PROVINCE OF BRITISH COLUMBIA

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Sixth Report of the

# DEPARTMENT OF HEALTH AND WELFARE

(HEALTH BRANCH)

(Fifty-fifth Annual Report of Public Health Services)

YEAR ENDED DECEMBER 31ST

1951

VICTORIA, B.C.
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1952

OFFICE OF THE MINISTER OF HEALTH AND WELFARE,
VICTORIA, B.C., January 14th, 1952.

*To His Honour* CLARENCE WALLACE, C.B.E.,
*Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1951.

A. D. TURNBULL,
*Minister of Health and Welfare.*

DEPARTMENT OF HEALTH AND WELFARE (HEALTH BRANCH),
VICTORIA, B.C., January 14th, 1952.

*The Honourable A. D. Turnbull,*
*Minister of Health and Welfare, Victoria, B.C.*

SIR,—I have the honour to submit the Sixth Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1951.

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

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

## DEPARTMENT OF HEALTH AND WELFARE
## (HEALTH BRANCH)

| | |
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# Sixth Report of the Department of Health and Welfare

(HEALTH BRANCH)

(*Fifty-fifth Annual Report of Public Health Services*)

YEAR ENDED DECEMBER 31ST, 1951

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G. F. AMYOT, DEPUTY MINISTER OF HEALTH

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At the outset, the Deputy Minister joins with other Health Branch officials in expressing appreciation of the continual and ever-increasing co-operation which has marked the relationships with other departments of government, professional groups, and voluntary agencies. The public health programme has derived very material benefits from the assistance rendered by officials of these organizations.

In this Annual Report, the section entitled " General," immediately below, is intended to summarize those activities, events, and trends which are considered to have had the greatest impact upon the progress of public health in British Columbia during 1951.

Beginning on page 18, a description, entitled "Administration of the Provincial Health Services," sets forth the historical development and the present administrative plan. At the risk of some repetition of information found elsewhere in the Annual Report, this material has been included to provide, in one section, a description which may be conveniently reprinted for more general distribution.

Finally, the sections which begin on page 26 are presented by the heads of the bureaux, divisions, and services which constitute the Health Branch. These contain detailed information concerning the year's activities.

## GENERAL

### LOCAL HEALTH SERVICES

Experience in British Columbia and in most other parts of the continent has shown that the most efficient administrative organization for the conduct of health services on the local level is the health unit. In this Province, when present plans have been implemented, there will be eighteen such health units covering the populated areas outside the boundaries of Greater Vancouver and Victoria-Esquimalt, which have their own large city health departments.

During 1951, expansion of health unit service consisted of the extension of the boundaries of certain units. Thus, although the number of health units officially and completely organized remained at thirteen, the area of the Province covered and the population served by this type of local organization was increased. Further, negotiations with respect to the establishment of units in the Kamloops area and the Surrey-Delta area were well advanced at the year's end. It is anticipated that organization of these two units will be completed early in 1952. The following data reflect the improvement during 1951 and the status at the end of the year:—

Health units—

| | |
|---|---|
| Officially organized and in operation | 13 |
| Organized but not in actual operation | 2 |
| Proposed | 3 |
| Total | 18 |

| Percentage of population receiving service from— | Per Cent |
|---|---|
| Provincial health units and city health departments of Greater Vancouver and Victoria-Esquimalt | 85.9 |
| Non-health unit areas (public health nursing and sanitary inspection districts) | 13.0 |
| Total | 98.9 |

## TUBERCULOSIS-CONTROL

The Annual Report of the Health Branch for 1950 stated that construction of the new tuberculosis hospital at West Fifty-ninth Avenue and Heather Street, Vancouver, had been undertaken. Now, one year later, it is gratifying to report that the first section of 264 beds and the central and administrative facilities (for the complete 528-bed hospital) are rapidly nearing completion. The institution has been named the Pearson Tuberculosis Hospital in honour of George S. Pearson, M.L.A., who gave many years of outstanding service in the Government of the Province in which he was Minister of Labour, Provincial Secretary, and Minister of Health and Welfare. Personnel to staff the new hospital are now being appointed, plans for the official opening are being made, and it is anticipated that the first patients will be admitted early in 1952.

Although these 264 beds, shortly to be put into use, will do much to improve the tuberculosis-control programme, they will by no means provide a solution to the problem of bed-shortage. Because other accommodations, now housing beds on a temporary basis, must be vacated and many of the patients must be transferred to the Pearson Tuberculosis Hospital, the 264 new beds do not represent a net gain. There will still remain a waiting list of tuberculous persons whose admission for care and treatment must be delayed. For this reason, it is sincerely hoped that construction of the second section of 264 beds may be undertaken immediately.

With the expansion of the tuberculosis-control programme, as exemplified by the construction of the new hospital, it became evident to the Deputy Minister of Health and the then part-time Director of the Division, Dr. W. H. Hatfield, that the Division required a director who could serve on a full-time basis. Dr. Hatfield, a physician in private practice in Vancouver, had, for many years, guided the Division's activities and had been largely responsible for the high level of tuberculosis-control in British Columbia. Unable himself, for personal reasons, to accept the full-time directorship, Dr. Hatfield recommended that Dr. G. F. Kincade, then serving as Medical Superintendent of the Willow Chest Centre, be appointed to this important post. When the change was effected in August, Dr. Hatfield assumed the position of Adviser to the Deputy Minister of Health on Tuberculosis and other Diseases of the Chest.

## PROPOSED ADMINISTRATION, CLINIC, AND LABORATORY BUILDING

It is extremely regrettable that this Report must state that construction of the urgently needed administration, clinic, and laboratory building in Vancouver was not undertaken, as anticipated, during 1951. Although many officials have devoted much time in an effort to produce satisfactory plans and finalize administrative arrangements, it has not been possible to surmount the financial obstacles resulting from rising costs of labour and materials. The effect of this delay on important Health Branch services located in Vancouver is most serious. The offices of the Assistant Provincial Health Officer and the Division of Venereal Disease Control are located in old and quite unsatisfactory buildings which are the property of the Vancouver General Hospital. Although these two Health Branch services might conceivably maintain efficient operation in these

quarters, the fact remains that the Vancouver General Hospital has given notice of its intention to use the property for its own purposes. Notice to vacate the buildings will undoubtedly be received in the near future. Because the proposed new building is not available, there is presented the most difficult problem of locating reasonably suitable temporary accommodations. However, the most serious aspect of the matter concerns the Division of Laboratories. In the case of this Division, now located in four obsolete wooden houses on Hornby Street, the problem is indeed grave. In addition to the more ordinary difficulties associated with overcrowding and lack of proper facilities, there is the very real danger of catastrophe resulting from fire or structural collapse. Such a tragedy could mean not only the loss of much valuable equipment and materials and the disruption of services, without which the entire public health programme would be placed in jeopardy, but also injury and even death of highly skilled personnel.

## ENVIRONMENTAL MANAGEMENT

The Health Branch has long been aware of the desirability of developing a programme which would meet more adequately the public health needs of the industrial worker. Earlier planning had tended to confine this programme to the field of industrial hygiene, but more recent thinking has revealed that the scope should be enlarged. With this objective in view, an experienced public health physician was provided with post-graduate training at the School of Public Health, Ann Arbor, Mich., where he received the Master of Public Health degree in June, 1951. His course of studies was specially chosen to prepare him for leadership in the proposed programme in British Columbia. On the return of this official to the Health Branch, he was appointed Director of the newly established Division of Environmental Management. In addition to industrial hygiene, this Division is concerned with medical-care problems, sanitation, and the health aspects of civil defence. In the last-mentioned field, the Director serves as liaison officer between the Health Branch and the Provincial Civil Defence Co-ordinator.

## PUBLIC HEALTH INSTITUTE

The Public Health Institute is an annual educational conference attended by field-staff personnel, senior Health Branch officials, and representatives of the city health departments of Greater Vancouver and Victoria-Esquimalt. The 1951 meeting was held in Victoria on March 26th to 29th, when Dr. Harry Mustard, former Dean of the School of Public Health, Columbia University, was the chief speaker. Dr. Mustard has had wide training and experience in important public health positions in the United States. His contribution to the Institute was particularly valuable because of his deep knowledge of local and rural health services, in which field he is the author of several widely used texts. As in previous years, British Columbia public health staff, both from the field and the central offices, played prominent parts in the programme.

## RED CROSS BLOOD TRANSFUSION SERVICE

During 1951 the people of British Columbia continued to participate, both as donors and recipients of blood, in this public health programme which means so much to the ill or injured person in need of transfusion. Operated by the Canadian Red Cross Blood Transfusion Service through its local chapters, the programme has received the active support and co-operation of all personnel of the Health Branch. Since the inauguration of the service, which makes blood transfusions available without cost to the recipients, the Provincial Government has given financial support. This has helped the organization in defraying general maintenance costs in clinics and offices and in meeting extraordinary transportation charges in those cases in which special or emergency means of transportation must be adopted. During the past year the Service has played an important role in

providing blood plasma to troops in Korea. Those British Columbians who have given so willingly of their blood may well be proud of the fact that they have helped others, both civilians and armed-force personnel, in times of grave need. However, all citizens must realize that " withdrawals " from the " blood bank " can be made by themselves or others only to the extent that " deposits " are maintained. A high percentage of blood donors among the population is essential, particularly in view of possible emergency conditions.

## ACCOMMODATION, VICTORIA OFFICES

The opening of the Provincial Government's new Douglas Building provided much needed office accommodation to departments in general. Although the Health Branch itself was not allotted offices in the new building, the over-all increase in space will make possible the consolidation of most of the Victoria Health Branch services in the extreme west wing of the Parliament Buildings proper. During the latter half of the year the Department of Public Works undertook necessary alterations and renovations in a portion of the west wing vacated by personnel of another department. Unfortunately, certain space has not yet been vacated, with the result that complete reorganization and consolidation cannot be made for some months to come. However, the now renovated and available portions will be occupied by Health Branch personnel early in the new year.

The Deputy Minister and his staff are most grateful for the additional accommodation and for the co-operation displayed by the Department of Public Works in carrying out the necessary alterations as requested.

## POPULATION CHARACTERISTICS

The Decennial Census of the Provinces of Canada was taken this year, providing an accurate picture of the composition of the population in Canada for the first time since 1941. The results confirmed that the percentage increase in this Province's population over the ten-year period considerably exceeds that for any other Province, being fully twice that for Ontario, which had the next greatest percentage increase. In 1941 there were 818,000 people in British Columbia, and by 1951 this figure had increased by 41 per cent to 1,153,000. In 1941 the organized areas of the Province accounted for 74.6 per cent of the total population and the unorganized areas for 25.4 per cent. By 1951 the proportion of the population in the organized areas had increased to 77.7 per cent and that in the unorganized areas had declined to 22.3 per cent. In 1941 there were thirty-four cities in the Province containing altogether 439,119 people. In 1951 there were thirty-five cities containing 565,801 people, a 28.8-per-cent increase. District municipalities numbered twenty-seven in 1941 and twenty-eight in 1951, the population in these areas having increased by 79.4 per cent from 160,801 to 288,421. Villages showed the largest increase in number, having more than doubled from nineteen in 1941 to forty in 1951. The population quadrupled, having risen from 10,052 to 42,155.

British Columbia is divided into ten census divisions, and a comparison of the proportionate population increase during the period 1941 to 1951 in these areas is interesting in showing the pattern of growth in the Province. The greatest proportionate increase occurred in Census Division 10. In this division, the Peace River area, the population increased 67.2 per cent, from 8,481 in 1941 to 14,178. The next greatest increase, of 57.7 per cent, occurred in the Cariboo area—Census Division 8. Census Division 3, the Okanagan District, showed a population increase of almost 50 per cent over the ten-year period. The Lower Mainland and Vancouver Island Districts, including Census Divisions 4 and 5, each gained almost the same percentage from 1941 to 1951, slightly over 40 per cent. The population in the area surrounding Kamloops, Census Division 6, increased 34.7 per cent. Census Divisions 1 and 2, the East and West Kootenays, increased 28.1 and 23.3 per cent respectively. The population in the Ocean Falls area,

Census Division 7, increased by 26.4 per cent. The smallest population increase in the Province during the 1941–51 period occurred in Census Division 9, comprising the Queen Charlotte and northern coastal area. Here there was only a 14.4 per cent rise in the number of people.

The birth rate this year, excluding Indians, showed an increase over that for 1950. The rate in 1951 per 1,000 live births was 23.4, while in 1950 the rate was 23.0. The excess of births over deaths in 1951 per 1,000 population was 13.9, an increase over the 1950 figure of 13.1. Marriages during the year also showed an increase from 9.9 per 1,000 population in 1950 to 10.4.

## LONGEVITY AND CAUSES OF DEATH IN BRITISH COLUMBIA

A slight decrease occurred in the death rate per 1,000 population, excluding Indians, this year to 9.5 from last year's rate of 9.7. As indicated in last year's Report, because of the increasing number of older people in the Province, any improvement in the mortality rate is worthy of note. A consideration of the age-specific mortality rates reveals that the mortality in the group from 0 to 19 years of age has remained unchanged at the 1950 rate of 2.6 per 1,000 population. There was also no change in the mortality rate among the population from 20 to 39 years of age this year as compared to the rate of 1.6 for 1950. Improvements were registered in the mortality rates for both the 40–59 and the 60-and-over age-groups this year over 1950. In the 40–59 group, the rate this year was 6.6 deaths per 1,000 population, while that for 1950 was 7.0. In the 60-and-over age-group the rate was 42.8 in 1951 and 43.3 in 1950. Of the total deaths, 8.4 per cent occurred in the 0–19 age-group, 5.4 per cent in the 20–39 age-group, 15.5 per cent in the 40–59 age-group, and 70.7 per cent in the group 60 years and over.

The infant mortality rate among the population, excluding Indians, showed an increase this year over that for the previous year. In 1950 the rate of infant deaths per 1,000 live births was 22.6, whereas this year the rate has risen to 23.4. Deaths from prematurity, the leading cause of infant mortality, amounted to 20.6 per cent this year, a slight increase over last year's figure of 18.4 per cent. An increase occurred in congenital malformations as a percentage of total infant mortality, this cause having accounted for almost 20 per cent of all infant deaths in 1951 as compared to 14.5 per cent in 1950. The percentage of infant deaths from asphyxia and atelectasis was 13.6 this year and 12.6 per cent in 1950. A substantial decline occurred in the deaths from birth injuries this year to less than half the percentage of 13.6 arising from this cause in 1950.

The rate of maternal deaths per 1,000 live births continues to decline, and this year reached a new low of 0.6 as compared to 0.9 in 1950. During the year there were only 17 maternal deaths. The improvement in maternal mortality during recent years has been spectacular. The rate in 1940 was 2.8 per 1,000 live births; thus this year's rate is less than one-quarter of the 1940 rate.

The new system of coding mortality has now been in use for two years, making possible certain comparisons between 1950 and 1951. As was noted in the 1950 Annual Report, with the introduction of the Sixth Revision of the International List of Causes of Death comparisons are no longer completely accurate for all causes between deaths from 1950 onward and deaths in the preceding years. It is expected, however, that the additional usefulness of the statistics now available will more than outweigh this loss of comparability.

The number of deaths from heart-disease, the leading cause of mortality in the population of the Province, excluding Indians, was slightly less than that for 1950. There was a total of 3,951 deaths from this cause in 1951, while in 1950, 3,990 deaths occurred as a result of heart ailments. The death rate declined from 359.8 per 100,000 population in 1950 to 350.6 in 1951. Almost 37 per cent of all deaths were attributable to heart-disease this year, a slight decrease from the 1950 figure of 37.3 per cent. Deaths from

arteriosclerotic and degenerative heart-disease declined to 3,142 from the figure of 3,179 in 1950, while mortality from hypertensive heart-disease increased to 510 in 1951, compared to 497 in 1950. Rheumatic heart-disease caused 152 deaths this year, and other heart conditions accounted for the remaining 147 deaths. In 1950 there were 194 deaths from rheumatic disease and 120 from other heart conditions.

Cancer mortality remained substantially the same this year as for the previous year, being 1,682 in 1950 and 1,675 in 1951. The mortality rate decreased from 151.7 to 148.6. Of the total deaths from cancer, 42 per cent or 699 were caused by malignancies of the digestive tract, 18 per cent or 303 by malignancies of the genito-urinary system, and 12 per cent and 10 per cent by malignancies of the respiratory system and breast respectively.

The third leading cause of death, vascular lesions of the central nervous system, took 1,123 lives this year, a decrease of 5 per cent from the previous year's figure of 1,178. The death rate from this cause declined from 106.2 in 1950 to 99.6 in 1951. Individual causes under this heading were cerebral hæmorrhage, which caused 698 deaths, and cerebral embolism and thrombosis, which caused 293 deaths. The remaining 132 deaths in this classification were due to subarachnoid hæmorrhage, spasm of cerebral arteries, and other and ill-defined vascular lesions of the central nervous system.

The toll from accidents this year increased by 7 per cent to 815 deaths, and the mortality rate rose accordingly from 68.7 per 100,000 population in 1950 to 72.3 in 1951. A total of 191 deaths arose as a result of motor-vehicle accidents in 1951, thus placing this cause ahead of accidental injury by fall, the leading cause of death from external causes in 1950. Motor-vehicle accident fatalities were up over 10 per cent this year from the 1950 figure. Falls caused 157 deaths, 10 per cent less than the 1950 figure of 175. Drowning fatalities numbered 120 in 1951 and 116 in 1950, while deaths from blows by falling objects numbered 80 this year, an increase of 26 over the 1950 figure. Nearly 70 per cent of all accidental deaths this year occurred as a result of these four causes. Of the 547 non-transport deaths by accidents, 211 occurred in the home, 108 in industry, 24 in institutions, 13 in a public building, and 191 in other and unspecified places.

The four leading causes of death, heart-disease, cancer, vascular lesions of the central nervous system, and accidents accounted for 7,564 of the 10,701 deaths which occurred in 1951, fully 70 per cent of the total mortality.

Pneumonia this year was the fifth leading cause of death, having taken 370 lives as compared to 318 in 1950, an increase of 11.6 per cent. The death rate for this cause rose from 28.8 in 1950 to 32.8 in 1951. Diseases of infancy, in sixth place as a cause of death, killed 347 infants this year, 7 less than the previous year. Tuberculosis caused the deaths of 219 people this year, placing it in seventh position. In 1950, 229 people died from this disease. Diseases of the arteries, congenital malformations, and suicide were in eighth, ninth, and tenth place this year, the mortality from these causes having amounted to 184, 153, and 152 respectively.

The influenza epidemic experienced in the first few months of 1951 had a very adverse effect on the mortality from this disease, more than trebling the deaths it caused. In 1950 there were 31 influenza deaths, while in 1951, 98 people died from the disease.

When the causes of death by age-group are considered, the effect of each cause on the population is revealed more clearly. In the younger age-groups, accidents are in the forefront and cause a major proportion of the deaths, while as age progresses, the degenerative diseases, such as diseases of the heart, cancer, and vascular lesions of the central nervous system, become of increasing importance. The following discussion of the mortality in each age-group will be of value in demonstrating the effect of some of the more important causes.

In the age-group from 1 to 19 years, accidents take a high toll of life. Almost one-half of the 276 deaths at this period of life arise from external causes, and the importance of other causes is dwarfed by this leading cause. Cancer, in second place, took 26 lives, congenital malformations 22, and tuberculosis 15. A single cause of accidental death, drowning, killed 40 people, almost as many as the next two leading causes of death just mentioned. Motor-vehicle accidents took 40 lives, fire 10 lives, and falls another 6.

In the age-group from 20 to 39 years, accidents exact an even higher toll than in the previous group, 211 lives, but the proportion of total deaths this represents declines to a little over one-third. Motor-vehicle accidents were responsible for one-third of these accidental deaths, trailed by drownings (28 deaths) and blows by falling objects (24 deaths). Heart-disease begins to make an appearance among the leading causes of death in the 20–39 age-group. There were 62 deaths from this cause in 1951, and following heart-disease, tuberculosis caused 60 deaths and cancer 58.

Heart-disease takes first place as a cause of mortality in the next age-group, from 40 to 59 years, a position it holds uncontested to the last age-group. Almost a third of the deaths among the population aged 40 to 59 years arose as a result of this cause. Cancer took 390 lives, nearly 25 per cent; accidents, which have now dropped to third place, took 190 lives; and vascular lesions took 94 lives.

The 60–79 age-group presents a similar pattern of mortality, except that vascular lesions have moved up to third place, ahead of accidents. The deaths in this age-group from the major causes were heart-disease, 2,401; cancer, 1,029; vascular lesions, 687; and accidents, 185.

In the last age-group, that from 80 to 99 years, heart-disease again leads, having caused 948 deaths. Vascular lesions is in second place with 317 deaths, and cancer third with 170. Accidental death no longer appears as one of the leading causes, having been replaced by pneumonia. One hundred and thirty people died from this cause.

The effects of the influenza epidemic were most marked on the older age-groups, having accounted for 80 deaths among those over 60. In the population from 1–19, this disease caused 1 death; in the 20–39 group, 5 deaths; and in the 40–59 group, 8 deaths.

During 1951 the staff of the Health Branch and personnel of related services have again displayed keen interest and co-operation in planning and implementing British Columbia's public health programme. Their loyalty to the service and their untiring efforts to improve the health status of the people evoke the sincere gratitude of the Deputy Minister.

## ADMINISTRATION OF THE PROVINCIAL HEALTH SERVICES, 1951

Advances in medical and related sciences and the changing public health needs of the people make necessary the constant modification of public health programmes and procedures. In British Columbia, during World War II, modification of a truly progressive nature was difficult to achieve because of the serious shortage of trained personnel. During the period since the war, however, the Province, aided materially by the Federal Health Grants programme, has experienced a planned and controlled expansion of its public health services. This has, of course, necessitated certain changes in the administrative organization of the Health Branch.

Several years have elapsed since the last description of Provincial health services was published in summary form. The revised description, presented in these pages, summarizes the historical development and administrative organization and services which are in effect in 1951.

### HISTORICAL DEVELOPMENT

Public health services in British Columbia had their official beginning on February 23rd, 1869, following the passage of legislation entitled "An Ordinance for Promoting the Public Health In The Colony In British Columbia." This ordinance marked the first step in British Columbia's administration of public health. When British Columbia became a Province of the Dominion of Canada on July 20th, 1871, the ordinance became part of the Statutes.

At that time, service was provided primarily by a group of technical persons—engineers, doctors, and others—who met from time to time whenever a special need arose. Following the passage on April 12th, 1893, of a new act entitled "An Act Respecting the Public Health," this group of technical persons became known as the Provincial Board of Health. In a later development, policy-making responsibilities and functions were more clearly distinguished from the provision of service. The Cabinet became the Provincial Board of Health, under whose general direction the technical group provided actual public health services.

Since the early days of government, there has been continual growth and expansion through the addition of new services and the integration and co-ordination of others, until in 1946 these services were given departmental rank through the passage by the Legislature of the " Department of Health and Welfare Act." As provided under this Act, the new Department, which came into operation in October of 1946, was composed of a Health Branch and a Welfare Branch, each under the jurisdiction of a separate Deputy Minister directly responsible to the Minister of Health and Welfare. The Provincial Health Officer was appointed Deputy Minister of Health, retaining both titles, since authority to administer existing health legislation was vested in the former.

In 1948 the Government passed the " Hospital Insurance Act " and a third branch of the Department of Health and Welfare, the British Columbia Hospital Insurance Service, was set up. The Department now consists of three branches, with three officers holding the rank of Deputy Minister. They are the Deputy Minister of Health, the Deputy Minister of Welfare, and the Commissioner of the Hospital Insurance Service. The activities of the three branches are co-ordinated under the Minister of Health and Welfare.

Health services for Indians are the responsibility of the Federal Government. In certain areas, Indian health services are provided by the Provincial Health Branch, the latter being reimbursed by the Indian Health Services, Department of National Health and Welfare.

## PHILOSOPHY OF PUBLIC HEALTH AT THE PROVINCIAL LEVEL

Under the " British North America Act," the responsibility for health matters not of an interprovincial or international nature was delegated to the Provinces.

An important function of a Provincial Government is to organize a body to which is entrusted the health of the people. The structure on which this responsibility rests in British Columbia is the Provincial Health Branch. The purpose of this Branch, like any Provincial department of health, is to develop a programme planned to meet the public health problems of the Province, to control and prevent disease and premature death, and to promote positive health.

The chief aims of the Health Branch are:—

(1) To promote the establishment and maintenance of adequate full-time local health services rendered by public health trained personnel.

(2) To provide supervision of, and consultative service to, these local health services.

(3) To provide, or assist in providing, special services which, for economic or other reasons, are not feasible of development on the local level. Included in this group are services for the diagnosis and treatment of tuberculosis, venereal diseases, and cancer, and public health laboratory services.

## ADMINISTRATIVE ORGANIZATION OF THE HEALTH BRANCH

On page 25 will be found an administrative chart of the Provincial Health Branch of British Columbia showing the chain of responsibility and the flow of services of various bureaux and divisions to the local health services and through them to the people of the Province. It should be noted here that the divisions are developed to simplify administration and not to act as " water-tight " compartments. All health problems are closely related because they all affect the health of the one group—the public.

The Minister of Health and Welfare is responsible, through the Cabinet and the Legislative Assembly, to the people for the programmes and services conducted by the three branches of the Department.

The Deputy Minister of Health, who must be a duly qualified physician, is responsible for carrying out the public health policy set by the Minister and the Cabinet.

For ease of administration, the Health Branch services are grouped under three bureaux. With headquarters in Victoria, the Bureau of Local Health Services is directed by the Deputy Provincial Health Officer, and the Bureau of Administration is directed by the Administrative Assistant. With headquarters in Vancouver, the Bureau of Special Preventive and Treatment Service has the Assistant Provincial Health Officer as its director.

The Deputy Minister and the three bureau directors form the central policy-making and planning group of the Health Branch. The bureaux are organized in such a manner that most administrative problems can be solved by consultation among the bureau and divisional directors concerned.

## BUREAU OF ADMINISTRATION

The Bureau of Administration is concerned with all major phases of management. Within this Bureau are the Central Office, the Division of Vital Statistics, and the Division of Public Health Education. The latter two divisions are included in the Bureau because, like the Central Office, they provide service to the entire Health Branch.

### CENTRAL OFFICE

Among the major responsibilities of the Central Office are personnel administration, records, supplies, agreements with other Provinces and agencies, building projects, and certain aspects of the Federal Health Grants programme.

### Division of Vital Statistics

The Division of Vital Statistics has a dual function. It administers the various Statutes concerning the registration of births, deaths, marriages, divorce orders, adoption orders, and the like, and, in addition, it performs statistical analyses to aid in the planning of health programmes. The consolidation of these functions in one Division gives a more closely integrated service than is found in most other Provinces, States, and countries, where the two functions are often separate.

The " Vital Statistics Act " requires that all births, deaths, and marriages be registered with a District Registrar, who then forwards the information to the central office in Victoria. To facilitate registration, the Province is divided into seventy-two districts, each having a District Registrar. Many of the District Registrars are Government Agents or constables of the Royal Canadian Mounted Police.

In addition, the " Marriage Act," regulating the licensing of Marriage Commissioners and the registration of ministers, the " Change of Name Act," and the portion of the " Wills Act " dealing with the registration of notice of filing of wills are administered by the Division of Vital Statistics.

As the statistical workshop of the Health Branch, the Division has two basic responsibilities. It assists in determining the nature and extent of public health needs, and it evaluates statistically the effectiveness of Health Branch services intended to meet these needs.

### Division of Public Health Education

The major responsibility of the Division of Public Health Education consists of providing professional advice and assistance to local public health personnel and the staffs of other divisions in the planning and conduct of health education programmes. The Division also makes its services available to other Government departments and voluntary agencies.

Most of the educational material distributed by the Health Branch is edited, and often written, by staff of the Division. Included in such publications are the monthly staff news-letter, " Public Health News and Views," and, for public consumption, the monthly bulletin, " B.C.'s Health."

The Division maintains a central library of public health texts, journals, films, and film-strips, which are used extensively by public health personnel in all parts of the Province, and supervises the selection of materials for libraries in health units.

Pre-service and in-service training programmes for public health staff are arranged and supervised by the Division. This programme is designed to acquaint new staff members with Health Branch policies and procedures and to assist all personnel in keeping abreast of the latest developments.

## BUREAU OF LOCAL HEALTH SERVICES

The Bureau of Local Health Services includes the Divisions of Health Units, Public Health Nursing, Public Health Engineering, Preventive Dentistry, and Environmental Management. The Bureau is designed to co-ordinate and balance the services provided to health units. A planning committee, or local health service council, meets weekly for this purpose. Under the chairmanship of the Bureau Director, the council consists of representatives of each of the Bureau's divisions and services.

Personnel of the Bureau, as well as other senior officers of the Health Branch, participate actively in the bi-annual meetings of health unit directors and senior medical health officers of metropolitan areas. Led by the Deputy Minister and the Bureau Director, these meetings are conducted in an informal manner, permitting frank discussion and comment. They provide opportunities for review, modification, and formulation of policies and programmes.

Brief descriptions of the divisions and services within the Bureau follow.

## Division of Health Units

The development of local public health programmes, through the formation of health units to serve all populated areas of the Province, is the responsibility of this Division. Under authority of the "Health Act," several organized municipal governments and School Boards may unite their local Boards of Health to form a Union Board of Health which will provide all community and school health services through a health unit.

British Columbia has an area of 366,255 square miles and a population of 1,153,000. Approximately half the total population lives in and around Vancouver and Victoria, with most of the remainder living along the main transportation routes or in the cultivated valleys and agricultural areas. The metropolitan areas of Greater Vancouver and Victoria-Esquimalt have their own city health departments. The former is divided into six health units, and the latter is comprised of one health unit. Although the activities and programmes of these metropolitan services are closely co-ordinated with those of the Provincial service, they do not come under the direct jurisdiction of the Health Branch.

Outside the boundaries of Greater Vancouver and Victoria-Esquimalt, the Province is served by eighteen health units, to which the Health Branch, through the Division of Health Units, provides direct guidance and consultative service. Each of these eighteen units is, in effect, a modern local health department staffed by full-time public-health-trained personnel serving one or more population centres and the rural areas adjacent to them. To simplify the collection of local financial contributions, the geographical area covered by each health unit encompasses two or more school districts which serve as the local "tax-collecting" agencies. However, it should be understood that school health services are only a part of the total programme. A fixed annual assessment of 30 cents *per capita* is collected as the local contribution, and the difference between this and the actual operating cost is borne by the Provincial Health Branch.

Each Union Board of Health, composed of representatives of the participating municipalities and School Boards, meets quarterly. The director of the health unit, who is the local medical health officer, acts as secretary of the Board.

Professional, technical, and clerical staff of the rural health units are employed as Provincial Government Civil Servants in order that there may be uniform personnel policies throughout the local health services. However, appointments and transfers are subject to the approval of the Union Board of Health and, for all practical purposes of day-to-day administration and operation, staff are considered as locally employed personnel.

The direct administration of the local services is the responsibility of the director of the health unit, who is assisted by several public health nurses, one or more Sanitary Inspectors, one or more statistical clerks, and, in some units, a dentist and a dental nurse. A public health educator has been added to the "teams" in two local areas, and consideration is being given to extending this service to other health units.

## Division of Public Health Nursing

In the development of health services throughout the Province, public health nurses have usually been the first full-time personnel to serve in any area. Introducing the public health programme and informing the people of their districts with respect to the possibilities of more complete services, they have been the pioneers building the foundations of health units. In all but a few areas of the Province, public health nursing service is now a part of health unit service.

The Director of the Division and the staff of consultants at Provincial headquarters are responsible for the recruitment and, through the health unit directors, the technical supervision of the nursing staff of local health units.

### Division of Preventive Dentistry

Full-time local dental health services have been made available in certain health units. The local programmes are arranged by the health unit staff in co-operation with the Division of Preventive Dentistry. Services consist of examination and treatment of pre-school and Grade I children and, where possible, Grade II children. Specially designed portable dental equipment, developed by the Division, is used. The programme includes the educational aspects of public health dentistry.

In some areas not yet provided with full-time dental health services, dentists in private practice conduct part-time children's dentistry programmes under contract with local committees. The dentist receives payment from the committee, which is then partly reimbursed by the Provincial Health Branch.

Other part-time programmes are planned to meet the needs of remote areas. For example, where there is no resident dentist in a particular area, portable equipment may be placed on loan to a dentist in a neighbouring community if he agrees to make regular visits and to devote a specified portion of his time to children's dentistry.

### Division of Public Health Engineering

As its name indicates, this Division is responsible for all matters requiring public health engineering knowledge and procedures. These include community water-supplies, sewage disposal systems and treatment plants, stream-pollution, and sanitation of swimming-pools, beaches, and shell-fish beds.

Under the " Health Act," communities which plan to install public water-supply or sewage systems, or to extend or modify existing systems, must first obtain the approval of the Deputy Minister of Health. Plans for such construction are reviewed by the Division of Public Health Engineering, which then advises the Deputy Minister with respect to their acceptability.

Like the staffs of other divisions at the Provincial level, public health engineers serve as consultants to health unit directors whenever their specialized training is required to assist in solving local problems.

### Division of Environmental Management

The programme of the Division of Environmental Management includes industrial hygiene, rehabilitation, adult hygiene, nutrition, and environmental sanitation. The public health aspects of the Provincial civil defence programme are co-ordinated by the Director of the Division.

Nutrition services include the provision of advice and guidance to local public health personnel and other divisions of the Health Branch. Consultative services are made available, on request, to institutions and other departments of Government.

Supervisory and consultative services in sanitary inspection are provided on this basis also.

## BUREAU OF SPECIAL PREVENTIVE AND TREATMENT SERVICES

The Divisions of Laboratories, Tuberculosis Control, and Venereal Disease Control conduct specialized, generally similar, and closely related programmes of prevention and treatment. The headquarters and central service facilities of the three divisions are located in Vancouver. For these reasons, they are grouped in the Bureau of Special Preventive and Treatment Services, with the Assistant Provincial Health Officer as Bureau Director. In addition to being responsible for co-ordinating the activities of the three Divisions with those of other Health Branch services, the Assistant Provincial Health Officer also serves as the Deputy Minister's representative in Vancouver and the Lower Mainland. In this capacity, he is able to give advice and guidance to non-government agencies conducting health programmes which are officially recognized and

at least partially financed by the Provincial Government. Included among such agencies are the British Columbia Cancer Institute, the British Columbia Division of the Canadian Arthritis and Rheumatism Society, and the Western Society for Physical Rehabilitation.

Following are brief descriptions of the three Health Branch divisions which comprise the Bureau of Special Preventive and Treatment Services.

### Division of Laboratories

The main laboratory is located in Vancouver, and branch laboratories are situated at strategic centres throughout the Province. The Division performs all types of public health laboratory procedures, with the more complex tests and anlyses being undertaken in the main laboratory. Biological products are distributed free of charge to the health units and, through the health units, to private physicians.

### Division of Tuberculosis Control

In its programme for the diagnosis, treatment, and control of tuberculosis, the Division operates and maintains the following services:—

(*a*) Tuberculosis hospitals located at several centres throughout the Province.
(*b*) Diagnostic and treatment clinics, both stationary and mobile.
(*c*) Survey clinics, both stationary and mobile, using miniature-film equipment.
(*d*) Services for the chest X-rays of patients on admission to hospitals and out-patients, using miniature-film equipment located in general hospitals and some health unit centres.

The Division's programme is conducted in close co-operation with local health services whose staff arrange the schedules of travelling clinics, receive reports of diagnostic findings for residents of the local areas, and assist in making arrangements for further care by private physicians.

Social workers of the Welfare Branch are assigned to the Division of Tuberculosis Control to work in the various institutions. In their duties with respect to patients and families of patients, they function through social service staffs located in the areas of residence.

The British Columbia Tuberculosis Society, a voluntary organization, has always operated in close co-operation with the Division of Tuberculosis Control. The society accepts large responsibilities in undertaking much of the publicity and in producing educational materials on tuberculosis. Through the "Christmas Seal" campaigns, it raises funds which are donated to local areas and the Division of Tuberculosis Control for special projects, including the purchase of equipment and the construction of buildings.

### Division of Venereal Disease Control

The Division of Venereal Disease Control operates full-time clinics in Vancouver and part-time clinics at other centres throughout the Province. These clinics provide diagnostic and treatment services without cost to the patient. In areas where there are no clinics, the Division makes payments to private physicians for the examination and treatment of indigent patients. Through the director of the health unit in each area, the Division provides drugs and consultative services to private physicians for the adequate treatment of all patients. Laboratory procedures and tests for venereal diseases are performed by the Division of Laboratories.

## METROPOLITAN HEALTH DEPARTMENTS

As indicated in the earlier section dealing with local health services, Greater Vancouver and Victoria-Esquimalt operate their own large-city health departments, which do not come under the jurisdiction of the Provincial Health Branch. Employment

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VICTORIA, B. C.

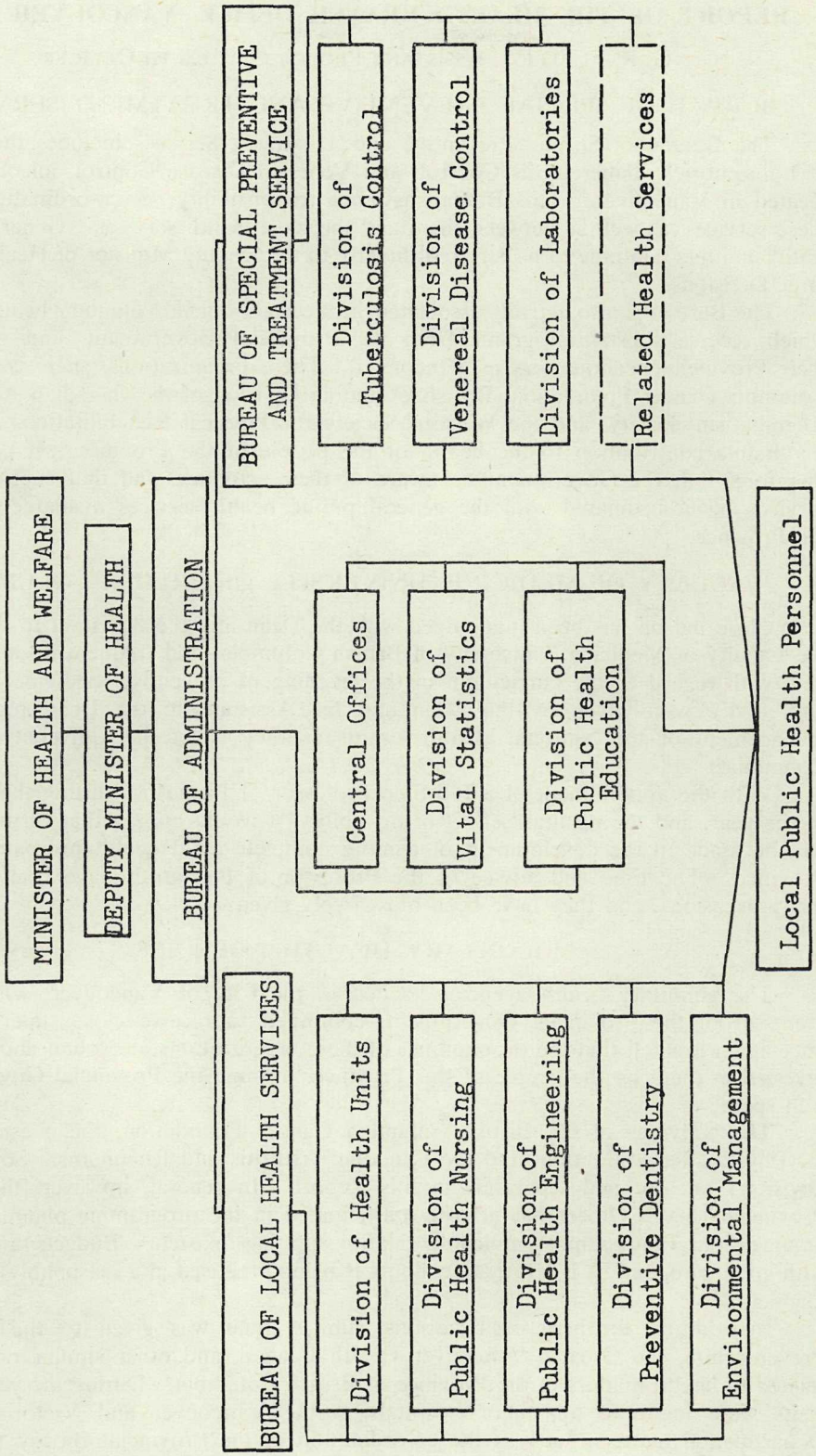
of personnel and the appropriation of funds to finance the services are the direct responsibility of the city authorities.

However, there is a very high degree of co-operation in planning and co-ordination of services with the Provincial Health Branch, which makes annual grants to these two health departments. The Provincial Health Branch also makes available consultative, advisory, and other services, including those of the Division of Laboratories, Tuberculosis Control, and Venereal Disease Control.

## VOLUNTARY HEALTH AGENCIES

In the large field of public health endeavour, not all services are provided by the Provincial or municipal authorities. Earlier reference has been made to the invaluable programmes conducted by voluntary agencies for the benefit of cancer patients, severely crippled persons, and those suffering from arthritis or rheumatism. In British Columbia the important and well-established voluntary agencies have appointed Health Branch representatives to their governing bodies. Such representation has done much to produce balanced programmes and to eliminate duplication of services. Because of their important place in the field of public health, the major voluntary agencies receive substantial grants from the Health Branch.

In conclusion, it should be emphasized that a public health programme cannot remain static and still continue to meet the needs of the people whom it is intended to serve. As a result, any administrative plan, designed for the efficient conduct of the services, must be flexible, and administrators must make continual changes in it. Thus, although the foregoing description of Provincial Health services may continue to be a reasonably accurate and complete summary for some time, it cannot be a final statement.


ADMINISTRATIVE CHART
Health Branch--Department of Health and Welfare
MINISTER OF HEALTH AND WELFARE
DEPUTY MINISTER OF HEALTH
BUREAU OF ADMINISTRATION
BUREAU OF SPECIAL PREVENTIVE AND TREATMENT SERVICE
Division of Tuberculosis Control
Division of Venereal Disease Control
Division of Laboratories
Related Health Services
Central Offices
Division of Vital Statistics
Division of Public Health Education
Local Public Health Personnel
BUREAU OF LOCAL HEALTH SERVICES
Division of Health Units
Division of Public Health Nursing
Division of Public Health Engineering
Division of Preventive Dentistry
Division of Environmental Management

# REPORT OF THE HEALTH BRANCH OFFICE, VANCOUVER AREA

G. R. F. ELLIOT, ASSISTANT PROVINCIAL HEALTH OFFICER

## BUREAU OF SPECIAL PREVENTIVE AND TREATMENT SERVICES

The Bureau of Special Preventive and Treatment Services includes the Divisions of Laboratories, Tuberculosis Control, and Venereal Disease Control, all of which are located in Vancouver. This Bureau assumes responsibility for co-ordination between these services, as well as between them and the local health services. General administrative matters continue to be referred directly to the Deputy Minister of Health by these three Divisions.

The Bureau is also actively associated with certain official voluntary health agencies, which receive substantial grants from the Provincial Government, and which have their Provincial headquarters in Vancouver. These organizations, such as the British Columbia Cancer Foundation, British Columbia Division of the Canadian Arthritis and Rheumatism Society, and the Western Society for Physical Rehabilitation, are making a valuable contribution to the health of the people of the Province. It is advisable, therefore, that the Government be aware of their activities, and that such specialized services be co-ordinated with the general public health services available throughout the Province.

## FACULTY OF MEDICINE, UNIVERSITY OF BRITISH COLUMBIA

Close liaison has been maintained with the Dean and the Assistant to the Dean of the Faculty of Medicine, University of British Columbia, and frequent discussions were held with regard to the curriculum in the teaching of preventive medicine. Guidance and advice were given by the Dean and the Assistant to the Dean regarding the management of the National Health Grants as they affect the University of British Columbia.

With the appointment of a full-time Professor of Pædiatrics during the latter part of the year, and the resultant effect of his ability, it would appear that further progress will be made in the development of a more complete child health programme in this Province. The time and advice of the Professor of Pædiatrics have been sought on many occasions, and they have been most freely given.

## VOLUNTARY HEALTH AGENCIES

The voluntary health agencies located in the City of Vancouver, which receive grants from the Provincial Government, continued to receive close supervision, and once again it is felt that the programmes of these organizations are sound and the money invested in them by the people of this Province, through the Provincial Government, is well spent.

The activities of the British Columbia Cancer Foundation, the Western Society for Physical Rehabilitation, and the Canadian Arthritis and Rheumatism Society (B.C. Division) are outlined separately in this Report. In general, however, the Assistant Provincial Health Officer has actively participated in the programme planning of these organizations, and a most amicable relationship has existed. Budgets are reviewed with great care, and its is felt that economy is being practised in a reasonably satisfactory manner.

In addition to these organizations, limited time was given to the Vancouver Preventorium, the Greater Vancouver Health League, and other similar organizations related to health matters in the Province of British Columbia. During the year frequent visits were made to all major hospitals in the Vancouver and Victoria areas on Departmental matters, such as the co-ordination of the Provincial Biopsy Service and the requests for assistance from the National Health Grants.

### British Columbia Cancer Foundation

This organization, named as the agent of the Provincial Government for the treatment and control of cancer in this Province, continues to make forward strides in its programme. Funds are provided by the Cancer Control Grant of the National Health Grants and by the Province of British Columbia on an equal basis to pay the operating expenses of the main diagnostic and treatment centre, known as the "British Columbia Cancer Institute," and the nursing home, both located in Vancouver, and of the consultative and diagnostic clinics located throughout the Province. The consultative clinics mentioned in the 1950 Annual Report continued operation at seven points in the Interior. Additional clinics are planned for Prince George and Prince Rupert in the near future.

During the latter part of the year a treatment centre of the British Columbia Cancer Foundation was opened at the Royal Jubilee Hospital in Victoria. The opening of the Victoria Cancer Clinic was delayed somewhat, due to the lengthy discussions between the British Columbia Cancer Foundation, the Victoria Medical Association, and the Royal Jubilee Hospital before satisfactory arrangements were finalized.

The building adjacent to the British Columbia Cancer Institute, which is being constructed by the British Columbia Cancer Foundation, using private funds, is well under way and should be in operation around the middle of 1952. The cost of this building will approach $750,000. The operating costs of the expanded services made possible by this building will also be borne by the matching Cancer Control Grant of the National Health Grants. Purchase of equipment will be from the same source of funds.

### Provincial Biopsy Service

This service remains an integral part of the cancer-control programme and continues to be most satisfactory to all concerned, as well as extremely popular with the practising physician. To the biopsy service, which is chiefly concerned with the diagnosis of solid tissues, a service for diagnosis of cells in fluids was added on the same free basis to the patient. This service is known as the "Cytological Service" and is carried out at the Vancouver General Hospital. It is interesting to note that this cytology service was originally developed by a voluntary agency, but, when its usefulness was proven, became an integral part of the Provincial Biopsy Service.

### Western Society for Physical Rehabilitation

During 1951 the Western Society for Physical Rehabilitation has greatly expanded the services and facilities of the Rehabilitation Centre. This expanded programme has been made possible by the addition of a new wing to the centre, which was opened late last year. Included in this wider programme was the engagement of a combined social worker and vocational placement officer, and the commencement of an institutional training programme for academic and vocational training.

The brace-shop established in the centre this year has been doing excellent work. In order to keep up with the demand for orthopædic appliances, the society is arranging to train another brace-maker in the brace-shop.

This summer arrangements were made for the medical branch of the Canadian Arthritis and Rheumatism Society to be housed in the Rehabilitation Centre. In addition, space and facilities were allocated the medical branch for the treatment of arthritics on an in-patient and out-patient basis.

### Canadian Arthritis and Rheumatism Society (B.C. Division)

This organization continues to show satisfactory expansion, with an increasing number of patients being served during the year. Since the opening of the first clinic

in March, 1949, some 2,700 patients have received care. The total number of patient-visits made was 48,808, of which 22,678 were made this year.

An additional stationary clinic was established at the Royal Columbian Hospital, New Westminster, during the year. This brings to a total of ten the number of units in operation which combine stationary clinics and mobile services. The mobile service operating out of Vernon was extended to Salmon Arm, and an additional mobile service went into operation in the North Fraser Valley. This makes a total of six areas in the Province receiving the mobile service only.

A total of thirty employees is now serving this agency, including a medical director, sixteen physiotherapists, one orthopædic nurse, and one social service worker. A shortage of qualified physiotherapists has delayed the opening of the mobile services to some extent, but in general the expansion programme has been satisfactory.

It is interesting to note that this organization had a most successful drive for funds in 1951, as compared to 1950, when the response from the public for financial assistance was not marked.

## CIVIL DEFENCE

Civil defence continues to demand a fair amount of time. A Civil Defence Forum in Hull, Que., under the auspices of the Department of National Health and Welfare, was attended by the Assistant Provincial Health Officer during the year. The annual meeting in Toronto of the National Disaster Services of the Canadian Red Cross was also attended during the year. Numerous lectures on atomic, biological, and chemical warfare, and the medical implications, were given to both official and non-official agencies.

A physical survey related to actual hospital beds, accommodation suitable for hospital beds, and accommodation for other purposes, such as evacuee accommodation, was completed in co-operation with local health services for the Province. These findings were tabulated on master sheets and placed in strategic centres throughout the Province. A similar survey related to medical and allied medical personnel in the Province was also carried out, tabulated, and decentralized in a similar manner. This office worked throughout the year in close co-operation with the Provincial Civil Defence Committee in matters relating to the medical aspects of civil defence.

## NATIONAL HEALTH GRANTS

### General

Through the National Health Grants $2,923,150 has been made available to British Columbia for the fiscal year 1951–52. The basis of allocation of these grants to the Provinces remained unchanged for the fiscal year 1951–52 from that of the previous year, with the exception of the General Public Health Grant, which increased again this year from 45 cents *per capita* to 50 cents *per capita,* making an additional amount of $67,700 available to British Columbia. The total amount voted by the Federal Government also remained unchanged, except the Public Health Research Grant, but due to the variable factors included in the basis of allocation to the Provinces, there was a slight reduction in the amount allocated to British Columbia under the grants for crippled children, professional training, mental health, cancer, and hospital construction. The net increase in total funds available this year was $63,809.

The regulations governing the National Health Grants this year made it possible to request the Federal Treasury to transfer funds not allocated in one grant to the credit of other grants to meet the costs of any special or expanded programme. An amount of $89,330.53 was therefore transferred from the Cancer Control Grant, $76,953 being credited to the General Public Health Grant and $12,377.53 to the Professional Training Grant. As a result, new developments were possible which might otherwise have had to be delayed due to lack of funds.

## Administration

In view of the fact that over 75 per cent of the funds available this year, excluding the Hospital Construction Grant, were allocated to continuing projects, it was decided that some control should be exercised in future years in order to ensure that sufficient funds would be available for new or extended services. Accordingly, steps have been taken to reduce the amount required for continuing projects in 1952–53 by approximately 25 per cent from that required for the current year, in so far as it is practicable to do so. This will mean the transfer to the regular budget of both Government and non-government agencies of a portion of the expenditures now being charged to Health Grants projects.

The Department of National Health and Welfare compiled and issued in October a Reference Manual outlining the various policies and administrative procedures that have been developed since the inception of the National Health Grants programme. A draft copy of this Manual was reviewed with Dr. F. W. Jackson, Director, Health Insurance Studies, in May of this year, when he visited this Province. This Manual introduced some principles which are either new or which have not been followed in the past, but it is intended that these will be brought into effect gradually in order not to seriously affect any programme presently in operation. It is also noted that where the regulations could not apply, or where strict adherence to these rules would not serve the best interests of the programme, such a project may be referred to the Minister of National Health and Welfare for special consideration.

## Grants Received Year Ended March 31st, 1951

Total expenditures were $1,701,011 or 59 per cent of the total available, as compared to $1,310,311 or 49 per cent of the total available for the year 1949–50. This increased use of available funds was reflected generally in all of the grants. In addition, the figures supplied by the Department of National Health and Welfare indicate that the percentage of total funds available which was allocated for approved projects or expended was higher for this Province than the average for all Provinces as a whole.

The amount available under each grant for the year ended March 31st, 1951, is given in the following table, together with the amount allocated for approved projects and the actual expenditures:—

*Comparison of Amounts Approved and Actual Expenditures with Total Grants for the Year Ended March 31st, 1951*

| Grant | Total Grant | Approved | | Actual Expenditures | |
|---|---|---|---|---|---|
| | | Amount | Per Cent | Amount | Per Cent |
| Total | $2,859,341 | $2,086,778 | 73 | $1,701,011 | 59 |
| Crippled Children | 43,231 | 31,485 | 73 | 26,403 | 61 |
| Professional Training | 43,231 | 42,889 | 99 | 39,799 | 92 |
| Hospital Construction | 1,099,075 | 646,374 | 59 | 443,033 | 40 |
| Venereal Disease Control | 43,231 | 43,231 | 100 | 43,231 | 100 |
| Mental Health | 429,096 | 368,035 | 86 | 309,307 | 72 |
| Tuberculosis Control | 363,996 | 361,920 | 99 | 328,208 | 90 |
| Public Health Research | 2,030 | 2,030 | 100 | 1,719 | 85 |
| Health Survey | 38,243 | 14,500 | 38 | 12,835 | 34 |
| General Public Health | 501,300 | 457,115 | 91 | 384,238 | 77 |
| Cancer Control | 295,908 | 119,199 | 40 | 112,238 | 38 |

## Present Status

Plans are well advanced this year for the use of the National Health Grants, as evidenced by the fact that by the end of the first six months of the current fiscal year over 80 per cent of the total available, excluding the Hospital Construction Grant, had

been allocated for approved projects. This includes continuation of the assistance given to agencies outside the Provincial Government.

Expenditures should also exceed the total for previous years, due mainly to the large amount approved for continuing projects, which in most cases have already been implemented completely. Some difficulty is still experienced in obtaining prompt submission of accounts, which is important if full advantage is to be taken of approved funds.

General information regarding the distribution of each grant is given in the following sections of this Report. Further information is also available in the annual report on the National Health Grants to British Columbia, which is prepared for each fiscal year and submitted to Ottawa.

### Crippled Children's Grant

As a result of the survey of crippling diseases of children conducted in 1949–50 under this grant, the sub-committee of the Crippled Children's Grant recommended that a registry of crippled children be set up, and that a panel of specialists on the various aspects of crippling diseases of children be formed to advise on the implementation of the recommendations of the survey report.

At the first meeting of this panel on May 9th, 1951, it was explained by the chairman, Dr. D. Paterson, that the function of the panel would be to advise as to the type of cases to be registered and, after registration, to advise as to plans for treatment. The registry is to be a voluntary one, cases being reported from the private physician, hospital, and public health authorities.

The Registry of Crippled Children was formally established in August and is located at 2670 Laurel Street, Vancouver. General supervision and assistance is given to the registry by the Assistant Provincial Health Officer, although direction of the programme is under the sub-committee appointed under the Crippled Children's Grant. Dr. J. F. McCreary, Professor and Head of the Department of Pædiatrics, Faculty of Medicine, University of British Columbia, has been appointed a member of this sub-committee.

Work is now proceeding in the more detailed follow-up of cases in the Trail and district area, which were selected for a pilot study in the organization of the registry. Close liaison is maintained with the local medical profession and public health services.

In addition to providing funds for the Registry of Crippled Children, this grant has also assisted various agencies providing services for children.

A training course for orthoptic technicians was instituted early in the year at the Health Centre for Children, Vancouver, in order to provide sufficient staff for the treatment of the appreciable number of strabismus cases in the Province, as indicated by the survey of crippling diseases of children. Personnel are not being trained at any other centre in Canada. Four technicians who have been in training at the Health Centre for Children are expected to become qualified by the American Orthoptic Council this year.

Assistance to the Western Society for Physical Rehabilitation, Vancouver, was continued for the retraining and rehabilitation of poliomyelitis patients, and this year an essential service has been added in the establishment of a brace-shop where orthopædic appliances are manufactured and fitted for these patients. Through the Professional Training Grant, it was possible for the brace-maker to spend four weeks in the Prosthetic Services Department, Department of Veterans' Affairs, Sunnybrook Hospital, Toronto, in order to give him advanced experience in the manufacture and fitting of braces.

### Professional Training Grant

It would appear that the peak of the demand for postgraduate training has been passed, and that the number of applicants for such assistance may now be expected to become more or less stable over the next few years. Evidence of this is seen in the

fact that the number of persons presently undergoing training has decreased over that for previous years. The number of persons completing training during the calendar year 1951 has also decreased over that for 1950, as will be seen by the following table:—

*Number of Persons Completed Training and Total Expenditures, Years Ended December 31st, 1948 to 1951*

| | Number of Persons | Total Expenditures |
|---|---|---|
| Year ended December 31st, 1951 | 38 | $86,923.41 |
| Year ended December 31st, 1950 | 51 | 91,358.36 |
| Year ended December 31st, 1949 | 29 | 52,276.84 |
| Year ended December 31st, 1948 | 2 | 2,513.28 |
| Totals | 120 | $233,071.89 |

The above table includes all persons trained under the National Health Grants. As in former years, it was necessary to take advantage of that provision in the regulations which enables other grants to be used for professional training in a particular field, such as in mental health.

This year three projects provided in-service training, each of a distinctive type. In April Dr. H. S. Mustard, Executive Director, State Charities Aid Association, New York, conducted in Victoria a four-day institute for the local health personnel from all parts of the Province. Assistance is being given for one year to the Registered Nurses' Association of British Columbia toward the itinerant educational programme conducted by them, whereby a well-qualified instructor lectures to all graduate nurses in the smaller communities in the Province in order to keep them up to date on techniques, drugs, and equipment.

The third type of in-service training was the course on food technology, given during the winter of 1950–51 and arranged by the Canadian Institute of Sanitary Inspectors (B.C. Branch), in co-operation with the University Extension Department and the Provincial Health Branch. Lecture notes were mimeographed and distributed to those Sanitary Inspectors who were unable, on account of their location, to attend the weekly lectures in Vancouver. A second course under the same auspices, entitled "Administration in the Public Health Programme," is being given during the winter of 1951–52. The subjects for the lectures have been chosen to give the Sanitary Inspectors a wider knowledge and better understanding of general public health principles and administration.

## Hospital Construction Grant

Two important changes which were made in the regulations governing the Hospital Construction Grant for the year 1951–52 widened considerably the basis of assistance under this grant. Nurses' residence accommodation, combined laboratories, and community health centres are now eligible for assistance. A combined laboratory is defined as one contained in or connected with a hospital which provides public health laboratory services in conjunction with diagnostic laboratory service to both out-patients and in-patients of a hospital. A community health centre means an institution or establishment providing health services, and includes approved out-patient departments or additions thereto, and floor areas for diagnostic and treatment services which are available to out-patients as well as in-patients.

Close co-operation is maintained with the British Columbia Hospital Insurance Service. This is particularly important, in view of the direct interest which the Provincial Health Branch has in the provision of public health laboratory services and community health centres, including out-patient departments.

The rate of allocation of funds under this grant remains fairly steady, due largely to the limitations imposed by the requirement that the Federal Grant portion must not exceed

one-third of the total cost of construction, that the Province must contribute an amount at least equal to that allocated from the Federal Grant, with the remainder of the funds coming from Provincial Government, municipal or other sources. However, there is a definite increase this year in the amount claimed, indicating satisfactory completion of the large number of construction projects initiated in 1948 and 1949.

### Venereal Disease Control Grant

This grant is on a matching basis, and the total amount is therefore paid to the Province as expenditures by the Province on the control of venereal disease are considerably in excess of the amount of the grant, and the standard and extent of service given during the year 1948–49 is maintained. As all services for the control of venereal disease in British Columbia are provided by the Provincial Government, the Annual Report of this Division constitutes the report on the use made of this grant.

It should be pointed out, however, that the funds made available through this grant are not automatically absorbed into the normal operating expenses of this Division. A fairly large proportion of the grant is held for the inception of new services. As a result, this year it has been possible to expand the limited blood-testing service available in the down-town area of Vancouver to one for both diagnosis and treatment. This clinic is located in the same offices as one of the health units for Vancouver City, and is in the area which is a central focus point for the spread of venereal disease infection. Particular reference to the establishment of such a clinic was made by Dr. D. H. Williams in his survey of the programme of venereal disease control in British Columbia.

### Mental Health Grant

This grant is of benefit primarily to the British Columbia Mental Health Services, Department of the Provincial Secretary. The majority of projects are initiated under the Director of the Mental Health Services, who also reviews all proposed projects which will be administered by other departments or agencies.

The most important new service is the Crease Clinic of Psychological Medicine, which was officially opened to receive patients on January 1st, 1951. Through this grant, technical staff is being provided, as well as a large amount of equipment, during this fiscal year and the previous ones. A rehabilitation service to assist male patients to secure suitable employment on discharge has also been inaugurated by the British Columbia Mental Health Services.

All Provinces, through their share of this grant, contributed to the cost of producing the film " Breakdown." This was filmed at the Provincial Mental Hospital, Essondale, and released in the spring of this year. A second film on " Old Age " is now being made.

Assistance is being continued to the University of British Columbia, the mental hygiene programme in the Cities of Vancouver and Victoria, the psychiatric services in the Vancouver General Hospital, and to the training of additional public-school teachers as mental health co-ordinators.

### Tuberculosis Control Grant

The Tuberculosis Control Grant is similar to those for Mental Health and Venereal Disease Control, in that the majority of the services for tuberculosis are provided by the Provincial Government, and the largest proportion of this grant therefore is allocated to these services. Detailed information regarding these services is given in the Annual Report of the Division of Tuberculosis Control, and reference is made here only to new developments or expansion of services.

A Medical Records Section has been established in the Division of Tuberculosis Control. A qualified medical records librarian, who recently completed training under the Professional Training Grant, was appointed in September to organize the section.

Co-ordination and supervision of all medical records of the various services of the Division will be the responsibility of this Section. Although in effect only a few months, present indications are that the usefulness of this Section will be evident in a comparatively short time.

Services have been expanded at the Willow Chest Centre, as the Vancouver unit of the Division is now known, by the establishment of a pneumothorax clinic in the health unit office of the Metropolitan Health Committee of Greater Vancouver, which serves the down-town area. It was decided to decentralize this service, which has previously been given only at the Willow Chest Centre, in order to make it available to the large number of tuberculous patients who live or work in this district. In addition, the clinic at Willow Chest Centre had reached its capacity, an average of fifty patients attending each afternoon, and there was no space here for a second clinic. As previously mentioned, under the Venereal Disease Control Grant, this brings together generalized public health services and specialized treatment services for venereal disease and tuberculosis.

By means of pulmonary function investigation, it is now possible to predict to what extent a surgical procedure may affect the functioning of the lungs and to ascertain that a patient will not become a " pulmonary cripple " as a result of lung surgery. In order to carry out such investigation at the Willow Chest Centre, a Department of Respiratory Physiology has been set up. This work will be under the direction of a well-trained physician on the staff who has been carrying on similar work for the past two years at the McGill University clinic.

Further improvement in the care of surgical patients in this institution will result from the employment of a physiotherapist. There is now wide acceptance in chest centres of physiotherapy as a necessary adjunct to chest surgery both in the pre-operative preparation of the patient and in the post-operative period of recovery.

As part of the programme of hospital-admission X-rays, the Student University Hospital in the recently completed Wesbrook Building is being equipped with diagnostic X-ray equipment to be operated under the jurisdiction of the Faculty of Medicine. In addition to being used for hospital-admission X-rays, this equipment, in co-operation with the Metropolitan Health Services of Greater Vancouver, will be used for chest X-ray surveys of faculty, students, and other residents of this area. This service will supplement and wisely decentralize such chest X-ray services now in operation in Vancouver, and will establish a new diagnostic service and association with the preventive medicine programme of the University of British Columbia.

## Public Health Research Grant

The project approved in 1949 under this grant for a study of the evaluation of the antigenicity of cholera vaccine in fluid media was completed this year. The detailed report is not yet finalized, but a summary of the work done during the past year is included here.

Following upon the work published in the Canadian Journal of Research, E, 28: 257–261, by Ranta and McLeod, cholera vaccines prepared in a synthetic fluid medium were examined for protective activity by a 50-per-cent end-point mouse musin test. The results of these experiments will be offered for publication by Ranta and McCreary. It is apparent cholera (fluid) vaccine is not as stable as cholera (standard) vaccine. Moreover, in identical concentrations, the protective activity of cholera (fluid) vaccine is slightly less than that of cholera (standard) vaccine. The significance of the difference remains to be statistically analysed.

Two research projects have been initiated this year in widely separated fields of public health.

Under the direction of Dr. J. R. Adams, Department of Zoology, University of British Columbia, an investigation of the cause of schistosome dermatitis has been

undertaken. It is known that bathers in lakes in various parts of British Columbia have been troubled with "swimmers' itch," presumably schistosome dermatitis, and the purpose of this investigation is to examine these and other reports to determine if they are of cercarial origin. With this point demonstrated, it will be possible to determine the snails which harbour the infected cercariæ and to identify the cercariæ. Such information is required as a basis for possible control measures or public information on the means to eliminate or avoid this nuisance.

Intensive studies were made during the past summer at Cultus Lake, and sufficient information obtained to enable laboratory investigations to be carried out during the winter on possible chemical means of control. Very satisfactory progress has been made in this research study.

The purpose of the second project approved under this grant is to endeavour to obtain the best means of controlling skin infections in the new-born. Under the Department of Obstetrics and Gynæcology of the Vancouver General Hospital, the comparative value of present control measures in the hospital nurseries is being studied with other recognized methods used to control pyoderma neonatorum in order to establish the efficiency of a simple technique of skin-care for use in the smaller isolated hospitals as well as in the larger ones. This research was not undertaken until September of this year, but progress has been made in the collection of basic information.

### Health Survey Grant

Funds were provided under this grant to enable each Province to survey existing health services and facilities and to study ways and means of improving same. The survey in British Columbia has been completed, and the report is in the final stages of preparation.

At the 1951 spring session of the Legislature, the "Psychiatric Nurses Act" and the "Practical Nurses Act" were passed. This legislation, which was drafted by the Committee on Nursing Services in British Columbia, provides for the licensing of these two groups. The "Psychiatric Nurses Act," which provides for mandatory licensing as from September 1st, 1951, is administered by the Department of the Provincial Secretary. Due to circumstances, it was considered advisable to make provision only for voluntary licensing in the "Practical Nurses Act," the administration of which is under the Department of Health and Welfare.

### General Public Health Grant

An additional amount of $144,653 is available under this grant during the current fiscal year owing to the increase in the *per capita* basis of the allocation between Provinces and the transfer of funds from the Cancer Control Grant. Due primarily to the large expansion of local health services in previous years, practically the full amount of the original grant of $569,000 was required for continuing projects. The transfer of funds from the Cancer Control Grant, therefore, made possible certain new developments.

Provision was made for the appointment of a Director, Division of Environmental Management, and this Division was set up under the Bureau of Local Health Services in July of this year. Funds were also provided for the appointment of a Director, Division of Health Units, but this appointment has not yet been made.

A convalescent nursing service has recently been established by the North Okanagan Health Unit to make possible earlier discharge of patients from hospital. This is to be a pilot study in order that information will be available as to whether or not further consideration of such a service throughout the Province is warranted. It was therefore considered advisable to limit the service to the Vernon City area.

Detailed information in regard to these new services, as well as to the assistance provided the local health services, is given in the section of this Report on the Bureau of Local Health Services.

One of the most important new developments, and one which will have widespread benefit, is the project to enable the University of British Columbia to implement its plans for the expansion of the Department of Bacteriology. These plans, which have been put into effect during the current academic year, will permit students to begin the study of bacteriology in their first year at the University, will prescribe a course in technique in their second year, and will offer a wider choice of specialized studies in their last two years. The Department also anticipates being able to double at least the output of graduates with a degree in bacteriology.

The Department of Bacteriology and Preventive Medicine of the University of British Columbia is the main source of qualified bacteriologists in this Province. Although making every effort to do so, it has been unable to supply sufficient graduates to fill all the vacancies in public health, hospital, and private laboratories, as well as in the Canadian Red Cross Blood Transfusion Service. The project is designed primarily to ensure a greater supply of senior technicians, both men and women, with a real understanding of scientific principles. Within a few years, benefits of widespread significance to public health in Canada may well result, while substantial advantages in terms of quantity and quality of graduates should become apparent by the end of the academic session of 1951–52.

## Cancer Control Grant

The amount of the grant received from the Federal Government is substantially the same as in the previous year, but as this is a matching grant and an increased amount has been provided by the Province, a total of $400,000 is available for the year 1951–52.

Approximately one-half the amount available is required for the operating expenses of the services provided by the British Columbia Cancer Foundation, which has been named as the agent of the Province of British Columbia in the provision of cancer-control services. The volume of work has increased in all branches—namely, the British Columbia Cancer Institute and the Boarding Home, Vancouver, and the consultative clinics held periodically in seven cities in the Interior of the Province.

Services were expanded by the establishment of the Victoria Cancer Clinic, which will function as a unit of the British Columbia Cancer Foundation, and which is located in the Royal Jubilee Hospital. This clinic will provide cancer services for the residents of Lower Vancouver Island which were not previously available to them. The services will conform to the high standard already set by the British Columbia Cancer Foundation and will be integrated with other services being developed by the Foundation throughout the Province. As the Victoria Cancer Clinic is actually an expansion of the former weekly diagnostic clinic, utilization of the present qualified staff and existing suitable facilities at the Royal Jubilee Hospital will forestall any duplication of these services.

An important addition to treatment facilities in this Province is the purchase of a cobalt 60 beam therapy unit, funds for which are being provided from this grant. The unit will be located in a new out-patient diagnostic and treatment centre presently under construction adjacent to the present quarters of the British Columbia Cancer Institute.

## Acknowledgment

In conclusion, one must pay tribute to the valuable assistance and co-operation received from officials of the Department of National Health and Welfare, the Provincial Health Branch, the Department of the Provincial Secretary, particularly the Provincial Mental Hospitals staff, and the Commissioner and staff of the British Columbia Hospital Insurance Service.

Harmonious working relationships exist with the city health departments of Vancouver and Victoria, the voluntary health organizations, and general and specialized hospitals, with all of whom this office has been in contact during the year.

# REPORT OF THE BUREAU OF LOCAL HEALTH SERVICES

J. A. TAYLOR, DIRECTOR

## ADMINISTRATION

As the society in which public health functions is constantly changing, so the scope and content of those public health services must be subject to some change, sometimes slowly, other times rapidly. In this Province the public health service has experienced those changes in function and in pace, brought about in an endeavour to meet the health needs and demands of the municipalities and school districts in which local health services function.

One major administrative change that took place within the Bureau of Local Health Services during the year was the development of the Division of Environmental Management, which had its origin in the need and desire for the development of some public health programme within the field of industry. Initially, this Division was planned to promote a programme of industrial hygiene, but this has become enlarged in scope to deal with the larger field of environmental conditions, as exemplified in civilian defence, medical-care problems, and sanitation. With this development there has been reorganization of existing Divisions, with the transfer of sanitary inspection services from the Division of Environmental Sanitation to the Division of Envronmental Management, while nutrition services come definitely within a division for the first time. The Division of Environmental Sanitation, as such, becomes renamed the Division of Public Health Engineering.

The Local Health Services Council, which was established a year ago, composed of representatives of the separate divisions under the Bureau of Local Health Services, has continued to function throughout the year, and is proving its value in the proposal and recommendation of policies and programmes which will prevail in the field. It has assumed as its major task for the moment the compilation of a Local Health Services Policy Manual, which will outline and enumerate the various functions and responsibilities of the official agencies and personnel within local health services, so that a definite reference manual will be available for the future. This is a time-consuming task which may require several years to bring to fruition.

The bi-annual meeting of the full-time Medical Health Officers has been continued, held again in March and September. The first meeting, as usual, convened during the annual Public Health Institute, when an opportunity presented itself to have Dr. Harry Mustard, former Dean of the School of Public Health at Columbia University, review the local administrative problems and offer his comments on the handling of them. During the fall conference the group discussed administrative problems as related to the field service, aired the various points, and made recommendations for the guidance of the Department in framing programmes, policies, and legislation. The meeting was extremely successful in providing all parties with an opportunity to present their comments and suggestions toward improvement in the administration and development of the local health services.

This year, Dr. L. Ranta, Assistant to the Dean of Medicine, University of British Columbia, attended as an interested observer, anxious to gain as much information as possible in relation to the public health problems and services, to serve as a guide in his organization of the subject in the curriculum taught to the medical students in the Faculty of Medicine. For the reason that he is so intimately associated in the teaching of the subject, and since he is qualified to speak on many technical aspects of public health, a motion of the conference was unanimously approved appointing him as a future active member of the Health Officers' group to sit in on all future conferences as a participating representative.

## DEVELOPMENT AND EXPANSION

Although no new health units were formally organized during the year, consolidation of the existing units with expansion of their boundaries did take place, while negotiations toward the establishment of the formation of a unit for the Kamloops area and one for the Surrey-Delta area were advanced with the recruitment of qualified public health physicians. It would now seem very definite that these latter two units will come into being early in January, 1952, thereby providing fifteen of the planned eighteen health units. It was particularly gratifying to inform the Surrey Public Health Advisory Committee that its desires of the past ten years could now be finalized in the establishment of its unit. As a commencement it is suggested that this unit embody the Municipalities of Surrey and Delta to include School Districts Nos. 36 and 37. The headquarters will become centred in Cloverdale, in the public health centre which was built by the far-sighted Gyro Club of that area some years ago.

The recruitment of a physician for the Kamloops area is well along in the negotiation stage, and it is proposed that plans will now be laid before the Councils and School Boards in the planned unit area, outlining the steps which they should undertake toward the legal establishment of their unit.

In the original planning of health units, division of the Province into potential health units areas was designed on the basis of such factors as population distribution, school district boundaries, geographical contours, distances of travel, and road conditions. With these factors in mind the units were organized around at least one main centre of population, but including a number of communities or municipalities and a number of school districts for which it was felt efficient service could be provided by a staff localized and resident throughout the area. In the beginning it was not always possible to commence the unit with the provision of service to the entire area, and often the unit in its initial stages included only a part of the proposed area, on the principle that expansion to include the ultimate area could take place as the organization became consolidated. It has been possible during the past year to propose certain expansions to the various Union Boards of Health, who, in co-operation with the unit staff, have brought about the expansion of the health units to their ultimate boundaries. The first of these to occur was in relation to the Upper Island Health Unit, which, following approximately two years of operation, was able to expand to include Powell River, Cranberry Lake, and Westview, and School District No. 47 (Powell River). This forward step provides for consolidation of local health services in the Upper Island and Powell River areas under one Union Board of Health, the service administered by the one Medical Health Officer.

The plans for the Upper Fraser Valley Health Unit, with headquarters at Chilliwack, had originally included the Village of Hope, School District No. 32 (Hope), Municipalities of Sumas and Matsqui, the Village of Abbotsford, and School District No. 34. At the last reporting, mention was made that this had been a unit which had suffered a shrinkage in size with the transfer of services to its counterpart on the opposite side of the Fraser River. During this year, however, some of the originally planned expansion became possible when the Village of Hope and School District No. 32 (Hope) passed the necessary by-law and resolution joining their community and school health services with the Upper Fraser Valley Union Board of Health. There remains the further possibility of expansion of this health unit westward to incorporate the other proposed municipalities and school districts within its boundaries.

For some time there has been indecision in respect to placement of the Village of Burns Lake and School District No. 55 (Burns Lake) either in the Prince Rupert Health Unit or the Cariboo Health Unit. From the point of view of travel, it has been deemed that the area might more efficiently be administered through the Cariboo Unit, which already encompasses a considerable area. It was questioned whether that unit could

feasibly assume a greater load. With this in mind, the situation was reviewed with the Prince Rupert Union Board of Health, which pointed out the extreme difficulties that often prevail in so far as travel to and from the main headquarters at Prince Rupert to Burns Lake would be concerned. Following further negotiations, a decision to accede to the request of the Burns Lake officials was made to include the area in the Cariboo Health Unit, which became definite early in the fall with the passage of the necessary local legislation. The Cariboo Health Unit now becomes the largest health unit in point of area served, including School Districts Nos. 55, 56, 57, 28, and 27, and the communities of Burns Lake, Vanderhoof, Prince George, Quesnel, and Williams Lake. In its boundaries is looming one of the largest industrial developments in British Columbia, and it is likely that additional staff will become necessary as this development progresses. Already an additional nurse has been placed to deal with public health nursing in that area, and it is proposed that an additional Sanitary Inspector should be added as quickly as possible.

The East Kootenay Health Unit, which has been operating for the past five years, was at last able to consider expansion of its boundaries to include the newly organized Village of Invermere, the community of Golden, and School Districts Nos. 4 and 18. As in so many other units within the Province, there is a long travel distance between headquarters and the main northern boundary of the unit, but it is felt most practical and logical to have the health services of that Golden-Invermere area supervised by the staff of the East Kootenay Health Unit under the guidance of that Union Board of Health. New communities and new school districts will receive representation on that Union Board of Health with this consolidation.

Finally, the newest-established health unit, the West Kootenay Health Unit, which commenced operation a year ago with its nucleus in the communities of Tadanac, Rossland, Trail, Kinnaird, and Castlegar, together with School Districts No. 9 (Castlegar) and No. 11 (Trail-Tadanac), was able to promote its expansion to its fully planned boundaries to include the City of Grand Forks, the City of Greenwood, and School Districts Nos. 12 and 13. Actually, the latter areas would have preferred the administration of their local health services through the South Okanagan Health Unit, which seems to be their most logical outlet, but it was recognized that the South Okanagan Health Unit was already of such a size that it could not effectively administer service to additional territory. As the milkshed for the Rossland-Trail area, the Kettle Valley area very effectively fits into the West Kootenay Unit. Consequently, the expansion was made on the proviso that transfer of the Grand Forks-Greenwood area to the South Okanagan Health Unit be considered at a later date, when revision of health unit boundaries are under review.

It must be recognized that unit boundaries should be subject to some review, as changing populations and development of newer communities promote the need for changing administration within local health services. It is proposed that such a review should occur at least following census years, and the 1951 Census, just completed, will present an opportunity for a population review, the limits of the unit boundaries will be reassessed early next year, as the census figures become available. Census findings may be a major factor influencing the expansion or contraction of the existing units and proposals for development of others.

The health services within metropolitan areas of Greater Vancouver and Victoria-Esquimalt are administered more or less independently by the Health Boards for each area, but a very fine spirit of co-operation exists between those departments and the Bureau of Local Health Services. This close liaison has been continued during the past years, and opportunities have presented themselves for numerous consultations in respect to health needs and services, while the senior Medical Health Officers in each case have attended the bi-annual Health Officers' conferences to participate intimately in those discussions.

## PERSONNEL CHANGES

Resignation of four of the incumbent public health physicians created a serious void in the ranks of public health physicians about the middle of the year, leading to the question as to whether existing health units maintain operation under part-time direction. Fortunately, the available supply of physicians improved shortly thereafter, and it was possible to recommend replacements to the Union Boards of Health concerned to maintain all units at full strength. It did, however, forestall the earlier planned new units in which these new physicians could have been utilized. The Director of the East Kootenay Health Unit, who had been on leave of absence for one year on postgraduate study, returned to his post with that unit, thereby filling one of the vacancies. New appointments were made to the South Okanagan Health Unit, the North Fraser Valley Health Unit, and the Peace River Health Unit.

Leave of absence has been granted to the present Directors of the Cariboo Health Unit and the North Fraser Valley Health Unit, effective September 1st, to permit them to take postgraduate study toward a diploma in public health at the University of Toronto under a Federal Health Training Grant, both of whom will return to their original posts early in 1952. Both of these physicians have served for a period of a year or more in the capacity of Medical Health Officer, have proved their capabilities, and were offered bursaries for this postgraduate training in line with the policy established at the time of their recruitment.

As has been the established Departmental policy for many years, the Director of the newly formed Division of Environmental Management is a former health unit director, who had served in local health services as Director of the Cariboo Health Unit for two years, prior to his leave of absence for postgraduate study at the University of Michigan during the past year. On his return to the Province he was immediately promoted to the rank of director, in keeping with the policy of appointing senior officials from personnel with field experience who are acquainted with the problems of the local health services.

## SCHOOL HEALTH SERVICES

In recent Annual Reports, repeated mention has been made of the studies that have been going on to determine the most efficient method of providing the maximum service to the maximum number of pupils in the matter of school medical examinations. The study has beeen prompted mainly by a desire for reorganization of the school medical inspections to deal with the nutritional, mental, and emotional, as well as the physical, aspects of the pupil's health.

For the past two years the investigation has been under way in co-operation with the Department of National Health and Welfare into the Wetzel Grid method of assessing the physical status of children on the basis of height and weight measurements related to chronological age, plotted on a special graphical chart. As the heights are plotted against the weights, the child is automatically categorized into one of nine physical types of specific body build, and he is expected to maintain that with fidelity throughout his growing years. If, as a result of subsequent measurements, the plottings show a deviation from this preferred channel of growth, it is argued that something must be wrong, physically, nutritionally, or emotionally, and the child should be thoroughly investigated.

A report on this study was prepared initially by the field director and presented to the Department of National Health and Welfare and the Health Branch, Provincial Department of Health. Both Departments have been giving the matter thorough consideration. Early in the year officials of the Department of National Health and Welfare visited the Province to confer with Department officials in a study and citical analysis of the report, resulting in a recommendation for a redrafting of the report to permit a public release on the findings. As a result of this review, a final report was drafted, to

be released under the title "Report of the British Columbia Wetzel Grid Study." Essentially, the report summarized the study, recommending the continued use of the grid in school health services as an ancillary to the physical examination by public health nurses and School Medical Inspectors.

Arising from that work, it is proposed that grids would be made available for other health unit areas in the future, and during the year an extension of the programme was undertaken in the North Okanagan Health Unit, where the grids were adopted for use in the school medical services for Grade I pupils only. Gradual expansion would be undertaken as grids were added for the incoming Grade I classes in future years, so that ultimately, the entire school programme would be on a grid basis. Proposals are that a similar programme be introduced in other health unit areas in future years.

An inquiry was made during the year into the question of visual testing in schools, in an endeavour to ascertain if the present Snellen Chart method could be improved. This inquiry complemented a study made two years ago, when reliable information indicated that the adequately lighted Snellen Chart was the most satisfactory method. It was most gratifying to learn that the enquiries this year again substantiated the properly lighted Snellen Chart as a very efficient vision-screening technique. It was borne out that adequate illumination to approximate 10 foot-candles can be obtained by placing a goose-neck lamp reflector on each side of the chart 3 feet away, each lamp containing a 100-watt daylight bulb. With this method it was definitely borne out that few additional defects of serious import are likely to be detected through specialist examination, and that the extra time and expense of examining every school-child along those lines would be unnecessary and wasteful of public funds. After careful consideration of all the facts, the effectiveness of the programme, the personnel, time, and money involved, it was recommended to continue the present Snellen Chart screening method, coupled with parent-teacher, public health nurse referral as constituting the most ideal vision-testing method for all practical purposes.

## HOME-CARE PROGRAMMES

Mention has been made of the changing concepts in public health practice prompted by the demands of a changing society. One of these departures is the development toward a visiting-nurse programme to provide for home care of convalescent and chronically ill patients. During the past year considerable interest has been created in this possibility as a result of hospital-bed shortages and the need for ancillary service to both the convalescent and chronically ill patient. There have been requests from a number of communities for inclusion of this type of programme in the public health nursing field, particularly from Parksville, Nanaimo, New Westminster, and Vernon. As it became evident that there was need for study of this service as a practical method to augment and supplement medical and hospital care, it was proposed that pilot studies on three different levels be developed within local community health services, financed by Federal Health Grants. Initially, plans were prepared toward pilot studies in the Vernon, New Westminster, and Parksville areas. Progress was most rapid in the Vernon area, where a committee consisting of representatives from the Hospital Board, the District Medical Society, the Union Board of Health, the City Council, and social welfare agencies, was organized. They were all extremely interested in such a study and willing to pool their opinions in the evolution of an acceptable plan.

The draft proposals submitted by this Committee were presented to the North Okanagan Union Board of Health and provided that:—

(*a*) A plan would be tried, commencing September, 1951, to assist the hospital during its peak load from September to April. The hospital is actually faced with a surplus demand during that period, but operated with empty beds during the April to September summer period.

(*b*) The service would be provided to the maximum of ten patients for a stated time-limit of about fourteen days each.

(*c*) The service would be confined to the City of Vernon and its immediate environs for the present.

(*d*) Patients would be admitted to the service only from hospitals at first, since the purpose of the pilot study was to determine whether the service could lessen the load from the hospital.

(*e*) One public health nurse was to be added to the staff, and two or three housekeepers to provide housekeeping service as required.

(*f*) The senior nurse of the health unit would become part-time administrator of the home-care service, and an office would be maintained in the hospital in which records would be kept for ready access by the doctors, where orders could be left by the doctors for the guidance of the nurse administering service to the patients. All charts would be kept in a special filing-box in that office.

(*g*) Early in the spring the programme would be reviewed to determine if the hospital had benefited, if the community had obtained service, and whether a saving had occurred by releasing patients from the hospital earlier in the convalescent stage to carry on their convalescence at home under the visiting nurses.

The plan was ratified by the North Okanagan Union Board of Health, which supported the view that a complete review of the total plan should be undertaken after approximately six months' operation, when it was felt sufficient data would be available from the charts and reports to determine whether the proposal was practical, economical, and effective.

Discussions were also held in the New Westminster area with municipal officials and representatives of the Union Board of Health to review the problem of nursing home-care in that city, where already some modicum of service is provided through the Red Cross nursing programme. As funds were becoming depleted and as proposals were being made for changes in the service, it was felt desirable that the whole situation should be reviewed by the health unit personnel and that the unit director submit a plan to the Deputy Minister of Health for the development of a pilot study in which both municipal and Provincial departments might co-operate.

Subsequently, a meeting was held in Parksville with the Village Commissioners, Chamber of Commerce, medical profession, and others to discuss the whole gamut of medical and hospital care in that area. A very thorough discussion on all proposals concerning the possibility of a small community hospital, an emergency-treatment centre, or a visiting-nurse programme were reviewed. Following the meeting a report on these various services was prepared for submission to the Village Commissioners, detailed in respect to advantages and disadvantages of each proposal, together with submission of the proposed costs. It was felt that the next move should be for the citizens to determine community participation in financing the particular recommendation, being the development of the visiting-nurse programme as the most practical initial phase. This is awaiting further representation from the community before negotiations proceed further.

## COMMUNITY HEALTH CENTRES

Some encouragement toward the development of more suitably appointed office accommodation for local health services has been undertaken to provide not only administrative offices, but also suitable space for clinics in community health centres. Funds for such purposes are available on both Federal and Provincial levels, and it is proposed that community participation to the extent of at least one-third of the cost should be considered. Under the plan the community health centre would be deemed to be an institu-

tion or establishment providing health services, and should include out-patient departments or additions thereto, and floor areas for diagnostic and treatment services which are available to out-patients as well as in-patients. A health centre may be contained in, or connect to, a hospital or may be completely detached, operating as a separate unit, providing the services, as outlined, are in effect. The building shall be designed primarily to provide adequate accommodation for the staff of the health unit in that area and for the operation of the health services necessary to meet the health needs of the area. Additional accommodation for welfare services and voluntary health agencies may be desirable and practical, and construction designed to include their accommodation would be approved, but the additional floor-space thus required may be outside the terms under which the grant is provided. The building, upon completion, would become the property of the local area, the municipality or city, to be operated directly by the Council, the Union Board of Health, or the Board of Trustees organized specifically for that purpose.

Some activity has been expressed on the part of the West Kootenay Health Unit to provide some such centre at Trail, the North Fraser Valley Health Unit to provide a sub-centre at Haney, the Simon Fraser Health Unit to enlarge its present community health centre at New Westminster and to provide improved quarters at Coquitlam, and the Cariboo Health Unit to provide a sub-centre at Quesnel, while the Central Vancouver Island Health Unit proposes to provide a community health centre at Nanaimo.

The proposals originally advanced were that the provision of a community health centre should be originated in the community either by the municipal authorities or by some service club to spark-plug a drive to raise community funds for that purpose. Following this, an appeal might be made to this Department, which would investigate the possibility of obtaining joint Provincial and Federal funds to assist in the construction of such a centre.

The greatest progress is being displayed in the Central Vancouver Island Health Unit, where a definite proposal to build a two-story structure to house the civil defence headquarters in the basement, the health unit staff on the ground floor, and the voluntary organizations on the second floor is making headway. The city authorities have approved and agreed to set aside city property on which suitably designed, adequately planned accommodation would be constructed. Blue-prints of the building have been prepared for study in preliminary stages, being acceptable to all parties concerned. It is hoped further progress will permit construction during 1952.

As the year ended, definite action was being taken toward the renovation of a school building in Coquitlam to provide well-appointed quarters for the sub-office of the Simon Fraser Health Unit at that location. It will provide, for the first time, an opportunity for the administrative and the clinical offices to be housed under one roof, while also adding the additional feature of space for the newly organized dental services in that unit.

## DISEASE MORBIDITY AND STATISTICS

The completed revision of the Communicable Disease Regulations came into effect formally in January of 1951. This revision was the result of the combined opinions of full-time Health Officers, as the proposals were discussed the previous fall during the Health Officers' fall conference. It provides for a number of major changes in the Communicable Disease Regulations, decreasing the quarantine period of the minor communicable infections, while promoting considerable change in the poliomyelitis and scarlet fever isolation and quarantine periods.

A morbidity study or sickness survey, mentioned in the last Annual Report, which got under way October, 1950, was carried to completion in October, 1951. That the survey on the whole operated so smoothly can be credited to the public health nurses who were assigned the task of visiting the homes to check on the accurate preparation of the data. The material will now be correlated and analysed by the Department of National

Health and Welfare, which organized the study on a National basis in each Province in Canada. It is understood that the individual Provincial figures will be returned for the use of Provincial departments and should be of major significance in future planning of medical and nursing-care needs, while at the same time guiding the planning in public health development.

In the field of communicable disease control, some mention should be made of the studies that are going on toward the development of a practical method of oral immunization, as contrasted to the present parenteral method. Toward the latter part of the year the Department of National Health and Welfare proposed that local health services in this Province participate in a study of the practicability of caramel lozenges, containing diphtheria toxin, as an effective method of reinforcing diphtheria immunization of school-children and young adults. This method of approach has been under study at the Laboratory of Hygiene in Ottawa for the past two or three years, utilizing college students as research material. These studies indicate that it may be a practical method of reinforcing the immunity status, but it is desirable to conduct tests among certain younger age-groups. After some negotiation, it was proposed that two series of studies be carried on in British Columbia—one in Vancouver and one in Victoria—among two groups of 200 to 300 children in each centre. The materials and laboratory analysis will be supplied by the Laboratory of Hygiene, while the organization of the groups and the blood collection will be the task of the health services in Vancouver and Victoria. By utilizing one elementary school, one high school, and the Normal School or University, it is anticipated that a sufficient group of children will be collected, with parental approval, to participate in the study.

This method of oral immunization offers very definite advantages over the present parenteral injection method, and would be much more practical toward maintaining the immunity status of the population. At present so few return for reinforcement immunization after the preliminary series is completed. Actually, immunity titres decrease after three to five years, which requires that one reinforcing injection be provided. This can be handled in the school-children, but becomes less and less practical in the high-school groups and younger adults. Oral administration may promote more widespread participation by the population as a whole, and thereby improve the total immunity status of the community.

Early in the year, health officials on this continent became disturbed about the epidemic of virus influenza sweeping European countries, and immediate preparations were made throughout Canada to provide diagnostic facilities and arrangements to deal with any influenza outbreak that might occur in any part of the country. Instructions were forwarded from the Department of National Health and Welfare to arrange for each Provincial laboratory to prepare for collection of specimens from suspected cases of influenza. The Bureau of Local Health Services, in co-operation with the Division of Laboratories, undertook to keep each of the Medical Health Officers in British Columbia informed on the subject, detailing the manner in which they would investigate even minor outbreaks of influenza in their area, report them weekly to the Provincial Department of Health, while arranging for collection of specimens to be forwarded to the Laboratory of Hygiene in Ottawa for complete virology study. Thus a link was provided between the local health service on the one hand through the Provincial service to the National service, which was maintaining an active liaison with the World Health Organization and the virus research centres in the United States.

Explosive outbreaks of this illness developed in February in the East Kootenay, South Okanagan, and North Okanagan Health Unit areas. The major incidence was in the Penticton, Kelowna, and Vernon areas, where the explosive outbreaks occurred, affecting large groups of people within twenty-four hours.

The impact of the increased incidence, approaching epidemic proportions, is reflected in the notifiable disease statistics, in which the volume of cases reported produced a rate of 956.8 per 100,000 population, as compared to the rate of 40.4 for 1950 and 4.2 for 1949. These figures for comparison over the past three years are available in Table I, page 46. Fortunately, the severity of the disease remained mild, resulting in recovery for the vast majority of patients in a short period, and, consequently, there was not the same comparative increase in mortality from influenza, there being comparatively few deaths, confined for the most part to the aged, in whom associated complicated factors were responsible.

The total volume of notifiable diseases was increased to a new rate of 4,100.5, as compared with the rate of 3,569.1 for the previous year. In many respects this volume was increased partly due to the marked upward trend in influenza, but also by increases in the minor communicable diseases—namely, chicken-pox (578.5 per 100,000 population) and measles (543.7 per 100,000 population). There was a significant decrease in the incidence of mumps, from a rate of 758.7 per 100,000 population for 1950 to a rate of 506.0 per 100,000 for 1951. The epidemic of rubella which was evident in 1950 (697.3 per 100,000 population) showed a downward trend (198.4 per 100,000 population).

The upward trend in the number of cases of whooping-cough, noted last year (152.9 per 100,000 population) as being the highest recorded in the past five years, dropped considerably (98.3 per 100,000 population), but is still somewhat higher than is deemed necessary if preventive measures were more widely adopted. This disease is most serious in the first two years of life, when mortality from its effects are more common, and definite protection can be provided through early and repeated immunization. Fortunately, this group of the population seems to be relatively well protected, since the incidence in infancy was not too marked, the majority of cases occurring in later pre-school children and early school-age groups.

For the first time in the past five years no cases of tetanus were recorded. While ground is being made toward increasing the immunity status of the population to this infection, the results this year cannot be credited to that entirely, and it is felt that continued efforts toward increased immunization are justified, particularly in the interests of preventive civil defence measures.

Poliomyelitis showed a slight upward trend (8.0 cases per 100,000 population) from that experienced in 1950 (6.4 per 100,000 population), which is gratifyingly low as compared with the previous two years' experience. Actually, British Columbia escaped fairly lightly in so far as this disease is concerned, as viewed in the light of the incidence in neighbouring States and Provinces.

For the first time in the past four years no cases of botulism were recorded, but there were significant numbers of other gastro-intestinal conditions in the form of shigellosis and salmonellosis. Shigellosis showed an upward tendency to the rate of 21.9, as compared with a rate of 16.6 for 1950 and very materially lower rates in the previous two years. Trends in this regard are discussed briefly in the report of the Division of Laboratories, which predicts the possibility of future increases as a result of the dissemination of the infection over wide areas of the Province.

In respect to salmonellosis, the paratyphoid type was significantly lower (0.6 per 100,000 population) as compared to 1950 (3.1 per 100,000 population), while the other types showed approximately the same incidence (12.9 per 100,00O population as related to 13.4 during 1950). It must again be recorded, however, that this incidence only indicates a trend, since it is questionable if all the cases occurring will ever be definitely recorded, as many cases with gastro-intestinal symptoms never seek medical care, and even all those who do so are never investigated bacteriologically to establish a scientific diagnosis. Nevertheless, the incidence bespeaks the need for continued vigilance on the part of Health Officers and a thorough training of all food-handlers in the

principles of proper food preparation and handling. In this, the service club picnic, the church supper, and the children's summer camps should receive particular attention to ensure that preventive measures are followed, since so many of the outbreaks follow one or other of these gatherings.

One disease which has shown a gradual upward swing over the past three years, with a very definite peak during 1951, was in relation to the streptococcal infections, with a rate of 385.6, as compared with 92.6 in 1950, 93.3 in 1949, and 49.9 in 1948. For the most part the increase was resultant from an epidemic in the East Kootenay and Cariboo areas, although there are concomitant upper trends in most areas of the Province. This has been studied with definite interest, since the new Communicable Disease Regulations significantly lowered the isolation period for scarlet fever and septic sore throat patients, and it was questioned whether the increased incidence might be resultant from that. However, very few secondary infections traceable to these isolated primary cases could be located, and it was felt that the increase was in no way related to the changed isolation and quarantine regulations. As the year ended, publicity was stepped up to warn residents in affected areas of the increased incidence and the protective measures that should be adopted while immunization measures were being offered as an additional precaution. It is not recommended that scarlet fever immunization be carried on on a routine basis, except where imminent epidemics seem likely.

The reported cases of rheumatic fever were doubled in 1951 (5.4 cases per 100,000 population as compared to 2.9 cases for 1950), which was as many cases in a single year as the total for the previous three years. The reasons for this are not particularly apparent, but it warrants some study, especially as it is realized that the reporting of rheumatic fever is not as efficient as might be desired. Although it is a notifiable disease, it is a well-known fact that only a minor number of the cases are ever actually reported.

In passing, some mention must be made of the slightly decreased incidence in the number of cancer cases reported, less than in the two previous years.

Comments on the venereal disease and tuberculosis incidence will be found in the reports of those separate Divisions.

A complete list of notifiable diseases as reported from the various areas of British Columbia by the Medical Health Officers is recorded in Table II, pages 47 and 48.

## TABLE I.—INCIDENCE OF NOTIFIABLE DISEASES IN BRITISH COLUMBIA (INCLUDING INDIANS)

| Notifiable Disease | 1949 | | 1950 | | 1951 | |
|---|---|---|---|---|---|---|
| | Number of Cases | Rate per 100,000 Population | Number of Cases | Rate per 100,000 Population | Number of Cases | Rate per 100,000 Population |
| Actinomycosis | ..... | ..... | ..... | ..... | ..... | ..... |
| Anthrax | 1 | 0.1 | ..... | ..... | ..... | ..... |
| Botulism | 1 | 0.1 | 1 | 0.1 | ..... | ..... |
| Cancer | 3,509 | 315.0 | 3,125 | 274.6 | 2,850 | 247.2 |
| Cerebrospinal meningitis | 18 | 1.6 | 15 | 1.3 | 30 | 2.6 |
| Chicken-pox | 7,370 | 661.6 | 5,001 | 439.5 | 6,671 | 578.5 |
| Conjunctivitis (acute) | 287 | 25.8 | 280 | 24.6 | 374 | 32.4 |
| Diphtheria | 12 | 1.1 | 63 | 5.5 | 5 | 0.4 |
| Dysentery— | | | | | | |
| Amœbic | ..... | ..... | 1 | 0.1 | ..... | ..... |
| Bacillary | 23 | 2.1 | 189 | 16.6 | 253 | 21.9 |
| Encephalitis | 1 | 0.1 | 1 | 0.1 | ..... | ..... |
| Epidemic hepatitis | 10 | 1.0 | 46 | 4.0 | 90 | 7.8 |
| Erysipelas | 32 | 2.9 | 36 | 3.2 | 38 | 3.3 |
| Gonorrhœa | 3,833 | 344.1 | 3,579 | 314.5 | 3,301 | 286.3 |
| Infant diarrhœa | 12 | 1.1 | 11 | 1.0 | ..... | ..... |
| Infectious diarrhœa | ..... | ..... | ..... | ..... | 30 | 2.6 |
| Influenza | 47 | 4.2 | 460 | 40.4 | 11,033 | 956.8 |
| Leprosy | 1 | 0.1 | ..... | ..... | 2 | 0.2 |
| Malaria | 1 | 0.1 | ..... | ..... | ..... | ..... |
| Measles | 10,765 | 963.3 | 5,648 | 496.3 | 6,269 | 543.7 |
| Mumps | 4,314 | 387.3 | 8,634 | 758.7 | 5,835 | 506.0 |
| Poliomyelitis | 225 | 20.2 | 73 | 6.4 | 92 | 8.0 |
| Puerperal septicæmia | 1 | 0.1 | 1 | 0.1 | ..... | ..... |
| Rheumatic fever | 19 | 1.7 | 33 | 2.9 | 62 | 5.4 |
| Rubella | 567 | 50.9 | 7,935 | 697.3 | 2,288 | 198.4 |
| Salmonellosis— | | | | | | |
| Paratyphoid fever | 1 | 0.1 | 35 | 3.1 | 7 | 0.6 |
| Other | 95 | 8.5 | 152 | 13.4 | 149 | 12.9 |
| Scarlet fever | 491 | 44.1 | 871 | 76.5 | 4,146 | 359.6 |
| Septic sore throat | 102 | 9.2 | 183 | 16.1 | 300 | 26.0 |
| Syphilis | 859 | 77.1 | 630 | 55.4 | 568 | 49.3 |
| Tetanus | 3 | 0.3 | 1 | 0.1 | ..... | ..... |
| Tick paralysis | 2 | 0.2 | ..... | ..... | ..... | ..... |
| Trachoma | 9 | 0.8 | 5 | 0.4 | 8 | 0.7 |
| Trichinosis | 4 | 0.4 | ..... | ..... | ..... | ..... |
| Tuberculosis | 2,202 | 197.7 | 1,828 | 160.6 | 1,662 | 144.1 |
| Typhoid fever | 17 | 1.5 | 11 | 1.0 | 18 | 1.6 |
| Undulant fever | 16 | 1.4 | 22 | 1.9 | 18 | 1.6 |
| Vincent's angina | 3 | 0.3 | 6 | 0.5 | 48 | 4.2 |
| Whooping-cough | 214 | 19.2 | 1,740 | 152.9 | 1,134 | 98.3 |
| Totals | 35,066 | 3,147.8 | 40,616 | 3,569.1 | 47,281 | 4,100.4 |

## TABLE II.—TABLE SHOWING CASES OF NOTIFIABLE DISEASES IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1951

| | Cancer | Cerebrospinal Meningitis | Chicken-pox | Conjunctivitis | Diphtheria | Dysentery | | Epidemic Hepatitis | Erysipelas | Gonorrhœa | Infectious Diarrhœa | Influenza | Leprosy | Measles | Mumps | Poliomyelitis | Rheumatic Fever | Rubella | Salmonellosis | | Scarlet Fever | Septic Sore Throat | Syphilis | Trachoma | Tuberculosis | Typhoid Fever | Undulant Fever | Vincent's Angina | Whooping-cough | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Bacillary | Amœbic | | | | | | | | | | | | Paratyphoid Fever | Other | | | | | | | | | | |
| Abbotsford | | | 47 | 13 | | | | | | | | | | 62 | 358 | | 2 | 9 | | 1 | 27 | 3 | | | | | 1 | | 62 | 585 |
| Alert Bay | | | | | | | | | | | | 6 | | | | | | | | | | | | | | | | | | 6 |
| Ashcroft | | | 25 | 1 | | | | | | | 5 | 17 | | 14 | 18 | | | | | 4 | | 3 | | | | | | | | 87 |
| Bella Bella | | | 1 | | | | | | 2 | | | 4 | | 88 | | | | 1 | | | | | | | | | | | | 96 |
| Bella Coola | | | 9 | | | 7 | | 1 | | | 6 | 152 | | | | | | | | | | 1 | | | | | | | 27 | 203 |
| Blubber Bay | | | 3 | | | | | | | | | 5 | | | | | | 1 | | | | | | | | | | | | 9 |
| Britannia Beach | | | 10 | | | | | | 1 | | | 162 | | | 78 | | | 3 | | | | 19 | | | | | | | 1 | 274 |
| Burns Lake | | | 21 | | | | | | | | | 37 | | 7 | 5 | | | 1 | | | 14 | | | | | | | | 13 | 98 |
| Cariboo Health Unit | | 1 | 360 | 3 | | 24 | | 8 | 3 | | 15 | 691 | | 437 | 560 | | 3 | 304 | | 6 | 513 | 112 | | 6 | | 1 | | 8 | 43 | 3,098 |
| Ceepeecee | | 1 | 4 | 4 | | | | | | | | | | 3 | 2 | | | | | | | | | | | | | | | 14 |
| Central Vancouver Island Health Unit | | 1 | 417 | 21 | | 3 | | | 2 | | | 815 | | 306 | 115 | 6 | | 49 | | | 92 | 9 | | | | 1 | 4 | 2 | 50 | 1,893 |
| Crescent Beach | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| East Kootenay Health Unit | | 1 | 124 | 5 | | 6 | | 6 | | | | 205 | | 142 | 53 | 1 | 30 | 16 | | 3 | 573 | 11 | | | | 2 | | | 27 | 1,205 |
| Field | | | | | | | | | | | | | | 6 | | | | 3 | | | | 4 | | | | | | | | 13 |
| Garden Bay | | | | | | | | | | | | | | 1 | | | | 2 | | | | | | | | | | | 6 | 9 |
| Gibsons | | | 6 | 18 | | | | | | | | | | 7 | | | | 10 | | | 2 | | | | | | | | 11 | 54 |
| Golden | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | | | 3 |
| Grand Forks | | | 3 | | | | | | | | | 232 | | 2 | 1 | | 2 | | | | 3 | | | | | | | | 5 | 248 |
| Greenwood | | | | | | | | 5 | | | | 78 | | | | | | | | | 1 | | | | | | | | | 84 |
| Hedley | | | 5 | | | | | | | | | | | | 5 | | | | | | 3 | | | | | | | | 3 | 16 |
| Hope | | | 17 | 4 | | | | 12 | | | | 569 | | 47 | 6 | | | 13 | | 1 | | 2 | | | | | | 1 | 1 | 673 |
| Invermere | | | 24 | | | | | 1 | | | | | | 1 | 1 | | | | | | | | | | | | | | 6 | 33 |
| Kamloops | | | 41 | 23 | 1 | | | | | | | | | 99 | 248 | | | 74 | | | 20 | 1 | | | | 3 | | | 4 | 514 |
| Kaslo | | | | | | | | | | | | | | 2 | 2 | | | | | | | | | | | | | | | 4 |
| Ladner | | 1 | 8 | 4 | | | | | | | | | | 20 | 3 | 3 | | 12 | | | 27 | | | | | | 1 | | 2 | 81 |
| Langley Prairie | | | 68 | 9 | | | | | | | | 101 | | 334 | 170 | | | 10 | | | 26 | 3 | | | | | | | 70 | 791 |
| Lillooet | | | 9 | | | | | | | | | | | 14 | 1 | | | | | 1 | | | | | | | | | | 25 |
| Lytton | | | 19 | | | | | | | | | 73 | | 149 | 1 | | | | | | | | | | | | | | 2 | 244 |
| McBride | | | | | | | | | | | | 185 | | 39 | 4 | | | 11 | | | 4 | 1 | | | | | | | | 244 |
| Mayne Island | | | | | | | | | 1 | | | | | | | | | | | | | 1 | | | | | | | | 2 |
| Merritt | | | | | | | | | | | | 212 | | | 5 | | | | | | | | | | | | | | | 217 |
| Nakusp | | | 12 | 14 | | | | | | | | | | 6 | 92 | 1 | | 2 | | | 3 | | | | | | | | 30 | 160 |
| Nelson | | 1 | 54 | | | | | | 1 | | 3 | 512 | | 47 | 42 | 2 | 3 | | | | 44 | 9 | | | | 1 | | | 1 | 720 |
| New Denver | | | 13 | 22 | | | | 1 | | | | | | | 90 | | | | | | 16 | | | | | 3 | | | | 145 |

## TABLE II.—TABLE SHOWING CASES OF NOTIFIABLE DISEASES IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1951—*Continued*

| | Cancer | Cerebrospinal Meningitis | Chicken-pox | Conjunctivitis | Diphtheria | Dysentery: Bacillary | Dysentery: Amœbic | Epidemic Hepatitis | Erysipelas | Gonorrhœa | Infectious Diarrhœa | Influenza | Leprosy | Measles | Mumps | Poliomyelitis | Rheumatic Fever | Rubella | Salmonellosis: Paratyphoid Fever | Salmonellosis: Other | Scarlet Fever | Septic Sore Throat | Syphilis | Trachoma | Tuberculosis | Typhoid Fever | Undulant Fever | Vincent's Angina | Whooping-cough | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Fraser Valley Health Unit | | | 56 | 21 | 1 | 4 | | 7 | | | | 6 | | 86 | 367 | | | 121 | | 4 | 44 | 2 | | | | | 1 | | 27 | 747 |
| North Okanagan Health Unit | | 2 | 302 | 26 | | 15 | | | | | | 2,257 | | 152 | 31 | 1 | | 124 | | 1 | 13 | 8 | | 1 | | 2 | 3 | | 78 | 3,016 |
| Oak Bay | | | 85 | | | | | 11 | | | | | | 67 | 15 | | | 1 | | 3 | 11 | 8 | | | | | | | | 201 |
| Ocean Falls | | | 149 | | | | | | | | | 243 | | 20 | 5 | | | 5 | | | 7 | | | | | | | | 41 | 470 |
| Peace River Health Unit | | | 198 | | | | | | | | | 39 | | 171 | 895 | | 12 | 30 | | | 104 | 7 | | | | | | | 40 | 1,496 |
| Pender Harbour | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| Port Coquitlam | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| Prince Rupert Health Unit | | | 95 | | | 2 | | | | | | 553 | | 123 | 28 | | | 21 | 7 | 3 | 14 | 1 | | | | | | | 12 | 859 |
| Princeton | | | | | | | | | | | | 45 | | | 114 | | | | | | | | | | | | | | | 159 |
| Saanich and South Vancouver Island Health Unit | | | 465 | 53 | | 2 | | 1 | 2 | | | 11 | | 284 | 103 | | 1 | 39 | | 31 | 79 | 21 | | | | | 5 | | 9 | 1,106 |
| Saltspring Island | | | 15 | 1 | | | | | | | | 8 | | 9 | 4 | | | 2 | | 1 | | 3 | | | | | | | | 43 |
| Sandspit | | | | 1 | | | | | | | | 1 | | | | | | | | | | 10 | | | | | | | | 12 |
| Simon Fraser Health Unit | | 3 | 297 | 20 | | 49 | | | | | | 245 | | 485 | 246 | 19 | | 143 | | 8 | 120 | 23 | | | | | | 1 | 52 | 1,711 |
| South Okanagan Health Unit | | 3 | 391 | 56 | | 8 | | 2 | 1 | | | 2,021 | | 47 | 167 | 5 | 4 | 82 | | | 144 | 13 | | 1 | | 2 | | 4 | 179 | 3,130 |
| Sproat Lake | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| Squamish | | | 14 | | | | | | | | | | | 24 | 147 | | | | | | | | | | | | | | | 185 |
| Sechelt | | | 6 | | | | | | | | | 4 | | 5 | 16 | | | | | | 1 | | | | | | | | | 32 |
| Tofino | | | 11 | | | 1 | | 1 | | | | 1 | | | | | | 1 | | | | 6 | | | | | | | | 21 |
| Upper Fraser Valley Health Unit | | | 168 | 25 | 2 | 10 | | 5 | | | 1 | 87 | | 358 | 105 | 7 | 2 | 100 | | | 122 | | | | | | | | 86 | 1,078 |
| Upper Island Health Unit | | 2 | 72 | 15 | | 2 | | | 1 | | | 208 | | 206 | 209 | 2 | 3 | 177 | | | 73 | 4 | | | | | | 30 | 25 | 1,029 |
| Greater Vancouver Metropolitan Health Committee | | 13 | 2,272 | | 1 | 103 | | 29 | 17 | | | 1,002 | 2 | 1,948 | 1,232 | 33 | | 868 | | 68 | 1,454 | | | | | 2 | | | 162 | 9,206 |
| Victoria | | | 627 | 15 | | 8 | | | 6 | | | | | 392 | 281 | 5 | | 22 | | 12 | 121 | 12 | | | | | 3 | 2 | 7 | 1,513 |
| West Kootenay Health Unit | | 1 | 148 | | | 9 | | | 1 | | | 246 | | 58 | 8 | 2 | | 31 | | | 471 | 3 | | | | 1 | | | 52 | 1,031 |
| Woodfibre | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| Zeballos | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | 2 |
| Whole Province— | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cancer | 2,850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2,850 |
| Gonorrhœa | | | | | | | | | | 3,301 | | | | | | | | | | | | | | | | | | | | 3,301 |
| Syphilis | | | | | | | | | | | | | | | | | | | | | | | 568 | | | | | | | 568 |
| Tuberculosis | | | | | | | | | | | | | | | | | | | | | | | | | 1,662 | | | | | 1,662 |
| Totals | 2,850 | 30 | 6,671 | 374 | 5 | 253 | | 90 | 38 | 3,301 | 30 | 11,033 | 2 | 6,269 | 5,835 | 92 | 62 | 2,288 | 7 | 149 | 4,146 | 300 | 568 | 8 | 1,662 | 18 | 18 | 48 | 1,134 | 47,281 |

## REPORT OF THE DIVISION OF PUBLIC HEALTH NURSING

MONICA M. FRITH, DIRECTOR

Public health nursing, like any other public health service, grows out of the social, economic, and technical media of the world about it.

Nursing in the home developed quite naturally in the early Christian era as a religious outlet based on the concept of service to others. The settlement houses and visiting-nurse organizations which sprang up in the nineteenth century grew out of the poverty, crowding, disease, and filth which characterized the industrial expansion and the struggle to make the social adjustments which were necessary for the successful transition from hand to machine production.

Now in the mid-twentieth century, public health nursing must be seen as it is related to our present way of living and working. The preceding years have been rich in scientific discovery and technical advance. The public to-day is better informed. The gap between scientific discovery and the application of results has been decreasing. As a result of economic, social, and medical developments, the emphasis in health-care has been broadened to include a larger component of supervision of illness, health guidance, and mental hygiene. Changes in disease incidence and medical care have placed new demands on public health nurses for more intensive and individualized service. A few years ago, hundreds of children needed to be immunized against diphtheria, smallpox, or tetanus. Families needed to learn the importance of such protection and to be motivated to secure it for their children. While some individualized attention was necessary, a mass approach to health problems was often used. Now the incidence of childhood diseases has decreased as immunization has been more widely accepted; the nurse must teach and guide with individual consideration to specific problems.

Public health nursing in British Columbia has been evolving gradually in an attempt to bring the most needed of nursing services to the people in the most economical manner. During the past year the objective of basic Public Health Nursing services available to all persons in British Columbia has come closer to realization.

During the past year it has been possible to open two new areas and augment existing services. Service in the Grand Forks area, comprising School District No. 12, was instituted in September and became part of the West Kootenay Health Unit. An additional nurse was placed at Vernon in the North Okanagan Health Unit and at Kimberley in the East Kootenay Health Unit. Nechako community was given Public Health Nursing service as part of the Cariboo Health Unit, as the result of a special financial arrangement with the Mannix Construction Company. A part-time nurse was added to the staff of the Saanich and South Vancouver Island Health Unit.

During the year it was possible to reopen two nursing districts, Lillooet and Invermere-Golden, which had been closed temporarily because of lack of qualified Public Health Nursing staff.

At the close of the year 1951 there were 124 positions for public health nurses. This includes two vacancies, which, it is hoped, may be filled soon. The Public Health Nursing staff include positions for ninety-four public health nurses (Grade 1), twenty-one public health nurses (Grade 2), five supervisors, two consultants, the Assistant Director, and Director.

There were forty-five appointments to the staff during the year. In spite of the fact that there were only three more new positions, it was necessary to employ twelve more nurses than last year to fill the vacancies. This figure includes eight nurses who returned following additional training as part of the educational training project under Federal Health Grants. Sixteen were public health nurses trained in British Columbia, five received training elsewhere, while seventeen were registered nurses without public health training. Eighty-six per cent of the Public Health Nursing staff are fully qualified as public health nurses.

Although exact figures are not available for each year, it is known that over fifty of the Public Health Nursing staff replacements in 1948 were public health nurses trained outside this Province. In 1951 only five or 11 per cent were obtained from this source. This points out the fact that British Columbia will have to depend more and more on its own resources for supplying staff replacements.

Thirty-one nurses left the service. Of this group, nine went to university for further education; five married nurses returned to their homes; ten were married and left the service, while eight joined health services elsewhere in Canada, United States, and Britain; and two left for other reasons.

Sixteen nurses changed their nursing districts, while one field nurse exchanged with a public health nurse in the Division of Venereal Disease Control. The total staff turnover was 79 per cent, which is 12 per cent higher than last year and 9 per cent higher than the average for the last ten years. This figure includes transfers, new appointments, and resignations. The volume of nursing administration has increased accordingly.

TABLE I.—COMPARISON OF PROVINCIAL PUBLIC HEALTH NURSING STAFF CHANGES, 1950 AND 1951

| | 1950 | 1951 |
|---|---|---|
| Positions available | 121 | 124 |
| Total staff changes | 81 | 98 |
| Percentage of staff changes | 67 | 79 |
| New appointments | 33[1] | 45[1] |
| Resignations | 31[2] | 36[2] |
| Transfers | 17[3] | 17[3] |

1 Returning from university included.
2 To university included.
3 One exchange included.

## PUBLIC HEALTH NURSING TRAINING PROGRAMME

The Division has been fortunate in obtaining bursaries for seven registered nurses to assist them financially to obtain the necessary academic training for permanent appointments as public health nurses. This training programme has made it possible to fill key positions with qualified staff who have had experience in the Provincial Public Health Nursing field. Thus these newly qualified public health nurses could be placed at centres which would not ordinarily be filled by nurses who had just completed the University Public Health Nursing Course.

The heavy programme of in-service training for registered nurses has of necessity been continued, since 38 per cent of new staff do not have their formal public health training. Although this has created a good deal of additional work for the public health nurse in charge of the district during the orientation period, the registered nurses have proved very satisfactory in providing continuity of Public Health Nursing service. The experience has given them an excellent background for the University course, and has resulted in very well-trained public health nurses returning to the staff.

During the year, field-work facilities were provided for twenty students from the University of British Columbia and for one student from McGill University, Montreal. Saanich and South Vancouver Island Health Unit continues to offer introductory experience in public health nursing to undergraduate nursing students from St. Joseph's Hospital, Victoria. Public Health Nursing staff have assisted with public health nursing lectures at schools of nursing at Royal Jubilee Hospital and St. Joseph's Hospital in Victoria, Royal Columbian Hospital in New Westminster, and the Royal Inland Hospital in Kamloops.

Public health nurses have continued to meet regionally in their study groups and have been able to study a number of pertinent subjects on a group basis. Subjects

included the Baillie-Creelman Report, the new course in Effective Living, Prenatal Care, Civilian Defence, etc. Subject material has been related to the particular need of each group. As the study groups are an integral part of the Public Health Nursing Council of the Division of Public Health Nursing, they provide a method of making known the wishes of the staff, as a group. The Public Health Nursing Council meets annually at the Institute to consider the wishes of the individual groups and to vote on any recommendations which would have application on a Provincial basis.

This year at the Public Health Institute a full day was devoted to public health nursing. This innovation proved a great success and has been a stimulus to the development of certain programmes. Special mention is made of the panel on prenatal or mothers' classes, which was presented by members of the Public Health Nursing field staff and a member of the Victorian Order of Nurses' staff from Victoria, and the paper presented by Miss Giovando on consideration of certain mental-hygiene factors as related to the expectant mother. This project stimulated the establishment of mothers' classes on a wider basis and is contributing to a more comprehensive prenatal-care programme on a Provincial basis. The volume of service given expectant mothers was four times greater than last year.

## PUBLIC HEALTH NURSING SUPERVISION

The fact that good supervision is one of the most important factors in an effective public health nursing programme was pointed out in the Report of the Study Committee of Public Health Practice in Canada, by Baillie and Creelman (1950). With this objective in view, a constant effort is being made to improve the supervisory programme.

From a staff recruitment point of view, it is recognized that public health nurses tend to accept employment in areas where good supervision is available. However, the reason and justification for supervision lies in the improvement of the generalized service.

To fulfil this purpose the quality of the nursing service must be constantly assessed in order to bring about the necessary changes in programme. This is accomplished not only by personal observation of services as rendered, but also by the objective study of statistical reports—for example, local birth, death, morbidity statistics—and by the study of time as allocated to service and case-load analysis. In this way the strengths and weaknesses of services may be determined.

The Public Health Nursing senior or supervisor is in a position to take a broad impersonal view of the service and to direct attention to the proper balance of service—for example, certain nurses more interested in the school service might give too much time to this service, thereby neglecting the tuberculosis programme. As the Public Health Nursing service becomes increasingly complex, it becomes necessary to stimulate and guide the staff nurse in order that she develop the required skills and keep up to date with new advances. The supervisor or senior nurse is in a position to encourage staff education, to meet the needs of the individual nurse, and to help her meet the problems which arise in the district. With the variety of work in public health there is a need to have one individual of the nursing service available to relate the work of the other staff members and to work with other agencies. The senior or supervisor makes the administration of the nursing service easier for the director of the health unit.

The plan for Public Health Nursing supervision is flexible enough to fit into the plan for health unit development in British Columbia, and to provide supervisory assistance to nurses not yet receiving the full benefit of health unit coverage.

Senior and supervisory nurses, too, require assistance in setting up supervisory programmes and in evaluating their effectiveness. Central Office Public Health Nursing personnel have been able to orient newly appointed senior nurses to their new responsibilities and to assist those members of the supervisory and senior-nurse staff in meeting local problems through field visits, conferences, correspondence, and interviews.

In December it was possible to have the majority of senior nurses attend a two-day conference at the Kinsmen Health Centre at Cloverdale. Considerable time was spent on discussion of programmes being carried by Public Health Nursing staff, and on discussion of the duties and responsibilities of a senior or supervisory nurse. These responsibilities have now been set down on paper and will be incorporated into the general policy manual.

During the year, consultant services have been increased. Miss Lucille Giovando returned to the staff after completing the M.P.H. degree, with extensive training in Mental Hygiene, at the University of Minnesota, and is initiating a more comprehensive mental-hygiene programme for the field staff. The purpose of the mental-hygiene programme is to promote mental well-being in all age-groups and to help prevent mental disorders and emotional disturbances. A programme which will assist the Public Health staff to incorporate mental-hygiene principles into their daily routine is being developed. Miss Giovando has met with Public Health Nursing staff at study-group meetings, with health unit staff at staff meetings, and has spoken to special groups on request. To assist the staff to utilize the services of the Child Guidance Clinic more effectively, Miss Giovando completed three and one-half months with the clinic. During this time she travelled out to areas where the Child Guidance Clinic was meeting with the health unit staff and assisted in the interpretation of the services and necessary procedures. It is expected that Miss Giovando will give special assistance with mental-hygiene problems and, at the same time, be able to give assistance to Public Health Nursing supervisors and seniors with other health problems because of her experience as a staff and supervising public health nurse.

Miss Margaret Cammaert returned in September following completion of the M.P.H. course at Johns Hopkins University, majoring in Maternal and Child Health. Miss Cammaert has been appointed consultant public health nurse and is located in the Trail office of the West Kootenay Health Unit. The Kootenay region has been selected as a pilot area to work out methods of improving and developing additional services in relation to the field of maternal and child health. Miss Cammaert is providing consultant service Provincially from this centre and retains responsibility for generalized Public Health Nursing supervision in the West Kootenays.

Miss Fern Primeau completed a year of service as the public health nurse assigned to the Division of Tuberculosis Control. It has been her purpose to assist the Public Health Nursing staff in carrying out the tuberculosis-control programme as planned and approved jointly by the Division of Tuberculosis Control and the Bureau of Local Health Services. The duties of the nurse assigned to this position have changed with the development of more complete local health services. The field staff have assumed responsibility for the tuberculosis programme on a local level, and thereby reduced the need for direct contact with local areas. However, certain unorganized areas continue to present problems in tuberculosis-control which have to be cleared by Miss Primeau. Although the use of the mobile unit has decreased, a good deal of time was spent in advising health personnel on the best use of this unit. Public health staff are advised of new procedures, changes in treatment, care and progress of patients. Miss Primeau has been able to visit a number of centres to assist with specific problems related to the tuberculosis programme and is available to assist with staff education.

The Division of Venereal Disease Control has continued to assist public health staff with the local venereal disease programme. Since the volume of work has decreased considerably, the rural epidemiology worker position has been discontinued. However, Public Health Nursing staff continue to receive help and guidance with problems from the Division. The policy manual dealing with all aspects of the programme as it relates to the Public Health Nursing field was completed and is now ready for printing.

The following statistical summary shows the volume of work in certain Public Health Nursing services during the year:—

*Statistical Summary of Certain Public Health Nursing Services*

Home services—

28,043 infants.
30,953 pre-school children.
31,078 school-children.
20,622 adults.
16,607 tuberculosis cases and contacts.
970 venereal disease cases and contacts.
2,502 expectant mothers.
10,602 mothers within six weeks after the birth of their babies.

School services—

74,390 school pupils were examined by the public health nurse.
30,779 school pupils were examined by the School Health Inspector assisted by the public health nurse.
43,101 conferences were held with teachers.
40,254 conferences were held with pupils.
8,495 conferences were held with parents.
31,126 home-visits made regarding school pupils.

Clinic attendance—

Prenatal clinics or classes showed attendance of ..... 2,502
Child health conferences were used to advantage of—
Infants ..... 43,344
Pre-school children ..... 36,420
(See home service for additional prenatal, infant, and pre-school service statistics.)

Immunizations—

9,049 individuals received complete series of innoculations for protection against whooping-cough.
12,210 for diphtheria.
13,238 for tetanus.
3,185 for typhoid.
600 for scarlet fever.
24,018 for smallpox vaccination.
257 were vaccinated with B.C.G.
240,437 innoculations in all were given.

## SERVICE ANALYSIS

As a supervisory method of assessing the volume of service being rendered by each public health nurse, and the time being devoted to each aspect of the health programme, a time study was completed by 100 staff nurses in May. One of the main advantages of a time study to the staff nurse is to assist her to utilize her time to the best advantage. For example, if a nurse in a densely populated district shows a higher than average amount of travel-time, it would indicate that an investigation should be made into the plan for covering the area in order to reduce the travel-time and leave more time for actual service. The composite results of the studies give valuable information about the extent and volume of service being rendered and show trends in the development of new services. The percentage of time spent on each service is shown in Table II, which also shows the results of similar studies done in 1949 and 1950. Table II gives a breakdown of the time spent on home-visits and in the office by percentage of the total time. From these tables it is possible to compute the average amount of time spent in certain activities.

TABLE II.—COMPARISON OF PERCENTAGE OF TIME SPENT BY PUBLIC HEALTH NURSES IN SPECIFIED ACTIVITIES AS INDICATED BY TIME STUDIES IN 1949, 1950, AND 1951

| | NOV., 1949 | MAY, 1950 | MAY, 1951 |
|---|---|---|---|
| Total | 100.0 | 100.0 | 100.0 |
| Visits to schools | 17.4 | 17.2 | 16.1 |
| Child health conferences | 7.3 | 7.1 | 7.8 |
| Home-visits, total | 18.1 | 17.3 | 20.1 |
| Office total | 28.5 | 24.4 | 23.3 |
| Conferences | 6.1 | 5.2 | 6.1 |
| Travel | 18.3 | 17.6 | 17.4 |
| Meetings | 3.7 | 4.4 | 6.1 |
| Other activities | 1.7 | 6.8 | 3.1 |
| Overtime | 4.2 | 9.8 | 6.4 |

TABLE III.—ANALYSIS OF TIME SPENT IN HOME-VISITS AND OFFICE BY PERCENTAGE OF TOTAL TIME AS SHOWN IN TIME STUDIES, 1949, 1950, AND 1951

| Year | 1949 | 1950 | 1951 |
|---|---|---|---|
| Total home-visits | 18.1 | 17.3 | 20.1 |
| Prenatal | 0.5 | 0.5 | 0.5 |
| Infant | 3.2 | 3.4 | 3.7 |
| Postnatal | 1.0 | 1.1 | 1.4 |
| Pre-school | 3.0 | 3.0 | 3.0 |
| School | 3.1 | 4.2 | 4.2 |
| Nursing care | 1.9 | 1.9 | 1.7 |
| Tuberculosis | 1.7 | 1.7 | 2.0 |
| Venereal disease | 0.3 | 0.2 | 0.2 |
| Other | 2.4 | 1.3 | 3.4 |
| Total office | 28.5 | 24.4 | 23.3 |
| Clerical-professional | 15.1 | 13.5 | 14.9 |
| School recording | ----- | ----- | 5.4 |
| Tuberculosis | ----- | ----- | 2.1 |
| Other | 4.8 | 5.8 | 7.4 |
| Non-professional | 8.6 | 5.1 | 3.3 |
| Other office | ----- | ----- | 5.1 |

Although the total amount of home-visiting has increased this year, as seen in Table III, after it is shown that 2.3 per cent of the total time was spent on the sickness survey, the amount of other home-visiting would be about the same as the figures shown in the studies completed in 1949 and 1950.

A case-load analysis was completed by all public health nurses carrying districts. The information taken from this analysis assists central office in assessing the service loads carried by each nurse. From this report the need for additional Public Health Nursing or clerical staff may be shown, as indicated by an increased service load. Evidence of the population distribution is shown in these reports.

## CIVIL DEFENCE

The Public Health Nursing Division has taken an active part in the preparation and organization of the educational programme dealing with the nursing aspects of civil defence and A.B.C. warfare. Miss Margaret Campbell, Assistant Director of Public Health Nursing, attended a five-day course dealing with the Nursing Aspects of Atomic Warfare in San Francisco, along with three other nurses from British Columbia—Miss Mary Henderson, representing Metropolitan Health Committee, Vancouver; Miss Fern Trout, Registered Nurses' Association of British Columbia; and Miss Joyce Collison, representing the Department of Veterans' Affairs. This group of nurses initiated an

educational programme consisting of a two-hour orientation lecture on this subject for the nurses of British Columbia. Miss Trout and Miss Campbell spoke to the nurses in the Provincial areas (including Victoria), while Miss Henderson and Miss Collison gave their lectures in Vancouver. This group of nurses attended a special meeting in Ottawa in June on A.B.C. warfare, when the proposed teaching manual for Canadian nurses was presented for suggestions and approval.

The Division was active in arranging for the four-day course on the Nursing Aspects of A.B.C. Warfare, presented by a team of experts from the staff of the Department of National Health and Welfare in December. Seventy-five nurse instructors selected from all regions of British Columbia attended the course in Vancouver, which was sponsored by the office of the Provincial Civil Defence Co-ordinator, which provided financial assistance to nurses from outlying districts, and the British Columbia Registered Nurses' Association and the Department of Health, who assisted in planning for the course. It is expected that this nucleus of trained instructors will return to their own communities to teach nurses about this subject and their role in civil defence.

## SICKNESS SURVEY

The sickness survey was completed in October, and the results are not yet available. The Assistant Director, Public Health Nursing, spent a considerable amount of time in the early part of the year interpreting the various requirements of the survey to the staff.

## HOME CARE

A pilot-study home-care programme was established in the North Okanagan Health Unit in October. This study has been undertaken with the assistance of Federal Health Grant funds in an effort to determine whether it is possible to release hospital beds to relieve hospital overcrowding and at the same time give the patient necessary care at home. Home-care services have been successful in large metropolitan areas, and it remains to be seen whether this type of service can be carried out satisfactorily in smaller centres.

The programme was established with the active support of the Vernon Medical Society, the Vernon Jubilee Hospital Board, the Union Board of Health of the North Okanagan Health Unit, and local welfare services. An advisory committee was set up to assist with the organization and development of the service. It is necessary for a patient to be admitted from hospital to this service by the attending physician, and thus the home-care service can be considered an extension of hospital care to the home. The health unit staff is prepared to give nursing care in the home on an hourly basis. Housekeeping service is also available to patients requiring home help. A small daily charge is made for both nursing and housekeeping service. One nurse has been added to the staff of the North Okanagan Health Unit to assist in meeting increased demands for nursing care. Housekeepers have been given appropriate lectures to assist them with their work in the home. The senior nurse of the health unit acts as administrator of the home-care service and supervises the care given the patient in the home by the housekeeper and the nurse. To date it is too soon to evaluate the result of this service.

As the demand for nursing treatments and injections increased in the Saanich and South Vancouver Island Health Unit, it was felt advisable to add a registered nurse to the staff to take over part of this programme. The public health nurse visits all patients initially to determine whether the case should be taken over by the registered nurse. The patient continues under the supervision of the public health nurse.

These two new programmes are indicative of a teamwork approach to bringing needed care to the patient in the home.

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Public Health Nursing Central Office staff have continued to act on a number of nursing committees. These include the Red Cross Nursing Committee, the Junior Red Cross Crippled and Handicapped Committee, the Public Health Nursing Curriculum, and Educational Policy Committees of the Registered Nurses' Association of British Columbia, the Provincial Nursing Services Committee, the Advisory Committee to the University of British Columbia School of Nursing.

Visitors to the Department included Dr. Pauline Jewett, who is completing a structure study on nursing for the Canadian Nurses' Association; Miss Ruby Tinkiss, Division of Child and Maternal Health, Ottawa; and Miss Evelyn Pepper, Nursing Consultant to the Civil Defence Health Planning Group, Department of National Health and Welfare, Ottawa.

The variety and scope of the Public Health Nursing programme has continued to increase as the need for new services becomes evident. Tribute should be paid to the public health nurses, who have adapted themselves to changing conditions and accepted and expedited new programmes promptly and efficiently.

## REPORT OF THE NUTRITION SERVICE

DORIS L. NOBLE, CONSULTANT

The year 1951 shows considerable development and achievement in the programme of the Nutrition Service. Studies of the foods eaten by school-children in sixteen districts have clearly indicated that many families in British Columbia are not eating enough of the foods they require, even though these foods are readily available and comparatively inexpensive. The year's programme has been concentrated on developing those methods of education which to date have proven most effective in encouraging the people of this Province to enjoy a more adequate diet.

### CONSULTANT SERVICE TO LOCAL PUBLIC HEALTH PERSONNEL

An important responsibility of public health personnel is that of counselling and advising individuals and families regarding the selection and preparation of appetizing, nourishing meals. The service of the Nutrition Consultants in providing technical information and advice, assistance in studying food habits, and developing effective methods of nutrition education is available to public health personnel throughout the Province.

During the year the Nutritionists have visited twelve health units in order to provide the most practical assistance to the health unit staff. In each area a regular staff meeting has been attended to review the latest nutrition information and discuss local activities and problems. Further time has been spent in health unit areas this year in order to include additional meetings and visits arranged by health unit directors and senior nurses. For example, in many areas visits have been made to cafeterias, and meetings of School Lunch Committees, Parent-Teacher Associations, and similar groups have been attended to consider nutrition problems. At the request of the Welfare Branch, the Nutritionist has also met with the social workers in each area to discuss advice that may be offered to families on low-cost meal planning.

An important activity of the Nutrition Service this year has been to assist public health personnel in studying the foods eaten by children and families in various areas. This type of study has proven valuable both in providing information concerning what people eat and as an effective method of nutrition education in the community. The studies are planned co-operatively by public health personnel and teachers as a school health project. During the past two years, food studies have been conducted in sixteen districts of the Province. The major portion of this work has been completed during 1951, when over 4,000 three-day food records from school-children were analysed by the staff of the Nutrition Service.

A brief summary of the results of the food studies may be of interest. As mentioned previously, it was noted from the over-all results that many families in British Columbia are not eating enough of the foods they require, even though these foods are readily available and comparatively inexpensive. In every area the three chief deficiencies in children's diets were found to be milk, a Vitamin D preparation, and foods rich in Vitamin C. Less than 40 per cent of the children studied were receiving a pint of milk or more each day, only 10 per cent were receiving a Vitamin D supplement such as fish-liver oil, and only 40 per cent were eating daily a food that is rich in Vitamin C such as tomatoes, vitaminized apple-juice, or citrus fruits. These are important foods, since they are essential for best growth and development and good health. The survey results also revealed that many children ate liberal quantities of sweet foods such as candy, soft drinks, cake, bread and jam. Such items not only contain little food value, but also dull the appetite for more nourishing foods and help promote tooth decay.

The Nutrition Service has co-operated with the Division of Health Education in publicizing the results of the food studies through articles prepared for magazines of the

Parent-Teacher Association, Women's Institute, and Department of Education. In these articles and during discussions with public health and other community workers, four specific objectives have been stressed, namely: For each child every day (1) at least 1 pint of milk, (2) a Vitamin D preparation, (3) a serving of some food rich in Vitamin C, and (4) a decreased consumption of sweet foods. A pamphlet stressing these four objectives was prepared by the Nutrition Service and printed early in 1951. This pamphlet has been widely circulated to parents and children in many areas of the Province. Public health personnel and teachers have stressed these four points and methods of improving family meals with children, parents, and community groups.

The interest aroused by the food studies has been followed up in numerous areas with rat-feeding experiments. The experiment illustrates vividly the importance of food to growth, appearance, and disposition, and is effective in encouraging improved food habits. One group of rats is fed on a diet including foods recommended in Canada's Food Rules, and the second group is fed on a poor diet rich in sweet foods. The rats are fed and cared for by school-children in the classroom. Over a period of several weeks the children are able to observe the effect of the two contrasting diets on the weight, appearance, and activity of the rats. During 1951, rat-feeding experiments were conducted in thirty-four schools outside of Vancouver. Each project was planned co-operatively by public health nurses and teachers, and additional assistance provided from the Nutrition Service. From the reports received from teachers and public health personnel, it is obvious that the rat-feeding project is one of the most effective methods of arousing children's and parents' interest in improving their daily meals for their own well-being. White laboratory rats for all experiments have been provided from the animal nutrition laboratory at the University of British Columbia, and their excellent co-operation throughout the year has been appreciated.

The volume of requests from local public health personnel for technical services and information has been considerably greater during 1951 than in the past. Since 1951 has been a year of increased food prices, one of the chief requests has been for up-to-date information on low-cost meal planning. The current prices of essential food items have been studied each month, and a series of articles have been prepared for health and welfare personnel to offer suggestions on stretching the food dollar.

Considerable service has been requested and provided to local public health personnel relative to various types of school-lunch programmes. The construction of new schools with lunchroom and kitchen facilities has increased the need for such information as minimum equipment requirements for supplementary or complete meal programmes, plans for efficient kitchen layout, quick and economical methods of preparing foods at school, menus, and large-quantity recipes. This type of information has been compiled for the public health staff and school administrators in various areas of the Province this year. It has been possible, also, to offer additional information during visits to various schools while in a health unit area.

It should be noted that the provision of nutrition information and advice on materials for nutrition education to local public health personnel is a constant and growing activity of the Nutrition Service.

## CONSULTANT SERVICE TO INSTITUTIONS

Consultant service has been extended to other institutions during the past year and continued to those from whom information and assistance was requested previously. Assistance is provided on all phases of food service, including food selection, preparation, choice, and arrangement of equipment and organization of staff.

Food-cost accounting continues to have an important place in control of food costs. The method which was developed and proved satisfactory in one of the larger institutions is being adapted in other institutions where service has been requested.

Yearly studies comprising analysis of *per capita* food consumption are completed for Oakalla Prison Farm and New Haven. In addition, assistance has been provided to the Women's Gaol at Prince George, hospitals under the Division of Tuberculosis Control, the British Columbia Cancer Institute, the Queen Alexandra Solarium, the Vancouver Preventorium, and the Western Society for Physical Rehabilitation.

A special study was made of the meat purchases at the Jericho unit of the Division of Tuberculosis Control. It was found that a considerable saving is made by purchase of wholesale cuts rather than carcass beef. This more economical method of purchasing may also be applicable to other food-service departments.

A study was made of the number of staff and duties of the dietary department of the Tranquille unit of the Division of Tuberculosis Control. It is clearly recognized that the place of the dietitian as an administrator and supervisor of food-service departments is important in institutions of this type. However, the purpose of this study was to ascertain the number of dietitians required to give efficient service and yet to use these specially trained persons for those administrative and supervisory duties suitable to their training.

Food-service procedures of several large hospitals have been studied during the year. From this study, considerable information has been obtained relative to the particular type of food service which will be initiated in the new Pearson Tuberculosis Hospital.

Consultant service has been provided to personnel in the Hospital Services Division of the British Columbia Hospital Insurance Service, in relation to such problems as kitchen planning, dietary staff, equipment, and food-cost accounting.

## CONSULTANT SERVICE TO OTHER DEPARTMENTS AND ORGANIZATIONS

It is recognized that the programmes of other Government departments and Provincial organizations are often related or closely allied to the broad field of nutrition education. In view of this, consultant service is offered to other departments and organizations, and whenever possible meetings are held with those in related fields to discuss mutual problems and plans.

Considerable time has been spent in the preparation of a School Lunch Manual for teachers, which was requested by the Department of Education. The manual includes considerable detail on the necessary features to be considered in planning and operating lunch-supplement and complete-meal programmes. The final draft was forwarded to the Department of Education in August and has been approved for printing and circulation to teachers and others concerned with this subject.

Throughout the year the Nutrition Consultant has attended the monthly meetings of a group of nutritionists representing various fields in British Columbia. Through these meetings it has been possible to gain a keener appreciation of the programmes and activities of others working in the field of nutrition education. A group project this year has been the completion of a list of low-cost weekly food allowances for various age-groups. These data have been requested by the Bureau of Economics and Statistics for guidance in compiling the Cost of Food Index. The list will also be of assistance to personnel in the Welfare Branch who are interested in developing low-cost food budgets for families.

A continuing project of the nutrition group has been the revision of the first edition of the booklet Family Meals, which was circulated to public health personnel, social workers, and groups of parents during 1950. This year the group has worked on the final revision of the booklet, with the objective of completing this material for printing and circulation in the coming year. It is obvious from requests of parents and community workers that this booklet will fill a very useful purpose.

The programme and objectives of the Nutrition Service have been described in talks to key groups, such as student nurses, Home Economics teachers, dietitians, and public health nursing students at the University.

## GENERAL COMMENTS

Miss Yvonne Love, who has served as Nutrition Consultant with this Department since 1945, resigned in December to accept a position in Vancouver. During her time with this Department, Miss Love has been a most enthusiastic and capable member of the Nutrition Service and has contributed a great deal to the nutrition education programme in this Province.

## REPORT OF THE DIVISION OF PREVENTIVE DENTISTRY

F. McCombie, Director

In a recently published book, Modern Trends in Public Health, appears the statement "Concentration of attention on the teeth of the youngest (children) has lessened the need for treatment as they grow older, and with what inestimable benefit to the health of the children! Freedom from pain allows them to eat their food with enjoyment; they can run about without the otherwise unfortunate result of violent toothache caused by increased circulation of the blood; their sleep is not interrupted by pain; their systems are not poisoned by dental sepsis, and a foundation is laid for lifelong health."

This could easily describe the first objective of the Division of Preventive Dentistry of the Health Branch of the Department of Health and Welfare. While very considerable progress toward this goal has been achieved during 1951, it cannot yet be claimed that this desirable state of affairs has been accomplished in British Columbia. Furthermore, it is suggested that our responsibility does not end there. Not only must we ensure that a foundation has been laid for a lifelong health, but we must do all within our power to ensure that this foundation is not destroyed.

To obtain this ideal, there are three requirements. Firstly, it is necessary to ensure that every child is restored to dental health at the earliest possible opportunity. Secondly, it is hoped that the possibilities of the prevention of the vast majority of dental disease may become known to all members of the medical and dental professions, the teaching profession, the parents, and the children—the future citizens of this Province. Thirdly, for the dental disease which is not prevented, satisfactory arrangements for its necessary treatment should be available to all, irrespective of locality, race, colour, creed, or any other barrier. To meet either the first or the third of these requirements is not yet possible, due to insufficient dental man-power within this Province.

A Departmental committee of another Government convened in 1919 to review the "Dentistry Act" recorded, "We wish to state very strongly that in our opinion the State cannot afford to allow the health of the workers of the nation to be continuously undermined by dental neglect. Steps should be taken without delay to recognize dentistry as one of the chief, if not the chief, means of preventing ill-health. The dental profession should be regarded as one of the outposts of preventive medicine and as such should be encouraged and assisted by the State."

### PROGRESS IN 1951

In the endeavour to help improve the dental health of the people of this Province, it has been the Division's thought in the past, and remains so to-day, that the keystone of the preventive dental programme rests in the inclusion within each local health department of at least one full-time dentist especially qualified and trained in children's and preventive dentistry. This year seven such appointments have been made to local health units. These appointments have been made with the Cariboo, North Okanagan, South Okanagan, Upper Fraser Valley, North Fraser Valley, Simon Fraser, and Central Vancouver Island Health Units. The dental divisions of the metropolitan areas have all appointments presently filled. In total, there are now in this Province twenty-four dentists employed full time in the practice of preventive dentistry. At the close of 1950 only fourteen such appointments were recorded. In all, twenty-six school districts now have dental services provided by full-time personnel, and a further school district is served by a dentist providing half-time services. In addition, in a further fourteen school districts dental clinics are now organized in which private dental practitioners provide regular sessions in their own offices for the younger children of the community.

In an endeavour to provide this latter type of service to additional communities, this summer sets of transportable dental equipment, especially designed by this Division, were loaned to dental practitioners willing to carry out this type of programme in communities where there is no resident dentist. By this means such programmes were carried out at Port Alice, Port Hardy, Bella Coola, Golden, and the more remote parts of the Seechelt Peninsula and adjacent islands. In addition, through the loan of this equipment other dentists have made their services available to such isolated communities as those along Alaska Highway and communities along the west coast of Vancouver Island and to Alert Bay.

To increase the effective dental man-power of this Province, at the spring session of the Legislative Assembly the "Dentistry Act" of this Province was amended to provide facilities whereby dental hygienists might be licensed. To date the necessary regulations to make this possible, which are to be submitted by the Council of the College of Dental Surgeons of British Columbia, have not been received. It is hoped that these may be forthcoming at an early date. It is further hoped that the regulations will be such that the dental hygienists will be able to make a significant contribution to the dental care of the people of this Province.

As an additional and possibly more effective means of increasing the dental man-power of this Province, the Division was informed that two committees have been established during the present year to investigate the need, the desirability, and practicability of establishing a dental faculty within this Province. One committee has been established by the Council of the College of Dental Surgeons of British Columbia and a further committee by the Senate of the University of British Columbia. To have two such responsible bodies appreciate the need for increased dental man-power and take at least such investigatory action is indeed most heartening.. It is hoped that in due course the findings of these two committees will be made public.

To maintain the people of this Province in dental health, the ratio of dentists to population during 1951 improved slightly, and is now estimated at 1 dentist to about 2,000 people. However, the disparity between the ratio of dentists within the large metropolitan areas and in the rural areas of the Province is still a subject of serious concern. The metropolitan areas of Greater Vancouver, Greater Victoria, and New Westminster, we estimate, now have a ratio of 1 dentist to 1,640 population, virtually identical to the 1950 estimate. However, for the remaining population of the Province, approximately 44 per cent of the total, the ratio is 1 dentist to approximately 3,000 people. This is some slight improvement over the 1950 estimate. This change is due mostly to the fact that this summer eleven new graduates located outside the metropolitan areas. This may indicate that the letters sent out for the past three years by the Dental Public Health Committee of the British Columbia Dental Association are attaining results. These letters were sent to senior dental students from this Province studying in the various dental faculties of Canada and the United States.

However, while some improvement in this regard can be recorded during 1951, it must be remembered that in 1952 the number of graduates from Canadian dental schools will, it is reported, drop by approximately 33 per cent to an estimated 205 for the whole of Canada, and in the following year to 175. The year 1951 was the last year of graduation of courses grossly expanded to accommodate veterans of the armed services.

Therefore, with the rapidly expanding economy and population of the Province, it is extremely likely that unless increased facilities for the training of dental students in Canada, and possibly within this Province, are made available within the very near future, the ratio of dentists to population will rapidly become worse as the years progress.

In an endeavour to decrease the need of dental care of large sections of the population of this Province by decreasing the incidence of dental decay, at least amongst the children, the health authorities in the two largest cities of this Province have given

very active consideration to the artificial fluoridation of their respective water-supplies. The Metropolitan Health Committee of Greater Vancouver signified its approval of such a procedure to the Greater Vancouver Water District, and the Union Board of Health of Greater Victoria and Esquimalt has recommended study relative to the fluoridation of the Greater Victoria water-supply. The Council of the College of Dental Surgeons of British Columbia and the Vancouver and District Dental Society have given their endorsement to such a measure. In view of the fact that in no case has any experiment been concluded whereby the value of artificial fluoridation has been completely assessed, the Victoria and District Dental Society suggests that concurrently experimental data be acquired to provide further information, and also rightly point out that fluoridation must be considered an adjunct and not a replacement to other preventive measures.

As a further effort to decrease the amount of dental disease presently occurring, the Division has continued, with the co-operation of the Division of Health Education, the Nutrition Consultants, and the Public Relations Committee of the British Columbia Dental Association, to assess available dental-health educational material and assist in its distribution. As an example, it is noted that no less than 10,000 persons viewed dental-health films made available through the Division of Health Education. Toward the end of the year a new project was initiated—namely, the construction, by auxiliary groups, of toys which will teach a lesson in dental health for use in waiting-rooms of clinics and private practitioners. It is hoped that it will be possible to report some results in this new field in the coming year.

In order to improve the correlation between the various dental-health programmes now operating throughout the Province, for the first time a Dental Health Conference was convened this fall, at which were present the Dental Directors with local health units, the Director of the Dental Health Division of the Metropolitan Health Committee of Greater Vancouver, and the Director of School Dental Services of the Greater Victoria School Board. At this two-day meeting many topics were discussed, including an evaluation of dental-health education material presently made available by this Department, correlation with nutrition education, fluoridation of water-supplies, education techniques, and the possible role of the dental profession in a programme of civil defence.

## BRITISH COLUMBIA DENTAL ASSOCIATION

Throughout the year it is most pleasing and gratifying to report that the co-operation of the executive of the British Columbia Dental Association and its various committees, especially the Dental Public Health and Public Relations Committees, has been of material assistance to the furtherance and success of the activities of this Division.

## THE FUTURE

What now remains to be accomplished? Firstly, there remains the appointment of at least eleven additional full-time dentists with local health departments. Two such appointments are planned during the coming year to the Upper Vancouver Island Health Unit and West Kootenay Health Unit. Concurrently, due to the expansion of Grade I enrolment in the Vancouver area, it is likely that further full-time appointments will be necessary there. It is hoped that these appointments will assist in the restoration to dental health of the younger children.

The teaching of dental health within the schools of this Province requires some revision. It is hoped that by greater co-operation with the Department of Education at the Provincial level, and by the activities of Dental Directors with health units, in co-operation with School Inspectors and school principals at the local level, that the teaching of dental health will improve in the years to come.

It is hoped that in the future the private dental practitioners of the Province will provide ever-increased assistance in meeting the wishes of the people by maintaining

in dental health all the children after they are so restored. For those parents who are in receipt of social assistance, it is hoped that arrangements can be made whereby their children may be similarly cared for. Lastly, remains the large group who find it difficult to make adequate financial arrangements for dental care for their children. To make suitable arrangements for this group will not be easy, but unless some satisfactory arrangements are made, there will be many, many parents who fully realize the value of dental service, but who may be forced to watch their children grow into dental cripples.

To meet these demands, an increased number of dentists in this Province will be necessary. To provide these dentists, it is right that increasing attention be paid to the desirability of establishing training facilities in this Province at the earliest practical opportunity.

# REPORT OF THE DIVISION OF ENVIRONMENTAL SANITATION

## A. PUBLIC HEALTH ENGINEERING

N. J. GOODE, ACTING DIRECTOR

Public health engineering is concerned with the engineering aspects of the physical world that can affect the public health. This involves a wide range of activity, as engineering methods can be useful in solving such diverse problems as determining the extent of pollution on a shell-fish lease or the most efficient means of disposing of garbage. In fact, engineering methods can be employed profitably in adjusting all parts of our surroundings so that communicable diseases and accidents can be prevented. The Division of Public Health Engineering functions within the framework of the Health Branch to assist in and advise on the need for and the best means of instituting desirable changes of this nature.

In this Province the need for public health engineering advice has not been too evident in the past because of the widely scattered population and the relatively small amount of industrialization. As the Province has grown in population and industry, the problems have increased in number and complexity. These problems have also become more evident as the increased numbers of public health personnel have brought a lot of matters to light that previously were not recognized. This growth in the volume of problems has been evident in 1951, and a review of and the steps taken to deal with the most important phases of them is noted in the following report.

### WATER-SUPPLIES

Numerous improvements were made to the public water-supply systems in the Province during the year. Although there are no statistics available on the subject, experience would indicate that the steps taken were only sufficient to balance the adverse effects due to normal deterioration and the increased population and industrialization. The two main reasons for this apparent lack of progress would appear to be the public's lack of information about the potential dangers to water-supplies and their faith in the natural purity of most water found in the Province. Therefore, if more adequate improvements are to be made in the future, it will be necessary to supply factual information to the public so that they will be better able to assess the needs of their supplies. With this in mind, an attempt was made to assist the local health units to interpret information about water-supplies so that it could be more readily understood and appreciated by the people responsible. This consisted of drawing up an inspection form, making a standard graph for illustrating bacteriological results, and drafting two articles. The first one is designed for distribution to the general public and will describe the usual ways water-supplies are contaminated and how it can be prevented. The other article will be distributed to waterworks operators and superintendents, and it will describe the benefits to be obtained from planning the orderly development and improvement of their systems.

Improvements under this type of programme will most likely take years to become evident, but at present this would seem to be the best method of approach. Quicker results could most likely be obtained by more numerous visits by engineers, as direct consultative advice could be given to the operators. However, it seems unlikely that any great increase in visits can be made with the present staff.

Advice on and approval of a number of water-supply systems was given by members of this Division. Recommendations were made regarding plans for the improvement or future development for twelve systems, and approvals were given for the construction of three new systems and the improvement or extensions to thirteen systems.

One of the two emergency chlorinators was loaned to the City of Mission for a short period while water from an auxiliary source was being used to augment the regular supply.

Fluoridation—the process which involves adding a minute amount of the fluoride ion to water as a means of control of dental caries—was publicized widely by other authorities in the United States and Canada. As it might be adopted by some communities in this Province, information was gathered on the engineering aspects of this process. Some of this was obtained at a Conference on Fluoridation sponsored by the Washington State Department of Health in Seattle, and other material was obtained from current literature. A digest of this data was presented at a meeting of the dentists in the Health Branch.

### Sewage-disposal

There was an increased interest and activity in the construction of municipal sewage-disposal systems during the year. Two municipalities added appreciable extensions, two completed new systems, and four started planning for future systems. Although these figures seem small, the estimated cost of these changes involves approximately $3,000,000.

All of these improvements were initiated by the municipalities which made the changes; they were not the result of complaints from neighbouring municipalities which might have been affected by improper disposal practices. Usually, planning for the changes was started because nuisances were created by septic-tank effluents. However, the City of Vancouver did institute an investigation into a more suitable means of disposal because of the pollution of bathing-beaches.

Through action initiated by this Division, plans were started for sewage-disposal facilities for Essondale. This was done because the untreated sewage is contaminating the receiving body of water. It seems apparent that difficulties of a similar nature will arise in other parts of the Province in the near future, and some planning will have to be done to control such pollution and maintain the streams at a reasonable quality level.

Visits were made to nine sewage-disposal plants. The operation of each was reviewed and discussed with the operators.

A short school for operators of treatment plants was conducted in Idaho, and invitations to attend were forwarded through this Division to operators in this Province. This school is operated each year by the States in the Pacific Northwest area, and they have been kind enough to open them to persons engaged in this work in British Columbia.

A comprehensive article on septic tanks was prepared and mimeographed for distribution to the public, as numerous requests for this type of information are received from persons living in unsewered communities. The article covered the construction, operation, and maintenance of septic tanks and tile disposal-fields. A leaflet on the percolation test for tile disposal-fields was also prepared.

A paper was prepared on the construction and maintenance of septic tanks. Those phases of the subject which are of interest to engineers were dealt with as it was presented at the annual convention of the municipal engineers.

### Stream-pollution

There are relatively few instances where improved treatment facilities are indicated at present, but it is anticipated that these problems will increase and become more acute within a few years if the population and the industries continue to increase. The " Health Act " makes some provision for the control of stream-pollution, but for a number of reasons remedial action is often very difficult to obtain. The main reason for this is that separate solutions must be found for each problem because there are an infinite number of waste compounds which will create varying degrees of pollution, depending on the type, amount, and strength of the waste, the flow of the stream, and the type, amount, and strength of other wastes being discharged at other points into the stream. Despite the complexity of the problems and the time needed to deal with them, an effort was made in a number of instances to advise on adequate treatment procedures.

A report was made of pollution problems in the vicinity of Kelowna, and general recommendations were made regarding possible corrective measures.

Pollution problems as they affect the Fraser River were discussed at various times with the executive secretary of the Dominion-Provincial Fraser Basin Board. In addition, the best means of furthering the pollution study of the Fraser River were discussed at a meeting which was convened by the Board.

Two meetings of the Pacific Northwest Pollution Control Council were attended. During the year this informal group continued its work on water-quality objectives, sewage-works design standards, air pollution, and related subjects. It is anticipated that the results of the work being carried on by this organization will be of great assistance when regulations of this nature are to be implemented in this Province, as members of the Committee are some of the best-informed persons on this subject in the Pacific Northwest region.

## SHELL-FISH

The administrative procedures for enforcing the Shell-fish Regulations became fairly well established during the year. During the previous year it had been difficult to obtain uniform enforcement as the responsibility for administration was handled by two persons during different periods, and there were a number of details about the recently adopted regulations which required clarification. During the current year an amendment to the regulations was passed, giving jurisdiction over shell-fish plants and handling procedures to the local health units. Following this, the Sanitary Inspectors were acquainted with the shucking plants in their areas and a system of reporting devised so that the Department of National Health and Welfare could be kept advised. From present indications this system has given satisfactory control.

A number of new shell-fish leases were forwarded to this Division for approval. All of them were recommended, as they were located in unpolluted areas.

A representative of the Division attended a three-day Shell-fish Sanitation Seminar in Seattle. This meeting of members of the shell-fish industry and officials of the regulatory agencies on the Pacific Coast was arranged by the Washington State Department of Health. During the first day regulatory officials only were present, when control procedures were discussed. On the following two days the meetings were directed toward those aspects of shell-fish production which are of interest to the industry. They included sanitation, biology, pollution of shell-fish beds, and shell-fish toxicity. The meetings were well worth while and provided an excellent opportunity to keep the industry advised of current findings and approved methods of operation and to keep regulatory officials aware of difficulties being encountered by the operators.

Three members of the United States Public Health Service, who are employed in shell-fish work, were taken on a tour of the shell-fish research establishments in the Province.

Matters relating to shell-fish toxicity were dealt with at some length. A chart was made of the laboratory findings to date, a narrative review was made of the toxicity problem as it exists in the Province, and a meeting of the Pacific Coast Shellfish Committee was convened to consider future plans for dealing with the problem. As it had not been possible to find any correlation between the seasons and the amount of toxicity, the chart was made to show the number of samples obtained and the intensity of toxicity at each sampling point. The review was compiled to bring members of the Shellfish Committee up to date on the subject and to form a basis for discussion at the meeting. It is hoped that more can be determined about this subject so that a control programme can be based on well-established facts.

## Tourist Camps

Assistance in the enforcement of the Regulations Governing Tourist Accommodation continued throughout the year. This work consisted of acting as a member of the Licensing Authority and of co-ordinating the findings of Sanitary Inspectors in the field.

An amendment was made to the regulations, which gave municipalities power to enforce the regulations when tourist camps are within their boundaries. To clarify the administrative changes required by this amendment, a detailed memorandum was compiled for the use of the field personnel.

## General

Further steps were taken to try to improve the enforcement of sanitary procedures in unorganized territory. A meeting of the Interdepartmental Committee on Sanitation was arranged, and its recommedations forwarded to the Cabinet. Further consideration of this important problem is indicated for the coming year.

A review was made of the role of public health personnel in town planning. A digest of this material was presented to a meeting of the Medical Health Officers.

Work was done on two matters relating to the qualification of Sanitary Inspectors. The position of Chairman of the Examining Board for Sanitary Inspectors' examinations was filled by the writer. It involved organizing two days of examinations and marking some of the papers. Valuable assistance was given in this work by members of the Metropolitan Health Committee in Vancouver. This Division was also represented on two Screening Committees for Sanitary Inspectors. These Committees have been formed in Vancouver and Victoria to review the qualifications of persons wishing to become Sanitary Inspectors, and each Committee meets once or twice a year to interview prospective candidates.

The work of the Division was reviewed in detail on three separate occasions. An article was prepared for publication in the British Columbia Professional Engineer, a publication of the British Columbia Engineering Society. Those phases of the work which are of interest to consulting engineers were especially noted. A talk on the Division was given to the student nurses at the University of British Columbia to acquaint them with its function in the Department of Health and Welfare. In addition, a review was made of the Division's work as an appraisal of past accomplishments and as a means of planning for the future. This was done so that a clear picture could be obtained of the Division and its relation to the rest of the Health Branch, the local health units, other Governmental departments, and consulting engineers.

Matters concerning the general functions of the Division were discussed at a meeting of representatives of all the public health engineering divisions from other Provincial departments of health in Canada. This meeting was quite useful and informative, as it provided an opportunity to compare procedures and accomplishments with the other organizations of a similar nature in Canada and thus to evaluate the present programme and to plan future ones.

In the administration of the Division itself a number of things occurred which are worthy of note. Mr. R. Bowering, the Director of the Division, remained on leave of absence for the entire year in order to continue the work which he was doing in Korea. He was a member of a team doing public health work under the jurisdiction of the World Health Organization of the United Nations.

In order to improve the efficiency of the work of the Division, a number of new devices were used and some old systems were changed. A number of form letters were compiled and mimeographed to speed up replies to some of the routine inquiries received. In addition, a number of inspection report forms were devised so that information received would be more uniform. It is intended that these should be given a fairly extensive trial period before they are distributed to the local health units. The filing

system was reviewed, and a number of changes made which proved effective in making desired information more readily accessible. These changes were made not only because of the need for more efficient files, but also because of a planned change in the administration of the subjects involving environmental sanitation.

Plans were drawn up for the changes to be made in new office space which will be assigned to this Division. This space is in the basement of the Parliament Buildings and will apparently be available during the coming year.

In conclusion, this Province appears to be entering on a period of great industrial expansion. This will inevitably bring an influx of population and provide an ever-increasing number of public health engineering problems. If these problems are foreseen, and if plans are made to provide reasonable controls, there is no reason why the environment during this expansion period should not be improved rather than become a greater hazard to the public health. It is the intention of this Division to try to anticipate these requirements and the controls needed for the future so that recommendations can be made for their adoption as required.

## B. SANITARY INSPECTION

C. R. STONEHOUSE, CHIEF INSPECTOR

### MILK

The Division continues to act as the liaison between the local authorities who enforce local milk by-laws and the Provincial Department of Agriculture, which is responsible for the inspection and grading of farm premises.

Two municipal by-laws were reviewed prior to submission for approval by the Lieutenant-Governor in Council.

With the continual improvement in the bacteriological quality of the milk throughout the Province, it is evident local authorities are investigating the ways and means of establishing a method of measuring such improvement. The Division assisted in this progressive step by supplying information on evaluation methods.

An exploratory survey and review of laboratory reports on fifty-six pasteurizing plants throughout the Province indicated the average plate counts to be 22,000 per c.c., well within the accepted limit of 50,000 per c.c. The study indicates the majority of the plants included in the survey are exceptionally well operated and produce a bacteriologically good-quality milk.

An outbreak of salmonellosis was attributed to contaminated milk. The carrier of the organism causing the outbreak was traced to an Ungraded supplier. The vendor who distributed the Ungraded milk experienced a breakdown in the pasteurizing process due to a temporary power shut-off, which meant that normally pasteurized milk from a reliable vendor reached the consumer without the safeguard of pasteurization.

### EATING-PLACES

Public eating-places, usually a target of public criticism, provided less than the normal number of complaints this year. The decrease may be credited to the food-handlers' training courses carried out by Local Health Services. In the Nelson and East Kootenay Districts the courses were sponsored by the Health Services. In the Cariboo, the Restaurant Association sponsored the course, assisted by the Health Services. Certificates of attendance were awarded the employees attending the courses.

With the expansion of the armed services, the various hygiene sections have solicited assistance and advice on water-supplies, sewage-disposal, and dairy products. In particular, the naval services consulted the Division on proposed changes in food-catering measures. The Saanich and South Vancouver Island Health Unit assisted in training naval hygiene personnel.

With the Royal visit, particular attention was given to all premises and the sources of all foods to be served the Royal party. It was a co-ordinated effort, contributed to by Dominion, Provincial, and local health departments. Inspections were made of all supplies and catering methods on the Royal train, stopping-places, and holiday retreats.

### Locker Plants

A thorough review of Departmental records of 105 plants was made pursuant to a submission of the Frozen Food Locker Association requesting amendments to the Regulations Governing the Construction and Operations of Frozen Food Locker Plants. A summary was prepared of comments solicited from Medical Health Officers on the proposed changes. The information and data were presented to the association. In lieu of the changes they proposed, it was decided that an inspection of the plants on completion of construction, followed by routine quarterly inspections of operations, and the enforcement of compulsory cutting and wrapping of meats by the plant operator would materially overcome the alleged deficiencies in the application of the regulations.

### Food-handling in Hospitals

A preliminary step has been taken toward co-ordinating the routine activities of the local services, as they apply to hospital sanitation, with those of the Consultation and Inspection Division of the Hospital Insurance Service. A survey is in progress on food-handling techniques, catering measures, and other sanitation matters, in which information from past and current inspections is being utilized. All of which is to prevent overlapping and duplication of services.

### Horse-meat

The availability of horse-meat as food for human consumption was given much newspaper publicity in July. Inquiries were received from many cities and communities throughout the Province which led to a review of control measures on the Federal, Provincial, and municipal levels. In most municipalities its sale is restricted to premises solely for the sale of the product. When the product was first available, it originated in an abattoir under Federal inspection beyond our Provincial borders. It is now also available from horses slaughtered within the Province, in which case no inspection is required.

The evil, if any, attached to the sale of horse-meat is the possibility of the unscrupulous vendor substituting horse-meat for beef. This practice is contrary to the "Food and Drugs Act," which requires that products containing horse-meat shall be conspicuously labelled. Although horse-meat has not, to our knowledge, presented any health problems, we were interested in nutritional factors that may have been ascertained in other quarters. From the Nutrition Services, Department of National Health and Welfare, we were avised that an analysis from Belgium was obtained. Compared to beef, horse-meat is slightly lower in fat and therefore slightly lower in caloric value. In nutrient values, to all intents and purposes, the protein quality and Vitamin B content are so close they may be considered identical. With the drop in exports of horse-meat and resultant use in Canada, the Federal Department plans to arrange an analysis to compare its findings with those of Belgium.

### Meat Inspection

Several inquiries were received from local Health Services for information as to the future prospects for meat inspection. There is a passive, yet insistent, demand for such inspections on a Provincial level which has been relayed to the Department of Agriculture. In the past, two measures of meat inspection have been applied in the

Province. Large abattoirs primarily interested in the export of its products have inspection under Federal authority. The City of Vancouver has a by-law requiring that inspected meats only may be offered for sale in that city and, in connection therewith, have a municipal inspection service. During the year a Fraser Valley slaughter-house operator instituted meat inspection on a voluntary basis. In the remainder of the Province there is no requirement that meat be examined and inspected.

### Slaughter-houses

Slaughter-houses are licensed under the " Stock-brands Act " in the interest of preventing the slaughter of stolen cattle. The inspection under the regulations pursuant to the " Health Act " was primarily designed to prevent nuisances arising upon the potential offensiveness of such a trade.

In 1950 an arrangement was made with the Department of Agriculture whereby an applicant for the slaughter-house licence or for the renewal of the annual licence was requested to submit with the application an inspection certificate signed by the Medical Health Officer. This arrangement was made at the request of several local Medical Health Officers and has proven of immense value to the local health services. The value of the arrangement is reflected by the increased number of premises approved during the past year, by the improved standards of construction of slaughter-houses, and by the replacement of unsatisfactory or dilapidated structures with new premises. Seventy-three premises were licensed during the year.

The Division has acted in the capacity of a liaison between the Department of Agriculture and the local health services, and this liaison will be furthered during the coming year in an endeavour to bring about the desired improvements in those premises below the standards set forth in the regulations pursuant to the " Health Act."

### Industrial Camps

In the Sanitary Inspectors' activities, industrial-camp inspections are possibly more numerous, aside from eating-places, than any other phase of environmental sanitation. Camps are more widely distributed and difficult to inspect due to the remoteness of the operations. Again, there being no registration or licensing involved, records of the inspections are, with the exception of complaints, frequently directed to this Department and requests for technical advice and information retained within the health unit.

Complaints in this field have outnumbered those of any other phase of sanitation despite the apparent improvement in recent years. Yet the instances are infrequent when compared to the number of camps throughout the Province. The majority of the complaints are channelled by unions in the form of requests for inspection.

It might be reported that the International Woodworkers of America Union is contemplating expansion of the safety-first programme, in which the director of the programme would act as a liaison between the union and camp management in matters relating to camp environment in the lumbering industry.

The use of mobile camp accommodation was introduced in the construction industry during the year. In order to permit the use of well-constructed, nicely finished, and well-appointed trailer bunk-house accommodation, the regulations governing the sanitary control of industrial camps were amended to permit their use, particularly to permit the use of double-tier bunks and to reduce the area and cubic-space requirements per person.

With the activity in connection with the Aluminum Company project, several visits have been made to the general contractors for the project in connection with the temporary and, later, the permanent camps, water-supplies, and sewage-disposal. The load of camp inspections in this area plus the community growth of Burns Lake and

Vanderhoof has fallen upon the Cariboo Health Unit. It is proposed to establish a branch of the health unit and a Sanitary Inspector at Burns Lake in the near future.

### Farm-labour Housing

Seasonal labour for the Fraser and Okanagan Valleys is recruited as a service by the Department of Agriculture. In 1947 certain improvements were instituted within the Fraser Valley due to co-operation of the Small-fruit Growers' Association and the Departments of Agriculture and Health.

In 1950, due to complaints from labour imported to the Fraser Valley, a joint cursory evaluation of the lower standard of housing, provided by a minority of employers, was made by the local placement officer, the local health service, and the Growers' Association, at which time it was proposed that there be a review of the standards toward improvement in general. Pursuant to that meeting the Matsqui-Sumas-Abbotsford Public Health Service submitted a report with recommended standards. The report has been reviewed and endorsed by the Emergency Farm Labour Advisory Committee, and it is the desire of the Advisory Board that the Division of Land Clearing and Extension, the Department of Agriculture, and the Division of Environmental Sanitation plan a further meeting with the Growers' Association early in the coming year and work toward implementing the revised standards before the 1952 harvest.

### Summer Camps

Licensed under the " Welfare Institutions Licensing Act," these camps are operated by church organizations, welfare agencies, service clubs, fraternal organizations, Y.M.C.A., Y.W.C.A., and, to a limited extent, by private enterprise. Most camps are of a benevolent nature and provide summer outings for children who, to a large degree, might be unable to afford such an outing. The majority of the operators are members of the British Columbia Branch of the Canadian Camping Association, whose objectives are to stimulate citizenship and leadership training and other worthy ideals. There are approximately sixty-five camps operating in the Province on permanent camping-sites, the majority of which are outside the boundary of any health unit, which leads to difficulty of inspecting. Four camps were inspected toward recommendations for a licence in 1950. In 1951 a full-scale inspection with complete reports was made on forty-nine camps. In the evaluation of the report, twenty-eight camps were classified as good, twelve as fair, seven as poor, and two as unsatisfactory.

### School Sanitation

Pursuant to the annual inspection of schools by School Medical Inspectors, copies of 364 complete reports as prepared for School Boards were submitted to this office. In addition, copies of ninety-two supplementary reports were received, fifty-nine of which were from the Central Vancouver Island Health Unit. With particular reference to the latter, an evaluation of the reports was made to ascertain the outstanding problems in that area.

This Division and the Division of School Planning in the Department of Education propose, as a joint effort, to prepare a manual on school planning and environmental needs for the information of school planners, School Boards, and School Medical Inspectors.

### Plumbing

A Technical Committee on Plumbing Services appointed by the National Research Council, met in August and again in November on the revision of a recommended standard plumbing by-law used by the National Research Council. A further meeting

to complete the revision will be held early in the year. The Committee consists of representatives from each Provincial department of health and from the plumbing industry.

On invitation from the City of Victoria, the Department was represented on a joint Advisory Committee on a new plumbing by-law. The Committee consisted of representatives of the Plumbing Contractors' Association and Journeymen Plumbers.

At the request of the Upper Fraser Valley Health Unit, a model by-law was prepared for a village in that health unit area. A by-law was prepared from the latest information on plumbing requirements, and might be said to be of less restrictive nature than most plumbing by-laws that have been established from empirical standards.

### VERMIN-CONTROL

Several inquiries were received during the year for advice and even monetary assistance on mosquito-control. This activity has been conducted entirely on the local level as an advisory service of the local health unit to the municipal and community bodies undertaking control and elimination measures. The species of mosquito found in this Province is not a transmitter of disease and is therefore not of public health significance.

### RODENT-CONTROL

The Department has co-operated with the research on rodents conducted by the Department of National Health and Welfare in the study of Rocky Mountain spotted fever, pseudotuberculosis, tularemia, lepto-spirosis, and plague.

Since 1950 the field officer collecting the specimens for the study has been a Sanitary Inspector from the Division, whose duties have been to collect the rodents and its ecto-parasites and submit tissue specimens to the laboratory. In addition, this field officer has functioned as a consultant to local health services on rodent-control measures.

It has now been established that the diseases associated with rodents and their ecto-parasites are comparable to those found in other States and Provinces. It is therefore proposed that the collection of the domestic rodent (rat), if possible, be confined to the metropolitan areas of Vancouver and Victoria, and that the funds now expended on the Province-wide survey be spent on a more intensive survey in that part of the Province in which plague bacillus among animals was found in 1950.

# REPORT OF THE DIVISION OF VITAL STATISTICS

J. H. DOUGHTY, DIRECTOR

## INTRODUCTION

The Division of Vital Statistics performs two functions in the public service, one statutory and the other statistical. The former comprises the administration of the "Vital Statistics Act," the "Marriage Act," the "Change of Name Act," and certain sections of the "Wills Act." The latter consists of providing statistical data not only on births, deaths, and marriages and other phases of the Division's activities, but also of carrying out the statistical requirements of all the other divisions of the Health Branch.

In line with the increase in population of the Province, there has been an increasing number of vital statistics registrations filed. The year 1951 saw the highest number of registrations yet filed in any one year with the Division. It was encouraging to note that while the number of live births increased over the previous year, the number of still-births declined appreciably.

There was also an appreciable increase in the number of certificates issued by the Division, the number of searches carried out, and in the total revenue received by the Victoria office. The number of birth certificates issued by the Victoria office was 26,566, a 31-per-cent increase over the 20,271 issued in 1950. Marriage certificates issued by this office increased by 62 per cent to a total of 3,492. The number of death certificates issued declined slightly to 5,056. Revenue-producing searches increased from 24,512 in 1950 to 28,495 in 1951. In addition, there were 14,120 non-revenue searches conducted, plus 4,650 searches carried out without charge for other Governmental departments. Total revenue received by the Victoria office increased by 18 per cent to a total of $45,101.07.

## REGISTRATION OF BIRTHS

### CURRENT REGISTRATIONS

Birth registration in the Province is virtually complete, except for Indians and Doukhobors, and in the former group particularly, encouraging improvements have been noted.

The few births which occur at home in isolated localities cause problems in obtaining satisfactory records, as do those situations where mothers enter hospitals under assumed names for the births of illegitimate children and then disappear before filing registrations. In most of these cases, however, the omission is corrected indirectly within several months by the need for proof of the birth for Family Allowance purposes.

Investigation of the small number of fraudulent and improper birth registrations discovered during the year has again shown that the action of the informant in each case was motivated by a mistaken belief that the child's interests were being protected, rather than from an intent to defraud for financial or other reasons.

The appreciation of the Division is expressed to the medical profession and hospital staffs for their part in assisting to attain the high percentage of registration which presently exists.

Gratitude is also expressed to the Regional Director, Family Allowances Division of the Department of National Health and Welfare, for assistance rendered in cases involving investigations.

### DELAYED REGISTRATION OF BIRTH

Again this year the bulk of the delayed registrations accepted referred to events which occurred before the year 1920. The announcement of the payment of old-age

pensions to all persons 70 years of age and over led to many persons seeking a delayed registration of their birth.

The Division continued an active campaign to obtain material which will assist the public in procuring delayed registrations of birth, even though the onus of obtaining such evidence actually rests with the applicant. The action by the Division in this regard facilitates the acceptance of applications for delayed registrations and also helps to maintain a high quality of supporting evidence. The verification library comprises copies of hospital reports of births, physicians' notices of birth, school returns of particulars of birth, baptismal records, diaries from deceased medical practitioners, case records from hospitals which are no longer in operation, etc. Efforts are continuing to be made to expand this service by the addition of more material as it becomes available. During the year the Division was able to obtain several large groups of church baptismal records to add to this verification library. Such records are microfilmed and are returned to the church authorities. Appreciation is expressed for the kind co-operation which the various denominations have extended to us in this regard.

## REGISTRATION OF DEATHS

The registration of deaths is likewise virtually complete, except in isolated localities of the Province. As with the other series of registrations, a system of cross-checking is used as a means of ensuring against loss of records during the period between their original preparation and the time of processing in the Division.

One gap in the recording of deaths stems from the inability of the Division to register deaths when bodies are not recovered. Particularly does this apply to drownings, although other circumstances may cause destruction or loss of bodies. In such cases, proof of the fact of death is generally obtained by Orders of Presumption of Death issued by the Court, but a death registration cannot be made for such cases. While this procedure satisfies various requirements for proof of death, it does not provide for statistical information on the cause of death.

## REGISTRATION OF MARRIAGES

The responsibility for registering a marriage rests with the person solemnizing the event—namely, the officiating clergyman or Marriage Commissioner. This method of obtaining marriage registrations has proven very satisfactory over a period of many years and is the method generally used in other Provinces and countries.

Marriage registers are provided free of charge to clergy and Marriage Commissioners. These are returned to the Division periodically in order that they may be checked against the indexes of registrations filed with the Division. If it is thus ascertained that an event has been unrecorded, steps are promptly taken to obtain a registration.

## DOCUMENTARY REVISION

It has long been recognized that, unlike other types of records, vital statistics records seldom become inactive. Reference is frequently made to registrations filed fifty years or more ago, and certificates are constantly being issued from such documents. As a result, errors or omissions made by the informant at the time of recording the events are constantly being discovered, and it becomes necessary to make corrections in order to have the registrations reflect the true facts. In addition, alterations of given names are made, adoptions are ordered by the Courts, legitimations take place, and changes in surname are authorized. Changes must also be made on marriage registrations so that the records indicate changes brought about by divorce, nullity, change of name, and correction. Amendments to death registrations usually consist of corrections made by the informant to details originally furnished at the time of death.

All registrations which have been amended are immediately remicrofilmed and the indexes amended accordingly.

## ADMINISTRATION OF THE "MARRIAGE ACT"

One new denomination was granted recognition in 1951, thus enabling its ministers to solemnize marriage within the Province. In addition, applications for registration of six other denominations were under consideration as at December 31st, 1951, and one other application was refused. Each application is carefully investigated according to the requirements set out in the "Marriage Act" in order to ensure that the provisions of the Statute are fulfilled.

As a protection to the public, all registrations of marriage are checked to ensure that the officiating clergyman has been duly registered pursuant to the provisions of the "Marriage Act." In two instances it was discovered that the clergyman had not been authorized to solemnize marriage, and appropriate action was therefore taken by the Division to validate the ceremonies.

Applications for an order of remarriage pursuant to section 47 of the "Marriage Act" were approved in twenty-two cases.

Form M. 5, Notice of Transfer or Disqualification, was revised in order to facilitate the maintenance of the register of authorized ministers and clergymen.

## ADMINISTRATION OF SECTIONS 34 TO 40, INCLUSIVE, OF THE "WILLS ACT"

Over 10,000 notices showing the location of the last will of the respective testators had been filed as at December 31st, 1951. The provision whereby the Director is required to accept such notices was enacted in 1945. Since that time there has been an increasing use made of this service by the public. In 1949, 1,500 notices were filed, in 1950 the number rose to 2,200, while in 1951 over 2,700 were received.

A revised index, consolidating the information received during the period 1945 to 1950, was prepared during the year. In addition, the current year's notices were indexed as rapidly as they were received in order to provide a speedy means of searching.

## REGISTRATION OF VITAL STATISTICS AMONGST THE INDIANS

### Current Registrations

It is probably not surprising that more difficulty is encountered in obtaining vital statistics registrations for the Indian population than for the white. Because of his different way of life and different background, the Indian has had little reason to become conscious of the value of records. Nevertheless, official records of the vital events of the Indian's life are now as important as are those of the white population, and such records are required for a multitude of purposes. Efforts are continually being made to educate Indians to the value of accurate recording of vital statistics, and the results gained during the last several years have been quite gratifying.

There has also been a noticeable improvement in the interest taken by the Indian Superintendents in the last several years toward gaining complete and accurate registration within each agency. This interest has been stimulated not only by the ever-growing need for certification and statistical data, but also by personal contacts between the Superintendents and senior members of the staff of this Division.

The offices of nine Indian Agencies were visited during the year for the purpose of providing instruction in obtaining and maintaining registrations Indications are that registration of births and marriages is reasonably complete, but much remains to be accomplished with regard to the satisfactory recording of deaths. This deficiency is largely due to deaths occurring in remote areas, where knowledge of these events does not

reach the Indian Superintendent for weeks or even months afterwards. It is a situation which is difficult to correct, but efforts are being made to encourage the Indians to register deaths of their band members before disposal of the bodies, if at all possible.

The Indian Commissioner for British Columbia has been kept advised periodically as to progress made, and he has given valuable support to the efforts of the Division.

### Documentary Revision

The project of checking, revising, and reindexing Indian registrations filed during the period 1917 to 1946, inclusive, was continued throughout the year.

During the year all the registrations of the births and deaths of the Stewart Lake Agency and the birth records of the Babine and Fort St. John Agencies were revised. Where errors in existing registrations were discovered, steps were taken to obtain sufficient information with which to make corrections. In those instances where births had not been previously registered, efforts were concentrated on having the Indian offices submit the required registrations.

One hundred and fifty-five schools submitted reports for the 1950–51 term, of which twenty indicated that no Indian children had been newly enrolled during the term. It was ascertained that 2,166 Indian pupils attended school for the first time, and for these children there was a high percentage of disagreement between particulars shown on the school records, the Agency nominal roll, and the birth registrations. Where necessary, the latter were amended, while information necessary for correcting the school record or the Agency nominal roll was referred to the schools and/or the Agency offices for attention.

### Delayed Registrations

Further additions were made in 1951 to the collection of baptismal records, thus assisting in the large task of processing applications for delayed registration of births of Indians. The problem of locating verification which is sufficient to justify the acceptance of a delayed registration is a very real one, and every available means of obtaining proof of the date, place of birth, and parentage must be employed.

Although the registration of vital events for Indians was introduced on a voluntary basis in 1917, it was not until 1943 that such action was made mandatory. There is, as a result, a large back-log of unregistered Indian births for this period. The combined efforts of the Indian Commissioner for British Columbia, the Indian Superintendents, and the Division of Vital Statistics have resulted in the recording of many such events during 1951, while many more were being processed at the close of the year.

### Deputy District Registrars in Indian Agency Offices

The number of appointments of Deputy District Registrars in Agency offices was increased so that all except four agencies in British Columbia now have staff members holding such authority. This action has proven to be extremely advantageous, as it allows the Agency staffs to expedite delivery of registrations to the Division at times when the Superintendents are carrying out their field duties. The service is particularly valuable in facilitating the completion of delayed registrations. It is hoped that similar appointments may be made in the remaining Agencies as soon as the clerks become sufficiently trained to carry out the responsibilities involved.

## REGISTRATION OF VITAL STATISTICS AMONGST THE DOUKHOBORS

### Current Registrations

Comparatively little difficulty is now encountered with regard to the attitude of the so-called orthodox Doukhobors toward registration of births. The field representative of the Division working amongst Doukhobors continued to carry on his activities in

attempting to secure registration in cases where other methods had failed. His efforts have included an educational programme aimed at informing the Doukhobors of the true purpose and value of vital statistics registration. It is believed that a project of this nature must be planned with a long-range view, since it is difficult to dislodge suspicion and overcome the fears and convictions of many generations' standing.

Little change was noted in the past year concerning the registration of deaths. It appears that complete and accurate reporting of deaths will not be achieved until these people are further educated to comply with the statutory requirements and until the bodies of all deceased persons are disposed of by professional undertakers. In many Doukhobor villages a neighbour of the deceased person prepares a coffin, and the burial is conducted as a family affair. Through ignorance, and sometimes through disregard of the law, some bodies are thus buried without notification of any kind to the appropriate authorities.

There has likewise been little change in reaction toward marriages being solemnized in a legal manner. However, some Doukhobor couples have been married by Marriage Commissioners, thus indicating an acceptance of the civil form of marriage.

Sons of Freedom remain adamant in their refusal to accept the principles of registration of vital statistics, but it is hoped that continued efforts to bring about a change in their thinking will eventually be successful.

## EFFECT OF OLD-AGE SECURITY LEGISLATION

In January, 1951, registration of applicants for the old-age security benefits payable in 1952 was commenced by the Department of National Health and Welfare. The full impact of the demand for certification to prove age for eligibility was felt during August, when the revenue-producing business conducted by the Central Office was approximately 15 per cent greater than that for the previous all-time high established only the month before. While there was a levelling-off during subsequent months, this new legislation has created a distinct additional need for proof of age, which will result in the continuation of a noticeably higher volume of business than has been experienced heretofore.

## GENERAL OFFICE PROCEDURES

Since January 1st, 1949, a multipart Speediset form (V.S. 30) has been the basis of processing all cash mail received at the Division. This is a combined form which acts as (*a*) the cash-register receipt, (*b*) the reply to the applicant, (*c*) the working copy of the application for internal office use, (*d*) cross-index file, (*e*) suspense cash ledger, and (*f*) file copy recording all steps in the transaction. As a result of experience gained in the use of these forms, several minor changes were made in the reprint which was placed in use late in the year, the alterations being confined to adjustment of location of certain items in order to gain the greatest speed and accuracy in production.

An experiment was made early in the year in the preparation of these forms by the use of an electric typewriter. The results obtained were very satisfactory from the viewpoint of quality, quantity, and relief from undue fatigue on the part of the operator. Later events proved the advisability of this action, for, despite a great increase in the volume of business, it was unnecessary to increase staff, although an increase would have been necessary under the previous arrangement.

There was a considerable change in the staff during the year, which necessitated changes of duties on the part of the remaining staff.

Steps were taken to make available a duplicate birth index which could be taken into use on short notice. The basic information for this duplicate index had been prepared several years ago, but considerable work is required by reason of changes made to the original registrations to make the index fully operative. This project is being completed as and when time allows and will be continued during the next year. The index is considered important for two reasons—firstly, as a replacement for the copy presently in use and, secondly, as a security measure.

The matter of supplying free verification and/or certification to other Government departments is one which receives constant attention, for it has been found that unless a close control is maintained, the volume of such work becomes unduly onerous. Approximately 10 per cent of all searches are made for other departments and are non-revenue-producing.

It has been necessary to adopt a strict rule that only in cases of extreme urgency will searches be conducted on the basis of a telephoned request. Searches hurriedly made in response to a telephone call cannot be as reliable as those which are processed in the regular manner, and, in addition, the telephoned information is much more subject to misinterpretation. It is felt that in view of the legal implications of information appearing on vital statistics registrations, this is a very reasonable and necessary rule to enforce.

## MICROFILMING OF DOCUMENTS

All current registrations of births, deaths, marriages, and stillbirths were photographed on a weekly basis, the records for all earlier years in these series having been placed on film previously. Likewise, amendments to registrations brought about by name changes, adoptions, divorces, etc., were photographed, and the amended images spliced into the appropriate rolls of film.

Several miscellaneous microfilming projects were completed during the year, including the following:—

(*a*) Physicians' Notices of Birth for the calendar year 1949.
(*b*) 1,700 legitimation-of-birth files.
(*c*) 2,500 change-of-name files.
(*d*) 8,500 notices of the filing of a will.
(*e*) Miscellaneous baptismal records contained in books loaned temporarily by various churches.

Some improvements in darkroom facilities were made during the year, including an improved ventilating system and the replacement of a machine for washing prints.

## DISTRICT REGISTRARS' OFFICES AND INSPECTIONS

### Changes in Registration Districts

At the request of the Royal Canadian Mounted Police headquarters, the police were relieved of vital statistics duties at six district offices in the Province. In these districts the police had found it difficult to perform the functions of a District Registrar of Births, Deaths, and Marriages in addition to carrying out their regular police duties. Consequently, at Mission, Murrayville, and Terrace the appointments of District Registrar or Deputy District Registrar were transferred to the local Municipal Clerk. At Dawson Creek and at Vanderhoof the appointments were transferred to private businessmen, while at Kimberley it was transferred to the Stipendiary Magistrate.

The office of the Deputy District Registrar of Births, Deaths, and Marriages at Keremeos was closed and the services consolidated under the District Registrar at Penticton. This move was taken in view of the small volume of business which had been handled at the Keremeos office.

With the closing of the Government Agency at Stewart, the appointment of District Registrar was transferred from the Government Agent to the Sub-Mining Recorder.

Upon the resignation of the District Registrar at Ganges, the appointment was transferred to the Provincial Assessor of the Department of Finance.

Arrangements were made with the municipal authorities of the City of North Vancouver to transfer the District Registrar's office from Lonsdale Avenue to the City Hall. The new office is ideally located for the convenience of the public and offers much better working facilities than did the former premises.

## INSPECTIONS

Twenty-five offices and sub-offices covering the Queen Charlotte Islands, the northern part of the Province extending from Prince Rupert to Prince George, the Peace River District, and the Central Cariboo District from Quesnel to Lillooet were visited by the Inspector of Vital Statistics during the year.

In addition, brief instructional visits were made to nine Indian Agencies. Visits were also made to the Vancouver office, as well as those of New Westminster and North Vancouver. The purpose of these visits was to check the work that is being carried out in the district offices and the procedures employed, to discuss difficult cases with the District Registrars, and to carry out field investigations as required.

At the close of the year there were ninety-two offices and sub-offices in seventy-two registration districts. In addition, there is a special Deputy District Registrar working amongst the Doukhobors, a Marine Registrar, and eighteen Indian Superintendents who are *ex officio* District Registrars of Vital Statistics for Indians only. Thirty-seven of the offices are Government Agencies or Sub-Agencies, while twenty-eight of the offices are staffed with Royal Canadian Mounted Police personnel. Nine offices are staffed by other Government employees, while fourteen offices are operated by private individuals.

## STATISTICAL SERVICES

The Division continued to carry out its function as the statistical workshop for the Health Branch and, in addition, maintained complete statistical analyses of all births, deaths, marriages, stillbirths, adoptions, divorces, changes of name, and of other services provided by the Division. A considerable increase has occurred in the assistance which the Division has been able to give to the various divisions of the Health Branch and to other agencies. This has taken the form of analyses of record systems, consultative service on statistical matters, provision of statistical analyses, and other special studies.

The illness of the director of the sickness survey during part of the year necessitated sending a member of the Victoria statistical section to Vancouver in order that the sickness survey might be continued. As a result, there was a reallocation of certain duties within the statistical section. Supervision of the sickness survey, the purpose and scope of which was outlined in the 1950 Report, constituted one of the major tasks of the Division during the year.

The usual demographic functions of the Division were carried out by the statistical section. These consist of the maintenance of monthly summaries of vital statistics data, the preparation of a quarterly and annual report, the provision to the Metropolitan Health Committee of Vancouver and to the Victoria-Esquimalt Union Board of Health of special tabulations, and the provision of estimates of population in the Province. Various requests from within the Department of Health and from other Government departments, from industries, from organizations, and from private individuals were received and dealt with as required. Detailed statistical information on marriages was supplied to several religious denominations who required these data for their work. During the year a request was received from the Lower Mainland Regional Planning Board for extensive data on births, deaths, and population in the organized areas of the Lower Mainland. Frequent requests for data were received from students doing research work or special assignments.

During the first part of the year when a nation-wide influenza epidemic existed, the Department of National Health and Welfare was kept advised of the number of influenza deaths occurring each week and of the number of cases reported. This procedure was carried on throughout the Dominion, so that it was possible at all times to have a check on the progress of the epidemic.

As noted in the Annual Report of the Department of Health for 1950, population estimating has become increasingly hazardous during the last few years because of the increasingly long interval since the last census, which was taken in 1941. The Ninth Decennial Census, however, was taken during 1951, and the results will provide the first accurate population counts available within the last ten years. Already the population counts of the organized areas of the Province have been made available, as well as those in the various census areas. It is expected that breakdowns of the population by age, race, religion, marital status, and other factors will be available in the near future. The speed with which the Census Division of the Dominion Bureau of Statistics has been able to provide results of its enumerations has proved to be very helpful.

The Divisions of Tuberculosis Control and Venereal Disease Control were again supplied with the statistical tabulations of their case-loads. A number of requests for special tabulations were also received, and the necessary information was derived from the punch-card records on file in the Division. A revised form for the reporting of tuberculosis was drawn up, and it is expected that this will be put into use at the beginning of the year. This revision should make possible the provision of improved statistics on tuberculosis.

Considerable assistance was rendered to the British Columbia Cancer Institute in the setting-up of a system of cancer-treatment statistics. A summary of each cancer case will be forwarded to the Division and will be placed on punch-cards. Statistical tabulations from these cards will provide the first extensive medical statistics available on cancer treatment in this Province.

Analyses of the diet in certain institutions were completed for the Nutrition Service during the year.

The report on the Wetzel Grid as an adjunct to school medical services was completed in 1951. This report contains statistical analyses of the procedures followed in carrying out the study and of the results obtained.

A completely revised form for the reporting of a live birth or stillbirth by the physicians was put into operation in February of the year. The new form was drafted with the advice and co-operation of a special medical committee of practising physicians. The information which is contained on the new Physician's Notice of a Live Birth or Stillbirth is being coded and placed on punch-cards for subsequent statistical analyses. The implementation of this programme constituted an important addition to the statistical work of the Division.

## CANCER REGISTRY

Cancer is a notifiable disease in this Province, and consequently physicians are required to report all cases to the Department of Health. The purpose of this reporting is to make possible the provision of up-to-date data on the cancer problem in the Province. The operation of this cancer registration system is a responsibility of the Division of Vital Statistics. For several years the Division has been concentrating on efforts to ensure complete reporting of cancer in order that the statistics to be derived might be as accurate as possible.

The following tables show the cancer cases reported during 1951 classified according to site, age-group, and sex. It will be noted from these tables that a total of 2,798 new cases of cancer were reported during the year, of which 1,928 cases were reported alive and 870 cases reported for the first time upon death.

## TABLE I.—NUMBER AND PERCENTAGE OF NEW CANCER NOTIFICATIONS[1] BY SITE AND SEX, BRITISH COLUMBIA, 1951 (EXCLUDING INDIANS)

| Site | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| Digestive system | 461 | 31.0 | 318 | 24.3 | 779 | 27.8 |
| Genital system | 188 | 12.6 | 266 | 20.3 | 454 | 16.2 |
| Skin | 261 | 17.6 | 167 | 12.7 | 428 | 15.3 |
| Breast | 7 | 0.5 | 318 | 24.3 | 325 | 11.6 |
| Respiratory system | 176 | 11.8 | 43 | 3.3 | 219 | 7.8 |
| Urinary system | 106 | 7.1 | 50 | 3.8 | 156 | 5.6 |
| Buccal cavity | 121 | 8.2 | 29 | 2.1 | 150 | 5.4 |
| Brain and central nervous system | 30 | 2.0 | 21 | 1.6 | 51 | 1.8 |
| Lymphosarcoma | 27 | 1.8 | 14 | 1.1 | 41 | 1.5 |
| Bone | 16 | 1.1 | 3 | 0.2 | 19 | 0.7 |
| Other and not stated | 94 | 6.3 | 82 | 6.3 | 176 | 6.3 |
| Totals | 1,487 | 100.0 | 1,311 | 100.0 | 2,798 | 100.0 |

[1] Includes 870 cases reported for the first time at death.

## TABLE II.—NUMBER AND PERCENTAGE OF REPORTED LIVE CANCER CASES BY SITE AND SEX, BRITISH COLUMBIA, 1951 (EXCLUDING INDIANS)

| Site | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| Skin | 253 | 26.7 | 175 | 17.8 | 428 | 22.2 |
| Genital system | 129 | 13.6 | 229 | 23.3 | 358 | 18.6 |
| Digestive system | 193 | 20.4 | 159 | 16.2 | 352 | 18.3 |
| Breast | 5 | 0.5 | 280 | 28.5 | 285 | 14.8 |
| Buccal cavity | 116 | 12.3 | 29 | 3.0 | 145 | 7.5 |
| Respiratory system | 96 | 10.2 | 19 | 1.9 | 115 | 6.0 |
| Urinary system | 72 | 7.6 | 31 | 3.2 | 103 | 5.3 |
| Lymphosarcoma | 20 | 2.1 | 11 | 1.1 | 31 | 1.6 |
| Bone | 10 | 1.1 | 3 | 0.3 | 13 | 0.7 |
| Brain and central nervous system | 4 | 0.4 | 4 | 0.4 | 8 | 0.4 |
| Other and not stated | 48 | 5.1 | 42 | 4.3 | 90 | 4.6 |
| Totals | 946 | 100.0 | 982 | 100.0 | 1,928 | 100.0 |

## TABLE III.—CANCER NOTIFICATIONS[1] BY SEX AND AGE-GROUP, BRITISH COLUMBIA, 1951 (EXCLUDING INDIANS)

(Age specific rates per 100,000 population.)

| Age-group | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Number | Age Specific Rate | Number | Age Specific Rate | Number | Age Specific Rate |
| 0– 9 | 12 | 11.7 | 16 | 16.6 | 28 | 14.1 |
| 10–19 | 5 | 7.0 | 8 | 11.3 | 13 | 9.2 |
| 20–29 | 11 | 12.9 | 27 | 30.1 | 38 | 21.7 |
| 30–39 | 33 | 38.9 | 93 | 108.5 | 126 | 73.9 |
| 40–49 | 97 | 137.8 | 170 | 269.0 | 267 | 199.9 |
| 50–59 | 232 | 371.6 | 292 | 542.8 | 524 | 450.8 |
| 60–69 | 439 | 746.9 | 305 | 674.5 | 744 | 715.4 |
| 70–79 | 448 | 2,119.2 | 263 | 1,138.3 | 711 | 1,310.7 |
| 80 and over | 154 | 1,767.0 | 98 | 1,328.8 | 252 | 1,561.3 |
| Not stated | 56 | ..... | 39 | ..... | 95 | ..... |
| Totals | 1,487 | 259.1 | 1,311 | 245.0 | 2,798 | 252.3 |

[1] Includes 870 cases reported for the first time at death.

TABLE IV.—LIVE CANCER CASES REPORTED BY SEX AND AGE-GROUP, BRITISH COLUMBIA, 1951 (EXCLUDING INDIANS)
(Age specific rates per 100,000 population.)

| Age-group | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Number | Age Specific Rate | Number | Age Specific Rate | Number | Age Specific Rate |
| 0– 9 | 1 | 1.0 | 8 | 8.3 | 9 | 4.5 |
| 10–19 | 4 | 5.6 | 5 | 7.1 | 9 | 6.4 |
| 20–29 | 8 | 9.4 | 22 | 24.5 | 30 | 17.2 |
| 30–39 | 29 | 34.2 | 84 | 98.0 | 113 | 66.3 |
| 40–49 | 67 | 95.2 | 142 | 224.7 | 209 | 156.6 |
| 50–59 | 165 | 264.3 | 234 | 434.9 | 399 | 343.3 |
| 60–69 | 278 | 473.0 | 222 | 490.9 | 500 | 480.8 |
| 70–79 | 260 | 1,229.9 | 167 | 722.8 | 427 | 787.2 |
| 80 and over | 88 | 1,004.0 | 56 | 759.3 | 144 | 892.2 |
| Not stated | 46 | ---------- | 42 | ---------- | 88 | ---------- |
| Totals | 946 | 164.8 | 982 | 183.6 | 1,928 | 173.9 |

# REPORT OF THE DIVISION OF PUBLIC HEALTH EDUCATION

KAY BEARD, CONSULTANT

## LOCAL HEALTH EDUCATORS

During the fall of 1950 two trained health educators were appointed to the staffs of local health services—one to serve the Victoria-Esquimalt Health Department and the Saanich and South Vancouver Island Health Unit, and the other to serve the Central Vancouver Island Health Unit.

In November of this year the two local health educators completed their first year of work in health units. During the year much time and thought has been given to clarifying the functions of persons working in this capacity. In this connection an outline of the duties and responsibilities of local health educators was prepared with the assistance of the two local health educators. Although the programme in each unit must vary according to the needs of the community, the outline is a useful guide in planning the work of a health educator in a health unit. The functions are outlined as follows:—

Under the general direction of a health unit director, to plan and carry out a comprehensive programme of health education in a local health unit, including such responsibilities as:—

(1) To provide consultative service to the staff and to other agencies in education techniques, methods, and materials. To assist the staff in improving the effectiveness of their individual and group teaching.

(2) To assist public health staff to organize and co-ordinate the health-education aspects of such projects as child-health conferences, pre-school and school examinations, and food-handlers' schools; to assist in guiding community agencies (voluntary and official—for example, Parent-Teacher Associations, Women's Institutes, service clubs, schools) in selecting and developing health-education projects for which there is a need in British Columbia to develop, and maintain interagency co-ordination in community health projects.

(3) To assist in determining and clarifying staff policy as it concerns health education; to represent the Health Branch on committees concerned with activities related to health education, and to interpret Health Branch policy to these committees.

(4) Through interviews, questionnaires, and other survey methods, to determine where emphasis should be placed to improve the effectiveness of health-education programmes, and to give guidance in evaluating health-education projects, services, and materials.

(5) To provide leadership in the improvement of staff-training procedures and practices within the local unit, including planning of orientation courses, staff meetings, study-group meetings, and to assist other community groups in developing or improving staff-training methods; to assist in interpreting and clarifying the policies of other agencies for the staff.

(6) To organize and assist in administering the public relations and publicity programme for the health unit; to establish favourable relations with press and radio, prepare news releases, arrange for selection and distribution of health-education materials; to provide leadership in improving the public-relations practices of the staff; to arrange programmes and speakers for meetings of community groups; to prepare, in co-operation with the staff, special materials for particular needs, such as annual reports, posters, leaflets, and displays; to develop methods of increasing community understanding of the services provided by local health units.

Since much of the work of a health educator may take months or years to show results which can be evaluated, it is too early to estimate with any degree of accuracy the success of the local programmes to date. There is, however, one point in connection with such programmes which bears emphasizing at this time. This is that the success of the health-education programme depends on the whole-hearted co-operation of the health unit staff. The health educator cannot and does not carry out the health-education programme, but is responsible for planning, co-ordination, guidance, and leadership to the staff and the community in matters concerning health education. It is therefore most important that the health unit staff have a good understanding of the functions of a local health educator and an earnest desire to work with a specialist in this field if a successful programme is to be developed.

Throughout the year increased attention has been given to interpreting the functions of a local health educator to health unit personnel. Two health unit directors have recently requested that a health educator be attached to the staffs of their units. It may be possible to meet one of these requests during the coming year.

## IN-SERVICE TRAINING

It has been said that " To stand still is to slip backward "—a statement which is certainly true of public health personnel. New developments in medicine and in public health and changing social problems necessitate constant study on the part of all those engaged in public health work to keep abreast of modern thinking. The main feature of the in-service training programme of the Health Branch is the four-day Annual Institute. This year, with an outstanding guest speaker, Dr. H. S. Mustard, to highlight the programme, the Institute was most successful. A member of this Division was on the Institute Planning Committee, and all the staff of the Division assisted in preparation of displays and publicity. For the first time an attempt was made to evaluate the programme through the use of a questionnaire. Although some of the replies were difficult to tabulate, the results provided useful information on the effectiveness of the Institute as well as suggestions to be considered in next year's planning.

In order to assist local health educators in programme planning and provide an opportunity for exchange of ideas on projects being developed, five meetings of the local health educators and the staff of this Division were held during the year.

Other in-service training projects in which this Division participated included the fall meeting of the health unit directors, the fall meeting of the dental directors, and the Sanitary Inspectors' course in Public Health Administration.

A successful administrator must be familiar with the broad policies governing his field of administration and with the philosophy behind these policies. The health unit director, who is responsible for local administration and policy in his health unit, needs to have a clear understanding of the Provincial policies within which he is to plan. In addition, he needs to know the services available to him from Provincial sources. In order to provide new health unit directors with this information, an orientation course is arranged through this Division for new health unit directors and other key personnel in health units or divisions of the Branch. During the year four health officers, seven dental directors, and two health educators completed orientation courses. In addition, an intensive ten-day orientation was arranged for Dr. L. E. Ranta, Assistant to the Dean, Faculty of Medicine at the University of British Columbia, at his request, in order that he might become more conversant with the policies and programmes of the Health Branch. A one-week course was also arranged for a field worker on the staff of the Junior Red Cross.

## CONSULTATIVE SERVICE

During the year, visits were made to four health unit centres to attend staff meetings. The main topic of discussion in each case was the Effective Living Course for junior and

senior high schools and the part the public health staff could play in its successful implementation. Other matters concerning school health were discussed, including the use of the pamphlet order forms for teachers prepared by this Division during the summer.

Throughout the year, advice has been given by correspondence to local public health staff on other phases of health education, such as annual reports, planning speeches, and materials for co-operative play groups and discussion groups.

In order to provide a satisfactory consultative service to local public health staff, it will be necessary to increase the number of field-trips so that each unit is visited at least once a year. To date the shortage of staff has made this impossible, but the addition of a second health educator with postgraduate training, in October of this year, should help considerably in expanding consultative services during the coming year.

## PUBLICATIONS AND PUBLICITY

The close of 1951 marked the end of the first year of publication of B.C.'s Health, the new printed form of the Health Bulletin. During the year the mailing list was revised and enlarged to increase the circulation from 2,500 to 5,000 copies per month. Groups of persons added to the mailing list included dentists, pharmacists, secretaries of Parent-Teacher Associations, and elementary-school principals. From April until October an extra 2,000 copies were printed for distribution through public health staff to families participating in the sickness survey.

During the year, articles have been prepared for such publications as B.C. Schools, B.C. Teacher, and Your Health. Plans are being completed for the preparation of a page entitled " Mental Health and Public Health News " as a regular feature of the Vancouver Medical Bulletin. The purpose of this page will be to provide to practising physicians throughout the Province information on policy changes and new developments in these services which are of interest to practising physicians.

As in past years, the Division has co-operated with other divisions in the preparation of special materials, such as pamphlets, manuals, and reports, and has accepted the responsibility for planning the layout and arranging for production.

Two special publications prepared during 1951 will be ready for distribution early in 1952. At the request of the College of Physicians and Surgeons, a Manual for Physicians on Mental Health and Public Health Services has been completed and is being printed for distribution to all doctors in the Province. Copies will be supplied to the College for distribution to physicians coming to British Columbia to practise. The Manual is intended to present briefly the services available to physicians through Mental Health Services and the Health Branch, together with the physician's legal responsibilities to these services. The second publication, entitled "Administration of Provincial Health Services, 1951," is included elsewhere in this Report and will be available also in pamphlet form. It has been prepared for distribution to persons requesting information about the services provided by the Health Branch.

In the field of exhibits, good use was made of the photographic display prepared during 1949. The display consisted of eighty enlarged and mounted photographs illustrating the more important services of each division of the Health Branch and of Local Public Health Services. It was exhibited first in the lobby of the Parliament Buildings during the opening week of the legislative session, and later at the Public Health Institute and the Provincial Normal School in Victoria. Sections of the display have been used by local public health staff in community and school exhibits. The photographs have been useful also in illustrating articles in B.C.'s Health and other publications.

During the year, assistance was given to various health units in planning twenty displays, and additional basic materials have been prepared for loan to health units producing exhibits.

One of the most widely used educational materials distributed by the Division is the series of mothers' advisory letters (postnatal letters). About 10,000 sets of these letters

are produced yearly. To date, it has been possible for ten of the health units to accept the responsibility for the distribution of these letters locally as a part of their health-education programme. Other units plan to assume this responsibility as soon as the clerical staff can handle the additional work involved. Throughout the year, assistance has been given to health units in setting up systems for the distribution of these letters.

## FILMS

The film library has been expanded to include 117 films and 85 film-strips. Request for films continue to increase, with, as in 1950, the greatest demand for films on mental health, particularly in the field of child behaviour. An average of 100 films has been distributed each month, with a monthly audience varying from 500 to 10,000 and averaging about 4,900. An encouraging trend has been noted in the increasing number of films being requested as part of a discussion group or a special series of classes, such as parent-craft classes. This is but one of many evidences that public health workers are becoming more interested in using films effectively.

A revised edition of the film catalogue was prepared during the year to include the latest additions to the library. A similar revision of the film-strip catalogue is under way at the year's end and should be completed early in the new year.

## STAFF CHANGES

On August 1st a university graduate with teaching experience joined the staff of the Division to take up the duties of another staff member who was granted leave of absence to undertake postgraduate study in public health education at the University of Toronto on Federal Health Grant funds. On October 1st another staff member returned from postgraduate training at the University of Michigan and resumed duties in the central office.

## REPORT OF THE DIVISION OF LABORATORIES

C. E. DOLMAN, DIRECTOR

The year under review completes the second decade of the Provincial Laboratories' existence within the Department of Health of British Columbia. During the whole of this period the main laboratories have been housed in entirely unsuitable and now disintegrating " temporary quarters," which will be the subject of further comment at the end of this report. Notable features of the year were the continuing upward trend in numbers and complexity of tests performed and the successful establishment of a full-time branch laboratory at Nelson.

The total tests performed by the Division exceeded 410,000, a fixture equivalent to about one test for every three inhabitants of the Province. Nearly 350,000 of these were carried out in the central laboratories, an increase of around 10 per cent over 1950, and over 60,000 in the branch laboratories at Victoria, Nelson, Prince George, and Kamloops. Table I shows the classified totals of tests done in Vancouver during 1951, with the comparative figures for 1950. In Table II the total tests carried out in the four branch laboratories during 1951 have been set forth.

TABLE I.—STATISTICAL REPORT OF EXAMINATIONS DONE DURING THE YEAR 1951, MAIN LABORATORY

| | Out of Town | Metropolitan Health Area | Total in 1951 | Total in 1950 |
|---|---|---|---|---|
| Animal inoculation | 265 | 333 | 598 | 571 |
| Blood serum agglutination tests— | | | | |
| Typhoid-paratyphoid group | 3,540 | 8,664 | 12,204 | 11,970 |
| Brucella group | 1,666 | 4,537 | 6,203 | 6,555 |
| Paul-Bunnell | 528 | 1,680 | 2,208 | 1,774 |
| Miscellaneous | 38 | 31 | 69 | 50 |
| Cultures— | | | | |
| *M. tuberculosis* | 7,053 | 6,578 | 13,631 | 9,456 |
| Typhoid-Salmonella-dysentery group | 2,097 | 4,329 | 6,426 | 5,330 |
| *C. diphtheriæ* | 7,636 | 18,797 | 26,433 | 19,054 |
| Hæmolytic staphylococci and streptococci | 1,017 | 3,499 | 4,516 | 2,898 |
| *N. gonorrhœæ* | ..... | 6,352 | 6,352 | 9,179 |
| Miscellaneous | 566 | 1,095 | 1,661 | 1,328 |
| Direct microscopic examination— | | | | |
| *N. gonorrhœæ* | 4,554 | 22,283 | 26,837 | 30,710 |
| *M. tuberculosis* (sputum) | 9,171 | 5,523 | 14,694 | 9,404 |
| *M. tuberculosis* (miscellaneous) | 1,208 | 2,654 | 3,862 | 4,499 |
| Treponema pallidum | 46 | 305 | 351 | 378 |
| Vincent's spirillum | 41 | 226 | 267 | 321 |
| Intestinal parasites | 172 | 584 | 756 | 673 |
| Serological tests for syphilis— | | | | |
| Blood— | | | | |
| Presumptive Kahn | 36,566 | 99,174 | 135,740 | 126,722 |
| Standard Kahn | 7,414 | 18,103 | 25,517 | 21,873 |
| Quantitative Kahn | 1,289 | 2,775 | 4,064 | 4,952 |
| Complement fixation | 7,902 | 18,369 | 26,271 | 21,571 |
| Cerebrospinal fluid— | | | | |
| Complement fixation | 846 | 1,923 | 2,769 | 2,998 |
| Quantitative fixation | 39 | 137 | 176 | 259 |
| Cerebrospinal fluid— | | | | |
| Cell count | 300 | 784 | 1,084 | 1,207 |
| Protein | 672 | 1,483 | 2,155 | 2,353 |
| Colloidal reaction | 841 | 1,933 | 2,774 | 2,962 |
| Milk— | | | | |
| Standard plate count | 1,106 | 2,125 | 3,231 | 3,156 |
| Coli-aerogenes | 1,106 | 2,125 | 3,231 | 3,156 |
| Phosphatase | 749 | 1,725 | 2,474 | 2,486 |
| Water— | | | | |
| Standard plate count | 2 | 892 | 894 | 965 |
| Coli-aerogenes | 5,040 | 2,001 | 7,041 | 6,504 |
| Ice-cream— | | | | |
| Standard plate count | ..... | 191 | 191 | 225 |
| Coli-aerogenes | ..... | 191 | 191 | 225 |
| Phosphatase | ..... | 191 | 191 | 225 |
| Unclassified tests | 41 | 135 | 176 | 347 |
| [1]Sputum cultures (special study) | ..... | ..... | ..... | 2,924 |
| Totals | 103,511 | 241,727 | 345,238 | 319,260 |

[1] After June 1st, 1950, included under " Cultures—*M. tuberculosis.*"

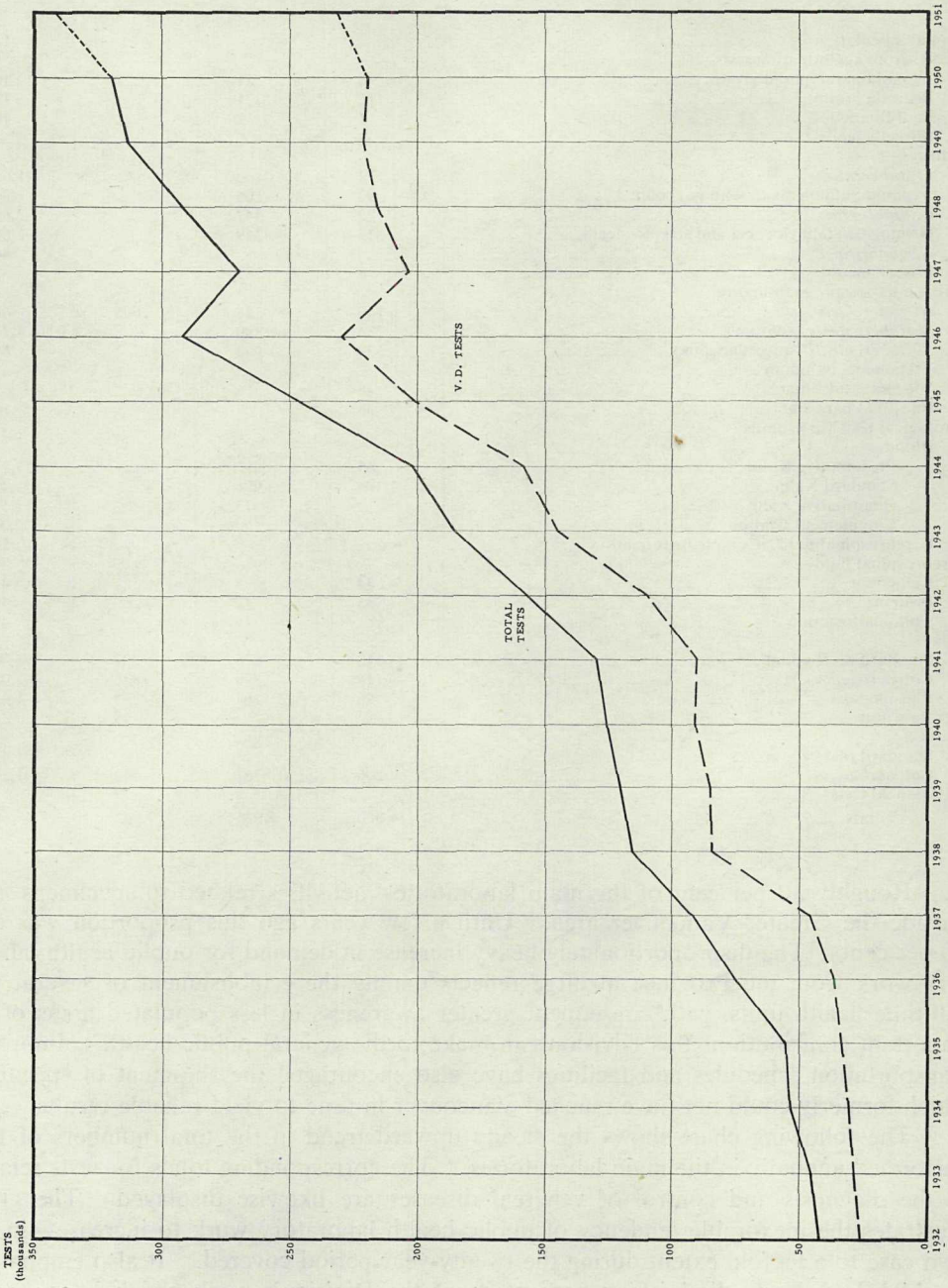
TABLE II.—STATISTICAL REPORT OF EXAMINATIONS DONE DURING THE YEAR 1951, BRANCH LABORATORIES

| | Kamloops | Nelson | Prince George | Victoria |
|---|---|---|---|---|
| Animal inoculation | ..... | ..... | ..... | 117 |
| Blood serum agglutination tests— | | | | |
| Typhoid-paratyphoid group | 78 | 321 | ..... | 102 |
| Brucella group | 112 | 71 | ..... | 178 |
| Paul-Bunnell | 1 | ..... | ..... | 103 |
| Miscellaneous | 2 | ..... | ..... | ..... |
| Cultures— | | | | |
| *M. tuberculosis* | 72 | ..... | ..... | 1,651 |
| Typhoid-Salmonella-dysentery group | 93 | 209 | ..... | 348 |
| *C. diphtheriæ* | 73 | 347 | ..... | 2,654 |
| Hæmolytic staphylococci and streptococci | 315 | 349 | ..... | 2,654 |
| *N. gonorrhœæ* | ..... | ..... | ..... | 445 |
| Miscellaneous | 8 | 82 | ..... | ..... |
| Direct microscopic examination— | | | | |
| *N. gonorrhœæ* | 148 | 228 | 605 | 692 |
| *M. tuberculosis* (sputum) | 234 | 390 | ..... | 4,244 |
| *M. tuberculosis* (miscellaneous) | 20 | 3 | ..... | 602 |
| Treponema pallidum | ..... | ..... | ..... | 19 |
| Vincent's spirillum | 8 | 6 | ..... | 15 |
| Intestinal parasites | 38 | 9 | ..... | 149 |
| Serological tests for syphilis— | | | | |
| Blood— | | | | |
| Presumptive Kahn | 65 | ..... | ..... | 23,246 |
| Standard Kahn | 2,194 | 3,996 | ..... | 1,423 |
| Quantitative Kahn | ..... | 75 | ..... | 374 |
| Complement fixation | ..... | ..... | ..... | 2,072 |
| Cerebrospinal fluid—Complement fixation | ..... | ..... | ..... | 565 |
| Cerebrospinal fluid— | | | | |
| Cell count | 34 | 4 | ..... | 413 |
| Protein | 33 | 32 | ..... | 401 |
| Colloidal reaction | ..... | 46 | ..... | 491 |
| Milk— | | | | |
| Standard plate count | 118 | 876 | 807 | 1,036 |
| Coli-aerogenes | 118 | 879 | 836 | 1,036 |
| Phosphatase | 96 | 263 | 85 | 1,036 |
| Raw milk | ..... | ..... | 29 | ..... |
| Water— | | | | |
| Standard plate count | ..... | 28 | ..... | 1,419 |
| Coli-aerogenes | 200 | 761 | 562 | 1,179 |
| Unclassified tests | ..... | ..... | 19 | ..... |
| Totals | 4,060 | 8,975 | 2,943 | 48,664 |

Roughly 30 per cent of the main laboratories' activities related to specimens from outside the Greater Vancouver area. Until a few years ago this proportion was only 10 per cent. The disproportionately heavy increase in demand for public health laboratory work from the Province at large reflects mainly the establishment of several new full-time health units, with consequent greater awareness in less populated areas of the important contributions this Division can make to the general public health. Improved transportation schedules and facilities have also encouraged the shipment of specimens which formerly could not have reached Vancouver in time to yield reliable results.

The following chart shows the steady upward trend in the total numbers of tests performed annually in the main laboratories. The corresponding totals for tests relating to the diagnosis and control of venereal diseases are likewise displayed. The graph illustrates the inexorable tendency of public health laboratory work to increase—in our own case to a tenfold extent during the twenty-year period covered. It also emphasizes the high but slowly diminishing percentage of the Division's work which is concerned with venereal diseases.

TOTAL LABORATORY TESTS AND TESTS FOR DIAGNOSIS OF VENEREAL DISEASE, BRITISH COLUMBIA, 1932–51



## TESTS FOR DIAGNOSIS AND CONTROL OF VENEREAL DISEASES

Approximately two-thirds of all tests done in the Division had to do with syphilis and gonorrhœa. Only two years previously the proportion reached as high as three-quarters. There is little likelihood that in the foreseeable future laboratory tests for venereal diseases will represent less than half the total turnover. It may be anticipated that eventually many strains of spirochætes and of gonococci will acquire resistance to the antibiotics which are currently so effective against these micro-organisms. Since exposure rates are meanwhile likely to have risen rather than otherwise, the need to conduct sero-diagnostic surveys for syphilis and routine laboratory examinations for gonococcal infection among selected groups of ostensibly healthy persons will not have diminished.

The total number of blood specimens received in 1951 in the main laboratories for sero-diagnostic tests for syphilis was little changed from the previous year. Over 150,000 such blood specimens were sent in to the Division as a whole. The numbers of the more time-consuming standard Kahn and Kolmer complement-fixation tests increased by about 10 per cent each.

By contrast, significant declines were again noted in the numbers of cultural and microscopic examinations for gonococci. The former showed a reduction of from nearly 9,200 to about 6,000 (roughly 35 per cent), and the latter fell from 30,700 to about 25,000 (roughly 20 per cent). These declines were even more marked than in the previous year, and undoubtedly reflect an appreciable reduction in the incidence of acute gonorrhœa.

Toward the end of May we received the results of the fifth sero-diagnostic survey conducted under the auspices of the Laboratory of Hygiene, Department of National Health and Welfare, and in which all Provincial laboratories in Canada participate annually. The tabulated summaries of results clearly showed the value of these surveys. Much more uniform standards of accomplishment were apparent among the laboratories participating in the 1950–51 survey than were revealed in some of the earlier surveys. This improvement is the more significant since two newer tests—the Mazzini and V.D.R.L. tests—were carried out on many of the specimens, in addition to the officially approved presumptive Kahn, standard Kahn, and Kolmer complement-fixation tests. Moreover, a proportion of difficult specimens, whose reactions fell in the doubtful category, were deliberately included in this survey. This Division, with the co-operation of the Division of Venereal Disease Control, contributed more than its share of such specimens for redistribution by the Laboratory of Hygiene. It is gratifying to record that our own main laboratories' performance in respect of both specificity and sensitivity could be classed as excellent, and was not bettered by any other Provincial laboratory. It would be very desirable in future to include our branch laboratories in such surveys.

## TESTS RELATING TO TUBERCULOSIS-CONTROL

The increased load of microscopic and cultural examinations for *M. tuberculosis* was especially heavy. Over 40 per cent more cultures were performed, and nearly 50 per cent more microscopic examinations.

About 45 per cent of specimens for culture and over 60 per cent of those submitted to direct microscopic examination came from outside the Greater Vancouver area. This unusual distribution results from such factors as increased activity of the travelling and stationary clinics of the Division of Tuberculosis Control and diversion to us of many specimens from hospitals (for example, Miller Bay Hospital) operating under the Indian Medical Services Branch of the Department of National Health and Welfare.

The desirability of culturing all non-sputum specimens, and also most sputa, is now generally accepted, but few persons outside the Division of Laboratories realize the heavy

additional work entailed by this policy. Moreover, the infection hazards are multiplied for those handling and preparing specimens for cultural examination. Only by the exercise of strict laboratory discipline and ingenuity has it proved possible, in the appallingly inadequate space available, to maintain to date the unblemished record of freedom from accidentally acquired tuberculosis among the staff of this Division. The extra work and risk arising from broad recognition of the greater sensitivity of cultural methods over direct microscopy in the laboratory diagnosis of tuberculosis represent one of the most troublesome of our current dilemmas. In the public interest we should struggle to furnish the best possible diagnostic methods, but from the standpoint of the staff's health and safety, we dare not accept any additional load.

A good culture medium is believed able to detect the presence of between 30 and 300 tubercle bacilli, according to the size of the inoculum. On the other hand, estimates of the numbers of bacilli which must be present for assured detection by direct microscopy have been as high as 100,000. To illustrate this disparity, reference may be made to a series of 589 specimens reaching the Vancouver laboratories, of which 28 or 4.8 per cent were positive for *M. tuberculosis* by both microscopic and cultural methods, whereas 72 or 12.2 per cent gave positive cultures but negative smears. Other public health laboratories could doubtless quote comparable figures.

The belief still persists that guinea-pig inoculation is much more sensitive than cultural methods for detecting *M. tuberculosis*. Actually, when the best available culture media are used, there is little difference in sensitivity between the two methods, although, of course, guinea-pig inoculation is essential for determining whether atypical strains are virulent or not. In practice, the guinea-pig method is expensive and inconvenient, and entails a delay of six to eight weeks before results are available, as compared with an average of three to four weeks for reports on cultures. Hence we have performed animal inoculations only upon special request and as a test for virulence. During the last few weeks of 1951, guinea-pig inoculations had to cease altogether, owing to the outbreak of an epizootic among the Tranquille colony, which had only so recently developed into a satisfactory source of supply of these animals. Several months must elapse before this infection can be eradicated and regular shipments of healthy guinea-pigs from Tranquille resumed. Meanwhile, the quarters available at the main laboratories for laboratory animals must be renovated.

Over the last few years the Division has had to cope with increasingly elaborate requests for multiple reports on specimens from tuberculosis suspects. When these requests began to reach unmanageable proportions, the Director brought the matter before the meeting of divisional and health unit directors held in Victoria in mid-September. At this meeting it was resolved that every effort should be made to curb the tendency—by no means confined to the field of tuberculosis—to saddle the laboratories with the responsibility for notifying all persons and agencies having a possible interest in their findings. Following several discussions with the Director of the Division of Tuberculosis Control, an agreement was reached whereby that Division would undertake to relay our reports to its own field representatives and to health unit directors. Confusion and costs in our office operations should thus be reduced, while the Division of Tuberculosis Control stands to gain from more complete centralization of its records.

The Director was invited to participate in one session of the annual meeting of the staff of the Division of Tuberculosis Control. The New Westminster clinic had noted several instances of positive cultural findings in persons showing no clinical or radiological evidence of tuberculosis. In every case the virulence of these cultures had been demonstrated by guinea-pig inoculation. We were satisfied that laboratory errors in technique could be eliminated as a possible explanation. The attention of the meeting was therefore focused upon the general principle, of which this series of cases was but another example, that as laboratory procedures become more sensitive and specific, they tend to outstrip

clinical and other diagnostic methods in proficiency. Further, there is always the possibility that *M. tuberculosis* may be isolated from apparently healthy human carriers.

## BACTERIAL FOOD POISONING AND GASTRO-INTESTINAL INFECTIONS

There were no apparent cases of botulism in British Columbia during 1951. As usual, many episodes came to our attention in which the epidemiological circumstances pointed to staphylococcal food poisoning. In several of these instances we were able to furnish confirmatory bacteriological data. A rather unusual example of this type of food poisoning came to light in June, when a series of small outbreaks of acute gastro-intestinal disturbances in Vancouver were traced to "Australian chicken " (imported frozen rabbit), bottled by a local firm under obviously unhygienic conditions. Large numbers of staphylococci were demonstrated present in a sample of the suspected meat, the probable source of these micro-organisms being one of the employees handling the product, who was reported by a Sanitary Inspector to have multiple spots and boils around the face.

Salmonella-Shigella infections proved unduly prevalent during the year, and in many instances were no doubt food-borne. However, the great majority of these episodes were confined to family contacts, or even to single individuals, so that the route and vehicle of conveyance was impossible to trace. One outbreak, involving a party of distinguished visitors to this Province, was identified in the main laboratories, in co-operation with the Victoria branch laboratory, as due to *Salmonella typhi-murium* infection of turkey. The bird may have acquired this infection spontaneously during life, rather than as a result of post-mortem contamination of human origin, for turkeys are notoriously liable to many varieties of Salmonella infection. This occurrence, coupled with the outbreak due to *Salmonella newport* mentioned in last year's Report, should serve to underline the need for thorough cooking of turkeys, particularly when they have been deep-frozen.

In June, *Salmonella typhi* was isolated in Vancouver from a Water Board employee in the course of the routine stool-culture examinations to which such persons are subjected. This is the second such instance of a typhoid-carrier having been identified by the laboratories among Water Board employees.

In all, Salmonella organisms were isolated from about 160 different individuals during the year, a total exceeded only during 1946. By far the most prevalent organism was *S. typhi-murium,* isolated from more than 90 persons, followed by *S. newport, S. typhi,* and *S. oranienburg.* There was a wider than usual variety of types, including representatives of types seldom or never encountered before in British Columbia—for example, *S. cambridge, S. derby, S. bredeney, S. worthington, S. montevideo, S. st. paul,* and *S. maleagridis.* Two cases of infection by *S. sandiego* represented the first known isolations of this organism in Canada.

The reversal of the trend noted in last year's Report, which brought the incidence of Shigella infections ahead of Salmonella infections for the first time in this Province, was accentuated during 1951. Over 320 cases and carriers of shigellosis were detected in the main laboratories, around 290 of which yielded *Sh. sonnei* and the remainder various types of *Sh. flexneri* (mostly 2*a* and 3). In fact, altogether there were twice as many isolations of Shigellæ as of Salmonellæ. This emergence of *Sh. sonnei* as the major source of specific gastro-intestinal infection dates from the epidemic of dysentery at a girls' camp in Howe Sound during the summer of 1950, mentioned in the preceding Report. Starting from that focus of heavy, acute infection, these dysentery bacilli have been carried throughout most travelled parts of the Province. Until there is a drastic improvement in prevailing standards of community sanitation and personal hygiene, it is difficult to foresee any appreciable decline in the incidence of Sonnei dysentery, to which infants and young children are particularly susceptible.

Nearly 6,500 stool specimens were submitted to complex and time-consuming cultural examinations during the year, an increase of around 12 per cent over the corresponding total for 1950 and more than 55 per cent above the figure for 1949. If this trend should continue into 1952, as anticipated, the main laboratories will face an exceedingly critical situation. Accommodation in the stool-culture department was taxed to the utmost in 1951, and any additional turnover in the present quarters can be handled only at the grave risk of laboratory infection and under the certainty of excessive nervous strain upon all those carrying the responsibility for this work.

We are glad to acknowledge here the assistance received from Dr. E. T. Bynoe and his associates of the Laboratory of Hygiene, Ottawa, in the final typing of these Salmonella-Shigella organisms. This was the first year in which the Laboratory of Hygiene offered its facilities for typing the Shigellæ. While these typing procedures are technically well within our compass in the main laboratories, much time and trouble is saved by this activity of the National Salmonella Typing Centre, and we feel it proper that such functions should be discharged by an institution within the framework of the Department of National Health and Welfare. Thus the whole picture of the Salmonella-Shigella incidence across Canada can be secured and made available to each Province.

## BACTERIOLOGICAL ANALYSES OF MILK AND WATER SAMPLES

Slight increases were inexperienced in the numbers of milk and water samples examined. There is still great need for further improvement in the bacteriological quality of milk and water supplies. The Division has done its best to provide some facilities for milk and water testing to quite remote parts of the Province. A number of specially constructed wooden boxes are available for shipping to Vancouver six milk or water specimens at a time, packed in ice. The branch laboratories, especially those at Prince George and Nelson, are similarly serving territories far beyond their own immediate vicinity. Many polluted streams and wells remain in use as sources of drinking-water, and it is impossible, and perhaps undesirable, to attempt to provide testing facilities to cover these under the present pattern of organization of the Division. Apart from the futility of testing specimens which have been overlong in transit, misleading impressions can be conveyed by the results of tests on isolated samples, especially when unsupported by sanitary surveys of the sources in question. Unfortunately, a few Sanitary Inspectors and other public health officials are rather prone to saddle the laboratories with such irrelevant specimens. But on the whole, very good co-operative relationships obtain between this Division and the health units throughout the Province, most of whom recognize their primary responsibility for detecting the grosser errors of sanitation with their own eyes. Individual citizens still confront us with requests for examination of their domestic well-water supplies, and it is sometimes difficult to follow consistently the only scientific policy—to reject such requests unless a competent sanitary survey has first been conducted. After the unusually dry summer, many wells throughout the Province showed signs of heavy pollution when the autumn rains began. Clear-cut evidence of sporadic water-borne infection is hard to uncover, though among the record number of intestinal infections experienced this year, there were several instances in which water was suspected as the vehicle. For example, we isolated a strain of Salmonella from a travelling salesman who suffered a severe attack of gastro-enteritis, which he ascribed to diluting a drink of whisky with water from a creek.

## OTHER TYPES OF TESTS

Examinations of swabs for *C. diphtheriæ* increased from roughly 19,000 in 1950 to some 23,500 in 1951, or by about 24 per cent. A large part of this substantial increase is accounted for by the surveys for diphtheria-carriers at the Provincial Mental Hospital, Essondale, and at its No. 9 Unit, New Westminster, which we began during the last half

of December, 1950, and continued during January and February of 1951. This survey was launched when two or three mild cases of diphtheria occurred in these institutions. During the three months' period of the survey, approximately 5,000 nose and throat swabs were examined. Among these, forty-one positive swabs, representing twenty-one individual carriers, were identified. Their discovery posed serious problems in public health administration to the officials concerned.

Efforts are being made in the United States and Canada to gather information bearing on the incidence and distribution of diphtheria-carriers in various age-groups of different communities, as a preliminary to assessing the significance of such carriers in a partially immunized population. In response to a request from Dr. Donald T. Fraser, of Connaught Medical Research Laboratories, University of Toronto, and in co-operation with the staff of the Metropolitan Health Service of Greater Vancouver, nose and throat swabs taken from every member of certain classes in Vancouver schools have been examined bacteriologically in the main laboratories for *C. diphtheriæ* and for hæmolytic streptococci. This undertaking also accounted for much of the increase in cultural examinations for diphtheria bacilli. The actual incidence of the disease remained low during the year.

The incidence of scarlet fever, on the other hand, was abnormally high, especially during the last months of the year. This situation and the throat-swab survey alluded to in the foregoing paragraph account for cultural examinations for hæmolytic staphylococci and streptococci increasing from 2,900 in 1950 to around 4,500 in 1951—that is, by 55 per cent.

Last year's Report mentioned a substantial increase in the number of Paul-Bunnell tests for infectious mononucleosis. In the year now under review a further substantial increase occurred. Over 2,200 such tests were carried out, as compared with less than 1,800 in 1950 and only just over 1,000 in 1949. The fact that a fairly high percentage of the specimens show significant titres of sheep-cell agglutinins suggests that this doubling in the number of requisitions does not represent a mere fad, but a wider recognition of an established endemic infection.

Microscopic examinations for intestinal parasites also showed a further substantial increase. The percentage of such specimens found positive remained surprisingly low. *E. histolytica,* for example, was not observed, although some local physicians with experience of amœbic dysentery, and knowing the results of surveys in other parts of North America, point to the likelihood that both cases and carriers exist in our community. Nevertheless, it is improbable that we are failing to detect positive specimens. At least two of our senior staff members have had special training in parasitology. In addition, we were kept up to date by receiving at regular intervals during the year a series of mounted specimens of various types of parasites, prepared and kindly distributed to all Provincial laboratories by Mr. J. B. Poole, parasitologist at the Laboratory of Hygiene, Department of National Health and Welfare, Ottawa.

## BRANCH LABORATORIES

Last year's Report referred to the establishment of a small branch laboratory at Prince George, in space set aside for this purpose within the building which serves as headquarters for the Cariboo Health Unit. One full-time assistant bacteriologist, seconded to Prince George from the staff of this Division, performs the duties of bottle-washer, media-maker, stenographer, and technician. Admittedly, one-person laboratories are vulnerable to staff changes and are bound to exhibit fluctuating efficiency, but there is not yet a sufficient volume of variety of tests to justify employment of more than one person at Prince George. We managed to keep the laboratory going throughout the year, despite three changes of appointees, and it is gratifying to record an average turnover of around 250 specimens examined monthly. Moreover, there is a growing local

appreciation of the laboratory's efforts, especially in the field which it was particularly intended to cultivate—namely, the bacteriological analyses of milk and water. Incidentally, some fifty specimens monthly, taken from newly admitted inmates of the Prince George Gaol, were examined microscopically for evidence of gonococcal infection.

The laboratory's services are by no means confined to the immediate vicinity of Prince George, or even to the Cariboo Health Unit, but are available to any territory within convenient access. For example, milk and water specimens are received by train on several days each week from Prince Rupert. The per specimen cost is relatively high, but otherwise these northern communities would be entirely dependent for milk- and water-testing facilities upon the even more costly and uncertain shipments by air to Vancouver.

The branch laboratory at Nelson was reorganized during the year. For the past fifteen years or more the Kootenay Lake General Hospital had carried out public health laboratory work for the Nelson area under subsidy from the Provincial Department of Health, through the Division of Laboratories. When both technicians resigned, negotiations were begun with the board of directors of the hospital with a view to this Division taking over full responsibility for the public health laboratory work. Eventually, a very satisfactory agreement was made, under which the Kootenay Lake General Hospital Society leased rent-free quarters to us in the former isolation hospital. We undertook to maintain the necessary full-time staff and to provide all supplies and equipment. An assistant bacteriologist, Miss Mary Yeardye, and a laboratory assistant, Miss Lorainne Handlen, were transferred from the central laboratories as of April 1st, and from the beginning have fully justified the confidence placed in them. Within three months of their arrival the monthly turnover of tests was around 1,000, a figure not reached under the former system. The monthly average for the first nine months of operation is about 1,100 tests, and toward the year-end appeared to be headed for a level of nearly 1,500 monthly, the maximum figure which two technicians can be expected to handle. Indeed, as the monthly totals mounted above the 1,000 mark, it became necessary to arrange with the Hospital Society for the half-time services of a ward-maid, who acts as cleaner and general help.

The salaries of the two full-time and one half-time employees at the Nelson branch laboratory, and of the one at Prince George, were covered by a Federal Public Health Grant for " Improvement and Extension of Branch Laboratory Services." Both projects can be regarded as very successful to date. Not only are the areas concerned receiving better public health laboratory service than ever before, but, also, useful information is afforded by comparing the costs and convenience of operation of the two branches at Nelson and Prince George respectively.

The Kamloops laboratory, operating under a subsidy arrangement with the Royal Inland Hospital, again experienced difficulties due to periodic shortages of trained technicians. Most of the public health laboratory work had to be diverted to Vancouver for several weeks during the late summer. These recurrent problems at Kamloops point to the desirability of reforming the system in operation there. The Victoria branch laboratory likewise operates under subsidy, in the Royal Jubilee Hospital. During the year, under the direction of Dr. R. G. D. McNeely, it maintained proficiently a steady average of some 4,000 tests monthly.

The Nanaimo branch, housed for many years at the Nanaimo General Hospital, under the direction of Mr. George Darling, ceased operations at the end of 1950. When the hospital authorities demanded a substantial increase in the subsidy, we recommended instead, in view of improved transportation arrangements between the Central Island area and Vancouver, that this branch be abolished. No steps were taken to restore the branch laboratory formerly maintained under subsidy at the Prince Rupert General Hospital. We are opposed to restoration of the subsidy system in any centre, and at present it would be too difficult to persuade our own staff members to consider a period of

duty at Prince Rupert. By shipping some specimens to Prince George and others by air mail to Vancouver, reasonably adequate facilities can be secured. In summary, during 1951 the Division maintained full-time branch laboratories at Nelson and Prince George and subsidized public health laboratory services at Kamloops and Victoria.

Mr. A. R. Shearer, in his capacity as Travelling Supervisor of Branch Laboratories, visited each branch at least once during the year. He helped both to plan the necessary installations and renovations in the quarters assigned to us at Nelson and to inaugurate the service, as he did the year before, at Prince George. The Director also paid a short visit to the Nelson and Kamloops branches at the end of August, and was much impressed with the efficiency and happy atmosphere of the former.

## GENERAL COMMENTS ON STAFF ACTIVITIES

The Director was one of two representatives of the Provincial Laboratory Directors invited to attend a meeting of a Working Party on Laboratory Services Relating to Civil Defence. This was held at Ottawa under the auspices of the Department of National Health and Welfare during the last week in March. From the standpoint of this Division, one of the most notable resolutions of the conference was that which recognized the critical shortages of trained bacteriologists throughout Canada and the consequent necessity for providing increased training facilities in appropriate university departments. Another important feature was the general agreement that a travelling laboratory should be available in each Province.

The Director pressed home these recommendations, and is happy to acknowledge here an exceedingly helpful Federal Public Health Grant of $25,000, made to the Department of Bacteriology and Immunology at the University of British Columbia, for improved training of bacteriologists and other senior laboratory personnel. This grant, together with the splendid new quarters available to the Department on the campus, should ensure that future employees of this Division will have graduated with an academic background in bacteriology as good as is obtainable anywhere in North America. As for the travelling laboratory, the emergency and peace-time uses of this amenity were outlined by the Director in a brief presented to the Conference of Health Unit and Divisional Directors, held in Victoria in September. The conference unanimously adopted a resolution favouring the proposal that a travelling laboratory be attached to this Division.

In August the Director attended the annual meeting at Banff of the International North-west Conference on Diseases in Nature Communicable to Man, where he read a paper, by invitation, on botulism. In December he attended the annual conference in Ottawa of the Technical Advisory Committee on Public Health Laboratory Services to the Dominion Council of Health. These conferences provide an invaluable opportunity for exchange of technical information between the participating laboratory directors, and for discussions of policy of mutual concern to the Provincial laboratories and to the Laboratory of Hygiene, under whose sponsorship these meetings are held. Following this conference, the Director attended the annual meeting in Toronto of the Laboratory Section, Canadian Public Health Association, where he presented a paper on *Clostridium botulinum, Type E.*

During May Miss D. E. Kerr, Assistant Director, enjoyed a ten days' course in virus diagnostic procedures arranged by the Laboratory of Hygiene at Ottawa, through Dr. F. P. Nagler, who is in charge of the Virus Section of that institution. Our main laboratories are now equipped to carry out certain of the viral complement-fixation and other tests—for example, for smallpox, mumps, Types A and B influenza, and Q fever. The expenses incurred in taking this course were covered by a Federal Public Health Grant.

In September arrangements were made for Mr. Shearer to enroll for a three-day refresher course in Hæmatology, offered to physicians by the Department of Pathology

of the University of Washington Medical School at Seattle. Such occasional opportunities for senior staff members to travel to meetings and refresher courses are greatly appreciated by the individuals concerned, and time lost from duty is more than amply repaid.

Miss Kerr was able to make particularly effective use of an intensive course in mycology, which she had attended in Atlanta in 1950, by giving a short course of lectures and laboratory work in pathogenic fungi to a group of final-year students in the Department of Bacteriology and Immunology at the University. Several other seniors on our technical staff contributed in various capacities to the expanded curriculum in bacteriology. The very small number of hours entailed off duty were fully made up, both as regards time actually spent and, more intangibly, as a result of personality-growth from challenges successfully met. In addition, long-term benefits will accrue to the Division through the better calibre of future graduates recruited to the staff.

## REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL

C. L. HUNT, DIRECTOR

There has been a slight decrease in the total number of venereal disease cases reported during the year 1951. Early infectious (primary and secondary) syphilis has now become a comparative rarity in British Columbia, only thirty-two cases having been reported during the year. Indeed, the infection rate per 100,000 population in this Province is now the lowest in Canada. The number of syphilis cases reported in the later stages has also decreased markedly in spite of sustained efforts at case-finding.

The policy of overtreating all cases of gonorrhœa with massive doses of penicillin to eliminate any possible concomitantly acquired syphilis has been maintained. This appears to have been justified if the extremely low incidence of early infectious syphilis can be used as a measure of its success. Private physicians throughout the Province have given their whole-hearted support to this policy.

There has been a slight but definite increase in the number of cases of chancroid among mariners and in service personnel returning from the Far East, but most, if not all, cases have been detected on arrival, and there has been no evidence of increased spread of this infection among the general population.

The incidence of reported cases of gonorrhœa has shown a small decrease in spite of better co-operation on the part of private physicians in notifying their cases. Divisional clinics still continue to play a major part in notification and treatment of venereal disease, though the proportion of cases notified by private physicians has markedly increased during the past year. This increased reporting by private physicians is apparent in all parts of the Province and is not limited to the metropolitan areas.

Highly qualified consultants in various fields of medicine continue to be employed by the Division, and consultative service on problems relating to venereal disease is given extensively to private physicians throughout the Province.

Free drugs are made available to physicians for the treatment of any notified case of venereal disease. In order to make these drugs more readily available to those physicians practising in outlying areas, stocks are held by all health unit directors and by some of the more remote hospitals for local distribution.

Besides the convenience afforded to physicians, this policy enables health unit directors to maintain a closer association with the health problems in their own spheres of activity.

It is becoming increasingly evident in this Division that non-specific urethritis of venereal origin is presenting a problem of growing importance. The actual cases notified are few, but this is due in some measure to the comparatively large number of cases which are diagnosed as gonorrhœa on clinical grounds but in whom smears and cultures are negative. Most of these patients show a notable lack of response to normal methods of treatment for gonorrhœa. These cases represent approximately 11 per cent of those treated for gonorrhœa at the Vancouver clinic.

Investigations into the causes of non-specific urethritis have not tended to clarify the problem, for the causes are many and varied, with no single type of treatment being universally successful.

Further consideration is being given to this problem, which appears to be causing concern in many other centres of venereal disease control throughout North America.

### TREATMENT

Treatment schedules for the various stages of syphilis and for gonorrhœa were reviewed periodically through the year, with the object of maintaining the highest standards available in the light of current knowledge.

The use of arsenic in the treatment of syphilis has been entirely discontinued, and bismuth is being used in only a few specially selected cases as a preparatory form of treatment before commencing penicillin.

Penicillin is the treatment of choice in all stages of syphilis and in gonorrhœa.

Non-specific urethritis of venereal origin still presents many problems in treatment by virtue of the multiplicity of underlying causes. Streptomycin, sulphadiazine, and aureomycin have their uses in the treatment of this condition, though none of these materials is universally successful.

Aureomycin is used infrequently, and only on certain specially selected cases or when other methods of treatment have failed to produce the desired effect. The high price of aureomycin still precludes its use on a wide scale.

Seamen and service personnel returning from overseas with venereal infections have presented a special problem within recent months. Diagnosis has frequently been obscured by previous unstated or inadequate treatment. Occasionally, seamen are due to leave for foreign ports within a few hours. Such problems have called for bold and urgent treatment, with detailed instructions regarding follow-up examinations at future ports of call.

There has been a marked decrease in the total number of patient-visits to the Divisional clinics during 1951, the figure being approximately 25,000, as compared with 32,000 in 1950. This appears to be due partly to a decrease of approximately 350 reported cases of venereal disease attending the clinics, but also to the marked decrease in follow-up examinations required with modern methods of treatment.

## EPIDEMIOLOGY

The prevalence of venereal disease is steadily decreasing, but the seeds of epidemic still exist in the community.

It is for this reason that there can be no relaxing of effort on the part of this Division in endeavouring to trace contacts and in using every available means to bring venereal disease to light wherever it may exist.

Information regarding contacts is frequently inadequate and reluctantly given. In order to overcome this defect, tact and understanding are essential in the armamentarium of the epidemiologist. Moreover, since much of the epidemiological investigation must be carried out in more remote regions of the Province, the policy and methods of the Division must be made known to public health personnel in the field.

Bearing all these points in mind, this Division has maintained a staff of well-trained public health nurses, whose duty it is not only to interview patients reporting to the clinic, but also to give guidance to those persons employed in tracking down venereal disease in outlying areas. Close liaison is therefore maintained with public health personnel in the field, on whom much of the contact-tracing and follow-up investigations fall. In order to facilitate this co-ordination, a manual has been completed for the use of the public health field staff, British Columbia Department of Health, and relates to venereal disease control procedures and policy in areas outside Vancouver and Victoria. An epidemiology worker is available on request to give guidance and assistance to the local health services.

A second male epidemiological worker has been employed by the Division for the purpose of interviewing male patients. It was felt that certain male patients would probably be more willing to divulge information to a male questioner than to a female one.

New methods and tools for obtaining contact information are continuously being sought and reviewed. The interview is now recognized by the worker as the established centre from which to work. The results obtained by reinterviewing the patient, where indicated, for a more complete contact history have been so successful that this procedure has become the rule. Many more patients are bringing their own contacts to treatment.

A closer working relationship between the private physician and the Epidemiology Section has been attempted during the past year. In each instance where inadequate con-

tact information is received, the physician is telephoned and is offered the service of an epidemiology worker to reinterview his patient. Greatest emphasis is placed on contacts to primary and secondary syphilis.

Case-finding and case-holding facilities have been further extended by the opening of a venereal disease clinic, primarily for diagnostic purposes, at Health Unit I in downtown Vancouver. This clinic is being operated under the joint direction of the Vancouver City Health Department and the Division of Venereal Disease Control, Provincial Department of Health and Welfare. The number of blood tests done at that clinic has already reached almost 900 per month.

Arrangements have been made with the Victorian Order of Nurses to provide treatment in the home for certain non-infectious patients. These cases are previously carefully selected and there must be a definite reason for home treatment.

The Vancouver City Gaol examination centre, which has proved so successful in the past, continues to show excellent results regarding case-finding and case-holding. In February, 1950, it was decided to extend treatment on epidemiological grounds to all women who are brought in to the Vancouver City Gaol on morals charges and to certain others who are known or believed to be actively carrying on promiscuous sexual relationships. Such treatment is not compulsory but is strongly recommended. In this way it is hoped to limit still further the spread of gonorrhœa in that community which presents the greatest problem in venereal disease control.

Several meetings have been held with the Regional Superintendent, Indian Health Services, to determine better methods of case-finding and follow-up of the British Columbia Indians. A survey to be carried out in a different part of the Province each year seemed perhaps the best answer to the problem. In August a blood-testing survey was completed on persons employed at the fish-canneries in New Westminster and Steveston.

Reports on any activities of the Division of Venereal Disease Control that are of particular interest to the health unit personnel have been submitted at regular intervals to the staff bulletin of both the Provincial Department of Health and Vancouver City Health Department.

## SOCIAL SERVICE

During the year the Social Service Section continued to focus its attention on the basic personality disorders at the root of the venereal disease problem. All newly diagnosed patients treated at the Vancouver clinic were interviewed by the social service staff. This personal counselling, geared to the specific needs of the individual patient, was an integral part of the treatment for venereal disease.

To gain some knowledge about the kind of people who were being treated at the Vancouver clinic, the Social Service Section devised a rating scale to measure the capacity of the individual to utilize this kind of counselling service.

Of 515 patients who were interviewed in a period from July, 1951, to November 30th, 1951, over 50 per cent were in the groups in which it was considered that personal counselling could probably be effective.

In 1950 there were forty-six cases of venereal disease reported in children of 14 years and under. As this was a marked increase in incidence in this young age-group, the social worker reviewed the information available in the Division regarding each of the forty-six cases. It was found that this did not represent a real increase in the incidence of venereal disease among children, but that many of these children were being treated on suspicion as a precautionary measure rather than on laboratory or clinical evidence of venereal disease.

The study also revealed that seventeen of the forty-six children reported were Indians. To determine whether or not this indicated a deficiency in the public health services in any specific area, these particular cases were again reviewed. It was found that except in one area where eight of the children were treated on epidemiological grounds as part of

an intensive public health survey, the other nine cases occurred in widely scattered areas. It was felt that in the Indian-patient group the problem was one of education to modify the Indian way of life rather than a lack of public health facilities.

The social service worker has maintained a close liaison with the psychiatric consultant, to whom those patients presenting unusual personality problems have been referred.

Excellent work has also been done by the psychiatrist, not only in helping those patients presenting acute behaviour problems, but also in endeavouring to evaluate some of the underlying factors responsible for promiscuous sexual behaviour resulting in the spread of venereal disease.

## EDUCATION

The prime responsibility of all health education in this Province rests with the Division of Public Health Education. However, in view of the specialized nature of education relating to venereal disease, a close liaison is necessarily maintained between that Division and the Division of Venereal Disease Control.

The responsibility for lay education is shared by both Divisions, but education directed to professional groups and student nurses remains the prime responsibility of the Division of Venereal Disease Control.

Lectures on the venereal diseases and methods of control have been given to student nurses at all the main training-schools in the Province. In addition to this, practical experience is provided at the Vancouver clinic for student nurses in training at the Vancouver General Hospital.

Lectures have also been given to students in various other fields, including the medical students at the University of British Columbia.

Every possible opportunity has been taken to promote professional education in the venereal diseases, including the occasional publication of material in the Journal of the Canadian Medical Association. Published articles include " Homosexuality as a Source of Venereal Disease," written by Dr. B. Kanee, consultant in syphilology at this Division, and Dr. C. L. Hunt, Director of this Division; " Effectiveness of Modern Treatment for Gonorrhœa in Women "; and " The Role of Epidemiology in Venereal Disease Control," by Dr. C. L. Hunt.

Fortnightly meetings are held in the Divisional headquarters for all attending physicians, when lectures are given by members of the consulting staff on various aspects of venereal disease.

The manual Venereal Disease Information for Nurses has been revised and reprinted. This manual is distributed, free of charge, to all student nurses in the Province during the course of their training.

Other manuals which have been revised and brought up to date include Procedures and Services in Venereal Disease Control and the Treatment Manual for Clinic Physicians.

The Venereal Disease Manual for Public Health Nurses has been rewritten and enlarged. It is proposed to supply copies to all public health units and to individual public health nurses in outlying areas for their use as reference manuals.

## GENERAL

Deterioration of the premises occupied by the Divisional headquarters proceeds apace, and it is fervently hoped that new quarters will be made available before the urgency becomes too acute.

Mrs. Anna Grant, who has been with the Division for approximately eight years as senior clinic nurse and staff nursing instructor, has resigned to take up residence with her husband at Campbell River. Her loss will be felt keenly by the Division.

The Epidemiology Section of the Division has temporarily lost the services of Miss Muriel Scott, who was selected by the World Health Organization to serve on a team of

public health advisers in venereal disease control to the Burmese Government. This Division takes considerable pride in Miss Scott's selection, which should prove a source of considerable interest and experience to her.

An additional loss to the Division has been the promotion of Miss Enid Wyness, senior social service worker, to a higher position, in which her services are available only in an advisory capacity. Miss Dora Porter now carries the entire patient-load in the Social Service Section.

Dr. C. L. Hunt has resigned from his full-time appointment as Director, but continues to be employed in that capacity on a part-time basis.

Federal Health Grants continue to prove extremely useful in assisting the Division in maintaining its ever-expanding services, as well as in affording opportunities for post-graduate training of medical and nursing personnel.

Funds from this grant have been made available toward the operation of the British Columbia Medical Centre Library, where up-to-date literature on the venereal diseases is maintained. The Divisional Director is an active member of the management committee of this library.

Much appreciation is felt toward the various community groups, the Vancouver City Police, the Royal Canadian Mounted Police, the British Columbia Hotels Association, the Liquor Control Board, the Department of Indian Affairs, and the various other groups who, by their co-operation and help, have contributed so much to the success of the venereal disease control programme of the Province.

In addition, special appreciation is expressed to the Division of Laboratories, without whose ever-willing services and co-operation this Division would find it difficult to function, and also to the Division of Vital Statistics for its helpful advice and assistance so freely given at all times.

## REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL

G. F. KINCADE, DIRECTOR

In 1951 a significant change in the administration of the Division of Tuberculosis Control was the appointment of a full-time Director. Dr. W. H. Hatfield, who had been part-time Director for sixteen years, resigned, and Dr. G. F. Kincade, formerly Medical Superintendent, Willow Chest Centre, became full-time Director of the Division. Dr. Hatfield will continue to act on a part-time basis in an advisory capacity to the Deputy Minister on matters relating to tuberculosis and other diseases of the chest.

Another major advance has been the construction of the new sanatorium in Vancouver. This has been named the Pearson Tuberculosis Hospital, in honour of Mr. G. S. Pearson, M.L.A., formerly Minister of Health and Welfare, Minister of Labour, and Provincial Secretary.

Started early in the spring of 1951, excellent progress has been made, and this institution, housing 264 beds, will be opened within a year from the beginning of construction. This will provide modern sanatorium facilities for the treatment of tuberculosis cases, and, being situated in the Lower Mainland of British Columbia, it will provide beds in this rapidly growing area where they are most needed.

Although the opening of these 264 beds will meet the present situation, it is apparent that the construction of the total complement of 528 beds for this institution should be continued as soon as possible. The present plan is that, after the Pearson Hospital is opened, the tuberculosis patients housed in the Infectious Disease Hospital and St. Joseph's Oriental Hospital will be transferred there. These patients, plus the present Provincial waiting list, will almost completely fill the 264 beds. With the construction programme of the Vancouver General Hospital proceeding toward the erection of a large acute hospital, this Division's tenure of the temporary building at the Willow Chest Centre is seriously threatened, and it may be necessary to move from this building before next summer. Recent alterations at Tranquille should compensate for the loss of these beds. However, it will not be possible to occupy the extra beds at Tranquille until such time as the proposed tunnel, elevator, and laundry have been completed.

At present we visualize the eventual bed facilities of the Division of Tuberculosis Control as being 528 beds at the Pearson Tuberculosis Hospital, 400 beds at Tranquille Sanatorium, the Willow Chest Centre reduced to approximately 115 beds for surgical and diagnostic cases, and the facilities in Victoria providing approximately the same number of beds as at present.

It was with considerable satisfaction that in 1950 we attained the lowest death rate yet recorded in British Columbia. This rate of 21.7 for the other-than-Indian population and 27.2 for the total population followed the trend of decline in other parts of the country. Whatever its cause, it represents a reduction of approximately 50 per cent in a five-year period and, in actual numbers, a reduction from 576 deaths to 310—this in spite of an increase in population.

We are pleased to report that this low rate has been maintained in 1951 with 228 deaths in the total population, which gives a rate of 25.0 per 100,000. There were 224 deaths in the other-than-Indian population or 19.9 deaths per 100,000.

### X-RAY PROGRAMME

During the past year we have been very much interested in the development of the miniature X-ray programme throughout the Province, and have been endeavouring to concentrate on hospital-admission X-rays as a case-finding method so that the programme could be applied effectively.

In the reorganization of the X-ray programme utilizing miniature X-ray equipment in hospitals, a very definite endeavour has been made to co-ordinate it entirely within the community health services provided through the local health units. Thus the appointments and organization of the time schedules are the responsibility of local health services which have co-ordinated the programme with each local hospital. All patients are referred through the health unit, which assumes some responsibility for continuity of referral and follow-up where necessary. In addition to the admission X-ray of all hospital patients, arrangements are provided whereby some out-patients referred by the practising physicians or the public health staff can be accommodated.

It has been disappointing to note that some hospitals are falling down very badly in carrying out this programme, whereas others are most energetic in trying to obtain complete coverage of the patients admitted. In spite of the poor showing in some hospitals, the work done has represented 40 per cent of the admissions X-rayed in the hospitals where installations have been made, and it does represent 71,410 examinations in 1951. While this does not reach the goal set and eventually hoped for in this work, it does represent a good contribution to the case-finding programme. It also shows a changing emphasis in that fewer examinations will be done by the travelling clinics, while in the geographical areas covered by these clinics there will be a greater number of people X-rayed. This is the result desired, and the clinics will be freed from a great deal of routine contact examinations, which were screened in the past, and will devote more time to the important work of examining and advising known cases of tuberculosis or cases who are referred because of suspicious X-rays. For example, in 1951 the Kootenay Travelling Clinic took 2,525 X-rays, as compared with 3,427 in 1950. During 1951 there were 17,377 miniature films taken in general hospitals in the Kootenay area, making a total of 19,902 films.

During 1950 there were 179,126 X-ray examinations in the clinics of the Division, general hospitals, and health units. During 1951 this increased to 271,381 films taken.

With thirty-four miniature X-ray machines operating in hospitals and health units outside the Division during the past year, there have been no new installations of photoroentgen equipment. At the present time we are preparing to install this type of equipment in the new Burnaby Hospital, in the University of British Columbia Health Service, and at Mission Memorial Hospital. We are also considering withdrawal of the equipment from one hospital, where it is not being used satisfactorily, and in another community the transfer of the equipment from the hospital to the health unit, where it will serve the needs of the community to greater advantage. Installations for other areas will be considered as the communities expand and local conditions appear to justify its placement.

In the development of the hospital-admission X-ray programme, we have been actively supported by the British Columbia Hospital Association and the British Columbia Registered Nurses' Association.

During the past six months our mobile photoroentgen unit has been travelling throughout the Interior of the Province and on Vancouver Island, visiting smaller communities where X-ray services were not available. This has been a difficult and costly enterprise, and at the present time we are not certain that the results warrant the continuation of this work in subsequent years. The 1951 schedule was completed early in December, and the results of the work will be critically analysed to see if it is justified.

The Division is watching with interest an experiment that is being carried out in Chilliwack at the present time. Realizing that the mere presence of an X-ray machine in a local community to provide free X-rays does not necessarily assure a good case-finding programme in that community, the British Columbia Tuberculosis Society has gone forward with a plan to promote an educational campaign in Chilliwack as an experiment. The idea behind this was that a properly qualified person would visit the community to

publicize the services that were available and to organize local groups to canvass citizens so that a continuing community survey might be carried out. If successful at Chilliwack, this could be applied throughout the Province, using local facilities.

## FEDERAL HEALTH GRANTS

From the projects already submitted it appears that the Tuberculosis Control Grant will be totally expended for the present year if delivery of equipment is obtained before the expiry date of the grant. The total tuberculosis grant for British Columbia in 1951–52 was $368,315, and this has all been allocated.

Certain new projects and extensions of previous projects have been set up during the year. For example, the art-therapy project has been extended to the Victoria unit, a pneumothorax clinic has been approved for Metropolitan Health Unit No. 1, a physiotherapist has been obtained for the Willow Chest Centre, a Department of Respiratory Physiology is being set up in Vancouver, and a large amount of equipment has been obtained for the Pearson Tuberculosis Hospital. Three nurses, one laboratory technician, one hospital administrator, and four physicians are receiving training under the grants. The Medical Records Section has also been made possible from Federal Health Grants.

The following is the list of projects in the tuberculosis-control field for the present year:—

*Continuing Projects*

- Occupational therapy.
- X-ray pool—
  - Photoroentgen equipment for University of British Columbia Health Service.
  - Burnaby Hospital.
  - Mission Memorial Hospital.
- Medical library.
- Home-care service.
- Nursemaids for Vancouver Preventorium.
- Rehabilitation.
- Payment for admission X-rays.
- Administration of streptomycin in homes.
- Postgraduate training (short courses).
- Nursing personnel—
  - Three nurses at University of British Columbia.
- Equipment for community survey work.
- Staff and equipment—
  - Tranquille Sanatorium—
    - Two physicians.
    - Undelivered equipment from 1950–51.
  - Willow Chest Centre—
    - Bacteriologist.
    - Senior interne.
    - Assistant instructor of nursing.
    - Executive nurse, surgical.
    - Physician.
    - Art therapy.
    - Planigraph.
    - Physiotherapist.
    - Out-patient Pneumothorax Clinic, Metropolitan Health Committee.
    - Department of Respiratory Physiology.
- P.A.S. and streptomycin.

Additional graduate nurse, New Westminster.
Postgraduate training for two physicians.
Training in surgical nursing and techniques.
Additional stenographers—
New Westminster Clinic.
Kootenay Travelling Clinic.
Interior Travelling Clinic.
Postgraduate training for laboratory technician.
Hospital-administration training.
Expansion of education programme, T.B. nursing.
Art therapy, Victoria.
Equipment for new sanatorium.

*New Projects*

Postgraduate training for one physician.
Medical Records Section, T.B. Control.

## STAFF

In reviewing the staffing of our clinics and institutions, it is pleasing to report that at the present time the Division appears to be in a very good position. The medical staff throughout the Division is at full strength, and it is a source of satisfaction to report that well-trained medical men are being attached to the service. At the present time there are five physicians under training leading to specialists' certification. It should be pointed out that a pathology service is being developed at Tranquille, and in the Willow Chest Centre a well-trained pulmonary physiologist is proving most valuable in the carrying-out of respiratory function tests, mostly in connection with pre- and post-operative cases. However, it is hoped that some attention can be paid to research in this field. It is possible, in the future, that the Division may be able to add others to the staff with special interests, such as bacteriology.

## NURSING

The nursing service gives a great deal of pride to the Division because it is recognized that throughout the Division the nursing standards are of the highest order. Having assembled an able group of nursing administrators, a sound programme of student and graduate teaching is the basis of the nursing services in our clinics and institutions. As a result of this, tuberculosis nursing has been elevated to the status of a specialty, and the nurse takes an important place in the education and physical rehabilitation of the patient. Although the stage has not yet been reached where there is an abundance of nurses available, the Division is attracting a fair share of an excellent type of well-trained nurses into the service.

During 1951 the nursing service was maintained to provide for a full complement of patients in all of the institutions during the past year, and the staff in the stationary clinics was stable.

Increased student quotas and expanded activities were evident in all sections of the educational programme, for example:—

(1) *Affiliation Course for Student Nurses.*—(*a*) Three hundred and twenty-five students affiliated at the Vancouver centre, an increase of seventy over 1950. The Jericho Beach unit and New Westminster Stationary Clinic were used for placement of students in addition to the Willow Chest Centre.

(*b*) Seventy-four students affiliated in Victoria. Students from the two Victoria schools started in November to come to Vancouver for the lecture series in the first week of the course, thus providing a uniform content of instruction for all students prior to placement on the wards.

(2) *Supervised Experience for Practical Nurse Students from the Vocational School.*—Fifty-five students completed one month each of ward experience at the Jericho Beach unit, an increase of fifteen over last year.

Indications are favourable that progress will be made this coming year toward implementation of the objectives outlined in the study on staff quotas and nursing-care requirements, completed for the three main institutions more than a year ago. Organization of the ward routine to the team nursing plan is suggested as a basic factor in providing more personalized care for the patients.

Two objectives urged for the coming year in both the service and educational fields are directed toward the same target—better nursing care for the patient through implementation of a team nursing plan on the wards and better experience in nursing practice for the students.

## NEW CASES

The number of new cases discovered during the year amounted to 1,691, which is a slight decrease from last year's figure. This, broken down into racial groups, shows the following: Indians, 329; other than Indians, 1,362; and into age-groups:—

| Indians— | | Other than Indians— | |
|---|---|---|---|
| 0– 4 | 51 | 0– 4 | 55 |
| 5– 9 | 61 | 5– 9 | 28 |
| 10–14 | 44 | 10–14 | 28 |
| 15–19 | 41 | 15–19 | 43 |
| 20–24 | 26 | 20–24 | 104 |
| 25–29 | 29 | 25–29 | 127 |
| 30–39 | 20 | 30–39 | 276 |
| 40–49 | 13 | 40–49 | 208 |
| 50–59 | 21 | 50–59 | 190 |
| 60–69 | 9 | 60–69 | 192 |
| 70–79 | 12 | 70–79 | 87 |
| 80 and over | 2 | 80 and over | 16 |
| Not stated | ---- | Not stated | 8 |

The sources of reporting of new cases during the year were as follows:—

Stationary clinics: Tranquille, 13; Vancouver, 514; Victoria, 81; and New Westminster, 117.

Travelling Clinics: Interior, 64; Coast, 75; Island, 33; and Kootenay, 119.

Reported from outside the Division of Tuberculosis Control, 675.

## CLINICS AND INSTITUTIONS

With the major efforts being the construction of the Pearson Tuberculosis Hospital in Vancouver and the renovation of the Tranquille Sanatorium, there have been few physical changes other than those within the institutions. The Kootenay Travelling Clinic in Nelson found it necessary to change its location from the Kootenay Lake General Hospital to a down-town location in that city, and new quarters have been obtained. This is proving to be a more satisfactory situation than before.

The staff situation has been relatively stable over the year, but it is anticipated there will be a great many transfers in all units within the Division in staffing the new sanatorium. In making the key appointments, the Medical Superintendent of Tranquille is being transferred to the Pearson Tuberculosis Hospital, while he is being replaced at Tranquille by the transfer of the Medical Superintendent of the Victoria unit. To facilitate the handling of the problem of transfers and new appointments, a personnel assistant has been appointed to the Central Office of the Division. This should provide a more

direct line of communication to the Civil Service Commission and expedite the handling of personnel problems.

Aside from the Kootenay Travelling Clinic in Nelson, which is becoming more and more a stationary clinic, and the work in the Fraser Valley, which is carried out by the New Westminster Stationary Clinic, all the travelling clinics are being operated from the sanatoria, with headquarters in the Victoria unit, Willow Chest Centre, and Tranquille Sanatorium. Various members of the medical staff of these institutions take responsibility for covering the medical services provided by these clinics.

There have been no significant changes in the medical or surgical treatment in the institutions during the year.

In the preventive programme, B.C.G. vaccination is being carried out in selected groups. This vaccination is urged for hospital employees and for contacts of known cases of tuberculosis. However, it has not been considered advisable to extend the programme to other groups, such as young adults, until such time as the programme is considered to be effectively applied in the contact group.

## SOCIAL SERVICE

Staff changes continued to hamper the work of the Social Service Section during the year. At the Willow Chest Centre the situation was relieved by two former social workers returning to the staff, but at Tranquille the social-work programme had to be curtailed because no replacement could be found for the social worker who resigned in July. With the exception of Tranquille, case-loads for the workers have remained about the same as the previous year, with an average case-load of ninety-five per worker in the Willow Chest Centre, ninety-nine in the Jericho Beach unit, and ninety-six in the Victoria unit. At Tranquille the case-load averaged 165 per month. In September the Provincial supervisor joined the Royal Canadian Air Force as senior administrative officer in the welfare field, and the case-work supervisor at the Division of Venereal Disease Control was transferred to the Division of Tuberculosis Control. As part of the reorganization of the Tuberculosis Social Service Section at this time, the senior case-worker at the Willow Chest Centre was promoted to case-work supervisor for the Vancouver area.

The programme for providing home-maker service on a selective basis to tuberculous patients and their families in the Vancouver metropolitan area has continued during the year under the joint administration of the Metropolitan Health Committee and the Family Welfare Bureau of Vancouver. At the end of the year ten families were in receipt of full-time supervised home-maker service and fourteen families were receiving part-time help from this source. Because the programme was inaugurated as a demonstration project, financed from Federal Health Grants, the evaluation of the service should yield some significant information about the specific contribution which a properly organized home-maker service can make to the tuberculosis-control programme.

Although the basic Social Allowance rate was increased in 1951 by $5 a month, the problem of convalescent care for the tuberculous patient without resources remains chronic. Even with the dietary extras which may be added to the basic Social Allowance granted to a person who is unable to support himself because of tuberculosis, the Social Allowance budget falls below requirements.

## CONCLUSIONS

Having been faced for many years by an acute shortage of beds for the treatment of tuberculosis, the day is rapidly approaching when this problem will be met and eventually overcome. Having then provided for those cases which have pulmonary tuberculosis, the problem of the non-pulmonary tuberculosis cases will require serious consideration, when sanatorium facilities are adequate to permit their acceptance. It is generally agreed that

all forms of tuberculosis, including idiopathic pleurisy with effusion, should be treated in a sanatorium, and this practice is followed in most centres throughout the country.

Effective legislation to control recalcitrant patients would be of considerable benefit to the tuberculosis programme in British Columbia. Under present regulations an infectious case of tuberculosis may be placed in sanatorium, but there are no regulations that will force him to remain there. The lack of adequate authority to deal with the careless and unco-operative case is a real handicap in preventing the dissemination of tuberculosis.

The care of the child with tuberculosis is a problem still being met by services outside the Division of Tuberculosis Control. Acute phases of the disease in children are being taken care of in general hospitals, while the Vancouver Preventorium is meeting a most essential need in caring for the sub-acute and chronic cases amongst children. This voluntary group is presently considering plans for the expansion of its facilities that will approximately double the present capacity of the Preventorium so as to provide modern medical and nursing care for the more active forms of the disease in children. These services are urgently needed, and the board of directors of the Preventorium deserve great credit for their continued assistance to the campaign against tuberculosis in this Province.

The British Columbia Tuberculosis Society, which has long played a leading part in tuberculosis work, continues to contribute greatly to augment the services provided through official agencies. Taking a leading part in educational activities and creating interest in tuberculosis work in a large number of communities in the Province through Christmas Seal Committees, the society has also made large monetary contributions to the Christmas Seal Auditorium in Vancouver and in providing a new radio installation for the patients at Tranquille Sanatorium. This assistance has been much appreciated and most valuable.

The work of the Division has been greatly facilitated by the close co-operation and cordial relations with other agencies of the Government.

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