5	6				7	3							24	76
Kincolith								1																	
Ladner		1	5								22	47		1	2	12								31	122
Ladysmith											18	32													70
Lake Cowichan			1							20	89	15				2	8								135
Langford			3									6				1								3	32
Langley Prairie			17					2			29	4				3								23	78
Lillooet			14							44							2								60







FOR THE YEAR 1943—Continued.

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