PROVINCE OF BRITISH COLUMBIA

Twelfth Report of the

DEPARTMENT OF HEALTH AND WELFARE

(HEALTH BRANCH)

(Sixty-first Annual Report of Public Health Services)

YEAR ENDED DECEMBER 31ST

1957

Printed by DON MCDIARMID, *Printer to the Queen's Most Excellent Majesty*
in right of the Province of British Columbia.
1958

OFFICE OF THE MINISTER OF HEALTH AND WELFARE,
VICTORIA, B.C., January 17th, 1958.

To His Honour FRANK MACKENZIE ROSS, C.M.G., M.C., LL.D.,
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, 1957.

ERIC MARTIN,
Minister of Health and Welfare.

DEPARTMENT OF HEALTH AND WELFARE (HEALTH BRANCH),
VICTORIA, B.C., January 17th, 1958.

The Honourable Eric Martin,
Minister of Health and Welfare, Victoria, B.C.

SIR,—I have the honour to submit the Twelfth Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1957.

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)

The Honourable ERIC MARTIN,
Minister of Health and Welfare.

SENIOR PUBLIC HEALTH ADMINISTRATIVE STAFF

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

J. A. TAYLOR, B.A., M.D., D.P.H.,
Deputy Provincial Health Officer and Director, Bureau of Local Health Services.

G. R. F. ELLIOT, M.D., C.M., D.P.H.,
Assistant Provincial Health Officer and Director, Bureau of Special Preventive and Treatment Services.

A. H. CAMERON, B.A., M.P.H.,
Director, Bureau of Administration.

G. F. KINCADE, M.D., C.M.,
Director, Division of Tuberculosis Control.

E. J. BOWMER, M.B., Ch.B., M.R.C.S., L.R.C.P.,
Director, Division of Laboratories.

A. A. LARSEN, B.A., M.D., D.P.H.,
Consultant in Epidemiology and Director, Division of Venereal Disease Control.

J. H. DOUGHTY, B.Com., M.A.,
Director, Division of Vital Statistics.

R. H. GOODACRE, M.A., C.P.H.,
Director, Division of Public Health Education.

R. BOWERING, B.Sc.(C.E.), M.A.Sc.,
Director, Division of Public Health Engineering.

J. L. M. WHITBREAD, M.D., D.P.H.,
Director, Division of Environmental Management.

Miss M. FRITH, R.N., B.A., B.A.Sc., M.P.H.,
Director, Division of Public Health Nursing.

F. MCCOMBIE, L.D.S., R.C.S., D.D.P.H.,
Director, Division of Preventive Dentistry.

Miss J. GROVES, B.H.Ec.,
Consultant, Public Health Nutrition.

C. R. STONEHOUSE, C.S.I.(C.),
Senior Sanitary Inspector.

C. E. BRADBURY,
Rehabilitation Co-ordinator.

J. MCDIARMID,
Departmental Comptroller.

DEPARTMENT OF HEALTH AND WELFARE
(HEALTH BRANCH)

The Honourable Eric Martin,
Minister of Health and Welfare.

SENIOR PUBLIC HEALTH ADMINISTRATIVE STAFF

C. F. Amyot, M.D., D.P.H.,
Deputy Minister of Health and Provincial Health Officer.

J. A. Taylor, B.A., M.D., D.P.H.,
Deputy Provincial Health Officer and Director, Bureau of Local Health Services.

G. R. R. Elliot, M.D., C.M., D.P.H.,
Assistant Provincial Health Officer and Director, Bureau of Special Preventive and Treatment Services.

A. H. Cameron, B.A., M.P.H.,
Director, Bureau of Administration.

G. F. Kincade, M.D., C.M.,
Director, Division of Tuberculosis Control.

E. J. Bowmer, M.B., Ch.B., M.R.C.S., L.R.C.P.,
Director, Division of Laboratories.

A. A. Larsen, B.A., M.D., D.P.H.,
Consultant in Epidemiology and Director, Division of Parasitic Disease Control.

J. H. Doughty, B.Com., M.A.,
Director, Division of Vital Statistics.

R. H. Goodacre, M.A., C.P.H.,
Director, Division of Public Health Education.

R. Bowering, B.Sc.(C.E.), M.A.Sc.,
Director, Division of Public Health Engineering.

J. L. M. Whitbread, M.D., D.P.H.,
Director, Division of Environmental Management.

Miss M. Firth, R.N., B.A., B.A.Sc., M.P.H.,
Director, Division of Public Health Nursing.

F. McGuire, L.D.S., R.C.S., D.D.P.H.,
Director, Division of Preventive Dentistry.

Miss J. Groves, B.H.Ec.,
Consultant, Public Health Nutrition.

C. R. Stonehouse, C.S.I.(C.),
Senior Sanitary Inspector.

C. E. Bradbury,
Rehabilitation Co-ordinator.

J. McDermid,
Departmental Controller.

TABLE OF CONTENTS

PAGE

General Statement 11
Report of the Bureau of Administration 13
The Extent of Public Health Services in British Columbia 13
Staff 13
Administrative Studies and Reorganizations 14
Accommodations 15
Training 15
Report of the Bureau of Local Health Services 17
Health Unit Organization and Development 17
Community Health Centres 18
School Health Services 20
The Health of the School-child 20
Table I.—Summary of Health Status of Pupils Examined, according to School Grades, 1956/57 21
Table II.—Health Status of Pupils Examined in Grades I, IV, VII, and X for the Year Ended June 30th, 1957 22
Table III.—Health Status by Individual Grades of Total Schools, 1956/57 22
Table IV.—Number Employed and X-rayed amongst School Personnel, 1956/57 23
Table V.—Immunization Status of Total Pupils Enrolled according to School Grade, 1956/57 23
Home Nursing-care Programmes 24
Table VI.—Vernon Home-care Programme 25
Table VII.—Comparison of Nursing-care Service in Health Units Providing Home-care Service during First Nine Months of 1956 and of 1957 26
Disease Morbidity and Statistics 27
Table VIII.—Poliomyelitis Case Fatality Rates in British Columbia 28
Table IX.—Notifiable Diseases in British Columbia, 1953/57 29
Report of the Bureau of Special Preventive and Treatment Services, Vancouver 30
Administration 30
Faculty of Medicine, University of British Columbia 31
Voluntary Health Agencies 31
Alcoholism Foundation of British Columbia 31
British Columbia Cancer Foundation 31
British Columbia Medical Research Institute 31
Canadian Arthritis and Rheumatism Society (British Columbia Division) 32
Narcotic Addiction Foundation of British Columbia 32
G. F. Strong Rehabilitation Centre 33
Canadian Red Cross Blood Transfusion Service 33
National Health Grants 33
General 33
Administration 33
Grants Received for the Year Ended March 31st, 1957 34
Comparison of Amounts Approved and Actual Expenditures with Total Grants for the Year Ended March 31st, 1957 34
Crippled Children's Grant 34
Professional Training Grant 34
Hospital Construction Grant 34
Venereal Disease Control Grant 35
Mental Health Grant 35
Tuberculosis Control Grant 35

PAGE

Report of the Bureau of Special Preventive and Treatment Services, Vancouver—*Continued*
National Health Grants—*Continued*
Public Health Research Grant 36
General Public Health Grant 36
Cancer Control Grant 36
Laboratory and Radiological Services Grant 37
Laboratory Services 37
Radiological Services 37
Medical Rehabilitation Grant 37
Child and Maternal Health Grant 38
Registry for Handicapped Children 38
Report of the Division of Public Health Nursing 40
Public Health Nursing Consultant Service 40
Training Programmes 41
Local Public Health Nursing Service 42
Maternal Health—Prenatal and Postnatal 42
Child Health—Infant and Pre-school 43
Child Health—School 43
Tuberculosis 43
Other Communicable Diseases 43
Nursing Care 44
General 44
Report of the Division of Public Health Engineering 45
Water-supplies 45
Sewage-disposal 45
Stream Pollution 46
The Pollution-control Board 47
Shell-fish Sanitation 47
Frozen-food Locker Plants 48
General 48
Report of the Division of Preventive Dentistry 49
Prevention 49
Research 50
Dental Personnel 51
General Remarks 51
Table I.—Full-time Preventive Dental Treatment Services in British Columbia, Shown by Local Health Agency, School-years 1954/55 to 1956/57 52
Table II.—Part-time Dental Treatment Services in British Columbia (Community Preventive Dental Clinic), School-years 1954/55 to 1956/57 52
Report of the Division of Environmental Management 53
Occupational and Industrial Health 53
Civil Defence Health Services 54
Employees' Health Service 55
Report of the Sanitary Inspection Service 57
Milk-control 57
Average Plate Counts on Pasteurized Milk, 1950–57 58
Eating and Drinking Places 59
Slaughter-houses 59
Food-control 59

Report of the Sanitary Inspection Service—*Continued* PAGE
Industrial Camps 59
Tourist Camps and Trailer Parks 60
Substandard Housing 60
Barber-shops 61
Pest-control 61

Report of the Nutrition Service 62
Consultant Service to Local Public Health Personnel 62
Community Health 62
Maternal and Child Health 62
School Health 62
Consultant Service to Hospitals and Institutions 62
General Observations 63

Report of the Division of Vital Statistics 64
"Vital Statistics Act" 64
Documentary Revision 65
"Marriage Act" 65
"Change of Name Act" 65
"Wills Act" 66
Microfilm and Photographic Services 66
Administrative Procedures 66
Statutory Amendments 66
Indian Registrations 67
District Registrars' Offices 67
General Office Procedures 68
Vancouver Office 68
Inspections 68
Statistical Services 69
Vital Statistics 69
Dental-health Statistics 69
Child Growth and Development Charts 70
Venereal-disease Statistics 70
Epidemiological Statistics 70
Cancer Statistics 70
Mental-health Statistics 71
Vancouver General Hospital Obstetrical Discharge Study 71
Registry for Handicapped Children 71
Tuberculosis Statistics 71
Other Assignments 71
Vital Statistics Special Reports 72

Report of the Division of Public Health Education 73

Report of the Division of Tuberculosis Control 74
Case-finding 74
Hospital Admission Chest X-ray Programme 75
Travelling Clinics 76
Bed Occupancy 77
Patient Distribution in Sanatorium 78
Committals to Sanatorium 79
Tuberculosis Mortality 79
Tuberculosis Morbidity 79
National Health Grants 79

PAGE
Report of the Division of Venereal Disease Control 81
Administration 81
Clinics 82
Epidemiology 82
Education 83
Report of the Division of Laboratories 84
Tests for the Diagnosis and Control of Venereal Diseases 84
Tests Relating to the Control of Tuberculosis 84
Salmonella, Shigella, and Other Enteric Pathogens 85
Sanitary Bacteriology 85
Examination of Dairy Products 85
Bacteriological Examination of Water 85
Bacterial Food Poisoning 86
Other Types of Tests 86
Diphtheria 86
Parasitic Infestations 86
Fungous Infections 86
Miscellaneous Tests 86
Virous Infections 86
Chemical Analyses 87
Branch Laboratories 87
General Comments 87
Table I.—Statistical Report of Examinations and Work Load in 1956 and 1957, Main Laboratory 89
Table II.—Statistical Report of Examinations and Work Load during the Year 1957, Branch Laboratories 90
Report of the Rehabilitation Co-ordinator 91
Co-ordination 91
The G. F. Strong Rehabilitation Centre 91
The Registry for Handicapped Children 91
Social Welfare Services 92
Department of Education 92
National Employment Service 92
Canadian Medical Association, British Columbia Division 92
Casework of the Rehabilitation Service 92
Table I.—Patients Referred for Rehabilitation Study in Health Branch—Number of Patients Referred Annually 93
Table II.—Patients Referred for Rehabilitation Study in Health Branch—Classified by Age-group and Result of Study 94
Table III.—Patients Referred for Rehabilitation Study in Health Branch—Classified by Sex and Occupational Classification Prior to Referral 94
Table IV.—Patients Referred for Rehabilitation Study in Health Branch—Classified by Sex and Academic Education and Vocational Training Prior to Referral 95
Table V.—Patients Referred for Rehabilitation Service in Health Branch—Analysis of Earnings of Seventy-three Patients after Rehabilitation to Gainful Employment 96
Table VI.—Patients Referred for Rehabilitation Service in Health Branch—Analysis of Source of Support Prior to Acceptance of Seventy-three Rehabilitated Patients 96
Acknowledgment 96
Report of Accounting Division 97

Twelfth Report of the Department of Health and Welfare

(HEALTH BRANCH)

Sixty-first Annual Report of Public Health Services

YEAR ENDED DECEMBER 31st, 1957

G. F. Amyot, Deputy Minister of Health and Provincial Health Officer

---

In the pages following this first general section, the heads of the various bureaux, divisions, and services which make up the Health Branch present reports of their own programmes. The reader is referred to them for detailed accounts. Some general observations may be made, as follows:—

This year, as in 1956, births occurred in record numbers. Preliminary figures show the total was about a third higher than five years ago.

The preliminary birth rate in 1957 was 26.3 per 1,000 population, the highest ever recorded in this Province. The death rate improved somewhat over 1956, having dropped to 9.3 per 1,000 population from 9.6 in 1956. Births exceeded deaths by about 25,500, giving a record natural increase rate of 17.1 per 1,000 population. The rate of stillbirths per 1,000 live births in 1957 was 10.3, the lowest ever. The marriage rate was 8.7 per 1,000 population, up slightly from the 1956 figure of 8.5.

Again this year, as for the last two years, there was a decline in the rate of deaths from heart disease, the figure being 339.4 per 100,000 population, compared with 344.4 in 1956. The rate of deaths from cancer was up slightly to 152.8 from the 1956 rate of 149.4. Vascular lesions of the central nervous system caused 102.9 deaths per 100,000 population this year, compared with 104.2 in the previous year. In total, these three diseases accounted for 63.8 per cent of all deaths, whereas in 1956 they accounted for 62.4 per cent.

The death rate from accidents in 1957 was at its second lowest point in twenty-five years, being 66.3 per 100,000 population, whereas the 1956 rate was 78.3. Of the total accidental deaths, 27.3 per cent were the result of motor-vehicle accidents, 17.0 per cent being due to accidental falls, 10.5 per cent to drowning, and 8.0 per cent to burns.

There was a decline in the rate of deaths from pneumonia to 43.2 per 100,000 population from the high of 44.9 recorded in 1956. Sixty per cent of the pneumonia deaths in 1957 resulted from bronchopneumonia and another 15.7 per cent from lobar pneumonia. The remainder resulted from other and unspecified types.

The death rate from diseases of the arteries was almost unchanged from that for 1956, being 20.2 this year and 20.7 in 1956. The rate of deaths due to congenital malformations declined from 12.2 in 1956 to 11.9 in 1957, and the suicide rate was also down, being 12.4 last year and 11.2 this year. This was the lowest suicide rate for many years.

There were 27.3 infant deaths per 1,000 live births in 1957, somewhat above the 1956 rate. The maternal death rate was unchanged from the 1956 rate, being 0.4 per 1,000 live births.

The dramatic decline in tuberculosis mortality continued during 1957, with a further 20-per-cent reduction in the death rate over that of 1956. This disease was responsible

for 6.2 deaths per 100,000 population in 1957, compared with 7.9 per 100,000 population in 1956. Only ten years ago, in 1947, the tuberculosis death rate stood at 51.3 for 100,000 population in this Province.

There was little change in the incidence of tuberculosis, but the newer methods of treating the disease had so reduced the need for institutional care of patients that it was possible to discontinue the operation of a significant number of tuberculosis beds and to plan further decreases. (On the other hand, the normal population increase and the demand for new or extended services, including the supervision and treatment of tuberculosis patients discharged from the institutions to their homes, increased the work load carried by the staffs of the health units.)

There were no grave outbreaks of communicable disease. The incidence of poliomyelitis was the lowest recorded over the past ten years, and there were no deaths from this disease recorded in 1957.

Asian influenza did not create the difficulties that had been feared by some people. (However, there were many administrative problems in connection with obtaining and administering the influenza vaccine.)

There was again an increase in the number of cases of venereal disease reported in the Province, although the rate of increase was somewhat smaller than that of the previous year. The increase appeared to be part of a general trend in Canada and the United States.

There were no known water-borne epidemics resulting from the use of public water-supplies during the year. Although it was important to guard against any feeling of complacency, this good record pointed up the care being taken by the various water authorities.

In contrast to last year, there were few epidemics due to Salmonella, Shigella, and other enteric pathogens.

Although the number of nose and throat swabs for the diagnosis of diphtheria changed little from previous years, there was an increase in the number of individuals from whom the diphtheria organism was isolated. This illustrated the fact that diphtheria remains a potential threat, undoubtedly kept in check by the continuous immunization programme.

In the late fall there were some cases of paralytic shell-fish poisoning among people who had eaten oysters, clams, or mussels. The toxicity was apparently caused by a marine plankton which the shell-fish had ingested. Suitable control measures were instituted immediately.

The National health grants continued to provide great benefits to the health and hospital services generally. As in all the years since their inception in 1948, the grants made possible more rapid developments in employment and training of staff, purchase of equipment, and research. Officials of the Department of National Health and Welfare were most helpful in the administration of the grants programme.

There were also many organizations and individuals within the Province who worked closely with the Health Branch in attempting to meet the health needs of the people. The Deputy Minister of Health wishes to pay tribute to the voluntary agencies, the professional groups, the other departments of Government, and his fellow public health workers for their splendid efforts in providing service.

REPORT OF THE BUREAU OF ADMINISTRATION

A. H. CAMERON, DIRECTOR

Organizationally the Health Branch consists of three bureaux, one of which is the Bureau of Administration. Included within the Bureau are the central office, which deals primarily with general administration, and also the Division of Vital Statistics and the Division of Public Health Education. This section of the Annual Report deals with the year's experience and activities in the field of general administration. Separate reports of the Division of Vital Statistics and the Division of Public Health Education appear later in this volume.

THE EXTENT OF PUBLIC HEALTH SERVICES IN BRITISH COLUMBIA

The population of British Columbia is approximately 1,487,000, an increase of some 88,500 over the corrected figure for 1956, and the area of the Province is approximately 366,000 square miles. This gives a population density of 4.1 persons per square mile, the fourth lowest among the Provinces of Canada. Almost half of the total population of the Province lives in the metropolitan areas of Greater Vancouver and Victoria-Esquimalt. Thus there are vast areas of the remainder of the Province which are only sparsely populated, a factor of great importance in providing public health services.

The two metropolitan areas are served by their own health departments, which co-operate closely with the Provincial Health Branch. Throughout the rest of the Province, public health service is provided through health units,* which come more directly under the supervision of the Health Branch, particularly in professional and technical matters.

Public health services are made available to practically every citizen in British Columbia through either the metropolitan health departments or the Provincial health services (the health units mentioned above). Calculations based on the non-Indian population† show that slightly more than 50 per cent of the people of the Province are served by the Provincial health services and slightly less than 50 per cent are served by the two metropolitan health departments.‡

STAFF

In local health services (other than Greater Vancouver and Victoria-Esquimalt), there were 273 authorized positions. Although there were vacancies in various places at various times during the year, the figure 273 reflects quite accurately the size of the field staff serving the seventeen Provincial health units.

It was not possible to fill all public health nursing positions with nurses who had taken the required postgraduate training in public health. During the year there were some twenty-seven positions filled by registered nurses who had not yet received this special training. In accordance with the policy that has been in effect for several years, it was planned to provide these nurses with limited assistance from the National health grants to enable them to obtain their public health training at university.

In the remainder of the Health Branch—that is, in the administrative offices in Victoria and Vancouver and in the specialized divisions—there were 843 employees at the end of 1957. This was 108 less than the total at the end of 1956. Although there were small changes in several divisions and offices, the major reduction occurred at

* A health unit is defined as 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.

† The Federal Government provides services for the Indians.

‡ It should be noted that the Provincial Health Branch provides the services of its special divisions, such as the Divisions of Tuberculosis Control, Venereal Disease Control, Laboratories, Vital Statistics, Public Health Engineering, etc., on a Province-wide basis which includes the metropolitan areas.

Tranquille Sanatorium, where the staff was decreased by more than ninety persons during the year. This reduction will be discussed more fully later in this section of the Report. It is interesting to note that, even with this reduction, the staffs of the tuberculosis institutions (Willow Chest Centre, Pearson Hospital, and Tranquille Sanatorium) account for almost half of the personnel employed by the Health Branch.

Recruiting difficulties were particularly acute among two professional groups. Although the Division of Public Health Engineering managed to raise the number of its professional staff from two to four engineers at one point during the year, a resignation soon reduced the staff to three. Further, it was not possible to recruit engineers with postgraduate training in the public health specialty of this profession. Only one of the engineers on staff during 1957 held these qualifications, with the result that he had to carry a disproportionately heavy load of the special public health engineering problems and projects. The Division of Public Health Education also encountered a marked lack of success in obtaining professional staff, with or without postgraduate training in public health. This created a serious situation because one of the two professionally qualified health educators resigned during the year, and it was not possible to obtain even a person untrained in public health education to replace him.

ADMINISTRATIVE STUDIES AND REORGANIZATIONS

Local Health Services

A study of office administration, recording, and filing procedures in local health services was completed in March, 1957, by the Supervisor of Vital Statistics and the Public Health Nursing Consultant, who had undertaken the review at the request of the Director of Local Health Services. The study was, in reality, an extension of an earlier (1955) survey conducted under the auspices of the Civil Service Commission. At the year's end the findings had already assisted the staffs of the health units to improve the efficiency of their administrative operations.

Division of Tuberculosis Control

In March, 1957, the Director of Administration for the Health Branch and the Personnel Officer for the Bureau of Special Preventive and Treatment Services visited Tranquille to discuss with the administrators there the question of reducing staff in relation to the decrease in bed occupancy. These discussions resulted in certain immediate staff reductions, some of which had already been suggested by the Tranquille administrators, and revealed that further significant reductions could be made only by closing entire wards. A ward in the Greaves Building was closed soon after. A further review was made in July because Health Branch and Divisional administrators were anxious to make some predictions concerning the possibility of closing the institution entirely. Following this later study, the remaining patients in the Greaves Building were accomodated elsewhere and that building was closed. Further, on the basis of calculations made by the Director, Division of Tuberculosis Control, it is hoped that Tranquille will cease to function as a tuberculosis institution by the end of 1958.

For some years the Division of Tuberculosis Control maintained 44 beds for tuberculosis patients in the Pavilion of Victoria's Royal Jubilee Hospital. However, by the fall of 1956 the demand for such beds on Vancouver Island had so declined that it was decided to discontinue this part of the Division's service in Victoria. The number of patients was gradually reduced, and by the end of March, 1957, all of the tuberculosis bed patients in the Pavilion had been transferred elsewhere. (Similar action had been taken in 1955 in respect to the 34 beds which the Division had maintained at St. Joseph's Hospital in Victoria.)

The impending retirement of the Business Manager, Division of Tuberculosis Control, and the educational leave of absence of the Health Branch's Personnel Officer in Vancouver necessitated a review of the administrative organization of the Health Branch's services in that area. Some minor changes in duties and responsibilities of several employees were made immediately and certain more important changes were planned for implementation during or after January, 1958. Fortunately the reducing needs at Tranquille made it possible to release the Hospital Administrator from his post there and transfer him to Vancouver, where he will assume some of the duties of the Business Manager and the Personnel Officer. One of his main duties will be to study ways and means of improving procedures, possibly through the amalgamation of certain Health Branch offices in the Vancouver area.

Central Office, Victoria

In June, 1957, a study of the organization, duties, and responsibilities of certain of the Victoria central office staff was undertaken. This resulted in the transfer of some duties and responsibilities in order to adjust the labour load and clarify the lines of authority. A description of the organization and the duties and responsibilities was prepared in written form in order that all concerned might have a clear understanding of the plan.

ACCOMMODATIONS

The Health Branch central offices in Victoria and Vancouver and the institutions experienced little change in accommodations during the year. For the most part, these accommodations were good.

There was a further improvement in accommodations for the staff of the health units. Six communities completed construction of health centres during the year, and nineteen other communities were taking the preliminary action which will probably result in construction. The report of the Bureau of Local Health Services, which appears later in this volume, states that twenty-seven community health centres* have been constructed since 1951, when the present policy of providing Provincial funds and National health grants to supplement the local funds was introduced.

TRAINING

The Health Branch is engaged in providing professional, technical, and administrative services to the public. It is most important, therefore, that the qualifications of its employees be maintained at a high level. This is accomplished largely by in-service training and by academic training, often at the postgraduate level, at universities. As in previous years, the National health grants were again most helpful, particularly in providing training at universities. During 1957, twenty-one Health Branch employees commenced professional training under the grants, thirteen completed training, and five attended short courses.

The National health grants also enabled the Health Branch to bring Miss Aileen Hogan, Consultant in Maternity Nursing, Maternity Centre, New York City, to British Columbia, where she conducted a course on child and maternal care for two weeks in September. The course was attended by twenty-nine supervisory and senior public health nurses of the Health Branch staff and representatives from some other health agencies in the Province.

In-service training was provided through staff meetings throughout the year. In the Victoria headquarters offices this took the form of a weekly meeting of the Local Health Services Council under the chairmanship of the Deputy Provincial Health Officer, who is also Director of Local Health Services. In each health unit the staff normally

* These include six in Greater Vancouver and one in Victoria-Esquimalt.

met once a month under the chairmanship of the Health Unit Director. In these health unit meetings, it was the general practice to devote part of the day to discussions among the staff as a whole and part of the day to discussions of more specific topics by smaller groups.

The practice of providing early in-service experience or " orientation " on an individual basis to newly appointed senior staff was continued. Under this plan, the newcomer—most often a new Health Unit Director—spends a week in Victoria and a week in Vancouver in order that he may become acquainted with Health Branch policies and procedures and the more important related health agencies. During 1957 two new Health Unit Directors received this orientation, and the bacteriologist, who was newly appointed as Director of Clinical Laboratory Services, received a modified version of it.

REPORT OF THE BUREAU OF LOCAL HEALTH SERVICES

J. A. TAYLOR, DIRECTOR

HEALTH UNIT ORGANIZATION AND DEVELOPMENT

The year has been one of stable administration, in which there were no major new developments and expansion consisted of minor increases in staff to cope with increased demands for services in areas in which population increases coincided with industrial development. Experience would indicate that the present health units provide adequate service for the settled areas of the Province, and that consideration for the future will be dependent upon either development of new communities or unprecedented population increases in existing ones. These criteria have arisen in two areas, the first being the gradually planned growth in Kitimat coincidental with the planned industrial expansion, and the second being the rapid population increase in the Cariboo and Chilcotin areas. To deal with these situations, negotiations have been under way to promote a health unit for the Municipality of Kitimat and to divide the present sprawling Cariboo Health Unit into two.

Plans in relation to Kitimat were promoted when negotiations toward establishment of that industrial centre were first introduced, and it was indicated that the community was to be designed for a population of about 50,000 people. It was reasoned that there could be a step-by-step development toward that end as growth took place, since it was evident that it would be contingent upon the industrial programme. To begin with, a resident public health nurse was appointed to work with a part-time Medical Health Officer in the person of one of the practising physicians. At the same time, sanitary inspection services were introduced from the neighbouring Skeena Health Unit. This provided an initial staff which operated exceedingly well in the early phases of community development; latterly an additional public health nurse was introduced and part-time clerical assistance was provided. At the same time, negotiations commenced with the Hospital Board to provide suitable office accommodation in the planned community hospital. Hospital planning has progressed, and a referendum recently presented has received the necessary ratepayer approval for construction to commence next year. Recently, however, industrial expansion slowed, so that future growth of the community may be somewhat less rapid than originally contemplated; if this is to be the case, then the progress toward an ultimate health unit can continue on a step-by-step basis.

The Cariboo Health Unit has long been recognized as requiring some administrative revision, since the distances that have to be travelled by the senior staff present administrative problems when the Health Unit Director, senior public health nurse, and senior sanitary inspector are away frequently for lengthy periods from their headquarters office. Population increases have occurred in all of the communities within the jurisdiction of this health service and have reached a figure at which it seems practical to consider a division of the unit into two. During the year, numerous staff changes occurred in the personnel within this health unit, resulting in the appointment of a new Health Unit Director, a new senior public health nurse, and a new senior sanitary inspector; it was felt advisable to give these persons an opportunity to acquaint themselves with the administrative problems and to benefit from their advice and guidance before proceeding further with the negotiations toward a division of the health unit.

The Boundary Health Unit in the Lower Mainland area of the Province creates an administrative problem also, through unprecented population growth. The unit, which was originally designed to serve a population of approximately 40,000 persons, has now attained a population approximating 70,000 persons.

In the metropolitan areas, some reorganization has also occurred as administrative attempts to cope with the developing trends in public health practice. In the Greater Vancouver Metropolitan area, the agreement establishing the amalgamation was reviewed and revised to provide a somewhat more effective local control for their own service by member municipalities. While providing for a greater degree of control locally, the revision nevertheless maintains the principle of an organized metropolitan health committee to correlate the services between the member municipalities, endorsing the organization established some twenty years ago through a grant from the Rockefeller Foundation. At the same time, some reorganization of administration of services within the Greater Vancouver area was made to provide for more direct administration within the seven health units, particularly in the field of sanitary inspection.

In the Greater Victoria Area, negotiations toward amalgamation of the public health administration in the Municipalities of Saanich, Oak Bay, and Victoria-Esquimalt were continued, but with little enthusiasm since there seemed to be little accomplishment from previous discussions. The Victoria-Esquimalt Union Board of Health, which has had experience in amalgamation of health services between the Cities of Victoria and Esquimalt, is particularly interested in further consolidation of public health administration, but cannot obtain sufficient support for its proposal. There is little doubt that split administration in a metropolitan area raises administrative problems, particularly when boundaries traverse school-population areas.

COMMUNITY HEALTH CENTRES

In 1951 it was announced that funds were available on both National and Provincial levels to assist in the construction of more suitably appointed accommodation for local health services to include administrative and clinic accommodation in community health centres. That announcement sparked an interest on the part of a number of communities, resulting in the construction of exceedingly fine community health centres which housed not only the administration and clinic accommodation for the official health agency, but provided offices and workrooms for the voluntary health agencies. The plan had its origin in the National health grant programme, in which it was indicated that money could be used from the Hospital Construction Grant for community health centre purposes, providing it was matched on a Provincial and municipal level. Provincial funds were budgeted accordingly, and the information circulated through the Health Unit Directors to the municipalities. As the proposal gained acceptance, it was further enlarged to allow for grants to be added from the voluntary health agencies, such as the British Columbia Tuberculosis Society, the British Columbia Cancer Society, the Canadian Red Cross, St. John Ambulance Association, and others.

Since that plan was introduced, twenty-seven community health centres have been constructed at a total cost of well over a million dollars. Details are contained in the following table:—

COMMUNITY HEALTH CENTRE CONSTRUCTION

	Total Cost	National Health Grant	Provincial Grant
Metropolitan Health Service—			
Health and Welfare Building, Vancouver	$114,446.00	$11,250.00	$11,250.00
Health Unit No. 2, Kerrisdale-Marpole	70,311.00	9,750.00	9,750.00
Health Unit No. 5, Grandview	161,000.00	11,250.00	11,250.00
North Shore Health Unit, North Vancouver	96,578.67	15,000.00	15,000.00
Burnaby Health Unit, Burnaby	99,953.00	11,250.00	11,250.00
Richmond Health Centre, Richmond	70,031.00	15,000.00	15,000.00
Victoria-Esquimalt Health Unit—Victoria Health and Welfare Building	118,481.98	11,250.00	11,250,00
West Kootenay Health Unit—Rossland Health Centre	19,665.00	4,963.33	6,392.59
South Okanagan Health Unit—			
Kelowna Health Centre	63,304.74	15,000.00	16,755.41
Penticton Health Centre	62,784.66	15,000.00	15,000.00
Oliver Health Centre	12,690.00	4,126.66	4,126.66
Similkameen Health Centre (Keremeos)	11,761.57	2,923.33	2,923.33
North Okanagan Health Unit—			
Armstrong-Spallumcheen Health Centre	8,370.00	2,790.00	2,790.00
Enderby Health Centre	8,400.15	2,600.00	2,600.00
Salmon Arm Health Centre	20,895.46	5,070.00	3,640.00
Revelstoke Health Centre	17,900.00	3,640.00	3,640.00
South Central Health Unit—			
Kamloops Health and Welfare Centre[1]	86,030.65	11,743.18	74,287.47
Lillooet Health Centre	7,626.00	1,934.00	1,934.00
Cariboo Health Unit—Prince George Health Centre	68,561.50	15,000.00	15,000.00
North Fraser Health Unit—			
Mission Health Centre	33,030.00	15,000.00	15,000.00
Maple Ridge Health Centre, Haney	20,446.00	4,923.33	4,923.33
Boundary Health Unit—			
Ladner Health Centre	13,403.58	3,570.00	3,570.00
Langley Health Centre	38,789.17	8,583.33	8,583.33
Simon Fraser Health Unit—			
New Westminster Health Centre	90,775.00	15,000.00	15,000.00
Coquitlam Health Centre	8,656.96	2,769.12	3,118.73
Central Vancouver Island Health Unit—			
Nanaimo Health Centre	83,166.70	15,000.00	15,000.00
Qualicum Health Centre	16,500.00[2]	3,500.00	3,500.00
Totals	$1,423,558.79	$237,886.28	$302,534.85

[1] Total cost was met by National health grants and Provincial funds.
[2] Estimated cost only.

In this past year six new community health centres completed construction, and there was an addition made to one constructed five years ago. The newly constructed buildings appeared in the Municipality of Richmond, City of Penticton, City of Langley, City of Salmon Arm, City of Rossland, and Village Municipality of Qualicum Beach, while an addition was made to the Kelowna Community Health Centre for more adequate accommodation of the voluntary health agencies. As the year ended, nineteen other communities were contemplating health centre buildings. One was in the early construction phase at Vanderhoof, and eight were in the negotiation phase at Kitimat, Kimberley, Grand Forks, Williams Lake, Vernon, Port Alberni, Pemberton, and an addition to the Maple Ridge Health Centre at Haney, while eight others were being planned for the communities of McBride, Smithers, Burns Lake, Dawson Creek, Greenwood, Whalley, Trail, and Summerland.

SCHOOL HEALTH SERVICES

School health services constitute a major feature of the total community health services, consuming a major amount of the time of the public health nurse in particular. While changes in the routine of that service have occurred over the years, there is a continual effort being made to make it still more practical in the maintenance and promotion of the health of the school-child. The School Health Services Sub-committee of the Health Officers' Council held four meetings during the year with that particular objective in mind, while recognizing that public health staffs were finding it difficult to cope with the demands of school health services arising from the increasing school populations.

A policy had been adopted previously favouring routine examination of the pre-school and Grade I child as most desirable, with the parent present. In the other grades, priority was to be given to children referred to the school health physician on the basis of teacher-nurse consultations. This policy has become rather extensively adopted throughout the health units as the basic medical-examination programme of school-children. The Sub-committee gave further consideration to the policy at its meeting and recommended its continuance.

Certain inquiries were directed to the matter of vision-testing of school-children to determine the best methods of assessing visual acuity. In this inquiry, assistance was sought from ophthalmologists to determine their recommendations for routine vision-testing and the type of equipment that should be utilized for that purpose. At the same time, some impressions were sought in the matter of routine vision-testing by public health nurses or by classroom teachers. Further studies are under way to determine the most practical effective methods for screening of visual defects among pupils.

Recognition that ideal mental health is desirable required that an assessment of it be conducted during the medical examination of the school-child. After consultation with the Director of Mental Hygiene in the Metropolitan Health Committee, the School Health Services Sub-committee recommended that more attention should be focused on promoting ideal mental health among school-children.

Consideration of the amount of first-aid instruction in the schools, which was initiated a year ago, was continued in discussions with the officials in the Department of Education. A survey commenced by the Department of Education to determine the amount of first-aid instruction in the schools conducted through a questionnaire to school principals has been completed to the point of compilation of the replies; the final stage was to be completed so that a report could be presented to the Health Branch, and through it to the School Health Services Sub-committee and the Public Health Committee of the British Columbia Division of the Canadian Medical Association, which expressed interest in the problem. A further step was taken in this connection to determine the amount of health instruction presented to potential teachers enrolled in the College of Education. It had long been felt that much would be gained through joint discussions by the School Health Services Sub-committee and a representative of the Faculty of the College of Education; consequently, a suggestion was presented to the Dean of the College of Education at the University of British Columbia suggesting that a liaison officer be appointed to meet periodically with the School Health Services Sub-committee. The suggestion was accepted with enthusiasm, and a member of the Faculty was appointed as a liaison member of the School Health Services Sub-committee to attend future meetings when discussions can be directed to mutual problems.

THE HEALTH OF THE SCHOOL-CHILD

During the school-year 1956/57, ended June 30th, 1957, school health services were provided to the 1,080 schools contained in the eighty-two school districts and the

twenty single-school areas. There were 251,005 pupils enrolled, an increase of 20,572 over the number enrolled the previous academic year. Of the total pupils enrolled, 43,010 (17.1 per cent) received complete medical examinations; this is in keeping with the policy to concentrate medical examinations on the beginners and the referrals, as is shown in Table I, indicating 22,899 Grade I pupils (77.6 per cent) received examination. In the remaining grades there is very little routine examination provided, the majority of the pupils examined being referred for specific reasons, usually on the basis of a teacher-nurse conference. Table III reveals, however, that there is a high percentage of examinations provided in Grade IX (31.6 per cent), at that period in school-life when the child is transferring to high-school studies.

The statistics further reveal in Tables I and III that the vast majority of the children examined have minor or no defects, 78.9 per cent of all pupils examined being placed in that category. It is evident that the higher proportion of the pupils in the special classes and other classes have defects of one kind or another, which is to be expected, since these classes are designed for pupils unable to cope with the normal school environment. Children enrolled in the special or other classes are shown from Table III to have a higher proportion of each type of defect—physical, emotional, and mental—which is again to be expected.

An amazing feature is the low percentage of emotional and mental defects apparently occurring in the pupils enrolled in the regular school grades. A new type of categorization of defects recommended and approved two years ago was based on the premise that medical examination to reveal physical defects did not adequately determine the exact health status of the pupil when it overlooked the emotional and mental conditions. It had been argued that pupils suffered from these latter two deficiencies to a considerable degree, and that the complete assessment of the pupil should be made to determine the situation. Medical examinations for this academic year, compared to medical examinations for the previous academic year, would indicate that there was a lesser number of emotional and mental conditions discovered, a feature which might be subject to some question.

TABLE I.—SUMMARY OF HEALTH STATUS OF PUPILS EXAMINED, ACCORDING TO SCHOOL GRADES, 1956/57

Item	Total Pupils, All Schools	Examined in Grades				Special Classes	Other
		Grade I	Grades II–VI	Grades VII–IX	Grades X–XIII		
Total pupils enrolled in grades examined	251,005	29,523	128,602	58,959	31,698	1,810	413
Total pupils examined	43,010	22,899	9,448	8,463	1,681	449	70
Percentage of enrolled pupils examined	17.1	77.6	7.3	14.4	5.3	24.8	16.9
Percentage examined with minor or no *physical, emotional, or mental defects*	78.9	78.2	78.9	82.8	78.9	42.5	58.6
Percentage of pupils examined having specified type and degree of defect—							
Physical 2	15.8	16.8	15.3	13.1	15.8	28.7	34.3
Emotional 2	1.0	0.9	1.1	0.6	2.3	4.5	5.7
Mental 2	0.1	(1)	(1)	.....	0.1	2.2	.....
Physical 3	4.3	5.0	3.3	2.6	4.6	12.7	17.1
Emotional 3	0.2	0.3	0.2	0.1	0.2	2.4	.....
Mental 3	(1)	(1)	.....	.....	.....	0.2	.....
Physical 4	1.9	1.8	1.9	0.9	0.9	28.3	5.7
Emotional 4	0.3	0.2	0.3	0.1	.....	6.7	1.4
Mental 4	0.3	0.1	0.1	0.1	.....	27.2	.....

[1] Less than 0.1 per cent.

TABLE II.—HEALTH STATUS OF TOTAL PUPILS EXAMINED IN GRADES I, IV, VII, AND X FOR THE YEAR ENDED JUNE 30TH, 1957

Total pupils enrolled in grades examined	92,266
Total pupils examined	28,113
Percentage of enrolled pupils examined	30.5
Percentage examined with minor or no physical, emotional, or mental defects	77.6
Percentage of pupils examined having specified type and degree of defect—	
Physical 2	17.1
Emotional 2	1.0
Mental 2	(1)
Physical 3	4.8
Emotional 3	0.3
Mental 3	(1)
Physical 4	1.8
Emotional 4	0.2
Mental 4	0.1

[1] Less than 0.1 per cent.

TABLE III.—HEALTH STATUS BY INDIVIDUAL GRADES OF TOTAL SCHOOLS, 1956/57

Item	All Schools	Grade I	Grade II	Grade III	Grade IV	Grade V	Grade VI	Grade VII
Total pupils enrolled in grades examined	251,005	29,523	28,212	27,451	27,434	24,176	21,329	21,423
Total pupils examined	43,010	22,899	2,063	2,901	2,105	1,320	1,059	2,045
Percentage of enrolled pupils examined	17.1	77.6	7.3	10.6	7.7	5.5	5.0	9.5
Percentage examined with minor or no physical, emotional, or mental defects	78.9	78.2	77.2	80.9	77.4	79.5	79.3	72.2
Percentage of pupils examined having specified type and degree of defect—								
Physical 2	15.8	16.8	18.4	13.2	16.6	13.8	14.0	19.6
Emotional 2	1.0	0.9	1.1	0.9	1.2	1.4	0.6	0.6
Mental 2	0.1	(1)	-----	-----	(1)	-----	-----	-----
Physical 3	4.3	5.0	3.7	3.1	2.9	4.2	2.9	3.7
Emotional 3	0.2	0.3	0.1	0.2	0.2	0.2	-----	0.2
Mental 3	(1)	(1)	-----	-----	-----	-----	-----	-----
Physical 4	1.9	1.8	2.1	2.4	1.7	1.7	0.9	2.2
Emotional 4	0.3	0.2	0.3	0.4	0.1	0.3	-----	(1)
Mental 4	0.3	0.1	(1)	0.1	0.1	0.1	0.1	0.2

Item	Grade VIII	Grade IX	Grade X	Grade XI	Grade XII	Grade XIII	Special Classes	Other
Total pupils enrolled in grades examined	20,060	17,476	13,886	9,956	7,068	788	1,810	413
Total pupils examined	889	5,529	1,064	380	232	5	449	70
Percentage of enrolled pupils examined	4.4	31.6	7.7	3.8	3.3	0.6	24.8	16.9
Percentage examined with minor or no physical, emotional, or mental defects	81.2	87.0	75.4	87.4	81.0	100.0	42.5	58.6
Percentage of pupils examined having specified type and degree of defect—								
Physical 2	13.4	10.6	19.6	9.5	9.1	-----	28.7	34.3
Emotional 2	0.8	0.6	2.8	1.3	1.3	-----	4.5	5.7
Mental 2	-----	-----	0.2	-----	-----	-----	2.2	-----
Physical 3	2.8	2.2	5.7	2.1	3.4	-----	12.7	17.1
Emotional 3	0.3	0.1	0.3	-----	-----	-----	2.4	-----
Mental 3	-----	-----	-----	-----	-----	-----	0.2	-----
Physical 4	0.3	0.5	1.4	-----	-----	-----	28.3	5.7
Emotional 4	0.2	(1)	-----	-----	-----	-----	6.7	1.4
Mental 4	-----	-----	-----	-----	-----	-----	27.2	-----

[1] Less than 0.1 per cent.

TABLE IV.—NUMBER EMPLOYED AND X-RAYED AMONGST SCHOOL PERSONNEL, 1956/57

Item	Total	Organized	Unorganized
Number employed	5,329	3,850	1,479
Number X-rayed	2,888	2,106	782

TABLE V.—IMMUNIZATION STATUS OF TOTAL PUPILS ENROLLED, ACCORDING TO SCHOOL GRADE, 1956/57

Grade	Total Pupils Enrolled by Grades	Smallpox		Diphtheria		Tetanus		Poliomyelitis	
		Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Grade I	29,523	20,541	69.6	23,766	80.5	22,930	77.7	26,391	89.4
Grade II	28,212	19,398	68.8	22,291	79.0	21,345	75.7	25,064	88.8
Grade III	27,451	18,158	66.1	20,850	76.0	19,069	69.5	24,708	90.0
Grade IV	27,434	17,527	63.9	19,779	72.1	16,669	60.8	25,139	91.6
Grade V	24,176	15,326	63.4	16,848	69.7	13,699	56.7	22,273	92.1
Grade VI	21,329	14,343	67.2	15,756	73.9	12,117	56.8	19,221	90.1
Grade VII	21,423	12,727	59.4	14,080	65.7	8,785	41.0	18,761	87.6
Grade VIII	20,060	10,906	54.4	11,945	59.5	7,182	35.8	17,422	86.8
Grade IX	17,476	8,718	49.9	10,120	57.9	5,287	30.3	15,066	86.2
Grade X	13,886	7,193	51.8	8,207	59.1	4,425	31.9	12,441	89.6
Grade XI	9,956	4,372	43.9	5,103	51.3	2,495	25.1	8,109	81.4
Grade XII	7,068	3,486	49.3	3,661	51.8	1,811	25.6	5,851	82.8
Grade XIII	788	358	45.4	362	45.9	247	31.3	706	89.6
Special classes	1,810	390	21.5	474	26.2	370	20.4	711	39.3
Other	413	96	23.2	106	25.7	105	25.4	327	79.2
Totals, all grades	251,005	153,539	61.2	173,348	69.1	136,536	54.4	222,190	88.5

It is felt that this situation warrants further examination. On the basis of the fact that routine examinations are waived in the higher grades in favour of examination of children referred for a special reason, some interest arises in the statistics shown for Grade X in Table III. That is the first grade at the high-school level at which it can be expected that the pupil must make a readjustment in his approach to education, and that in doing so there might be certain emotional conditions arising as the readjustment is made. There were actually only 7.7 per cent of the pupils enrolled in that grade examined, yet they displayed a larger percentage of defects than in any other grades in the schools, outside of the special and other classes. As was argued, a somewhat greater proportion showed an emotional disturbance (3.1 per cent), but, astonishingly enough, there was also a greater proportion of physical defects (26.7 per cent). The significance of this is not apparent and is not consistent with the results which were obtained last year.

Immunization of school pupils, as revealed from Table V, is being maintained at a high level, with well over a 60-per-cent average for the Province. This is commendable, since it is desired that immunity against specific communicable infections be introduced in infancy and maintained throughout the school-life of the child. There is need for some concentration on improvement of immunizations among the high-school pupils, where it commences to drop down below 50 per cent, and it would seem desirable to have the pupil graduate from school well immunized, so that he may carry that protection over into his adult occupations. The use of combined antigens has promoted an increasing immunity to tetanus among the school pupils. This has been accomplished because of the linking of tetanus toxoid with diphtheria toxoid, so that when the child receives an immunization for diphtheria, there is also administered an immunization for tetanus.

While a certain measure of typhoid immunization is provided in some areas of the Province, it is not uniformly administered over the whole Province; therefore, there

are only a few children receiving this immunization factor, which accounts for the low percentages in the typhoid column.

An interesting aspect is the increasing number that are being recorded for poliomyelitis immunization. Salk vaccine did not become available for universal use until 1955, and at that time was in short supply, so that it was only possible to provide immunization that year to those who would be entering school that fall and those already enrolled in Grade I. It was possible to immunize 45,067 children against poliomyelitis during 1955. As the vaccine quantity increased, the programme was stepped up during 1956 to offer immunization to school-children from ages 5 to 15 years enrolled in Grades I to IX, inclusive, resulting in some 166,000 school-children receiving the initial injection of the vaccine prior to June, 1956. During the next academic year ending June, 1957, a further increase in the number to be included was made, offering it to all children from age 1 through high school. Because of manufacturing difficulties, it was not possible to complete the series of injections necessary to maximum immunity before June 30th, 1957, but all children done received at least an initial sensitizing dose, while some received the second injection. The whole series could not be completed before the fall of 1957 or the spring of 1958, during the academic year 1957/58. A glance at Table V demonstrates the results that have been obtained in the increasing number of all grades now immunized.

The communicable-disease incidence is an additional gauge of the health of the school-child, since a considerable portion of the notifiable diseases are childhood infections. The results of these are shown in Table IX, indicating that the communicable-disease incidence has been concentrated in infections common to childhood. Thus the minor communicable diseases, such as chicken-pox, mumps, measles, and rubella, displayed their usual incidence, with peaks during the winter and spring months and lessened in incidence during the summer and early fall. It would seem to indicate that there is a continual reservoir of infection of these childhood diseases, which becomes spread when the children are congregated together in the classrooms, taking its toll among the non-immune pupils throughout the schools. During the fall of 1957 British Columbia, in common with the rest of the world, suffered through an influenza outbreak, evidently due to the Asian "A" type of influenza virus. Curiously enough, the effects of this seem to be concentrated amongst the children, in whom the inroads of infection became early detectable as school absenteeism rose to its highest peak in many years, resulting in many schools having to close for lack of pupils and teachers. Cases commenced to be reported during September, reaching a maximum incidence in October and falling to a normal seasonal incidence in November, to provide an attack rate for the Province of 11,528.5 per 100,000 population. The seasonable incidence was unusual, since this is an infection usually occurring in the late winter months in this part of the country, which is regarded as the influenza season. Fortunately the type of infection was mild and did not create any particular complications, so that no particular lasting effects of the outbreak are evident.

Poliomyelitis established a new low incidence, with a rate of 2.9 per 100,000 population, the lowest on record for the past ten years; whether this is resultant from the immunization programme or not remains to be seen, since it is too early to make any predictions on this as yet. It may be that this year merely happened to be a cyclic low which would have occurred normally.

HOME NURSING-CARE PROGRAMMES

Interest in home-care programmes continues to be maintained as requests arise from many municipalities for inclusion of that type of service in the public health nursing programme.

A definite approach to determine the value of the home-care programme in so far as convalescent hospital cases was concerned was introduced in this Province in the City of Vernon in 1951, and served to demonstrate that a saving in hospital beds could be effected by nursing care at home for the discharged patient. The programme has been continued on the same basis during 1957, but the number of patients being referred to the service has decreased considerably.

TABLE VI.—VERNON HOME-CARE PROGRAMME

	January to September			
	1954	1955	1956	1957
Number of patients—				
On nursing care only	66	88	73	11
On housekeeping service only	19	32	36	27
On both nursing and housekeeping service	8	26	21	14
Total receiving service	93	146	130	52
Number of nursing visits	482	365	469	106
Average per patient	6.5	3.2	4.9	4.2
Number of housekeeping visits	282	402	442	283
Average per patient	10.5	6.9	7.7	6.9
Hospital-days saved—				
By nursing visits	969	901	876	120
By housekeeping services	270	234	319	188
By both	129	343	194	222
Total days saved	1,368	1,478	1,389	530
Hospital-days saved per patient—				
Receiving nursing care only	14.6	10.2	12.0	10.9
Receiving housekeeper service only	14.2	7.3	8.9	7.0
Receiving nursing care and housekeeper service	16.1	13.2	9.2	15.8
Average per patient	14.7	10.1	10.7	10.2
Time of public health nurses—				
Travel ... min.	4,016	3,678	4,815	1,115
Service ... ,,	5,929	5,455	9,093	2,155
Totals	9,945	9,133	13,908	3,270
Average public health nurse time per visit—				
Travel ... min.	8.3	10.08	10.27	10.5
Service ... ,,	12.3	14.94	19.39	20.3
Totals	20.6	25.02	29.65	30.8
Average public health nurse time per patient—				
Travel ... min.	54.3	32.3	51.2	44.6
Service ... ,,	80.1	47.8	96.7	86.2
Totals	134.4	80.1	147.9	130.8
Housekeeper-hours, totals	1,357.75	2,414.50	2,615.75	1,702.0
Average housekeeper-hours per visit	4.81	6.01	5.92	6.0
Average housekeeper-hours per patient	50.28	41.63	45.89	41.5
Costs				
Total cost	$2,626.56	$3,010.05	$3,511.67	$2,055.30
Hospital-days saved	1,368	1,478	1,389	530
Cost per day	$1.92	$2.04	$2.53	$3.87
Standard hospital *per diem*	$11.35	$12.05	$13.25	.....

A study of Table VI, revealing the statistics over the same period for the past four years, shows that there has been a decrease to 52 patients, compared with the previous year when over 100 patients were being seen. As a result of the decrease in the number of patients, there was a parallel decrease in the number of nursing visits, the average number of visits per patient being 4.2. Similarly, the housekeeping service, which is co-ordinated with the home-care programme, has shown a decrease in the number of housekeeping visits, but the average number of visits per patient was not greatly changed, being 6.9. The hospital-days saved decreased markedly, to 530, almost two-thirds less

than the number of hospital-days that were being saved in previous years. As a result of the decrease in the volume of the service, there was a decrease in the total cost of providing the service; however, the cost per hospital-days saved has shown a further increase to $3.87, a rather significant increase in comparison to the previous cost. However, it still serves to demonstrate that, economically, there is a saving to the community.

Studies reveal that patient-days at the Vernon Jubilee Hospital are not showing any significant decrease, and the hospital is operating at full capacity. It must be recorded, of course, that the home-care programme was altered to permit referral by physicians of patients who would probably not require acute hospital treatment. Therefore, it may be incorrect to make comparison between the home-care programme and the hospital-days saved, since actually some of the patients might never have entered hospital. In effect, some of the patients might be of the type who could be cared for in a nursing home, if one were available, in which the average *per diem* cost is considerably lower than the *per diem* cost in the acute hospital. For these reasons, direct comparisons should be tempered with some judgment, and such considerations should be applied in comparison of the statistics in Table VI. In any case, the recommendation has been advanced that the Vernon home-care programme should now be discontinued as a pilot study and be a normal routine service within the public health nursing programme of the community, in the same way as the other home-care programmes throughout the Province.

Home-care programmes have operated for varying years in parts of the Province, probably the longest being in the South Okanagan Health Unit at Kelowna. Unfortunately statistics were not maintained on the same basis in that area until this year, when it was proposed that they adopt the same records so that there could be an analysis made of the Kelowna programme as compared with those at Saanich, Courtenay, and Powell River. This comparison is possible in a study of the figures tabulated in Table VII, showing the aspects of the home-care service during the first nine months of 1956 and of 1957 in those communities.

TABLE VII.—COMPARISON OF NURSING-CARE SERVICE IN HEALTH UNITS PROVIDING HOME-CARE SERVICE DURING FIRST NINE MONTHS OF 1956 AND OF 1957

	Saanich		Courtenay		Powell River		Kelowna		Vernon	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
Number of patients	737	767	45	83	31	48	.....	455	90	25
Number of nursing visits	2,917	3,210	352	757	140	236	.....	2,010	469	106
Average of visits per patient	3.9	4.2	7.8	9.1	4.5	4.9	.....	4.4	4.9	4.2
Hospital discharges to home care	32	8	7	.....	5	4	.....	3	90	25
Total time of public health nurse—										
Travel ... min.	24,645	27,290	4,897	7,212	1,095	2,339	.....	10,777	4,815	1,115
Service ... ,,	77,465	69,315	10,275	8,774	3,521	4,470	.....	24,379	9,093	2,155
Totals	102,110	96,605	15,172	15,986	4,616	6,809	.....	35,156	13,908	3,270
Average time of public health nurse per visit—										
Travel ... min.	8.5	8.5	13.6	9.5	7.8	9.9	.....	5.5	10.3	10.5
Service ... ,,	26.5	21.6	29.2	11.6	25.1	18.9	.....	12.1	19.4	20.3
Totals	35.0	30.1	43.1	21.1	32.9	28.8	.....	17.6	29.7	30.8
Mileage, total	7,117.5	7,832.4	1,569	2,575	398	818	.....	3,879	1,339.6	176.5
Mileage per patient	9.6	10.2	34.9	31.0	12.8	17.0	.....	8.5	14.9	7.0
Mileage per visit	2.4	2.4	4.5	3.4	2.8	3.5	.....	1.9	2.8	1.8

With the exception of the Vernon area and the omission of comparisons for Kelowna, there have been increases in the number of patients receiving home care in each of the other areas, which has prompted an increase in the number of nursing visits.

This table also serves to indicate that although there is a greater number of patients discharged from hospital to home care in the Vernon area, it does not seem to require a

greater amount of service because of that. The average number of visits per patient and the average amount of time in service per patient in the Vernon area coincides fairly closely with that being provided in the other areas. Thus it might be argued that convalescent patients from hospital do not require any greater amount of public health nursing than do ordinary patients ill at home.

Information is now coming to hand as a result of these home-care programmes to provide data for introduction of home-care programmes to other areas of the Province. This type of service seems to be well accepted and is desired by an increasing number of communities.

DISEASE MORBIDITY AND STATISTICS

The rates per 100,000 population of notifiable diseases are shown in Table IX, in which tabulations are arranged for comparison with the incidence over the previous four years. The rate of 14,192.7 per 100,000 population for 1957 is higher than the corrected rate of 3,326.3 per 100,000 for 1956 and exceeds the corrected rate of 3,366.5 per 100,000 population for 1955, which was the highest incidence recorded to date. This increase is due to the marked incidence of epidemic influenza which was widespread throughout the Province in the late fall, to create a rate of 11,528.5 for 1957. The disease was part of a world-wide pandemic due to the Asian "A" type of influenzal virus, for which few persons seemed to have any resistance, and which spread quickly in certain areas, creating heavy absenteeism, particularly among school-children. The possibility of its occurrence was predicted by epidemiologists following upon outbreaks of the infection in Asia and its spread to other countries. Plans were made to immunize persons in specified community services as laboratory-workers demonstrated that preparation of a specific monovalent vaccine was possible. The Department of National Health and Welfare consulted quickly with the Provinces, and a plan was developed to supply vaccine to each of the Provinces, if possible before the infection reached this country. National health grants assisted in this by providing half of the cost of the vaccine to Provinces. Unfortunately manufacturing difficulties delayed distribution of the vaccine until the infection had already occurred in many communities, but, as the vaccine was received, it was distributed to the health units throughout the Province to be administered to priority personnel in key industries, in health, fire-protection, and police-protection services. Latterly it was to be distributed for immunization of occupational groups in communications, transportation, and public utilities services. An interesting demonstration of the value of the vaccine was shown by the South Central Health Unit on the basis of the immunization of nursing personnel in the Royal Inland Hospital at Kamloops. In that institution, influenzal vaccine was administered to thirty-seven staff nurses, but withheld from twenty-four student-nurses. After the disease became prevalent in the community, there were only three cases developed among the vaccinated staff nurses (8 per cent), as compared to twelve cases among the unvaccinated student-nurses (50 per cent). It was regrettable that manufacture and distribution of the vaccine did not permit its earlier administration among the population generally throughout the Province. Fortunately the disease presented few complicating features, so that the mortality rates developing from this infection were not unduly severe.

Poliomyelitis was one of the bright features of the notifiable-disease incidence, since it presented the lowest incidence occasioned in the past ten years, with a rate of 2.9 per 100,000 population. In addition, the case fatality rate fell to zero, since no deaths due to poliomyelitis were recorded during the year; improvement in the case fatality figures is adequately shown in the following table:—

TABLE VIII.—POLIOMYELITIS CASE FATALITY RATES IN BRITISH COLUMBIA

Year	Cases	Deaths	Case Fatality Rate
1927	182	37	20.3
1928	102	19	18.6
1929	43	13	30.2
1930	34	8	23.5
1931	42	11	26.2
1947	313	12	3.8
1952	584	37	6.3
1953	787	26	3.3
1954	211	6	2.8
1955	224	3	1.3
1956	84	3	3.6
1957	43	—	—

Experience with the Salk vaccine has hardly been sufficient to accurately credit it with the decreased incidence of poliomyelitis during this year. Evidence over the years indicates that poliomyelitis incidence does not seem to follow any predictable pattern; it is just possible that this is a year in which normally there would have been a decreased incidence, whether poliomyelitis immunization was done or not done. In any communicable infection it is usual to have a decreased incidence after a period of high incidence, as the number of immune persons in the population increases through disease experience; as there has been a rather high incidence of poliomyelitis over the past five or six years, it is possible that the lower incidence this year might have been anticipated without poliomyelitis immunization. Further experience with the immunization programme will be required before credit for the incidence can be associated definitely with the immunization procedures. In the meantime, active immunization campaigns are to be continued toward increasing the group of immune persons.

In this programme the valuable assistance of the National health grants becomes apparent, since it was through the grants that the manufacture of Salk vaccine in this country became possible originally. National health grants continue to support the programme by providing 50 per cent of the cost of the product. Actually the control measures in poliomyelitis in this Province stem from a combination of a number of agencies, notably the Connaught Medical Research Laboratories; the Department of National Health and Welfare; the British Columbia Foundation for Poliomyelitis; the G. F. Strong Rehabilitation Centre; the Royal Canadian Air Force, 121 Communications and Rescue Flight, Sea Island; the Canadian Medical Association, British Columbia Division; and the Provincial and local health services. As a result, it is possible to provide immunization procedures, diagnostic services, consultative services, evacuation services, treatment services, and rehabilitation services, all of which play a part in prevention and treatment for poliomyelitis.

An unusual occurrence in disease morbidity was occasioned during the year when thirteen cases of psittacosis occurred in an area of the Province on Vancouver Island. This was first evidenced among workers in a poultry-processing plant handling turkeys. Coincidental with the reporting of cases among these workers were two cases which occurred on a turkey-farm from which market birds had been sent to the plant for preparation, prior to sale to the retail stores. A linkage in the chain of events was finally worked out through the co-operative effort of the Epidemiologist, the Director of the Division of Laboratories, and the three Health Officers reporting cases. As the matter was of some importance agriculturally, the Diseases of Animals Branch, National Department of Agriculture, was also involved in the investigation and actively associated in the study of the whole outbreak.

Another unusual situation arose later in the year when shell-fish toxicity, arising from shell-fish ingestion of a marine plankton, brought on illness among forty-nine consumers of the shell-fish. A detailed account of the circumstances of this outbreak is presented in the Division of Public Health Engineering section of this Report.

A table listing the notifiable diseases for the year, with comparisons for previous years, summarizes the disease picture for the Province.

TABLE IX.—NOTIFIABLE DISEASES IN BRITISH COLUMBIA, 1953–57
(INCLUDING INDIANS)
(Rate per 100,000 population.)

Notifiable Disease	1953		1954		1955		1956		1957	
	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate
Actinomycosis	1	0.1	1	0.1	.....	.....	.....	.....	.....	.....
Botulism	.....	.....	3	0.2	.....	.....	.....	.....	3	0.2
Brucellosis	5	0.4	7	0.5	13	1.0	4	0.3	2	0.1
Cancer	2,785	223.1	3,600	278.0	3,556	265.0	3,115	222.8	4,150	279.1
Chicken-pox	6,869	550.4	6,085	469.9	4,947	368.6	7,113	508.8	4,872	327.6
Conjunctivitis	193	15.5	64	5.0	134	10.0	115	8.2	106	7.1
Diphtheria	8	0.6	7	0.5	8	0.6	1	0.1	5	0.3
Dysentery, amœbic	1	0.1	.....	.....	2	0.2	.....	.....	4	0.3
Bacillary (Shigella)	588	47.1	605	46.7	293	21.8	342	24.5	132	8.9
Encephalitis, infectious	4	0.3	1	0.1	2	0.2	9	0.6	1	0.1
Hepatitis, epidemic	789	63.2	1,220	94.2	841	62.7	343	24.6	393	26.4
Influenza, epidemic	808	64.7	78	6.0	15,601	1,162.5	4,021	287.6	171,429	11,528.5
Leprosy	1	0.1	.....	.....	.....	.....	.....	.....	.....	.....
Malaria	1	0.1	.....	.....	1	0.1	1	0.1	1	0.1
Measles	7,646	612.7	6,572	507.5	8,160	608.0	5,616	401.7	11,807	794.0
Meningitis	42	3.4	47	3.6	48	3.6	45	3.2	35	2.4
Mumps	8,071	646.7	3,548	274.0	2,922	217.7	6,768	484.1	6,241	419.7
Pertussis	717	57.4	1,096	84.6	1,683	125.4	987	70.6	941	63.3
Poliomyelitis	787	63.1	211	16.3	224	16.7	84	6.0	43	2.9
Psittacosis	.....	.....	.....	.....	.....	.....	.....	.....	13	0.9
Rubella	1,095	87.7	832	64.3	768	57.2	11,297	808.1	4,202	282.6
Salmonellosis—										
Typhoid fever	10	0.8	11	0.8	8	0.6	32	2.3	6	0.4
Paratyphoid fever	23	1.8	36	2.8	40	3.0	32	2.3	10	0.7
Unqualified	83	6.7	173	13.4	92	6.8	187	13.4	259	17.4
Streptococcal infections—										
Erysipelas	24	1.9	21	1.6	12	0.9	21	1.5	17	1.1
Scarlet fever	2,220	177.9	1,355	104.6	757	56.4	645	46.1	325	21.9
Septic sore throat	206	16.5	179	13.8	352	26.2	171	12.2	115	7.7
Puerperal septicæmia	1	0.1	.....	.....	.....	.....	.....	.....	.....	.....
Tetanus	2	0.2	1	0.1	4	0.3	3	0.2	2	0.1
Tick paralysis	.....	.....	.....	.....	.....	.....	1	0.1	.....	.....
Trachoma	13	1.0	4	0.3	6	0.4	2	0.1	10	0.7
Tuberculosis	1,494	119.7	1,434	110.7	1,414	105.4	1,331	95.2	1,355	91.1
Tularæmia	1	0.1	1	0.1	.....	.....	1	0.1	.....	.....
Venereal disease—										
Gonorrhœa	2,969	237.9	2,668	206.0	2.508	186.9	3,442	246.2	3,806	256.0
Syphilis (includes non-gonorrhœal urethritis, venereal)	691	55.4	784	60.6	765	57.0	763	54.6	748	50.3
Chancroid	11	0.9	36	2.8	7	0.5	6	0.4	2	0.1
Vincent's angina	26	2.1	12	0.9	11	0.8	4	0.3	10	0.7
Totals	38,185	3,059.7	30,692	2,370.0	45,179	3,366.5	46,502	3,326.3	211,045	14,192.7

REPORT OF THE BUREAU OF SPECIAL PREVENTIVE AND TREATMENT SERVICES, VANCOUVER

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

The Bureau of Special Preventive and Treatment Services includes the Divisions of Laboratories, Tuberculosis Control, and Venereal Disease Control. The Assistant Provincial Health Officer, who directs this Bureau, is primarily concerned with matters of policy respecting these Divisions, including co-ordination between these Divisions and the voluntary health agencies, as well as between them and the local health services.

This Bureau also has the responsibility of working with and co-ordinating the programmes of certain voluntary health agencies which have a close relationship with the work of the Health Branch.

A consultant in public health nursing, seconded to the Vancouver area by the Bureau of Local Health Services, is located in the Provincial Health Building. Also located in the Provincial Health Building are the Vancouver section of the Division of Vital Statistics, the Co-ordinator of Rehabilitation, and the Medical Consultant in Rehabilitation.

The Provincial Health Building, at 828 West Tenth Avenue, Vancouver, which was opened in 1955, has enabled the various Divisions within the Bureau to operate much more efficiently, not only in improved services to the people, but also in co-ordination between this Bureau and local health services.

ADMINISTRATION

Reorganization of administration continued to receive constant study during the year, as noted in the 1956 Annual Report. It had been planned, in 1956, to have the Personnel Officer of the Bureau return to university for training in business administration. This was not possible, due to the death of the Research Assistant late in 1956. During 1957, however, it became apparent that this training should be proceeded with, and in September the Personnel Officer enrolled at the University of British Columbia in a course that will lead to a master's degree in business administration. Fortunately it has been possible for the Personnel Officer to spend three afternoons a week in his office in the Bureau, and this has been of great assistance.

The Division of Laboratories, following the resignation of the Director and Assistant Director in 1956, was able to continue to supply satisfactory services with a minimum of difficulty.

Recruitment of technical staff, as mentioned in the 1956 Report, has not been difficult in 1957, and this naturally has been a welcome development.

In the Division of Tuberculosis Control, the beds operated in Victoria were closed by the end of March, 1957, and this was accomplished with a minimum of difficulty. At the present time, Tranquille Sanatorium is being surveyed to determine whether it might be closed some time in late 1958 or early 1959.

As in the case of other services, it is important to review constantly the programme of the Division of Tuberculosis Control. This Division accounts for a large percentage of all funds allocated to the Health Branch, but critical review here made possible a substantial decrease in the Division's budget allotment over the past few years.

The study relative to the epidemiology of tuberculosis mentioned in the 1956 Report is still under way, and it is hoped that some time next year some positive recommendations will be forthcoming. Such recommendations, it is hoped, will bring more efficient management and a new outlook as far as case-finding and contact-tracing are concerned.

In the field of tuberculosis-control, it is also quite apparent that as the problem reduces some thought must be given to the use of some of the present facilities for the treatment of tuberculosis operated by the Health Branch. This has received attention during the year, and certain recommendations are now being studied. It must, however,

be pointed out that no one should surmise that tuberculosis is no longer a problem—on the contrary. Although substantial gains have been made in the past few years, if these are to be continued newer and better efforts must be made in the field of case-finding and contact-tracing.

The Division of Venereal Disease Control continues to consolidate its programme. This Division has always had its own programme under critical review, and, as indicated by this review, programmes are changed and the emphasis placed in that specific field of venereal-disease control which requires the greatest attention at the moment.

Detailed reports relative to their programme, including statistical information, will be found in a later section of this Health Branch Report.

FACULTY OF MEDICINE, UNIVERSITY OF BRITISH COLUMBIA

There continues a close relationship with the Faculty of Medicine, University of British Columbia, and particularly with the Department of Preventive Medicine and the Department of Pædiatrics. The Department of Pædiatrics continues to give leadership in the child-care programme in this Province, and this is done in close co-operation with the Health Branch. In the Department of Preventive Medicine, the Assistant Provincial Health Officer holds the rank of Assistant Professor of Preventive Medicine, and many members of the Health Branch devote time to the teaching of preventive medicine.

VOLUNTARY HEALTH AGENCIES

The Bureau of Special Preventive and Treatment Services continues to have the major responsibility in the interpretation of the policy of the Health Branch to the many voluntary health agencies active in this Province. Some of the voluntary health agencies receive direct financial assistance from the Province of British Columbia, and, although in many instances it is Health Branch expenditures that give this assistance, there are other departments of Government that also make direct grants. It is not possible to discuss the work of all voluntary health agencies in this report. The following sections deal only with those voluntary health agencies on which the Health Branch has official representation or to which the Health Branch or some other department of Government makes grants.

Alcoholism Foundation of British Columbia

This agency, incorporated under the "Societies Act" in 1953, receives its grant from the Department of the Attorney-General. The board of directors includes one representative from the Department of the Attorney-General; one from Mental Health Services, Department of the Provincial Secretary; and one each from the Health and Welfare Branches of the Department of Health and Welfare.

British Columbia Cancer Foundation

The British Columbia Cancer Foundation in 1949 was designated by the Provincial Government to be the recognized agent for the diagnosis and treatment of cancer in the Province of British Columbia. Operations at the British Columbia Cancer Institute, the Victoria Cancer Clinic, the twelve consultative cancer clinics at centres throughout the Province, and at the 36-bed boarding home attached to the Cancer Institute in Vancouver are the responsibility of the Cancer Foundation. Operational expense is provided by the Cancer Control Grant of the National health grants and by a matching grant from the Provincial Government, plus fees from private patients.

British Columbia Medical Research Institute

This non-profit organization was founded in 1948 in order to make specialized laboratory facilities available for use by qualified individuals in the Province who wish to

undertake various medical-research projects. The work of the Institute is closely co-ordinated with the research activities of the Faculty of Medicine of the University of British Columbia, the Director of the Institute being the Research Professor of Medicine of the University. Financial support is derived from a variety of private and governmental sources, including a Provincial grant-in-aid which was made available for the first time in 1956.

During the past year, twenty research projects have been carried out under the direction of twenty-three physicians and surgeons with the assistance of a staff of fifteen technicians. These projects were in the fields of high blood-pressure, cardiovascular surgery, cancer, rheumatism and arthritis, infectious diseases, diseases of the kidney, and the use of radioactive isotopes in diagnosis and treatment. Work done in the Institute during the past two and a half years has recently resulted in an important new addition to the specialized treatment facilities available in the Province—namely, the use of the artificial heart in the surgical treatment of congenital heart disease. The apparatus was used for the first time on a human patient in the Vancouver General Hospital in October, 1957, and the result achieved was highly successful.

Canadian Arthritis and Rheumatism Society (British Columbia Division)

At the end of 1956 the Canadian Arthritis and Rheumatism Society had made available throughout the entire Province a medical consultant service and the provision of special drugs to the border-line economic group of patients, as requested by physicians.

The thirty mobile treatment units operated in all major sections of the Province. With the growing population in the Central British Columbia and Peace River districts, it has been necessary to extend treatment service to include these areas. Physiotherapy has therefore been made available to physicians for their rheumatic patients in Dawson Creek and Fort St. John on a monthly basis, and to patients in the Quesnel and Williams Lake regions on a weekly basis, or oftener.

The Arts and Crafts Department, opened in 1955, has given instruction in weaving, pottery, stencil painting, woodwork, copper-etching, sewing, and other crafts to patients referred by family physicians and the Society staff. These patients, after instruction, are able to carry on their crafts for diversion or are producing articles for sale either at home or at the Canadian Arthritis and Rheumatism Society craft room. The home arts and crafts programme is manned by volunteers and is duplicated in nearly all districts of the Province.

Education by lectures, talks, and tours is continually sponsored by the Canadian Arthritis and Rheumatism Society and its staff.

Narcotic Addiction Foundation of British Columbia

The programme of the Foundation did not develop as rapidly or as fully in 1957 as was hoped. Early in the life of this agency it became obvious that there was a great need for a building to be used as a rehabilitation centre for ex-addicts and that little could be accomplished until one was located. In 1956 a house was found which was felt to be well suited to the purpose. Neighbourhood opposition, however, prevented it from being put into use.

Most of 1957 has been devoted to a search for another building in an area where there would be no opposition from the surrounding inhabitants; only as the year closed did there appear to be any hope of success.

The staff of the Foundation have been working very closely with the authorities at Oakalla, and a liaison is being developed with several other groups who, it is hoped, will be able to refer cases to the Foundation, and who, in turn, will assist those addicts who need help in gaining employment. A few patients have been seen on an individual basis and have been helped in various ways, with, so far, some encouraging results.

The search for a building suitable for a rehabilitation centre has taken a great deal of the free time of many of the board members. Their strong support has been the main factor in making possible some measure of progress in a very difficult field.

G. F. Strong Rehabilitation Centre

Early this year the founder of this rehabilitation centre died and, in tribute to this outstanding physician and humanitarian, the name of the Centre was changed from the Western Rehabilitation Centre to the G. F. Strong Rehabilitation Centre.

In the early years of operation, the trainees (patients) comprised largely polios and spinal-cord injuries resulting from industrial accidents. In 1954 approximately two-thirds of the trainees were polios, and in 1956 this was reduced to less than one-third. With this decline in the incidence of polio and the resulting decrease in the admission of polios to the Centre, there has been a comparable increase in the admission of cases having a varied orthopædic and neurological etiology. The Centre is now beginning to understand fully the reason why it was not classed in the early years of its operation as a polio or paraplegic centre, even though these two disability groups represented a major portion of the cases at that time.

The rehabilitation nursing service inaugurated in October, 1955, has worked out very successfully. Even though more involved cases are being admitted, the average length of stay in the nursing wing is only fifty-three days. Following this average length of stay, nursing cases are usually transferred to a non-nursing bed or to an out-patient status.

Currently, preliminary planning is under way to provide a multi-story addition to this Centre. This expansion is not only required for the G. F. Strong Rehabilitation Centre programme, but for the other agencies served by the Centre, particularly the Cerebral Palsy Association of Greater Vancouver and the Canadian Arthritis and Rheumatism Society, British Columbia Division.

Canadian Red Cross Blood Transfusion Service

The relationship between the Red Cross Blood Transfusion Service, which occupies one floor of the Provincial Health Building in Vancouver, and this Bureau continued to be most satisfactory. The Blood Transfusion Service continued to experience difficulty in maintaining its quota as far as blood requirements were concerned for hospitals within the Province. It is unfortunate that the citizens of British Columbia do not show greater appreciation of this valuable service by responding in greater numbers to the clinics that are held throughout the Province to collect the blood necessary to meet the demands of the hospitals.

NATIONAL HEALTH GRANTS

General

The total amount of funds available to British Columbia for the fiscal year 1957/58 is $4,923,281, excluding the Public Health Research Grant, which is allocated in Ottawa. This is an increase of $179,748 over that appropriated for 1956/57.

The total of the General Public Health Grant increased $24,000, the Laboratory and Radiological Services Grant increased $89,250, the Hospital Construction Grant increased $44,652, and all other grants were slightly increased.

Administration

In October a visit was made to Victoria and Vancouver by Dr. G. E. Wride, Principal Medical Officer, Department of National Health and Welfare, and also by Dr. Jean Webb, Chief, Child and Maternal Health Division, Department of National Health and

Welfare. These visits provide the opportunity to personally discuss the problems and programmes of the National health grants and assist materially in the satisfactory administration of the grants.

Grants Received for the Year Ended March 31st, 1957

Total expenditures for the year ended March 31st, 1957, were $3,155,245 or 66.5 per cent of the total available, as compared with $2,426,390 or 56.6 per cent of the total available in the year ended March 31st, 1956.

Comparison of Amounts Approved and Actual Expenditures with Total Grants for the Year Ended March 31st, 1957

Grant	Total Grant	Approval		Actual Expenditures	
		Amount	Per Cent	Amount	Per Cent
Crippled Children	$43,913	$25,717	58.5	$22,854	52.0
Professional Training	43,913	40,937	93.2	36,589	83.2
Hospital Construction	1,882,828	1,359,614	72.2	974,424	51.7
Venereal Disease Control	43,913	43,913	100.0	43,913	100.0
Mental Health	678,954	667,834	98.3	598,600	88.1
Tuberculosis Control	360,190	324,996	90.2	286,038	79.4
Public Health Research	26,538	26,538	100.0	24,419	92.0
General Public Health	828,500	772,018	93.1	742,220	89.5
Cancer Control	301,056	270,304	89.7	241,625	80.2
Laboratory and Radiological Services	341,250	169,879	49.7	108,420	31.7
Medical Rehabilitation	84,957	74,829	88.0	63,149	74.3
Child and Maternal Health	134,059	41,017	30.5	37,444	27.9

Excluding the Public Health Research Grant, 79.9 per cent of British Columbia's total allotment was approved for specific expenditures. The comparable average for all Provinces was 76.1 per cent.

Crippled Children's Grant

Assistance given in previous years to the Health Centre for Children and the Vancouver General Hospital under this grant for child health services has been transferred to the Child and Maternal Health Grant.

Increased assistance is being received by the three branches of the Cerebral Palsy Association of British Columbia—namely, Greater Vancouver, Vancouver Island, and Fraser Valley.

The name of the Crippled Children's Registry was changed to the Registry for Handicapped Children, and the report will be found under the Child and Maternal Health Grant.

Professional Training Grant

The funds made available for this grant amounted to $44,426, but in order to provide for increased training during the year, $2,900 was transferred from the Laboratory and Radiological Services Grant in October. Continued assistance in postgraduate training is being given to various professional public health and general hospital personnel. The number of personnel attending short-term courses was five. Trainees in the Canadian Hospital Association extension courses in hospital administration and medical records continued to receive assistance under this grant.

Funds for professional training were also provided by other grants for training in specialized fields, such as tuberculosis, mental health, and psychiatric social work.

Hospital Construction Grant

The total approvals for construction projects since April 1st, 1957, amounted to $1,925,430. Funds actually committed for the 1957/58 fiscal year totalled approxi-

mately $1,106,940 for general hospitals, $26,890 for community health centres, and $324,680 for mental hospitals.

The second five-year programme under this grant will end on March 31st, 1958, but assurance has been given that assistance under the Hospital Construction Grant will be available for a further period.

Venereal Disease Control Grant

This grant was increased slightly this year and is on a matching basis, with the total amount being paid to the Province. Expenditures by the Province on the venereal-disease control programme are considerably in excess of the amount of the grant.

The report of the Division of Venereal Disease Control appears elsewhere in this Health Branch Report.

Mental Health Grant

Most of the projects submitted under the Mental Health Grant are initiated by the Provincial Mental Health Services, Department of the Provincial Secretary. The greater portion of the grant is devoted to the provision of staff and technical equipment for Mental Health Services institutions. A considerable sum is used to support research in the mental-health field by the Faculty of Medicine at the University of British Columbia, and significant progress was made in the several studies.

The grant for 1957/58 amounts to $616,456, and projects totalling $595,000 have been submitted.

A new School of Psychiatric Nursing for the Provincial Mental Health Services was constructed at Essondale, and technical equipment for the classrooms and practice-nursing rooms was provided under the grant.

A project provided eight bursaries for students enrolled in the School of Social Work at the University of British Columbia. The recipients of these bursaries have undertaken to serve for a stipulated period in the Mental Health Services on completion of their studies.

Professional training in psychiatry was again provided to two selected members of the medical staff.

At The Woodlands School, New Westminster, further equipment was obtained for the new unit, the Fraser View Building. The grant also gave assistance in the provision of staff. The equipment for the recently constructed swimming-pool and gymnasium at this institution was also purchased from grant funds.

The Provincial Mental Hospital was assisted in securing further equipment to be used in connection with the electro-convulsive treatment, and assistance was continued to pay salaries of professional personnel in both the Mental Hospital and Crease Clinic.

The psychiatric services of the Vancouver General Hospital and the Royal Jubilee Hospital, Victoria, continued to receive assistance.

The mental-health programme of the Metropolitan Health Committee of Greater Vancouver was also assisted as in previous years.

The Vancouver School Board course of training in mental health for senior school counsellors entered upon its third year in September. The salary of the course co-ordinator is paid from a project under the grant.

Tuberculosis Control Grant

This grant is similar to those for Mental Health and Venereal Disease Control in that the majority of the tuberculosis services are provided by the Provincial Government, and the largest proportion of this grant, therefore, is used by this government department. Detailed information regarding the tuberculosis services is given in the report on the Division of Tuberculosis Control, which appears in a later section of this Health Branch Report.

Public Health Research Grant

Two new research projects were commenced this year. The first entitled "Antigenic Properties and Immunizing Efficacy of Staphylococcal Alpha and Beta Toxoids," is being carried out by members of the staff of the Department of Bacteriology and Immunology, University of British Columbia, and the Western Division of Connaught Medical Research Laboratories. The second study, entitled " High Fat Diets and the In Vivo and In Vitro Formation and Lysis of Blood Clots and Thrombo-emboli; the Effect of Fat Clearing Agents on the Formation and Lysis of Such Clots and Thrombi," is being carried out by the Department of Pathology, Faculty of Medicine, University of British Columbia.

Two projects—namely, " Investigation of ABO Fœtal Maternal Incompatability," which was carried out at the Health Centre for Children, and " Study of the Etiology of Non-specific Urethritis (NSU) by Means of Human Tissue Culture," which was carried out by the British Columbia Medical Research Institute—were completed this year.

Research projects being continued this year are "Antibiotic and Hormonal Control of Tubercle Bacillus Infection and Determination of Human Blood Patterns and Levels of Adrenal Steroid Hormones " and "A Study of the Growth of Lymphocytic Choriomeningitis Virus in Acute and Latent Infection." The project " Study of Epidemiology and Control of Infection Caused by Staphylococcal Pyogenes in Patients in the Pædiatric Department of a General Hospital " was transferred from the Child and Maternal Health Grant, and the project entitled "A Survey of the Incidence of Intestinal Entozoa in British Columbia " was transferred to the General Public Health Grant.

General Public Health Grant

The transfer of $205,000 to this grant from the Laboratory and Radiological Services Grant was required primarily for the purchase of influenza vaccine and polio vaccine, the purchase of equipment for the local health services, and postgraduate training of public health and metropolitan health personnel.

Assistance was also given to the Vancouver Vocational Institute for one year to assist in the teaching of practical nurses and supervision in their field experience in hospitals and public health agencies in order to permit expansion in the enrolment of students.

The project whereby third-year medical students from the University of British Columbia are employed during the summer months in health units and divisions of the Health Branch is proving to be of considerable benefit to all concerned.

A new research project, entitled " Chemical and Physiological Mechanisms of Drug-induced Changes in Cardiac Contractility," was commenced by the Department of Pharmacology, University of British Columbia.

Assistance was also continued to the Metropolitan Health Committee of Greater Vancouver and the Victoria-Esquimalt Board of Health.

All phases of the general public health programme carried on by the local health services staff continued to receive assistance from this grant.

Cancer Control Grant

The operations of the British Columbia Cancer Foundation, which are financed jointly by this grant and matching Provincial funds, are outlined earlier in this report in the section " Voluntary Health Agencies."

The Provincial biopsy service continued to increase, there being a total of 14,668 examinations carried out free of charge for the first six months of 1957, as compared to 13,347 for the first six months of 1956.

The cytology laboratory at the British Columbia Cancer Institute, which is under the direction of the Director, Department of Pathology, Vancouver General Hospital, continued to receive assistance under this grant. There were 12,328 specimens examined

during the first six months of 1957, as compared to 10,448 for the first six months of 1956.

Additional assistance was provided to the British Columbia Cancer Institute and the Victoria Cancer Clinic to purchase certain technical equipment.

Laboratory and Radiological Services Grant

The planning of the advisory councils to the Health Branch realized fruition in some important respects in 1957. Carefully organized programmes are being presented by these councils for the further development of regional diagnostic services.

Laboratory Services

The Technical Sub-committee of the Laboratory Advisory Council continued to review all applications for assistance toward the purchase of equipment, and it has formulated certain criteria for laboratory equipment, such as microscopes and B.M.R. machines. In addition, this Committee established a basic list of equipment requirements for small hospital laboratories.

In May, 1957, the first class of technologist trainees began training in the programme developed and supported under this grant, and in October the second class began training. Thirty students are now under training in this programme.

This year, regional laboratory services in the Lower Fraser Valley began operation, pathological services at the Trail-Tadanac Hospital have gradually extended toward a regional service, and regional services for the Okanagan Valley are being organized. Preliminary plans are being developed for an extension of regional laboratory services in the Province.

The services of this Health Branch office continue to be used in the planning of hospital laboratory construction.

Plans for the oncoming year anticipate a concerted effort in the recruitment of personnel into training in laboratory diagnostic services, consolidation of training and regional laboratory programmes, extension of services where facilities and personnel become available, and gradual development of a programme of evaluation of laboratory performance.

Radiological Services

The Radiological Advisory Council reviewed and recommended a survey report presented by one of its members after an intensive study of the requirements in the East Kootenay area. The resulting project was approved and plans are under way to inaugurate a service. This Council also gave much study to the needs for technician-training.

It is planned that in 1958 a Technical Supervisor, Radiological Services, may be available for the detailed administrative work which is required for the programme planning and equipment evaluation which is so essential to a stronger service.

Medical Rehabilitation Grant

Funds were provided under the Medical Rehabilitation Grant to maintain assistance to the G. F. Strong Rehabilitation Centre (formerly the Western Rehabilitation Centre) in all phases of its work. The Centre's general programme of the physical rehabilitation of the disabled was continued. This year the grant enabled the Centre to increase the services provided to disabled home-makers and to continue the planning for a records and statistical service.

A service to provide funds for medical rehabilitation and associated services for indigent persons referred to the Rehabilitation Service of the Health Branch also has been continued. The project provides also for the purchase of prostheses and other medical aids, as well as maintenances for those who temporarily must live away from their homes

to receive rehabiliation service. The funds in this project are used only when no other means of financial assistance is available.

Another continuing project under this grant is the employment of a physician on a part-time basis as medical rehabilitation consultant, who maintains a constant liaison with those responsible for actual physical rehabiliation treatment of patients referred from the Rehabilitation Service. He also acts in an advisory and consultative capacity to the Health Branch on the rehabilitation programme generally.

The Department of Physical Medicine at the Vancouver General Hospital was strengthened by the provision of much-needed special equipment. The Traumatic Surgical Unit, a new project under the grant, was started this year at the Vancouver General Hospital. This unit was set up to investigate factors in the cause of injuries and to study the question of the rehabilitation of injured people to assist in the development of projects and programmes to improve treatment and rehabilitation procedures of traumatic injuries.

Child and Maternal Health Grant

Assistance was continued to the Health Centre for Children and the Metropolitan Health Committee of Greater Vancouver for salaries of specialized personnel in child and maternal health services. Two audiologists and speech therapists were added to the staff of the Health Centre for Children, and orthoptic equipment was purchased for the eye clinic. Equipment was also purchased for neonatal respiratory studies being carried out by the Health Centre for Children.

The services of the part-time travelling audiologist and speech therapist proved to be most beneficial in contacting children requiring assistance and, in addition, giving lectures and demonstrations to public health staff, school-teachers, and parents throughout the Province.

A total of eleven premature-care incubators were purchased, and of this number ten were allocated to public hospitals, with one being held in reserve for later allocation.

Funds were made available for three new research projects—namely, Development and Application of a Method to Determine Blood Pressure in Newborn Infants, Control of Biochemical Changes in Oxygen-deprived Animals to Inhibit Brain Damage, and Physico-chemical Changes in " Dehydration Fever " and Following Surgery in Newborn Infants. These projects are being conducted by staff members of the Health Centre for Children and the Department of Pædiatrics, Faculty of Medicine, University of British Columbia, in collaboration with the Vancouver General Hospital and the British Columbia Medical Research Institute. Assistance was continued to the Faculty of Medicine, University of British Columbia, for the study concerning adrenal steroids and immune reactions in pregnancy and to the study of maternal mortality and maternal morbidity and certain aspects of fœtal wastage in British Columbia, which was previously under the Public Health Research Grant.

Registry for Handicapped Children

The Registry for Handicapped Children, established in 1952, is operating under the Child and Maternal Health Grant. The Registry office is under the jurisdiction of the Assistant Provincial Health Officer in the Provincial Health Building at 828 West Tenth Avenue, Vancouver. In the 1955 Report the actual operation of the Registry was outlined in detail, and this remains much the same.

The number of cases reported averages about 150 a month, and these are being registered by the local health services, metropolitan health services, hospitals for children, voluntary agencies, and private physicians. Cases that were registered in the earlier years are being reviewed in the light of the present policy of the Registry, and some are being removed from the case load.

The liaison between the Rehabilitation Service of the Health Branch and the Registry was further strengthened, and more attention is being given to young adult cases. This

scheme was discussed at a meeting with the Rehabilitation Service and the Special Placement Branch of the National Employment Service in order to further the programme.

The policy was organized on a team basis, working through the local health services so that children and young adults may be helped and settled in their own community.

The Registry planned and published a series of articles showing the services available for children suffering from certain handicaps. These articles were published in the Bulletin, which is the official organ of the British Columbia Division of the Canadian Medical Association. A medical adviser to the Registry serves on the Committee on Special Diseases under the Health Planning Council of the British Columbia Division of the Canadian Medical Association and on the Department of Pædiatrics, Faculty of Medicine, University of British Columbia, which provides a very close link with the medical field. The Registry is very active in the various planning divisions of the Community Chest and Council of Greater Vancouver, chairing and serving on various executive committees dealing with the planning of facilities for handicapped persons.

As well as this, the Registry is represented on the executives or the medical advisory committees of such organizations as the G. F. Strong Rehabilitation Centre, Cerebral Palsy Association of British Columbia, Association for Retarded Children of British Columbia, British Columbia Society for Crippled Children, and the Junior Red Cross. By this method the Registry is able to maintain a very close liaison with these organizations.

REPORT OF DIVISION OF PUBLIC HEALTH NURSING

MONICA M. FRITH, DIRECTOR

The public health nurse continued to provide basic nursing service within the structure of local health unit service. The public health nurse carries a generalized public health nursing programme based on the family health needs of the people within her nursing district.

During the past year the public health nursing service continued to increase in order to keep up with the ever-expanding population. This steady increase in population created a need for more nurses on both a staff and supervisory level. Nine new staff nursing positions were financed through National health grants in the following centres: The Central Vancouver Island Health Unit at Ladysmith and Port Alberni, the Upper Fraser Valley Health Unit at Chilliwack and Abbotsford, the Boundary Health Unit at Cloverdale, the Saanich and South Vancouver Island Health Unit at Saanich, the East Kootenay Health Unit at Golden, the Peace River Health Unit at Fort St. John, and the West Kootenay Health Unit at Castlegar. To provide required supervisory assistance in health units where more than eight staff public health nurses are employed, three additional senior nurses were appointed as assistant supervisors—at Nanaimo in the Central Vancouver Island Health Unit, at Saanich in the Saanich and South Vancouver Island Health Unit, and at Cloverdale in the Boundary Health Unit. There is now a total of 176 positions for full-time public health nursing staff, 172 of these being field positions in local health services. Five nurses serve on a part-time basis in smaller centres where additional nursing time is required or in areas where no full-time service is available.

Nine nurses returned to the staff following leave of absence to attend university. Of this group, seven completed the basic diploma course and one the advanced programme in supervision and administration in public health nursing, all with the assistance of National health grants.

Ten nurses are on leave of absence to complete the diploma course in public health nursing at university, while one senior nurse is on leave of absence to complete the course in supervision and administration at McGill University, all with financial assistance of National health grants.

The Employees' Health Service was transferred for nursing supervision to the Division of Public Health Nursing. In this way it is hoped that a closer liaison can be developed with local health services.

PUBLIC HEALTH NURSING CONSULTANT SERVICE

The Division of Public Health Nursing provides consultant service to local health units and nursing districts through the Bureau of Local Health Services. The consultants visit the health units twice a year to assist in assessing the work being carried out and to provide guidance as required for members of the field staff. This assistance may be directed toward special activities such as the training of new nurses, the student field programme, the use of records, the planning of work, the prenatal service, etc. As the result of time studies conducted by the Division, it was shown that a good deal of professional nursing time was being used in activities which could be carried out by a less well trained person. It was possible this year to employ health unit aides on a part-time basis to carry out certain of these duties, such as the cleaning and wrapping of syringes and needles, autoclaving of supplies, and some housekeeping duties. To date the aides have been placed in the health units providing a bedside nursing service, but it is hoped that they may be added to the staff of other health units and the scope of their work extended to take over other non-professional duties now being done by public health nurses and clerical workers.

In order to achieve efficiency and economy in the operation of local health service, certain activities are carried on by the consultant staff to facilitate the work on a local level. This includes an active record committee, which revises record forms, instructions, and procedures. This committee, under the guidance of Miss A. Beattie, public health nursing consultant, has held several meetings this year. Work continues on the Policy Manual, with new sections and revisions being issued regularly. Mrs. Dorothy Slaughter, public health nursing consultant, has continued to act in a liaison capacity with the Divisions of Venereal Disease Control and Tuberculosis Control and other agencies in Vancouver. She is working on a revision of the Tuberculosis Policy Manual and represents the public health nurses on the school health committee. She maintained a close working relationship with the Indian Health Services and compiled a section for the Policy Manual to advise public health nursing staff regarding procedures to be carried out in providing services to Indians on reservations. In the near future it is expected that a manual of nursing procedures will be drawn up to be used in areas providing bedside nursing care. Work is also going forward on standardization of equipment and methods to be used in carrying out immunization procedures.

TRAINING PROGRAMMES

As the work of the public health nurse is complex, requiring a highly technical background of knowledge and skills, it is necessary to have well-trained public health nurses to carry on the nursing service. For this reason, a certificate or degree in public health nursing, granted by a recognized university, is the requirement for a staff nurse position. Due to recruitment difficulties, 16 per cent of the nursing staff do not have the full academic preparation required for a public health nurse appointment. These nurses are given a carefully planned orientation to the service and work under close supervision, and thus are able to make a good contribution to the service. The experience which they have on the staff prior to taking the university course has proved most beneficial to them. However, it does place an additional load upon the public health nursing supervisors, who carry very heavy nursing responsibilities. A public health nursing trainee remains on staff for about a year and then may apply for financial assistance under National health grants to help her to attend university and complete the required course. The recipient of a bursary agrees to return to the public health nursing field staff for two years if she accepts financial help.

The public health staff assist with the training of nursing students from the universities and act as advisers for them during the weeks they are placed in selected health units for field experience. During the year sixty-nine students from the University of British Columbia were placed and two students from the University of Saskatchewan were given experience for a period of one month of field work. In an attempt to interest undergraduate nurses in the public health nursing field, facilities are being extended to enable larger numbers of nurses to have short periods of observation in the health service. The programmes of the two schools of nursing in Victoria—the Royal Jubilee Hospital and St. Joseph's Hospital—have continued in the Saanich and South Vancouver Island Health Unit. The Royal Columbian Hospital at New Westminster commenced a two-day orientation programme for its senior nursing students, utilizing the adjoining Simon Fraser and Boundary Health Units.

Plans are under consideration for the extension of field facilities for the training of practical nurses from the Canadian Vocational Institute in Vancouver, utilizing the Saanich and South Vancouver Island Health Unit, which provides a bedside nursing service. It is anticipated that the future practical nurses may be utilized in providing some types of home nursing care.

Continuous in-service education is conducted in order to keep the public health nursing staff up to date with the latest scientific developments and advances in public health. In the health units this is accomplished through regular staff meetings with information channelled to the field staff from the Bureau of Local Health Services.

Through the funds obtained by a Maternal and Child Health Grant from National health grants, is was possible to bring Miss Aileen Hogan, Nursing Consultant, Maternity Centre, New York City, to conduct a two-week institute in the Health Centre at Nanaimo for thirty-five senior members of the public health nursing staff and representatives of other health agencies. As a result of this institute, the material being used by the public health nurses in conducting parents' classes and in prenatal home visits is to be brought up to date and standardized throughout the Province. The nurses who attended this institute are now disseminating the latest information to all members of the field staff in order that the highest possible standard of maternal and child care may be established.

Five senior nurses attended the civil defence course for nurses at Arnprior.

LOCAL PUBLIC HEALTH NURSING SERVICE*

The public health nurse is assigned from the Division of Public Health Nursing to a health unit or nursing district, where she becomes a member of the local health service. She provides the basic nursing service in the generalized health programme. The work of the public health nurse continued to become more efficient as more assistance in conducting the local programme is available from the Bureau of Local Health Services and as improved working facilities continue to become available in new health centres and properly constructed office quarters. As one nurse is responsible for the public health nursing programme for approximately 5,000 people, she depends upon a certain amount of non-professional assistance in order to carry out a good programme. In addition to the clerical assistance which is available on a minimum basis, she must rely on volunteer help for certain programmes, such as large immunization clinics, child health conferences, etc. By utilizing all types of supplementary assistance, the public health nurse has been able to continue to carry on expanding health programmes designed to meet the special health needs of various age-groups and to provide assistance in special health services. The programme falls into the following arbitrary categories.

Maternal Health—Prenatal and Postnatal

As the prenatal period is recognized as most important in affecting the health of the new-born child, the mother, and the total family unit, emphasis continues to be placed on the prenatal programme. It has become more evident that this period is important in affecting not only physical health, but also the mental health of all members of the family. As a result of the in-service training programme stimulated by the Maternity Centre Institute in Maternal and Child Care, the programme of group classes for expectant parents now follows the new outline prepared by the Department of National Health and Welfare in Ottawa. This consists of eight discussion groups and exercise classes. It is planned that expectant mothers and fathers attend class together and work out joint plans for the new baby and family. Equipment and reference text-books for this programme have been made available through National health grant funds. Additional centres are planning to begin group classes soon. Participation in prenatal classes has increased, and this year showed an attendance of 4,498. In addition, 1,809 home and office visits were made to expectant mothers. There were 17,681 postnatal visits to mothers following return home with the new baby.

* Figures shown in this section apply only to the seventeen local health units and nursing districts and do not include the metropolitan health departments of Vancouver, Victoria-Esquimalt, or Oak Bay.

Child Health—Infant and Pre-school

The guidance which the mother receives in the care of her new baby has an important effect on the future health of the child, and for this reason the public health nurse tries to make at least one visit to the home soon after the mother is discharged from hospital. Additional home visits are made as required, and the mother is then invited to bring the infant to a child health conference. Child health conferences are held in selected centres throughout the public health nurse's district. At these, mothers may confer with the public health nurse concerning the growth and development of her child and receive advice on diet and general care. Immunizations are available for protection against the preventable diseases. This year poliomyelitis vaccine became available for infants and pre-school children attending child health conferences. During the year an attendance of 55,678 infants and 56,235 pre-school children at the office or at child health conferences was recorded. In addition, public health nurses made 26,608 infant home visits and 26,349 pre-school home visits for health supervision. During these contacts the public health nurse has the opportunity of finding physical or emotional defects and will suggest medical follow-up as indicated.

Child Health—School

The public health nurse supervises the health of the school-children in her district. As the children attend a number of schools, the public health nurse plans her work in order that she may be available at a regular time in each school. The public health nurse acts as a health adviser to the teachers in her schools. The new school programme, which includes regular teacher-nurse conferences, is proving most successful. The public health nurse now devotes more time to the follow-up of the children requiring special attention. This may mean visiting the parents at home and referring the child to the family doctor for diagnosis and treatment. It may be necessary to refer children with problems to special agencies for help.

More time, too, was utilized this year than usual in the immunization programme in the schools as poliomyelitis vaccine became available for all school-children.

During the year, public health nurses assisted with 19,437 medical examinations, and in addition made 108,781 nursing examinations and inspections. The public health nurse held 56,362 conferences with school staff, 34,891 with pupils, and 8,187 with parents. Health problems concerning 52,667 pupils were reviewed. A total of 23,033 visits were made to the homes of school-children, while 3,845 conferences were held with parents in the office.

Tuberculosis

As the number of tuberculosis patients in institutions has decreased, the responsibility of the public health nurse in the tuberculosis-control programme in the community has increased, and she supervises the health of the tuberculosis patients and contacts in their homes. This means more visits to the homes as more patients are rehabilitated to community life. In addition, the public health nurse is constantly utilizing case-finding methods in an effort to find new cases. A total of 6,364 visits were made by public health nurses to tuberculosis cases and 6,933 to contacts of cases. The nurse provides treatment service for patients in order that they may remain out of sanatorium. Thus 15,945 injections of streptomycin were given in the patients' homes or at the health unit office. B.C.G. is given to tuberculin negative contacts of cases and to special groups such as hospital employees. This year 733 individuals received B.C.G.

Other Communicable Diseases

The communicable-disease programme includes facilities for protection from diseases known to be alleviated or prevented by immunization. Immunizations are available at the various child health conferences and schools in the public health nurse's district.

During the year the poliomyelitis vaccination programme continued to be given priority. In addition, special clinics were set up for influenza virus vaccine (Asian strain). There were 330,565 persons who received injections for protection against poliomyelitis; 11,088 children completed the series of injections for protection against whooping-cough, 14,156 for diphtheria, and 13,709 for tetanus; 37,233 were vaccinated against smallpox; and 606 received protection against typhoid fever. In all, a total of 640,550 individual doses were given by field staff this year, which is almost double the amount of the previous year. In addition to the above, there were 4,076 prophylactic injections, such as anti-measles serum and gamma globulin for protection from other communicable diseases. Public health nurses made a total of 4,571 home visits and held 485 office consultations for the purpose of communicable-disease control.

The venereal-disease control programme continues to be emphasized in the Cariboo and Skeena Health Units, where the incidence is highest in the Service. The epidemiology-worker at Prince George was taken on the staff of the Cariboo Health Unit, and she is able to assume some activities in the general programme in addition to venereal-disease work. A total of 1,832 office and clinic visits were made for venereal-disease control, while 365 home visits were made for this purpose.

Nursing Care

Nursing care in the home is provided routinely by all public health nurses on a short-term and demonstration basis. This includes such procedures as hypodermic injections, enemas, treatments, and dressings as ordered by a physician. In an emergency the public health nurse will give more extensive nursing care and teach someone else to carry on the daily routine. The amount of nursing care given routinely varies with the local demand. The total amount has increased this year to 19,647 nursing-care services, in addition to streptomycin injections, which are given as part of the service to tuberculosis patients.

A more intensive bedside nursing-care service is given in health units which have made special financial arrangements. In these units each public health nurse is responsible for nursing care as well as for the other services in her district. In this way it is possible to keep costs to a minimum as travel is reduced and the nurse is fully employed at all times. Nursing care is given under doctor's orders during the regular hours of the working-day. Arrangements are made for service over the week-ends and on holidays.

Nursing care is now provided on an organized basis in the Saanich and South Vancouver Island Health Unit in the Saanich Municipality, in the Upper Island Health Unit at Courtenay and Powell River, in the South Okanagan Health Unit at Kelowna, and in the North Okanagan Health Unit at Vernon where the Hospital home-care programme is in effect. The volume of nursing care has gradually increased in each of these districts. During the first nine months of this year a total of 1,378 patients had a total of 6,319 nursing-care visits in the above-mentioned nursing-care areas. Plans have been approved for the commencement of a similar programme in the Boundary Health Unit at Langley and at Ladner. However, the inability to stabilize the nursing staff has prevented the inauguration of the service.

GENERAL

The public health nurse strives to assist each person to have a normal life and must therefore help in rehabilitating many persons who have either mental or physical defects. In addition to the types of service mentioned, public health nurses made 2,375 home visits and held 236 office conferences concerning mental-health problems. A total of 57,673 home visits and 19,378 conferences were made for adult health. In all, public health nurses visited 77,212 homes.

The public health nurse directs her activities in the community toward developing local health resources and is active in encouraging organizations to improve local facilities. She is a key person in her community in co-ordinating and guiding health activities and services.

REPORT OF THE DIVISION OF PUBLIC HEALTH ENGINEERING

R. BOWERING, DIRECTOR

The Division of Public Health Engineering is concerned with environmental conditions that affect health, and its work will be discussed under suitable headings.

WATER-SUPPLIES

The " Health Act " requires that all plans of new waterworks systems, together with alterations and extensions, be submitted for approval. A careful study of these plans, together with inspections on the site in many cases, is one of the major duties of the Division. During 1957 sixty-five plans in connection with waterworks construction were approved. This compares with sixty-one the year before. In addition, engineers visit waterworks systems in the Province from time to time for the purpose of checking on sanitary hazards and to give advice toward their improvement. Field visits were paid to all health units in the Province, with the exception of one, during the year 1957. The water-supply sources in British Columbia are generally good, and expensive treatment of the water is not usually required. In most cases where treatment is required, only chlorination is carried out. There are only three domestic water-supply systems in the Province where water-filtration plants are used. One of the larger communities commencing chlorination this year was the City of Nelson. It is estimated that nearly 80 per cent of the population of the Province uses water protected by chlorination.

By the end of 1957 there were four communities fluoridating the water, all using sodium silico fluoride. Reports are received regularly with respect to the amount of fluoride added to the water, the amount of water used, and reports on testing of the water for fluorides. There have been no major problems involved in adding fluoride within the required degrees of tolerance. As in the past, a public health engineer was present at the time fluoridation equipment was installed, and care was taken to see that the local operator knew how to operate the equipment.

In order to keep a constant check on the bacteriological quality of water-supplies, regular frequent samples of water are taken by the health unit, examined by the Division of Laboratories, and recorded by this Division. In addition to the bacteriological examination of water, there is sometimes a need for chemical analysis as well. During 1957 the Division of Laboratories started a chemical analysis service.

Eighty-four per cent of the population receives water from a public water-supply system.

The Division receives a number of inquiries each year concerning private water-supplies. These are referred to the local health unit. A considerable amount of advice is given by mail and occasionally by visits. Also, when visiting health units, public health engineers consult with health unit officials on various water-supply problems.

There have been no known water-borne epidemics resulting from the use of public water-supplies during the year. This fact is evidence of the care being taken by the various water authorities to provide a safe water-supply for the citizens. This record, however, should not be allowed to bring about a feeling of complacency because the bacteriological quality of a number of water-supplies could still be improved.

SEWAGE-DISPOSAL

The " Health Act " requires that plans of all new sewerage construction be approved before construction may commence. During the year eighty-nine approvals were given in connection with sewerage work, compared with a total of sixty-six in 1956 and thirty-five in 1955.

Study of the plans for approval include the study of profiles and plans of appurtenances so that a good standard of sewerage work is constructed. Study also includes

treatment-works, if any, and studies of the receiving body of water in order to determine the degree of treatment required. Among the municipalities constructing new sewerage systems during the past year were the Village of Campbell River and the District of North Vancouver. Extensions to existing sewerage systems were made in many other communities.

It was mentioned in the 1956 Report that a number of subdividers were developing complete sewerage services for subdivisions in order to obtain approval of the building-sites in connection with the "National Housing Act" loans. During 1956 and 1957 some of these privately built sewerage systems were completed. Owing to the relatively tight loan situation during most of the year, some of the planned installations were not completed. It is felt now that when a privately owned and financed subdivision is planned to be built in a municipality, plans of the proposed system should be submitted to the Health Branch by the municipality rather than by the private builder. The reason for this is that it would give the municipality better control and it would make the continued operation of the plant a responsibility of the municipality.

During 1957 a start was made by the Greater Vancouver Sewerage and Drainage District on the construction of a sewer trunk discharging into the main stream of the Fraser River to serve the Central Burnaby Valley and the District of Coquitlam. In addition, a start was also made by the district to serve a portion of the District of Burnaby which drains by gravity into the North Arm of the Fraser River.

The question of sewage-disposal for private homes comes generally under the direction of local health services. However, the plans and specifications and consulting service are provided by the Division of Public Health Engineering. The Division also gives advice and reviews plans of sewage-disposal systems for schools and hospitals and government institutions. When the new gaol at Haney was opened in 1957, a new sewage-treatment plant had been built and was ready for operation. This means that the Provincial Government is giving a lead in the provision of proper sewage-treatment facilities where there is a demonstrated need.

There were two sewage stabilization ponds, sometimes called "sewage lagoons," in operation in British Columbia in 1957. One of these serves the Village of Dawson Creek. Certain difficulties were experienced with this lagoon, which have revealed valuable information for future installations. A sewage lagoon was in operation at Tranquille Sanatorium, and it rendered valuable service and operated without nuisance. Before the method can become generally adopted, more will have to be known about design criteria; if the method proves successful, considerable savings in sewage-treatment costs can be expected.

STREAM POLLUTION

One of the major items dealt with by the Division of Public Health Engineering is stream pollution.

Stream pollution is caused by the discharge of sewage and industrial wastes into surface water. These discharges may have quite diverse effects on the receiving body of water because of the extreme variations in the type and strength of the wastes and the quality and volume of the receiving bodies of water. The net result of such discharges, however, may make the water less desirable and less useful.

Stream pollution in the Province is not extensive at present as there are only a few instances where waste discharges have affected down-stream water-users. However, it is recognized that control should be established in order to prevent pollution rather than to wait until it becomes a problem. The Health Branch has had general legislation for the control of municipal wastes for a number of years. Control of pollution by sewage under this legislation has made it possible to prevent the discharge of sewage from affecting communities in lower stretches of streams and rivers. In addition to the Health Branch, other departments of Government have had legislation for control of certain types of pollution.

The above-mentioned control has not been sufficient to prevent all types of pollution, and for this reason a Pollution-control Board was appointed to look after a portion of the Province.

THE POLLUTION-CONTROL BOARD

The Pollution-control Board was set up late in 1956 subsequent to the passing of the "Pollution-control Act" by the 1956 Session of the Legislature. Administration of the Act was made the responsibility of the Minister of Municipal Affairs. The Pollution-control Board consists of four Civil Servants or former Civil Servants and three members from the Greater Vancouver area. Since, under the Act, responsibility for technical advice is laid on the Health Branch, the Director of Public Health Engineering was appointed as secretary of the Pollution-control Board. Early in the year, regulations were drafted and were passed by the Lieutenant-Governor in Council. Also, application forms and permits were prepared. The regulations made it mandatory for all applications under the "Pollution-control Act" to advertise the application in two newspapers and by posting at the site of the proposed outfall.

The area over which the Pollution-control Board has jurisdiction is the Lower Fraser Basin below Hope, together with the contiguous salt-water areas, including Boundary Bay, Roberts Bank, Sturgeon Bank, Burrard Inlet, and Howe Sound.

During the year twenty permits for discharge of waste were issued. Most of the permits were made valid for only five years, during which time it is hoped that adequate studies of the capacities of the area to receive pollution, together with studies of existing discharges into the river, would be made.

One of the most important applications coming before the Board was one made by the Greater Vancouver Sewerage and Drainage District to build a high-rate primary sewage-treatment plant on Iona Island with the effluent to be discharged upon Sturgeon Bank to the west of Sea Island. The application was opposed by the Municipality of Richmond and a hearing was found necessary. The hearing was held in September, 1957. It is expected that the Board will give its decision early in 1958.

SHELL-FISH SANITATION

The Division of Public Health Engineering has the responsibility of enforcing the shell-fish regulations. The inspection of shucking plants and handling procedures now comes under the jurisdiction of local health units. There are six local health units that have one or more shucking plants within their area. Reports are made on uniform report forms issued by the Division. The Provincial regulations are such that any shell-fish produced in the Province in conformity with the regulations will conform with the requirements of the Department of National Health and Welfare for export as well.

Oysters produced commercially in British Columbia are grown on leased ground. Copies of applications for new leases and for renewal of existing leases are forwarded to the Division for approval. Any ground found unsuitable for production of shell-fish for public health reasons will not be leased. There were twenty-six certified shucking plants in operation in 1957. Most of these were family operations. Certification must be renewed annually. There were two shell-stock shippers certified as well. Lists of certified shucking plants and shell-stock shippers are forwarded to the Department of National Health and Welfare, which, in turn, forwards these to the United States Public Health Service. This makes it possible for American importers to know if shell-fish coming from British Columbia are safe.

Another matter relating to shell-fish is toxicity in molluscs which is not caused by poor sanitation. For the first time since 1943, a number of cases of paralytic shell-fish poisoning occurred among people who had eaten oysters, clams, or mussels from one region of the Province, centring around Fanny Bay.

When it became evident late in October that a paralytic shell-fish poisoning episode was under way, samples were immediately taken and analysed by the Food and Drugs

Branch of the Department of National Health and Welfare. Samples were taken by sanitary inspectors of the health units concerned, by fisheries inspectors, and by food and drug inspectors. The early reports showed a high toxicity in the area mentioned above. Before this work was completed, a meeting of the Pacific Coast Shellfish Committee was called by the Deputy Minister of Health, and it was decided to place a ban upon the taking of oysters, clams, and mussels throughout the whole Province. Following examination of specimens taken from other areas in the Province, it became evident that the toxicity was occurring in one area only. This area was defined as that portion of the Gulf of Georgia lying north and west of a line drawn from Yellow Point on Vancouver Island to the easterly point of Gabriola Island, to the most southerly point of Texada Island, and thence to Fearney Point on Nelson Island, and south of a line drawn across Johnstone Strait at Blenkinsop Bay. This meant that only one of the important oyster-production areas was left closed, while the main production areas at Boundary Bay, Ladysmith and Crofton, and Pender Harbour were allowed to remain open.

Samples taken subsequent to the episode indicate that toxicity in the oysters started to become less about the middle of November and were normal by December 31st.

At the same time, toxicity remained high in samples of clams taken from the area.

An interesting feature of this paralytic shell-fish episode was that it was the first time that occurrence was noted in the Gulf of Georgia region, and it was the first time that reports had been received where oysters were affected. There have been numerous cases where clams and mussels were affected.

The occurrence of paralytic shell-fish poisoning in the Gulf of Georgia region and especially the appearance in oysters will mean that the work done by those agencies responsible for the control of the shell-fish industry will be much increased in 1958.

FROZEN-FOOD LOCKER PLANTS

Plans of all new construction of locker plants must be approved by the Deputy Minister before construction may commence. The Division studies the plans and recommends approval where such is indicated. Approvals were given in connection with three locker plants during 1957, bringing the total number to 147. There are approximately 60,000 lockers available for renting in British Columbia to-day. The construction of new frozen-foods locker plants appears to have passed its peak. The day-to-day inspection of the locker plants is the responsibility of the local health unit.

GENERAL

The Division of Public Health Engineering provides a consultation service to other divisions of the Health Branch and to local health units on many matters dealing with engineering in public health. During 1957 all the health units in the Province except one were visited. During the visits to the health units, problems requiring engineering knowledge for their solution are examined in the field.

The position of Chairman of the British Columbia Examining Board for Sanitary Inspectors was again filled by the Director of the Division. Four candidates wrote the examination in sanitary inspection in 1957.

The Director served as a member of the advisory committee on health, which is a sub-committee of the associate committee on the National Building Code of the National Research Council of Canada. Two meetings of this committee were attended during the year 1957.

The Director also served as a member of the Council of the Association of Professional Engineers.

One member of the staff was able to take advantage of a two weeks' course in pollution-control work at the Sanitary Engineering Centre at Cincinnati, Ohio, financed by National health grants. It is hoped that more of these types of courses can be attended.

REPORT OF THE DIVISION OF PREVENTIVE DENTISTRY

F. McCombie, Director

The extent of untreated dental disease in British Columbia is appalling. Yet there can be little doubt that a child's (or adult's) general health is adversely affected when there is pus from abscessed teeth or diseased gums.

To arrange basic dental care for the children alone (under 16 years) of this Province would cost approximately $8,000,000 in the first year. All the dentists of the Province would need to spend more than three-quarters of their time to provide such a service. The remainder of the population (everyone over 16 years of age) would then have available to them less than one-quarter of the dentists' time. Such a programme is to-day clearly impracticable.

Again, it is emphasized that this tragic problem must be tackled ruthlessly from two directions. Dental disease, especially dental decay, can to-day be prevented, if not entirely, by at least two-thirds. More persons adequately trained to provide dental treatment must be made available. Of these two necessary activities, the greatest results, and at the most economical cost, will be attained by prevention.

PREVENTION

In British Columbia, Smithers and Prince George commenced fluoridation in 1955 and Kelowna the following year. During 1957 this procedure was commenced at Prince Rupert, and in Burns Lake the necessary equipment has been purchased.

The prevalence of dental disease can, to a degree, also be reduced by dental-health educational programmes. The coverage of such programmes during the school year 1956/57 is shown in Tables I and II.

Regarding the services provided by full-time dental officers (Table I), the programme previously operated by the Powell River and District Dental Clinic was discontinued during the past school-year due to the lack of a suitable dentist, but recommenced in the fall of 1957. The Board of Trustees of School District No. 44 (North Vancouver) opened its second full-time school dental clinic in September, 1957. National health grants and Provincial grants provided financial assistance toward all full-time preventive dental services.

Community preventive dental clinics increased in number to seventy-four during the school-year 1956/57, as against fifty-nine operating the previous school-year. During the past school-year, ninety-six private dental practitioners co-operated on a part-time basis in such clinics, whereas seventy-four participated the previous year. Further details regarding these clinics are presented in Table II. During 1957 it was agreed with the British Columbia Dental Association that the dentists' remuneration, previously arranged in 1949 at $25 per three-hour session, be revised to $30. National health grants and Provincial grants have continued to assist in the financial support of these clinics.

In summary, during the school-year 1956/57, for the eighty-two school districts of this Province, preventive dental services operated by full-time personnel were provided within fourteen school districts. In a further forty-five school districts, community preventive dental clinics were carried out.

By both these services, a total of 3,893 pre-school children and 9,814 school pupils received complete dental treatment. Thereby it is hoped that these children and perhaps their parents learned how dental decay may be decreased by correct oral hygiene and dietary regime.

Within the schools, every effort is concentrated at the Grade I level. Throughout the areas of the Province where school preventive dental services were organized on a full-time or part-time basis, at least 16,218 Grade I pupils either did not require treatment

at the time of examination or were treated by their family dentist or received complete dental treatment by these clinics. However, there was a total of approximately 30,000 Grade I pupils within the schools of British Columbia during the past school-year.

Within all these preventive dental services, considerable effort was made to instruct the child and the parents as to how dental disease, especially dental decay, may be decreased. In conjunction with the Division of Public Health Education, a poster entitled "Most Tooth Decay Can Be Prevented" was designed and issued. Also prepared and made available was a tear sheet describing correct oral hygiene and dietary practices. The latter was especially designed for use not only in school clinics, but also in the dental offices of private practitioners. In many areas it was possible to assist school-teachers with reference material and audio-visual aids toward the better teaching of dental health within the school curriculum.

Through National health grants, two further sets of transportable dental equipment were purchased. By the loan of such equipment to dentists willing to visit the more remote communities of the Province, and by their agreement to co-operate in preventive dental clinics for the younger children, dental treatment was made available in many communities in urgent need of such services.

RESEARCH

During 1955 a programme was evolved by this Division whereby the dental-health status of the children of this Province could be evaluated by carefully examining a small but adequate random sample. In 1956 these procedures were applied in the Greater Vancouver, Greater Victoria, and Fraser Valley regions. To check the validity of these findings and note any slight changes that might have occurred during such a short period, this survey was again carried out in these regions in 1957.

A comparison between the 1956 and 1957 results showed very similar findings, except that in these three regions there appeared to be slightly better dental health in 1957 than in 1956.

All these regions demonstrated in 1957 fewer children in need of any type of dental treatment. Untreated dental decay was also evident in fewer children than in the previous year.

The numbers of children showing inflamed conditions of the gums decreased in all regions.

The past dental-decay experience of children can be measured by the D.M.F. rate, which is the average number of permanent teeth decayed, or missing (presumably lost due to decay), or filled (usually as the result of decay). In Greater Victoria the decrease was from 5.4 to 4.8; in Greater Vancouver, from 6.8 to 5.9; and in the Fraser Valley region, from 6.5 to 6.2. The first two decreases are statistically significant.

The above information gives some hope for the future and assurance of the value of the preventive dental services operating in these regions.

Nevertheless, when 94.6 per cent of all children in a region require dental treatment, when 86.4 per cent of the children have carious teeth, when as many as 18.6 per cent have inflamed gum tissues, when 65.1 per cent of the children suffer from malocclusion, and when children between 7 and 15 years have an average of 6.2 decayed, missing, or filled permanent teeth, the magnitude of the problem of dental disease amongst the children of British Columbia is apparent.

Complete details of this survey have been prepared and published in co-operation with the Division of Vital Statistics in Special Reports Nos. 26 and 27, and entitled "British Columbia Dental Health Survey, 1957," Parts I and II.

DENTAL PERSONNEL

In 1953 it was noted that the ratio of dentists to population, after having improved from the three previous years, deteriorated during that year. The report of this Division for 1953 stated:—

"The change is slight but it is suggested that it confirms previous forecasts made by this Province, and is indicative of a trend now commencing. The situation will steadily and continually worsen until increased training facilities are provided in Canada, and probably until such facilities are established within this Province."

As at September, 1952, in British Columbia, the ratio of dentists to population was one dentist to every 2,034 persons. As at January, 1957, the ratio in this Province was one dentist to every 2,285 persons.

The College of Dental Surgeons, in an endeavour to encourage dentists to practise in this Province, inserted an advertisement in the British Dental Journal published in the United Kingdom. During the past year six dentists from Great Britain have emigrated to, and are now in practice in, this Province.

GENERAL REMARKS

For the greater period of the past year, Dr. C. W. B. McPhail continued as Acting-Director of this Division in addition to carrying out this duties as regional dental consultant for the health units of the Fraser Valley. It is with very sincere appreciation that it is recorded how meticulously and selflessly these duties were carried out during this period.

The Director of this Division resumed duties on August 31st after his year's assignment overseas, which was sponsored jointly between the University of Malaya and the Government of Canada under terms of the Colombo Plan for South and South-east Asia.

During 1957 one field dental officer returned from a year's postgraduate study in public health and was appointed to provide consultative services to the Kootenay and Selkirk Health Units. In the fall of 1957 another dental officer proceeded to the University of Toronto to undertake postgraduate public health training.

The problem of untreated dental disease in British Columbia remains acute. The solutions are now available. Continuing and widespread dental-health education is imperative if this most serious public health problem is to be solved.

TABLE I.—FULL-TIME PREVENTIVE DENTAL TREATMENT SERVICES IN BRITISH COLUMBIA, SHOWN BY LOCAL HEALTH AGENCY, SCHOOL-YEARS 1954/55 TO 1956/57

Local Health Agency	School Districts Included	Pre-school Children	Grade I Pupils: School Enrolment	Grade I Pupils: Dentally Completed (1)	Grade I Pupils: Requiring no Treatment When Examined (2)	Grade I Pupils: Attending Family Dentist (3)	Grade I Pupils: Total of Columns 1, 2, and 3	Total of Other Grades Dentally Completed
1954/55 school-year, totals[1]	19	1,853	13,506	4,213	3,945	1,749	9,907	(2)
1955/56 school-year, totals[1]	15	1,815	13,423	3,878	4,710	3,202	11,790	1,566
1956/57 school-year—								
North Okanagan Health Unit	Nos. 19, 21, 22, 78	2	657	448	78	55	581	.....
Central Vancouver Island Health Unit	Nos. 66, 68, 69	502	Pre-school programme only.					.....
South Central Health Unit[3]	No. 24	176	134	117	8	(2)	125	.....
Sub-totals	.....	680	791	565	86	55	706	.....
Greater Vancouver Metropolitan Health Committee	Nos. 38, 39, 41, 44, 45	1,298	11,147	3,013	4,300	2,566	9,879	297
Board of Trustees, Greater Victoria School District	No. 61	44	1,823	148	720	650	1,518	21
Totals[1]	14	2,022	13,761	3,726	5,106	3,271	12,103	318

[1] Includes only those areas where clinics operated.
[2] Data not available.
[3] Half-time dental officer.

TABLE II.—PART-TIME DENTAL TREATMENT SERVICES IN BRITISH COLUMBIA (COMMUNITY PREVENTIVE DENTAL CLINIC), SCHOOL-YEARS 1954/55 TO 1956/57

School Year	Local Health Units in Which Clinics Operated[1]	School Districts in Which Clinics Operated[2]	Number of Clinics Operating	Number of Dentists Participating	Pre-school Children Dentally Completed[3]	Grade I School Enrolment of Clinic Areas	Number of Grade I's Dentally Completed[3]	Total Completed, Pre-school, Grades I, II, and III	Average Grant per Child[4]
1954/55	15	35	55	64	1,553	5,166	2,601	5,777	$7.78
1955/56	14	37	59	74	1,753	7,888	3,260	6,444	7.73
1956/57	16[5]	45	74	96	1,871	8,497	4,115	7,641	8.59[6]

[1] Seventeen health units in British Columbia.
[2] Eighty-two school districts in British Columbia.
[3] "Dentally Completed" includes examination, restorations, extractions, X-rays where indicated, and counselling of child and often of parent.
[4] Represents approximately one-half of total cost, being 50 per cent of total remuneration to part-time dentists.
[5] In addition, one health unit had a full-time dental officer and one health unit had clinics arranged but could not obtain a dentist.
[6] During this school-year, the remuneration of dentists was increased from $25 per three-hour session to $30.

REPORT OF THE DIVISION OF ENVIRONMENTAL MANAGEMENT

J. L. M. WHITBREAD, DIRECTOR

In January, 1957, Dr. T. H. Patterson, after five years as Director of the Division of Environmental Management, left the Health Branch to take up the position of Chief of the Occupational Health Division with the Department of National Health and Welfare. Although the present Director of the Division assumed his duties on February 25th, 1957, he continued on a part-time basis as Director of the Upper Fraser Valley Health Unit until his replacement arrived to assume the directorship of the health unit on June 1st, 1957.

OCCUPATIONAL AND INDUSTRIAL HEALTH

Occupational health is one sphere of public health which involves the adult employed worker. Workers may be divided into three groups, as follows:—

(1) Those who work in the home without adding to family income, such as mothers, wives, etc.

(2) Those who work for themselves and do not obtain a wage or salary. This includes professional workers, tradesmen, skilled workers such as plumbers and carpenters, etc.

(3) Those working in firms under the direction of managers or owners. This group can be divided again into various categories according to the type of work and number of persons employed in the firm or industry.

Occupational health at the present time is concerned mainly with the worker in the third group who is employed and works in industry. Some departments and publications separate this third group incorrectly into those who are working in office jobs, shops, and stores and those who are employed in workshops and industrial factories. This is probably due to the fact that industrial-health services have been concerned mainly with accidents that occur on the job in these workshops and consist largely of supplying first aid to those who have accidents. However, over 90 per cent of sickness and illness among industrial workers can be attributed to non-occupational disease. To deal with the adult only as an individual in an industry, and to consider only the occupational illnesses, will result in a very restricted programme and produce very poor results.

The most effective service to industry on a Province-wide basis can be developed only by integrating industrial-health services with the public health services given by local health units. Through the services of trained public health physicians, public health nurses, and sanitary inspectors, certain occupational health services are being provided to the communities. Investigations are made into hazards and other problems arising in industry. Preventive medical measures against diseases such as tuberculosis, venereal diseases, mental illnesses, cancer, and arthritis are given to the adult worker as a part of the over-all public health programme.

A plan to increase services to the adult population in industry has been developed. It involves firstly the collection of information regarding various occupations and industries in British Columbia from local health units and from other sources. Assessment of this information will indicate the unmet needs in the field of occupational health and will also indicate those problems needing the most urgent attention.

The Pacific Northwest Industrial Health Conference was held in Portland on September 8th to 10th, 1957, to bring together representatives of the employers, management and administrative personnel, professional personnel, employees, and union organizers for the purpose of discussing occupational-health problems such as rehabilitation, accident prevention, employment of the handicapped, and industrial health services. These conferences have been held annually over the past four years, and their success has indicated the need for similar conferences in British Columbia. Under the auspices of the Van-

couver Board of Trade, such a conference will be held in Vancouver during February, 1958.

In the construction of new factories and other new buildings, planning should include the solution of some of our occupational-health problems in the early draft and blueprint stages. This is being accomplished in certain fields of construction. Plans for new schools are drawn up in accordance with requirements laid down in School Planning Recommendations. These recommendations fulfil the occupational-health needs in schools. New hospital plans are reviewed with the public health engineering consultant to ensure that the occupational-health requirements are satisfactory to both patients and workers in hospitals. In the construction of community health centres there has been a need for information and diagrams to guide those communities who are building their own health centres. This pamphlet was prepared and was distributed in December, 1957, to all health unit directors. In some cities and municipalities the plans for factories and occupational plants are approved by building inspectors. However, these plans should be reviewed by the Medical Health Officer, particularly where the trade includes a hazardous occupation.

Some concern over the excessive use or misuse of radiation has resulted in several surveys and an increased vigilance in the control of the sources of radiation.

In shoe-shops fluoroscopic machines are used for fitting shoes, in spite of the fact that these machines are of little value for this purpose. When there is no shielding of the radiation and when the machine is excessively used, fluoroscopes are dangerous to the public. The danger to the operator or salesman is very great due to the number of exposures he is given during the day. A survey of the machines was completed during the year, and it was found that there was a decrease in their use, in fact, one large department store has discontinued the use of these machines in its shoe department. In January, 1956, there were eighty-seven machines used in shoe-shops in British Columbia, while in September, 1957, there were seventy-six in use. The decrease in number of machines can be attributed to the efforts of the field staff in pointing out the dangers of radiation. Cards are hung on machines warning the public and operators against their excessive use.

The Department of National Health and Welfare's Radiation Service is providing a film-monitoring service to hospital X-ray units, to industries using X-rays, and to establishments using radioactive isotopes. A survey of hospitals in British Columbia showed that out of ninety-eight hospitals with X-ray departments, fifty-eight were not using the film-monitoring service, which should be used by every hospital in British Columbia to determine the degree of exposure to radiation of their staff.

Another source of radiation is the industrial use of radioactive isotopes. The approval of use of radioactive isotopes is given by the Atomic Energy Commission on advice from the Department of National Health and Welfare's Radiation Service. From a survey of all the sources of radioactive isotopes used in British Columbia, it was found that twelve industries were using them to measure and control the thickness of paper; to visualize the welding of pipes, tanks, and other metal structures; and to control the flow of different oils in pipe-lines. In two firms it was found that radioactive isotopes were a possible danger to those employed, due mainly to their use by persons with insufficient knowledge and training.

In consultation with the Director of Vital Statistics, an investigation was made into the problem of silicosis in British Columbia. Recommendations were made for the establishment of a method which would provide more thorough pre-employment and periodic examinations of those persons employed in mining and other occupations which are predisposed to silicosis.

CIVIL DEFENCE HEALTH SERVICES

During the past years considerable time has been expended in civil defence, mainly in projects to increase training of individuals who might be active in this service. In

order to determine the training requirements of health personnel and the emergency supplies needed in various parts of the Province, it is essential to have a civil defence health service plan for the Province as a whole. Such a plan has been drafted, and it is hoped to have it widely distributed through all the health units and hospitals in the Province during the coming year. The present policy with regards to civil defence health services is to carry out an evacuation of two target zones—Vancouver and Victoria.

During the past year most hospitals have developed a disaster plan for increasing the accommodation for patients who may be sent to them from a target-area disaster or from a local disaster. This has been accomplished with the assistance of the Civil Defence Committee of the British Columbia Division of the Canadian Medical Association and the British Columbia Hospital Insurance Service. The Civil Defence Services have held hospital forums in many of the large centres in British Columbia to review the hospital disaster plans.

Five Federal Civil Defence courses for physicians, dentists, pharmacists, and nurses were held at Arnprior, Ont., during 1957. In all, thirty-four persons from British Columbia attended these courses.

There is need for local training of nurses, physicians, pharmacists, and other health service personnel in civil defence health services plans and requirements for the Province of British Columbia. An educational course in civil defence health services is required for public health engineers, municipal engineers, sanitary inspectors, and others engaged in spheres related to utility services throughout the Province.

EMPLOYEES' HEALTH SERVICE

The Employees' Health Service was started in February, 1954, with the appointment of a public health nurse with industrial-nursing experience. Her office is located in Room 132 of the Douglas Building. The services of a physician are available for consultation with the nurse regarding injuries and illnesses and for emergencies.

A review of the Employees' Health Service was made early in the year to determine the present scope and the future aims of the Service. It is hoped that it will develop into a full industrial-health service, providing for the health needs of the employees in Victoria and integrating the work with that of the public health services in this area. A study of the recording and filing procedures used in the Employees' Health Centre was carried out by Miss Alice Beattie, public health nursing consultant, and Mr. G. C. Page, Supervisor, Division of Vital Statistics. Changes have been made in the Employees' Health Centre to improve the services available. The nursing staff has been placed under the Director of Public Health Nursing. Routine procedures have been changed to fit in with the policies outlined for health units throughout the Province.

Assistance was given to the Canadian Red Cross Society Blood Donor Service, which held two clinics in the Parliament Buildings during 1957—one in July, when a total of 307 donors gave blood, and one in December, when a total of 349 donors gave blood.

In February the mobile miniature X-ray service of the Division of Tuberculosis Control carried out a survey among Provincial Government employees in Victoria, and 2,638 films were taken. Of these, seventy-eight patients were referred for large films and one new tuberculosis case was discovered. There were twenty-six non-tuberculosis conditions which were sufficiently serious to refer the patients to their family physician.

Immunizations against smallpox, typhoid, diphtheria, and tetanus were given to a number of employees. A clinic was held to Schick test those employees who were anxious to obtain a course of immunization against diphtheria. A report on the results of this clinic was made by the Division of Vital Statistics. This report showed that of the total 880 tested there were 503 Schick positive and 296 Schick negative. The remaining eighty-one showed a pseudo-schick reaction. In the age-group between 40 and 60 years there was 80 per cent or more with Schick positive reactions. The results of

this survey of the Provincial Government employees indicates that the level of immunity among adults is much lower than was formerly assumed.

Limited treatments are given to patients by the nurse on the request of private physicians. These treatments consist of the injection of various drugs for chronic diseases and the dressing of injuries and wounds. During 1957 the following activities and services were rendered by the Health Centre, in addition to the above:—

Daily visits to Health Centre (all visits)—	
Male	1,746
Female	1,613
Consultations with doctor	73
Consultations with nurse	367
Disposal of patients—	
To hospital	15
Sent home	58
Returned to work	2,899
To doctor	138
Service—	
Infra-red	65
Bed rest	66
Immunization	638
TB. chest	153
Follow-up	108
Employees contacted	38

REPORT OF THE SANITARY INSPECTION SERVICE

C. R. STONEHOUSE, CHIEF SANITARY INSPECTOR

Improving the quality of sanitation practices in co-operation with the local health unit is the essence of the activities of this Service. Activities of the sanitarian have changed from investigations and the practice of expediencies to overcome nuisances to planned preventive programmes and the evaluation of those programmes. Co-operative planning between industrial representatives and health officials is resulting in higher sanitation standards. New techniques have been adopted and old ones discarded. Many misconceptions held by the public relating to the spread of disease and how to purify and fortify water have been abandoned. Scientific facts have taken the place of the misconceptions. Food poisoning and infection from commercial restaurants are becoming increasingly rare. Milk sanitation has resulted in a safe and wholesome milk-supply without a single instance of disease being attributed to milk for years. Comparable achievements have been made in housing, waste-disposal, and vermin-control. Firm policy procedures contained in the regulations, which the sanitary officer is charged with enforcing, allows for disciplinary action when required.

MILK-CONTROL

Prior to this year this Service acted in a consultant capacity to the Municipal Milk Inspector on the bacterial quality of milk. Since 1956 and the passing of the "Milk Industry Act," the supervision of the bacterial quality of milk has been vested in the Medical Health Officer and the sanitary inspector as milk inspectors appointed by the Minister of Agriculture. This Service has become the liaison between those milk inspectors and the Deputy Minister of Agriculture.

The tests given milk are essentially the same as previously. Raw milk from the producer-vendor constitutes approximately 5 per cent of the milk distributed. Raw milk is subjected to the standard plate count and resazurin test. Samples of standard pasteurized milk, homogenized milk, and pasteurized cream are tested monthly and subjected to the phosphatase test, standard plate count, and coliform test. The phosphatase test indicates whether or not the milk has been adequately pasteurized. The results of the standard plate count on both raw and pasteurized milk have been observed as not being within the allowable standards by a few vendors on a few occasions. The coliform test, given to pasteurized milk, is to indicate whether or not the handling of milk after pasteurization is satisfactory. Unsatisfactory performance is indicated in only a small percentage of milk samples.

One producer-vendor of raw milk was prosecuted for an infraction of the bacterial-quality requirement.

For the seventh consecutive year an evaluation has been made of the standard plate counts of pasteurized milk (standard and homogenized grouped). An average standard plate count of 9,400 colonies per c.c. was obtained from 1,562 samples from eighty-two vendors. These results compare favourably with figures from previous years and are summarized as follows:—

AVERAGE PLATE COUNTS ON PASTEURIZED MILK, 1950 TO 1957

Year	Number of Vendors	Number of Milk Samples	Average Plate Count per C.C.
1950	56	586	22,000
1951	45	728	13,000
1952	56	1,021	13,700
1953	68	1,386	10,300
1954	74	1,930	10,000
1955	79	1,933	9,600
1956	86	2,092	14,000
1957	82	1,562	9,400

Under the "Milk Industry Act," municipalities may pass milk by-laws to regulate local licensing, labelling, delivery, and the sale of raw milk. During the year twenty-two municipalities passed such by-laws, including the Cities of Cranbrook,* Enderby,* Kamloops,* Kelowna,* Kimberley,* Merritt,* North Vancouver,* Port Moody,* Revelstoke,* Rossland, Salmon Arm,* Trail, and Vernon,* and the Villages of Ashcroft,* Chapman Camp,* Comox,* Creston,* Houston, Lillooet,* New Denver, North Kamloops, and Smithers.*

Primarily for the information of the Deputy Minister of Agriculture and secondly, as a matter of interest for milk inspectors, a commencement was made on monthly tabulations of dairies on three types of pasteurized milk products in health unit areas. Arising from these tabulations was an observation that satisfactory compliance to coliform requirements was not being met by a few dairies most of the year and by several dairies during part of the year, particularly during the summer months. It has been observed that there is a correlation between the mean monthly temperature and the quality of the milk. A few dairies will have to improve upon refrigeration facilities in order to overcome seasonal fluctuations in the coliform quality of the milk.

The South Okanagan Union Board of Health, which represents nine municipalities and intervening unorganized territory with a population of 53,900, (*a*) passed a resolution favouring the sale of only pasteurized milk products in November, 1955; (*b*) passed a resolution favouring the establishment of a milk pasteurization area in October, 1956; and, (*c*) reported that all component municipalities of the Union Board of Health had ratified the previous resolutions of the Union Board of Health and urged the creation of a milk pasteurization area by the Lieutenant-Governor in Council in July, 1957.

Inquiries were received during the year concerning the use of antibiotics and food. Firstly, in regard to the processing of poultry, specified amounts of aureomycin is permissible. The standards established are based on conclusive evidence that the drug is not found in the cooked poultry. Not so conclusive, however, is the matter of penicillin used for treating cows for mastitis by intermammary infusion. It is the practice of manufacturers of antibiotic preparations for veterinary use to insert a statement that milk from treated cows shall be discarded for three days following medication. It would be difficult to undertake routine laboratory testing for the presence of antibiotics. It is possible that in the near future a suitable dye or harmless radioactive compound may be included in the medicament, which would be easily detectable in milk on arrival at a pasteurizing plant. It is, however, the consensus that the insignificant amount of antibiotics likely to be found in milk reaching the consumer would not create a public health problem in the form of allergic sensitization. The risk of untoward reactions to penicillin is minimal. Of more significance is the health of the animal, for in indiscriminately using penicillin to correct an acute streptococcal condition, the farmer runs the risk of allowing a chronic staphylococcal condition to develop.

* Indicates the sale of pasteurized milk only.

EATING AND DRINKING PLACES

The inspection of eating and drinking places is carried out by the sanitary inspectors attached to the health units and under the Provincial regulations governing the sanitation of eating and drinking places, and municipal by-laws. This is an example of the decentralization of inspections to the local health service level. A very pronounced decrease in complaints, the decrease in reports alleging poorly operated premises, and the expanding policy of educating food-handlers in the means of preventing food poisoning have had a favourable effect on the incidence of food-borne infections throughout the Province.

As in previous years, resolutions have been received from organizations proposing that public eating-places be required to provide restroom facilities for their patrons.

Two reports have been received of convictions for infractions of the regulations in the sanitary conduct of premises.

SLAUGHTER-HOUSES

Seventy-two slaughter-houses in the Province are licensed under the "Stock-brands Act." These premises are inspected for sanitary conditions prior to being granted a licence, and a certificate of approval is issued by the Medical Health Officer for the slaughter-house operator to attach to his application for the licence.

The Health Branch continues to issue diagramatic sketches to persons desirous of reconstructing existing buildings or constructing new premises.

Piggeries and slaughter-houses, in connection therewith, are not licensed under the "Stock-brands Act," but are routinely inspected by the sanitary inspector. One piggery operator in the Kootenays was convicted for an infraction under the sanitary regulations in 1957.

FOOD-CONTROL

Many and varied are the inquiries received for guidance and interpretation of the various regulations and practices related to food distribution. These inquiries come particularly from persons planning small business enterprises. Vending-vehicles, sometimes conducive to creating nuisances, were brought to the attention of the Service on several occasions. Information on the use of antibiotics in food-preservation practices was gathered for health unit offices. Proposed amendments to the regulations for the sanitary conduct of canneries were reviewed. The Upper Island Union Board of Health again expressed interest in obtaining a means toward requiring refrigeration for facilities in the transportation of perishable foodstuffs.

INDUSTRIAL CAMPS

As a result of policy set forth in the Regulations Governing the Sanitary Control of Industrial Camps, the industrial prosperity in the Province, and the co–operation of contractors and employers, housing in camps continues to be of a high standard.

An unfortunate experience from the introduction in 1951 of tent accommodation in semi-permanent camps was finally overcome this year. These tent accommodations were the cause of many complaints in the intervening years. It will be the objective of the Service to make certain that tent housing is restricted to strictly temporary operations in the future and not permitted beyond temporary projects.

The accomplishments of the employer in the hygiene of housing are comparatively well established. Destined for a permanent place in temporary construction projects is the factory-designed and -constructed trailer for bunk-houses, cooking and dining facilities, and washroom, shower, and toilet facilities. When introduced in 1951 it was considered that trailer accommodation would encompass many conveniences provided previously in the more permanent type of camp housing. Therefore, the restrictions of

the regulations were relaxed through a permit system, which relieved the employer of meeting the minimum floor-space requirements per person and allowed twelve persons to a trailer. In 1952 it was observed that the trailers were being overcrowded, and the permits were cancelled. In 1953 the occupancy was reduced to six persons per trailer, and to-day the use of trailer is continually expanding on the limited-occupancy basis. Reports of employers not observing the rules are few.

The co-operation of the fish-cannery operators and the native population of those canneries within the Skeena Health Unit was instrumental in furthering improvements to housing arrangements and other environmental sanitation factors in fish-cannery camps.

TOURIST CAMPS AND TRAILER PARKS

Medical Health Officers and sanitary inspectors attribute good-quality auto court and motel accommodation, in a large measure, to the guidance on building requirements and sanitation features contained in the regulations pursuant to the "Tourist Camp Regulation Act," 1945, and then repealed by an amendment Act in 1956. Many municipalities filled the void created by passing tourist-camp by-laws or incorporating tourist-camp requirements in building and plumbing by-laws. It is without the municipal boundaries where problems are arising, and it has been proposed by the Health Officers' Council that sanitary requirements be reincluded in the "Tourist Camp Regulation Act," or regulations toward sanitary requirements for tourist camps be passed under the "Health Act." It was further recommended that regulations on trailer courts be incorporated with the proposed sanitary requirements for tourist camps.

With eleven years of experience in the application of auto-court regulations, local health services can provide advice and guidance to prospective builders in respect to tourist-camp requirements. However, in the case of trailer parks, which are a comparatively new feature for which there have been no regulations, local health services have not had the benefit of such experience. These parks were at first little more than vacant lots. Gradually electric lines were installed along with service facilities. With the advancement of trailer construction to self-contained housing units, adequate facilities for trailer parks now require water-lines, sewer connections, and minimum lot spaces. The trailer tourists complain of unkempt camps, poor sanitary conditions, or lack of facilities. A trailer court has a greater density of population per unit than auto courts and subdivisions. Many operators fail to consider themselves as living in a community made up of homes.

In lieu of information in the form of regulations, local health services, municipal offices, and persons applying for information have been supplied with a booklet entitled "Model Ordinance Regulating Mobile Home Parks," prepared by Model Home Manufacturers' Association, and "Trailer Parks Sanitation," prepared by the United States Public Health Service.

SUBSTANDARD HOUSING

On the premise that substandard and slum housing are a menace to community health, the City of Prince George has had a successful removal and correction programme during the past two years. The responsibility for the correction of unhygienic housing conditions is placed with the Health Branch. In this programme, most of the property-owners voluntarily brought their premises up to minimum standards when requested, but legal action was required in several instances.

Despite these procedures contained in the "Municipal Act," nuisance housing is increasing in some municipalities. However, this is mainly due to the fact that the building by-laws are not being enforced in certain areas. The biggest problems are substandard basement suites and converted secondary dwellings on single lots. The majority of the problems could be prevented by the simple process of enforcing the permit requirements contained in most building by-laws.

BARBER-SHOPS

Two years' experience in the inspection of barber-shops under the regulations governing the sanitation of barber-shops and beauty-parlours, adopted in 1955, appears to be mutually satisfactory to the British Columbia Barbers' Association and the sanitary inspector in the interest of the patrons. With one exception, the application is proving successful. In that exception it was alleged by the local secretary of a local association group and supported by the secretary of the British Columbia Barbers' Association that the regulations were not being enforced.

PEST-CONTROL

The latest information concerning eradication measures, insecticides, and rodenticides is always available from health unit offices to those with bedbug, cockroach, flea, lice, tick, or weevil problems.

In the South Central Health Unit, Kamloops has for the past two years conducted controlled experiments on the eradication of flies from the farm and piggeries of the Tranquille Sanatorium. The success of the experiment, with the latest insecticides, has been gratifying.

REPORT OF THE NUTRITION SERVICE

JOAN GROVES, CONSULTANT

Study and research have contributed and continue to contribute to our present-day knowledge of nutrition. This knowledge stresses more and more the value of good nutrition in maintaining good health and physical well-being. This knowledge must be presented to people in a form that can be used effectively in everyday living. This is the aim of the Nutrition Service, and its programme is directed toward the dissemination of simple, sound, accurate nutrition information, the encouragement of sensible attitudes toward food, and the development of good eating habits.

CONSULTANT SERVICE TO LOCAL PUBLIC HEALTH PERSONNEL

Consultant service is provided to the public health team, who are in a position to give direct service to the public. Nutrition teaching is carried on in prenatal classes, child health conferences, and school and home visits. Public health personnel are provided with technical information, up-to-date nutrition information, and assistance with problems by the provision of educational materials, by correspondence, and visits to the local health units.

COMMUNITY HEALTH

Advice on meal planning and low-cost budgetting is always in demand. Information has been given on numerous occasions to advise and guide the public health personnel in this problem. The Nutrition Consultant has on three occasions talked and carried on discussions with these groups on the above subjects.

MATERNAL AND CHILD HEALTH

Parent education is gaining an important place in the public health programme. The value of prenatal nutrition is being stressed. In co-operation with the educational director, nutritionists, and nursing representatives of the Greater Vancouver Metropolitan Health Committee and representatives from the Provincial Health Branch, lesson plans and teaching aids have been drawn up for the public health nurses conducting parent-education classes. The revision of the booklet " Your Guide to Infant and Child Feeding " was completed and made available for mothers of infants and pre-school children. Monthly letters which are forwarded to mothers of new babies were revised to coincide with the changes of the new guide.

SCHOOL HEALTH

Educating children in schools is one means of furthering nutrition education; this has double value as there is usually a carry-over into the home. The public health nurse does much to stimulate nutrition education in schools. Rat-feeding demonstrations are carried out as a graphic illustration of the value of good eating habits. Thirty-five of these demonstrations have been carried out in classrooms of the Province. The kind co-operation of the Animal Laboratory, University of British Columbia, has made it possible to supply the schools with the necessary rats.

School lunchroom programmes in many schools supply the child with supplements to the carried lunch and also encourage the child in the choice of good meals. Visits have been paid to five schools to give assistance and advice to the lunchroom managers, and correspondence has also aided in other cases.

CONSULTANT SERVICE TO HOSPITALS AND INSTITUTIONS

Consultant service with the co-operation of the British Columbia Hospital Insurance Service has been given to fourteen hospitals by visits during the year. Several hospitals

have received aid by correspondence. This aid has been in menu planning, kitchen operation, food preparation, and all aspects of food service. Follow-up work in the form of training courses for cooks would be of great value, and it is hoped to be able to carry out assistance of this type in the future.

Six hospital-kitchen plans have been reviewed and recommendations made regarding layout and arrangement and choice of equipment.

By correspondence and printed material, help has been given to summer camps.

Assistance both by correspondence and a visit was given to the new Haney Correctional Institution.

Service is available to nursing homes and small institutions, but to date little advantage has been taken of this service. It is hoped that rest homes, nursing homes, and private-hospital operators will gladly take advantage of the service, as much can be done to help them and ensure the serving of adequate nourishing meals to the inmates.

GENERAL OBSERVATIONS

The Vancouver Nutrition Group, composed of nutritionists from the University of British Columbia, Greater Vancouver Metropolitan Health Committee, the Vancouver General Hospital, this Department, and other agencies, work together co-operatively on common nutrition problems. To review nutrition articles, books, and films and to evaluate and be aware of nutrition information presented to the general public are among the aims of the group.

REPORT OF THE DIVISION OF VITAL STATISTICS

J. H. DOUGHTY, DIRECTOR

The Division of Vital Statistics provides two major types of service in the Health Branch. It is responsible by Statute for the administration of the "Vital Statistics Act," the "Marriage Act," the "Change of Name Act," and certain sections of the "Wills Act." These Acts set forth a wide range of registration and certification responsibilities. It also compiles the formal vital statistics of the Province as derived from the registrations of birth, death, stillbirth, and marriage. The Division likewise offers to all other divisions of the Health Branch a complete statistical service, including mechanical processing, statistical analyses, and consultant service. In addition, it provides extensive statistical service to the British Columbia Mental Health Services, the British Columbia Cancer Institute, and to other associated health agencies.

The volume of registrations received and certifications issued exceeded all previous records in 1957. Registrations received during the year numbered almost 69,000, a 7-per-cent increase over 1956. Certificates issued in 1957 exceeded by 10 per cent the number issued in 1956. Of the 74,250 issued this year, over 56,000 were birth certificates, an increase of 11 per cent over the 1956 figure. Death certificates issued in 1957 exceeded by 17 per cent the number issued in 1956. For marriage certificates the increase was 13 per cent.

Revenue-producing searches in 1957 numbered 35,900, a 6-per-cent increase over the previous year, while non-revenue searches numbered 39,600, a 12-per-cent increase. Total revenue collected in the central office for the year was $66,069, 8 per cent more than in 1956.

"VITAL STATISTICS ACT"

Registration of vital events proceeded in a very satisfactory manner during 1957. The registration system appeared to operate with good efficiency, and virtually complete registration was obtained.

In 1956 an experiment was made to determine the effectiveness of having blank birth registration forms provided to mothers in hospital within a day or so of their confinements. Up to that time the regular procedure had been for the District Registrars to await receipt of a Physician's Notice of Birth before mailing birth registration forms to the mother's home address. It was found that by supplying mothers with birth registration forms in the hospitals, registrations were received by the District Registrars more promptly than previously, and in many cases the registrations were prepared more accurately than before. In view of this success, the hospitals were encouraged to adopt this method of distributing blank birth registration forms, and the system is now in general use throughout the Province. Appreciation is expressed to the hospital staffs for their co-operation in this service.

The volume of delayed registrations of birth accepted during the year showed a slight increase over the preceding year. As most of these births occurred many years ago, there is often a problem in obtaining sufficient verification to justify the acceptance of delayed registrations. While the ultimate responsibility for presenting satisfactory evidence in support of delayed registrations remains with the applicants, the Division has built up a library of verification material in order to assist these persons. This fund of information was instituted many years ago, and each year certain additions are made to it. Baptismal registers from churches now provide the greatest source of new material, although the Division is occasionally able to locate the record-books of pioneer medical practitioners and have the books microfilmed.

DOCUMENTARY REVISION

The expression " documentary revision " denotes the function of keeping records up to date at all times. Records concerning individuals are subject to changes as a result of adoptions, divorces, legal changes of name, legitimations of birth, and corrections to information already supplied. A notation of each change is made upon the original registration concerned, following which all amended registrations are remicrofilmed. Many changes to the registrations also necessitate changes being posted to the indexes and new punch-cards being prepared.

The number of legitimations approved during 1957 decreased to 180, from 207 in the previous year. The number of divorce orders received was 1,560, compared to 1,620 during 1956. The number of adoption orders received was 1,200, practically unchanged from the previous year.

" MARRIAGE ACT "

Responsibility for administration of the " Marriage Act " is placed by that Statute upon the Director of Vital Statistics. The Act covers all phases of the Province's control over the solemnization of marriage and the legal preliminaries thereto. Under this Act the main administrative responsibilites comprise the issuance of marriage licences, the solemnization of civil marriages, and the operation of a registry of ministers authorized to solemnize marriage within the Province.

Of necessity, the registry of ministers authorized to solemnize marriage is maintained at the central office of the Division. The register contains the names of almost 2,000 ministers among various denominations. The operation of this registry places an important and time-consuming duty with the Division because of the statutory requirement regarding the publication of an annual list of ministers authorized to solemnize marriage, and because of the many changes in pastoral charges and addresses of personnel appointed by the churches. During each year it has generally been found that there are approximately 300 ministers newly registered, with nearly the same number whose registrations are cancelled due to transfers out of the Province or deaths.

Only one new religious denomination was recognized under the Act during 1957, while inquiries as to the qualifications for recognition were made by seven others. These figures compare closely with those of the last several years.

Twenty-two orders of remarriage were issued during the year, representing little change from the twenty orders issued during 1956. Twenty-one of these orders were issued to permit the remarriage of persons who had previously been married to each other and subsequently were divorced. The other order was issued to permit the remarriage of a couple whose marriage took place outside the Province and for whom a registration of marriage could not be found.

Ten caveats were lodged during the year, compared with six in the previous year. Whenever a caveat has been lodged, the Division notifies all Marriage Commissioners and Issuers of Marriage Licences throughout the Province, and once in each year a revised list of outstanding caveats is supplied to these appointees.

" CHANGE OF NAME ACT "

The administration of the " Change of Name Act " is an important responsibility of the Division. The principal requirements for a legal change of name are that the applicant be 21 years of age or over, a British subject, and domiciled in this Province. A notice of intention to apply for change of name must be published by the applicant, at his own expense, in one issue of the Gazette and in one issue of a newspaper circulating in the district where he resides.

The statutory fee for a change of name is $10, the payment of which includes the issuance of one certificate of change of name and the charges for the Gazette notice which the Director is required to have published.

Throughout the seventeen-year history of this Act there has been a fairly steady annual increase in the number of applicants for change of name and in the total number of persons affected by such changes.

There were 520 applications for change of name approved during 1957, compared to 449 during 1956.

"WILLS ACT"

In 1945 an amendment was made to the "Wills Act," making it possible for a testator to file with the Division of Vital Statistics a notice recording the location of his will and the date of the notice.

In 1946, the first complete year in which notices were filed, there were only 394 notices received. The figures of the last four years show clearly the increasing use of the service by the public. They are as follows: 1954, 4,100; 1955, 4,700; 1956, 5,200; and 1957, 6,000.

Each notice is checked for completeness of detail, numbered, filed, and indexed. An acknowledgment of every notice is then sent to the sender. There is no charge for the filing of a wills notice.

Upon proving to the satisfaction of the Director that a testator has died, an applicant may have a search made of the wills index. Court policy, which was established some years ago, requires that a search of the wills index be made before the granting of probate or letters of administration. Consequently there is a steady demand for wills searches, which now amount to about 6,000 per year. A fee of 50 cents is charged for each search made.

The provision of this service is now a major responsibility for the Division.

MICROFILM AND PHOTOGRAPHIC SERVICES

All registrations of births, deaths, stillbirths, and marriages are microfilmed weekly, and the rolls of film are forwarded to the Dominion Bureau of Statistics at Ottawa. This is a contract arrangement which enables the Dominion Bureau of Statistics to compile national vital statistics and the national indexes of births, deaths, and marriages.

In addition to the weekly commitment of filming registrations of births, deaths, stillbirths, and marriages, the microfilm camera is used for in-between tasks, such as the refilming of overloaded rolls or the original filming of special files and records. Files of "Adoption Act" orders, changes of name, alterations of given name, and orders of presumption of death were photographed up to the end of 1957. In addition, individual hospital returns of births and physicians' notices of birth for the year 1956 were filmed.

Some photographic assistance has been provided to the Division of Public Health Engineering for the last several years in order to preserve plans drawn on blue-prints. In accordance with this practice, many blue-prints of diagrams and plans were filmed during the year.

ADMINISTRATIVE PROCEDURES

Statutory Amendments

Since the introduction of microfilm as an alternate means of preserving information contained on original registrations, there has been a decreasing need for copies of registrations being kept in District Registrars' offices. During the last several years, studies were made to determine whether the local copies now serve any real purpose. Indications were that the use of microfilm for maintaining a duplicate set of registrations had certain advantages over keeping copies of registrations in district offices.

As a result of an amendment to the "Vital Statistics Act" in the early part of 1957, the District Registrars of Births, Deaths, and Marriages are no longer required to keep copies of registrations in their respective offices; instead they are required to keep an

index of all registrations which they receive and transmit to the Director. The results of this amendment have been found entirely satisfactory.

The Legislature also approved an amendment to the "Marriage Act" concerning orders of presumption of death for purposes of remarriage. The previous requirement that an order of presumption of death could not be granted until the other party had been continually absent from the petitioner for a period of seven years or more created undue hardship, especially where there was strong evidence of the death of the absent party. By the amendment the petitioner is merely required to present evidence showing the period of time during which the other party has been continually absent from the petitioner. The other requirements in obtaining such orders remain unchanged.

Indian Registrations

During 1956 an agreement was reached between the Vital Statistics Council for Canada and the Indian Affairs Branch of the Federal Government whereby the special vital statistics registration forms for Indians would be discontinued. This new policy was put into effect on January 1st, 1957, and Indian vital events are now registered on exactly the same forms as those for all other racial groups. However, in this Province the Indian Superintendents continue to serve as District Registrars of Births, Deaths, and Marriages in order to provide maximum assistance to Indians in this regard.

District Registrars' Offices

Changes in population centres and in routes of travel cause variations, from time to time, in requirements for vital statistics service to the public. Through such circumstances, two new offices were opened and one office was closed after having served for twenty-nine years.

At White Rock and in the surrounding area the population has grown rapidly during the last several years, and after careful study it was determined that the provision of local vital statistics service was desirable. A recommendation by the division requesting the new appointment was approved by the Lieutenant-Governor in Council early in July, 1957. The appointee was made responsible to the Government Agent at New Westminster.

A recommendation was made by the Government Agent at Alberni for the appointment of a Deputy District Registrar of Births, Deaths, and Marriages and Marriage Commissioner at Tahsis to relieve some of the registration difficulties encountered by local residents. This settlement, on the west coast of Vancouver Island, has become a centre for a number of small isolated communities but is itself remote from the two nearest villages where vital statistics services are available—namely, Zeballos and Ucluelet. Transportation in this region is often uncertain, inconvenient, and expensive because it is almost entirely by water.

The Division arranged with the R.C.M.P. headquarters that a member of their detachment at Tahsis would carry out the duties involved. An Order in Council confirming these arrangements was approved, with effect October 2nd, 1957, the appointee being made responsible to the Government Agent at Alberni.

As a result of inquiries made by the Division following the transfer of the R.C.M.P. detachment from Blue River to Clearwater, it was decided that vital statistics service could be satisfactorily provided to residents of the Blue River area by the Government Agent at Kamloops. Arrangements were therefore made to discontinue the office at Blue River.

A formal request was made by R.C.M.P. headquarters to be relieved of the responsibility for providing vital statistics services through its detachment at Ladysmith. By negotiations with the interested parties, it was arranged that the appointments of District

Registrar of Births, Deaths, and Marriages and Marriage Commissioner would be transferred to the Ladysmith Municipal Clerk, effective January 1st, 1958. The Division is grateful for the co-operation of the Ladysmith municipal officials in this regard.

General Office Procedures

During the year a detailed study was made to provide improvements in the filing system used in the central office. As a result of this study, a revised filing system will be introduced in January, 1958. The present method of numbering alphabetical files will be followed, but a new system of numbering the subjective files and " Marriage Act " files has been devised. Each of the three types of files will be placed in a separate grouping according to its own classification.

In addition to the changes which are to be made as described above, other improvements in filing techniques have been made during the last several years, resulting in an actual decrease in filing staff from two full-time workers plus a part-time clerk in 1947 to two full-time clerks in 1957, despite the heavy increase in work load which occurred during the same period.

Vancouver Office

The office of the District Registrar of Births, Deaths, and Marriages at Vancouver is located in the Provincial Health Building at 828 West Tenth Avenue, and is staffed by full-time employees of the Division.

The Vancouver Registration District contains a much greater population than any other district in the Province, and as a result over 40 per cent of all registrations received must pass through the Vancouver office. There has been a steady rise in the number of registrations received through that office each year, with this year's birth registrations reaching almost 12,000, an increase of approximately 800 over 1956. Registrations of deaths and marriages numbered 5,100 in each series. This number was almost the same as the 1956 figure for deaths but an increase of approximately 400 for marriages. Civil marriages conducted in the District Registrar's office numbered 860, an increase of 102 over the number for 1956. The volume of inward and outward correspondence remained approximately the same as in 1956; likewise, certificates of births, deaths, and marriages continued to be issued at the rate of approximately 1,000 per month.

INSPECTIONS

Thirty-two offices and sub-offices covering the Queen Charlotte Islands, that area of the Province extending from Prince Rupert to Prince George, the Peace River District extending as far north as Cassiar, the Central Cariboo District from Quesnel to Lillooet, the Kamloops area extending to Revelstoke, and the East Kootenay area from Golden to Cranbrook were visited by the Inspector of Vital Statistics during the year. In addition, brief instructional visits were made to nine Indian Agencies while en route to district offices. Visits were also made to the Sidney, Vancouver, and New Westminster offices. The purpose of these visits is to ensure that District Registrars are correctly administering the various Acts under the jurisdiction of the Division, to instruct the District Registrars when necessary, and to ensure that medical practitioners, clergymen, funeral directors, and hospital personnel are fulfilling their obligations to the District Registrars.

District Registrars continue to do an excellent job of collecting and transmitting registrations of vital events to the Division. The Division appreciates the excellent co-operation it receives from so many offices where the collection of vital registrations, although an important function, is only one of many duties undertaken.

At the close of the year there were ninety-two offices and sub-offices operating in seventy-three registration districts. Forty-one of the offices were served by Government Agencies or Sub-Agencies, while R.C.M.P. personnel served in twenty-three other districts. Five offices were served by Municipal Clerks and three by postmasters. The remaining twenty offices were served by private individuals, including a Game Warden, other Provincial Government employees, Canadian Customs Officers, and business-men, either self-employed or employed by firms. In addition, there is a Marine Registrar located at Vancouver and eighteen Indian Superintendents located throughout the Province who are all ex officio District Registrars of Vital Statistics for Indians only. One other Indian Superintendent is located at Whitehorse, Yukon Territory, although the Stikine Agency, of which he is in charge, is in British Columbia.

STATISTICAL SERVICES

Over the past few years there has been a great increase in the utilization of the statistical services of the Division of Vital Statistics by the various divisions of the Health Branch, by other Government departments, and by voluntary health agencies. This has resulted from a more intensive use of the statistical facilities of the Division by groups already accustomed to availing themselves of these facilities and also from the fact that services have been extended to additional health agencies in the Province.

Several major projects were in the planning stage during 1957, and these accounted for a considerable expenditure of time on the part of the research staff. These projects included a statistical system for the cytology service of the Vancouver General Hospital, a statistical system for the new Mental Health Day Centre, and a statistical system to cover certain phases of the programme of the Welfare Branch. In addition, a number of smaller assignments were undertaken and an extensive review and revision made of several of the continuing statistical commitments of the Division. A number of additional reports were published in the Special Reports series of the Division, and a comprehensive set of statistical tables was prepared as reference material for the Federal-Provincial Conference which was held in November.

The Mechanical Tabulation Section of the Division was strengthened by the replacement of a number of older machines by newer and more efficient models. The most important of these was the substitution of a Type 075 sorter by a Type 083 sorter. This machine has a sorting capacity of 1,000 cards per minute, compared to 400 cards per minute handled by the older model, and its acquisition has alleviated a serious bottleneck which was developing in this phase of the Division's work.

VITAL STATISTICS

The Division continued to prepare comprehensive statistics on births, deaths, and marriages in the Province from the vital statistics registrations received and to issue a wide range of statistical tables for public use. A complete detailed report setting forth the vital statistics data for the Province is issued annually as a separate report. In addition, all of the weekly, monthly, and annual indexes of births, deaths, marriages, stillbirths, adoptions, divorces, and changes of name which are required for the searching and certificate issuing functions of the Division are prepared by the Mechanical Tabulating Section.

DENTAL-HEALTH STATISTICS

For the second consecutive year, dental-health surveys based on statistical sampling were carried out in the Greater Vancouver, Greater Victoria, and Fraser Valley regions. The purpose and the organization of this project has been described in earlier reports of the Division of Preventive Dentistry, and an account of the 1957 survey appears elsewhere in this Report.

From a technical point of view, the results of the first two years' surveys have been very satisfactory, and it appears that the methodology which has been used has been amply justified. It was possible to make certain improvements in the technical aspects of the 1957 survey, based on the experience gained in the previous year.

During the latter part of 1957, plans for the 1958 survey were finalized and the samples were selected. The Central Vancouver Island Health Unit will be represented in the 1958 survey, while the Fraser Valley region will be dropped. It is not considered essential that each area should be surveyed on a yearly basis.

Child Growth and Development Charts

The undertaking of the Division to produce child growth and development charts based on the height and weight records of children in the Central Vancouver Island Health Unit was described in last year's report. The processing of these records was completed in the early part of the year, and extensive analyses of the data were carried out in the ensuing months. From these analyses, growth and development charts were devised and drafted for printing.

The data for the analysis included 115,977 measures from 23,612 children. The analysis of these data produced five patterns of growth for males and for females, representing the growth and development of various body builds of children. In addition, yearly age points were computed for each of the five growth curves as a means of comparing the individual child's rate of growth against that of the average child of his body build.

Venereal-disease Statistics

The Division of Vital Statistics continued to process mechanically data on venereal-disease notifications received in coded form from the Division of Venereal Disease Control. Data on the investigation of contacts to venereal disease were also processed. Monthly reports of venereal-disease notifications, quarterly reports on the investigation of contacts, and quarterly summary reports were prepared by the Research Section for the Division of Venereal Disease Control.

The facilitation study mentioned in last year's Report was successfully carried out, and the required analyses were made available. On the basis of this study, a decision is to be made regarding the establishment of a permanent facilitation report.

Epidemiological Statistics

The Division continued to operate the Province-wide notifiable-disease reporting system and to prepare the periodic reports which are required.

Statistics were prepared on the Schick testing and diphtheria immunization programme which was carried out amongst Provincial Government employees in the early part of the year. Special records were kept in connection with the epidemic of Asian influenza, and estimates of poliomyelitis vaccine requirements were made to assist in the planning of the vaccination programme for 1957/58. Arrangements were made with the Provincial Epidemiologist to process statistics on accidental poisonings as reported to the various poison-control centres throughout the Province.

Cancer Statistics

The Division continued to process the case-load statistics of the British Columbia Cancer Institute and to prepare tabulations as required. The Cancer Institute is attempting to abstract its entire file of cases treated in previous years in order that this material will be available for statistical analysis.

During the year extensive planning took place in connection with a project to transfer on to punch-cards the data collected by the cytology laboratory of the Vancou-

ver General Hospital and to devise the statistical system which will assist in the evaluation of the cytology service. This system is expected to come into operation early in 1958.

The Province-wide cancer notification system was carefully reviewed during the year with a view to improving its usefulness and completeness. In this connection the Division has worked closely with the Chairman of the Special Diseases Section of the British Columbia Division of the Canadian Medical Association. As a result of this study, the notification form is being revised and simplified, and improvements are being made in the notification procedures.

Mental-health Statistics

The Division continued to process the admission and separation reports of patients moving in and out of institutions of the Mental Health Services. The extensive statistical tabulations required for the Annual Report of the Mental Health Services were again prepared.

Statistical records on the resident population were augmented by the inclusion of the Homes for the Aged and The Woodlands School. This is proving to be a very valuable statistical series from the administrative point of view.

A great deal of time was spent during the year with the staff of the Mental Health Day Centre in the development of a statistical diagnostic and treatment record. The plans for this project are virtually finalized, and it is anticipated that the system will commence operation early in 1958.

Vancouver General Hospital Obstetrical Discharge Study

The Division continued to process data from this study during the year, but the tabulation of results has not yet been undertaken. The statistics which will be derived from this study will complement the statistics being obtained from the physician's notice of live birth or stillbirth study.

Registry for Handicapped Children

The non-medical aspects of the Handicapped Children's Registry are supervised by the Division in the Vancouver statistical office. The Registry has been working very closely with the Rehabilitation Services, and a considerable study has been made of methods that would enable these two services to provide maximum service to the children requiring their assistance.

Tuberculosis Statistics

The Division continued to process the statistics of the Division of Tuberculosis Control, including data on new cases examined and on admissions and separations from tuberculosis sanatoria. The annual indexes of known cases of tuberculosis and of certain non-tuberculous chest conditions were tabulated in both alphabetical and numerical sequences.

Personnel of the Division were active on the Records and Statistics Committee of the research project on the applied epidemiology of tuberculosis. A number of special statistical tabulations were prepared for this Committee, and assistance was given in the drafting of proposed record forms.

The statistical analysis on surgical cases was continued, and statistical procedures developed for two other studies—one in connection with the case-load analysis at Pearson Hospital and the other in connection with tuberculosis in men over 50 years of age. The Division also assisted in a survey of tuberculosis amongst homeless men in Vancouver.

Other Assignments

The Division continued to carry out a number of other routine commitments which constitute an important part of the work load of the Statistical Section. These include the

statistics for the British Columbia Government Employees' Medical Services, statistics on the public health nursing service, statistics on the medical inspection of school-children, statistics for the Vancouver Metropolitan Health Committee, and the provision of a statistical inquiry service to the general public on all matters relating to vital and health statistics.

For the purpose of accurately coding events occurring within the Province according to place of residence and place of occurrence, the Division maintains an extensive geographical code. This code indicates the census division and subdivision, the school district, the vital statistics registration district, and the municipality where applicable. As a result of changes made by the Federal Government in the census area at the time of the 1956 Census, it became necessary to revise completely the geographic code. This extensive undertaking was carried out by the Division during 1957. At the request of the Director of the British Columbia Safety Council, monthly statistics on accidents occurring in the Province are prepared and supplied to that organization. At the request of the Fire Marshal, a monthly return on deaths resulting from fire was initiated. A member of the staff of the University of British Columbia was provided with tabulations of births by birth order over an extended period of years for use in a study on population growth. The Division worked in co-operation with a committee of the Canadian Nurses' Association and supplied data respecting population, births, and natural increase for use in estimating the future intake of students into schools of nursing. A special statistical service was extended to the Metropolitan Health Committee in connection with two studies under way in that area—one dealing with an analysis of tuberculosis-survey chest X-rays and the other dealing with a survey of weight gain in the first year of life.

Vital Statistics Special Reports

A number of additions were made during the year to the Division's Vital Statistics Special Reports series. As noted previously, these reports serve as a means of making available to public health personnel and other interested persons statistical data which do not appear in other reports published by the Division. The following were issued during 1957:—

Report No. 20, "Planning for Mobile X-ray Surveys for Tuberculosis in British Columbia."

Report No. 21, "Summary of Tuberculosis Statistics by Provinces, 1955."

Report No. 22, "Statistics on Malignant Neoplasms in British Columbia, 1956."

Report No. 23, "What Part Does Office Management Play in Local Health Services." (This report was prepared by the Supervisor of Vital Statistics. It was based on a study of office administration, recording, and filing practices in local health offices which was carried out by the Public Health Nursing Consultant and the Supervisor of Vital Statistics in 1956 and 1957.)

Report No. 24, "Schick Testing for Determination of Diphtheria Immunity among British Columbia Provincial Government Employees."

Report No. 25, "Health Unit Statistics, British Columbia, 1956."

Report No. 26, "British Columbia Dental Health Survey, 1957, Part 1."

REPORT OF THE DIVISION OF PUBLIC HEALTH EDUCATION

R. H. GOODACRE, DIRECTOR

Although the professional staff of the Division has now been virtually depleted with the resignation of Mr. A. C. McKenzie after seven year's valuable service in this office, the clerical situation has improved. The employment of a semi-professional worker early in the year to undertake supervisory and editorial duties has resulted in better organized and co-ordinated services concerned with the administration of facilities for the selection, distribution, and utilization of audio-visual aids and written materials.

It was mentioned in the report for 1956 that negotiations with the Provincial Librarian had resulted in the seconding of a reference librarian, employed by the Provincial Library, to the Health Branch for the purpose of completely reorganizing the library facilities. A revision of the Health Branch library in Victoria has been completed, and, shortly, holdings in the Provincial Health Building in Vancouver will have been completely processed. Plans are under way to extend similar procedures to the small basic libraries maintained in every health unit main and branch office in the Province. The rapidity with which this work has taken place speaks well for the capabilities of the librarian, for it was only in November, 1956, that she was assigned to this task.

Numerous leaflets and posters were prepared during the year in co-operation with other divisions. Reference to these items will be found elsewhere in the Health Branch Annual Report.

It is generally recognized by both educational and health authorities in this Province that the teaching of health presents problems not normally encountered in the teaching of more standardized disciplines. One method of approaching this problem is the preparation of a teacher reference manual which includes not only the content of health which would meet the requirements of the school curriculum, but also suggestions as to how the teaching of health can be made more interesting and useful to students. The preparation of such a manual was discussed with and approved by the College of Education, University of British Columbia, and the British Columbia Department of Education. It was felt that a project of this nature should be undertaken by a qualified teacher with wide experience in the training of health, and that he should co-operate with the staff of the College of Education and the Department of Education for a one-year period to undertake this assignment. The acquision of such a person was discussed with the Department of National Health and Welfare as a possible project to be financed by National health grant funds, and approval has been provided in principle to proceed with negotiations which would result in the hiring of a teacher to begin work in the summer or fall of 1958.

During the summer of 1957 a medical student from the University of British Columbia was assigned to the North Fraser Health Unit in Mission for public health field work. During this period the student developed a study in co-operation with this Division which, it is hoped, will shed some light on the effectiveness of child health conferences as a health-education service. Inasmuch as the study was undertaken in partial fulfilment of a thesis, results will not be forthcoming until the spring of 1958. This study is the first of its type in British Columbia, and it is hoped that further work in this form of programme evaluation will be forthcoming.

Grateful acknowledgment is made to the Provincial Librarian for making available to this Department the services of Dr. D. B. Smith, who delved into the early history of British Columbia to obtain material concerning the development of public health in British Columbia. Dr. Smith's contribution aided this Division substantially in one of its projects.

REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL

G. F. KINCADE, DIRECTOR

During the past decade, since the introduction of antimicrobial therapy for tuberculosis, the progress of the fight against this disease has become so accelerated that it is difficult to assess our present position and to determine with accuracy where we stand in this long campaign. However, to do so is most important if we are to plan effectively for the future. Obviously the battle is not over, but a major victory has been achieved in treatment, with a marked reduction in deaths from the disease. While this is a notable achievement in the saving of lives and has resulted in a huge reduction in the expenditures of the Division of Tuberculosis Control, it has led to a misunderstanding of the present situation by many people.

Preliminary figures indicate that there were 681 new active cases of tuberculosis requiring treatment diagnosed in this Province in 1957. This compared with 550 cases in 1956 and 588 in 1955. From this it can be assumed that, at the present rate, it will be many years before the development of new cases will decrease to the point where tuberculosis can be considered a minor health problem. There were 21,482 known cases of tuberculosis on the registry of the Division of Tuberculosis Control at the end of 1956. Of these, 9,328 were considered inactive, which is less than half of the total group. The other 12,154 known cases, not considered inactive, are under close supervision of the clinics and institutions throughout the Province and constitute a major problem. Considering that approximately 35 per cent of admissions to sanatoria are previously known cases that break down and become active again, this group will be a considerable reservoir of problem cases for some time to come.

To develop this picture further and to determine what other cases may be expected in the future, it is known that the new cases must come from amongst those who have already been infected and have a positive tuberculin reaction, and also amongst those who will be infected in the future. According to the best estimates, about 5 per cent of tuberculin reactors will develop the disease at some time during their lives at the present rate of breakdown. If the breakdowns continue at the present rate, it is estimated that those who are now positive tuberculin reactors will produce over 25,000 new active cases of tuberculosis in British Columbia during their lifetime. From this it will be seen that tuberculosis will remain a problem for many years to come, and that efforts must be oriented to prevent the development of tuberculosis by preventing the spread of infection, by preventing the development of tuberculosis in those who have been infected, by preventing recurrence of active disease in persons treated previously, and by provision of facilities for finding and treating cases as they become active.

CASE-FINDING

The finding of the unknown case of tuberculosis in the community is probably the most important aspect of tuberculosis-control to-day. To successfully prevent the spread of disease to others and to save the unknown victims from their own disease, they must be brought to light and treated. This is becoming increasingly difficult as the numbers of unknown cases grow smaller. Moreover, it is thought that by repeated X-ray surveys most of those who will submit voluntarily to examination have been reached, leaving a small group who resist all efforts and probably do so because they suspect that they may harbour the disease.

Therefore, those concerned with tuberculosis-control are devoting more attention to this phase of the programme to determine the effectiveness of present methods and to work out new applications of proven procedures. The present facilities which are at the disposal of the Division are adequate to do the job if they can be applied effectively. Undoubtedly mass radiography is becoming less productive when applied on a general

population survey basis, so that attention must be directed, and the full force of the campaign applied, against those groups which have a high prevalence of tuberculosis and are at risk of infection. Such groups are those living in slum areas, alcoholics, homeless transient men, and persons in older age-groups wherever they are to be found.

The present method of operation of the Provincial mobile unit is to concentrate on high incidence and prevalence areas whenever possible, at the same time giving special attention to racial groups which have a high incidence of tuberculosis. In carrying out surveys in high-incidence areas, the attempt is being made to do total community surveys. This involves the X-raying of all the adult population and tuberculin testing of those 15 years and under and X-raying of positive reactors in this group. Each of these surveys constitutes a special study, and from the information received, special techniques are being evolved to make these surveys more complete through public acceptance. At the same time, more knowledge is being gained as to the effectiveness of our methods. This work is planned and the results studied by a special survey planning committee representing those concerned with the clinical, statistical, epidemiological, and planning phases of the programme.

Tuberculin testing is beginning to assume a more important role in the tuberculosis-control programme, not only as a case-finding procedure, but as a means of providing epidemiological information. Total-population tuberculin-testing programmes would appear desirable. The first step has already been taken in that, as previously mentioned, in the present surveys tuberculin testing of the school population and those under 15 has become established. In an attempt to standardize the tuberculin-testing procedure, the purified protein derivative type of tuberculin has been adopted for use in this Province to conform with world standards so that results may be comparable.

HOSPITAL ADMISSION CHEST X-RAY PROGRAMME

The hospital-admission chest X-ray programme continues to be a major effort in the control of tuberculosis, not only from the point of view of tuberculosis-case finding, but in preventing the spread of infection to those engaged in hospital work. In both of these it has been successful. In 1956 forty-six active cases were found in general hospitals and removed to sanatoria. This was slightly less than the previous year, but still an appreciable number and sufficient to justify the effort expended. Further benefits are reflected in a decreasing incidence of tuberculosis amongst hospital employees. The total number of persons X-rayed in this programme increased from 52,919 in 1951 to 131,064 in 1956. The preliminary figures for 1957 indicate a further increase this year with a higher acceptance rate, showing 65.2 per cent of admissions X-rayed in hospitals using miniature equipment and 59.6 per cent in hospitals using standard-size films. This has gradually increased from 40 per cent in 1951.

In terms of total X-rays taken, the case-finding effort by the clinics of the Division of Tuberculosis Control and affiliated services in the mobile survey units and general hospitals is shown in the following analysis:—

X-rays Taken in 1957

Standard-size X-rays			
Diagnostic clinics		36,663	
Referred films		13,552	
General hospitals—admissions		39,824	
Total			90,039
Survey (Miniature X-rays)			
General hospitals—			
Admissions	63,759		
Out-patients	26,488		
Sub-total		90,247	
Mobile—			
Provincial	45,080		
Metropolitan	63,788		
Sub-total		108,868	
Other surveys—			
Willow Chest Centre	27,036		
Vancouver Island Chest Centre	9,418		
New Westminster Clinic	9,863		
Pearson Hospital	742		
Metropolitan Health Committee (stationary units)	36,825		
Courtenay Health Unit	1,357		
Sub-total		85,241	
Total			284,356
Grand total			374,395

Travelling Clinics

The travelling diagnostic clinics of the Division play a large part in tuberculosis-control, being responsible for case-finding and for the supervision of the known tuberculous case before entering and after leaving sanatorium. They are responsible for the tuberculosis-control programme in the areas which cover all those parts of the Province outside the major centres. As with all out-patient services, the travelling clinics are carried on to provide closer supervision of the post-sanatorium case because the discharge of patients from sanatorium to continue their treatment outside is based on close clinical supervision. There are far more patients to-day receiving treatment outside of sanatoria than there are inside, and for this reason more responsibility is being passed on to the clinics, whether stationary or travelling. Due to changing population trends in British Columbia and with the possible closing of Tranquille Sanatorium, it may be necessary to reallocate the travelling-clinic areas and to relocate their headquarters. This matter is being given serious consideration at the present time.

During the past year an X-ray machine was provided for the hospital ship " Columbia," operated by the Columbia Coast Mission. This will provide an X-ray service for those areas on the coast which are not reached by the Coast Travelling Clinic. The equipment was donated by the British Columbia Tuberculosis Society.

BED OCCUPANCY

In 1957 there was a decreasing need for sanatorium beds in the treatment of tuberculosis, and as a result further closures have been possible. At the end of March, tuberculosis beds in Victoria operating at the Royal Jubilee Pavilion were closed. However, the stationary clinic in Victoria and the travelling clinic for Vancouver Island continue, with headquarters on the grounds of the Royal Jubilee Hospital.

Further closures were possible at Tranquille Sanatorium, and in the early fall of this year the Greaves Building was closed. The Main Building was closed in 1955. At the present time, only the Infirmary Building is operating, with some beds available in the Pavilion for the care of ambulatory cases who are able to look after most of their own needs.

The remaining tuberculosis beds, 264 at Pearson Tuberculosis Hospital and 103 at the Willow Chest Centre, have continued to operate at about 90 per cent of capacity over the year.

From January, 1954, to December, 1957, the number of beds in operation in the Division dropped from 935 to 521. During the same period the bed occupancy for the Division as a whole dropped from 866 to 458, and the bed occupancy at Tranquille dropped from 341 to 122.

With 367 beds operating in Vancouver, it can be assumed that when the total bed occupancy in the Division reaches approximately 350, it will be possible to accommodate this number of patients in the sanatoria in Vancouver. If the present trend continues, it is expected that that point will be reached during 1958, probably in the latter part of the year, at which time it will be necessary to close the sanatorium at Tranquille after fifty years of operation.

As previously noted, it is increasingly difficult to persuade patients to enter Tranquille Sanatorium for treatment unless they live close by. However, there are not sufficient numbers of patients being found in the areas near the Sanatorium to warrant the continuation of a sanatorium service indefinitely in an institution like Tranquille, set up as it is for approximately 400 patients. Moreover, with improved methods of transportation and communication in most parts of the Province, it is simpler for patients to be transported to Vancouver than to Tranquille.

While the over-all cost of the operation of Tranquille has fallen markedly, the *per diem* cost has risen during the period of reduction of beds, largely because of the continued need for maintenance facilities. This has proven a very difficult problem, but staff has been reduced as circumstances warranted.

While the length of stay of patients in sanatorium has been diminishing, the treatment of patients outside of sanatorium has been increasing. This has largely contributed to the reduction in the number of beds now in operation. While following the policy that at the beginning of treatment all cases of tuberculosis needing treatment should be admitted to sanatorium, it is also felt that once the patient has had the proper teaching regarding the conduct necessary to achieve and maintain a cure and when the disease has been brought under control he may be discharged. This is done only if the disease has been satisfactorily controlled through the anti-tuberculosis drugs, with or without surgery, and only if the patient will be living under suitable conditions for the continuation of drug therapy and close follow-up.

In view of the fact that drug therapy may be continued up to eighteen months to two years on the average, it does not seem justified that patients should remain in the sanatorium when the disease has been brought under control and, indeed, some persons are able to return to work before their treatment is actually completed. However, the earlier discharge from sanatorium has thrown an extra burden on the field health staff which provides the therapy. Also, the clinics of the Division of Tuberculosis Control must supervise these patients closely during the post-sanatorium period. Still, the Division is

convinced that the policy is sound and that it has met with success in terms of satisfactory results of treatment. Moreover, it has meant early rehabilitation of the patient and obvious savings in the cost of sanatorium care. At the present time it is estimated that about 825 patients are receiving drug therapy for tuberculosis as out-patients throughout the Province.

PATIENT DISTRIBUTION IN SANATORIUM

As has been done for some years past, a spot check was made in our sanatoria to determine the age and sex distribution of patients now being cared for. The following table shows the situation as of November 1st of this year:—

Institution	Patients in Hospital		50 Years of Age and Over	
	Male	Female	Male	Female
Pearson Tuberculosis Hospital	170	81	89	18
Tranquille Sanatorium	92	25	62	5
Willow Chest Centre	72	8	40	3
Sub-totals	334	114	191	26
Totals	448		217	

The percentage of older-age patients is gradually increasing in the sanatoria, as will be seen by the following table:—

Date	Age Distribution		
	50 Years of Age and Over	Total Sanatorium Population	Percentage 50 Years of Age and Over
November, 1952	276	838	32.3
November, 1955	251	615	40.8
November, 1957	217	448	48.4

From this it would appear that the older people are accumulating in the sanatorium. However, a survey of the situation shows that there is actually a considerable turnover in this type of patient. A review in the fall of 1956 indicated that there were thirty-six such patients who might remain in sanatorium indefintely. The following table shows the present disposition of these cases a year later:—

Institution	Number in Sanatoria, Oct., 1956	Discharged to Date		Died	Still in Hospital	
		Sputum Positive	Total		Sputum Positive	Total
Pearson Hospital	18	5	11	3	1	4
Tranquille Sanatorium	11	—	1	2	4	8
Willow Chest Centre	6	1	2	1	2	3
Vancouver Island Chest Centre	1	1	1	—	—	—
Totals	36	7	15	6	7	15

It will be noted that out of thirty-six persons in this group, fifteen have been discharged and six have died, making a 60-per-cent turnover in one year. Of the fifteen remaining in hospital, seven still have positive sputum. For the eight who have negative sputum and are still in sanatorium, all are elderly and six have non-tuberculous complications which make placement most difficult. Only one of these persons is female.

Compared to the thirty-six cases presenting discharge problems in 1956, there were thirty-two such cases in 1957, and, as noted before, almost half of this number was carried over from 1956. Twelve of the thirty-two cases have positive sputum and seven of the twelve were included in the 1956 total of discharge problems.

COMMITTALS TO SANATORIUM

Committal of infectious cases who are unco-operative and refuse treatment to sanatorium under the Deputy Minister's order is proving an effective instrument in the control of problem cases in this Province. While only used as a last resort after every other method of persuasion has failed, it was used in fifteen instances in 1957. Since 1953 a total of thirty-two committal orders have been issued, and twenty-nine of these have been actually served. At the end of 1957 fourteen of the persons so committed were still in sanatorium.

TUBERCULOSIS MORTALITY

Although there has been a marked decrease in deaths from tuberculosis over the past decade, there have been minor fluctuations in recent years. Following a slight increase in deaths from tuberculosis in 1955 when the rate rose to 10.7 per 100,000 with 143 deaths, compared with a rate of 9.5 with 123 deaths in 1954, there was another decrease in mortality in 1956, when a rate of 7.9 was recorded, with 110 persons dying. This was the lowest rate recorded up to that time. When compared to 536 deaths with a rate of 51.3 in 1947, one can appreciate the benefits of drug treatment for tuberculosis during the first ten years of their use.

The preliminary figures indicate that there were ninety-two deaths from tuberculosis during 1957. The estimated death rate for the year was slightly under 6.2 per 100,000. The majority of deaths at the present time are occurring in the older age-groups, and approximately 70 per cent of all deaths this year have been in persons 50 years of age and over. There were only three deaths under the age of 20, all being infants of Indian extraction.

TUBERCULOSIS MORBIDITY

There has been a steady decline in the incidence of tuberculosis over the past ten years, from a rate of 211.1 in 1946 to 114.3 in 1951 and 80.8 per 100,000 in 1956. This last figure represented the finding of 1,103 cases of tuberculosis. Preliminary figures indicate that slightly more than 1,300 new cases of tuberculosis were found during 1957, giving an incidence of approximately 88 per 100,000.

The total number of new active cases was approximately 680, as compared with 550 in 1956.

It should be noted that the Hungarian refugees had an unusually high rate of tuberculosis, and in this group approximately fifty new active cases of pulmonary tuberculosis were discovered.

NATIONAL HEALTH GRANTS

The money provided from National health grants continues to be of great assistance in carrying out the tuberculosis-control programme in British Columbia. The amount of $365,447 is being provided for the programme in the present fiscal year. This is about $5,000 more than provided in 1956. No entirely new projects have been added during the year, but there has been some extension through the provision of a public health nurse to assist the physician in charge of the tuberculosis programme at Essondale.

Of the $365,447 provided for the present fiscal year, 94.9 per cent has already been set aside for approved projects.

The continued support and assistance from official and voluntary agencies should be recorded. There was again close co-operation between the Division of Tuberculosis

Control and all branches of the Government in the day-to-day operation of business. Voluntary agencies, too numerous to mention, provide assistance in the X-ray survey programme. Others provide entertainment and comforts for the patients.

Special mention should be made of the British Columbia Tuberculosis Society, which, as it has for over fifty years, continues to play a major role in the campaign against tuberculosis. While their special role is in the field of education and case-finding promotion, much assistance has been given toward the cost of building community health centres and general public health endeavours.

The Vancouver Preventorium Society also continued to make a major contribution in the provision of hospital facilities for the treatment of children with pulmonary tuberculosis.

The Indian Health Services of the Department of National Health and Welfare continue to operate a very successful treatment and case-finding programme amongst the Indians of this Province. The closest co-operation is maintained with the Indian Health Services, and very harmonious relations exist.

To all those groups and individuals who contributed toward the furtherance of the tuberculosis-control programme, grateful thanks are extended.

REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL

A. A. LARSEN, DIRECTOR

There has been an increase in the number of cases of venereal disease reported in British Columbia, although the rate of increase has been somewhat reduced over last year. As most of the Canadian Provinces and many of the States in the United States have now reported a similar rise, it would appear that this is part of a general trend.

The increase in gonorrhœa amounted to 409 cases, and instead of the eleven cases of infectious syphilis reported in 1956, forty-two cases were diagnosed.

There were 233 cases of non-infectious syphilis diagnosed, which is fifty-three more than last year. This increase was due in part to the intensive blood-testing campaign put on in the spring and summer aimed at detecting latent syphilis amongst newly arrived Hungarian immigrants. At the time of diagnosis, forty-seven of the 233 non-infectious cases had already developed heart or brain damage.

This increase in the amount of venereal disease should not be taken as an indication that the drugs used for treatment are less effective now, or that the Provincial control programme has slackened. An examination of many individual case reports reveals that a number of factors are responsible. A relationship can be shown between the number of cases of venereal disease reported from any area in the Province and the number of unattached single males employed there. As long as there are major construction projects under way in the Province, this will continue to be a significant factor. The fear of acquiring a venereal disease, which for years acted as a very real deterrent to promiscuity, seems to be no longer present. Our younger patients in particular are often not deterred by one experience and present themselves to us for treatment time and time again. The trend toward better reporting by private physicians seems to be continuing and is undoubtedly swelling our totals.

ADMINISTRATION

Early in the year Dr. Charles L. Hunt, who directed the Division from 1949 to 1953, returned on a half-time basis as senior consultant in charge of the clinical aspects of the work in the Division.

A very real effort has been made to increase the operating efficiency of the Division. The recording done for statistical purposes has been fully reviewed, and has been simplified to such an extent that we find it possible to operate with one less on our clerical staff.

This year, with the help of National health grants, two medical students were employed for the summer months. One supplied holiday relief for the clinical and epidemiological staff, and at the same time carried out work on two projects. The first of these was a comparison of the value of two different types of treatment for non-gonorrhœal urethritis, and the second concerned the initiating factors that led to the discovery of new cases of latent syphilis.

The other student completed his study of the effects of facilitation on the spread of venereal disease in Vancouver and helped with the serologic survey of new immigrants done at the Abbotsford camp.

Dr. D. K. Ford submitted his final report following three years of research on the etiology of non-gonorrhœal urethritis. This study also was financed by National health grants and was carried out at the British Columbia Medical Research Institute.

A National health grant of just over $43,000 toward the operating cost of the Division again made it possible to employ private physicians to provide free treatment in the many parts of the Province where there are no clinics and to supply drugs to patients who were unable to purchase them for themselves.

In order that the physicians and medical students in the Province might have up-to-date literature available on the venereal diseases, the Division continued its policy of allotting some of its National health grant money to the University bio-medical library.

CLINICS

Attendance at the Division's public clinics rose this year to 15,006 patient visits, compared with 13,600 patient visits in 1956. The growing attendance at the clinic operated in New Westminster at the Simon Fraser Health Unit made it necessary to increase the hours of duty of this Division's part-time nurse there from two hours each day to a full half-day. The Director of the health unit has generously continued to supervise the operation of the New Westminster clinic.

One of the special clinics held in the male section of Oakalla was discontinued when a survey disclosed that few, if any, previously unknown cases of venereal disease were being discovered. The acute and infectious cases that occasionally turn up are now being seen and treated by the staff physician at Oakalla. Another special clinic conducted for the Division at the Prince George City Gaol by the staff of the Cariboo Health Unit was also discontinued when a survey there showed that it had become relatively non-productive.

The Metropolitan Health Committee has for many years given this Division the part-time services of one of its public health nurses. Arrangements were concluded this year for this nurse to be seconded to the Division of Venereal Disease Control on a full-time basis. Her duties include liaison between the Division and the city public health services, and the handling of all venereal-disease cases occurring amongst the school-age children within the metropolitan health area, as well as clinic and investigational work and the teaching of students.

This new arrangement, coupled with the reduction in special clinics, has enabled the Division to carry on without replacing one of the regular staff nurses who resigned this year.

EPIDEMIOLOGY

This has been a year of readjustment for the staff responsible for finding the contacts of diseased patients. Early in the year every member of this section was given additional duties, which has made it possible to operate without replacing the member of the staff who died last year. It is planned, therefore, to reduce the establishment of the section in the next fiscal year from four to three.

During the year the senior epidemiology-worker began the laborious but necessary task of removing from the main active record system the charts, correspondence, and X-rays of all deceased patients and of those patients of whom nothing had been heard for over ten years. So far some 6,000 records have been reviewed.

Representatives from the Vancouver city police, the city prosecutor's office, the city licence inspector's office, and the city health department, together with members of the Provincial Liquor Control Board and Hotels' Association, met with the Division on two occasions this year to review the problems of prostitution and facilitation as they relate to the spread of venereal disease. The Division has had exceptional co-operation from all the authorities concerned, which has helped to prevent a still larger rise in the incidence of venereal disease in metropolitan Vancouver.

Several years ago it was found that a number of cases of infectious syphilis were being contracted through homosexual practices. This method of transmission was not noticed again until this year, when fourteen of the patients diagnosed in our Vancouver clinic as having infectious syphilis admitted acquiring their disease from other males through homosexual practices, and three others are strongly suspected of having acquired their disease in the same manner.

Again this year the interviewing staff got an average of 1.6 female contacts from every diseased male questioned. Of those female contacts located, over 60 per cent were found to be infected; however, the Division is still hindered in its search for the contacts of patients seen by some private physicians because the information supplied is so incomplete.

EDUCATION

Throughout the year, student-nurses from the Vancouver General Hospital School of Nursing have been given three-day intensive courses of lectures, films, demonstrations, and practical experience, together with a limited amount of field work. Public Health Nursing students from the University of British Columbia received an intensive one-week course covering all the factors involved in a Provincial venereal-disease control programme.

Some of the new staff members from the Metropolitan Health Committee and the Indian Health Services were given short orientation periods with the Division. Lectures were given at the Schools of Nursing in St. Paul's Hospital, the Royal Inland Hospital in Kamloops, and the Royal Columbian Hospital in New Westminster, as well as at the Provincial Mental Hospital at Essondale and the Vancouver Vocational Institute.

As an experiment, arrangements were made with the Vancouver General Hospital to have junior interns from the hospital spend a day at the Vancouver clinic of the Division assisting the clinic physicians with patients. The policy of appointing newly graduated practising physicians to the clinic staff for one-year periods so that they might gain practical experience in the diagnosis and treatment of venereal disease was continued.

Many physicians have continued to ask for assistance in dealing with their private cases of venereal disease, and it is apparent that there is a need for a venereal-disease manual covering modern principles of diagnosis and treatment in a concise form. In order to meet this need, the Division revised and reprinted its publication, "Recommended Standards for the Diagnosis and Treatment of Venereal Disease," and will shortly be issuing a complete revision of another publication, "The Physicians' Manual of Venereal Diseases."

The "Manual of Venereal Diseases for Nurses," issued by the Division, has been revised and reprinted.

Lectures and demonstrations were given to second-year medical students in the Faculty of Medicine at the University of British Columbia, and a number of simulated tape-recorded interviews were presented to the students in order to demonstrate to them the techniques of securing contact information from the patients.

REPORT OF THE DIVISION OF LABORATORIES

E. J. BOWMER, DIRECTOR

This has been a year of consolidation for the new directing staff of the Division, with much time devoted to estimating the efficiency of procedures and planning for future developments. The total work load of the Laboratories has shown an increase of approximately 5 per cent compared with last year, and the National health grant appointments approved in the year 1956 have now been implemented.

The increased work load has largely been due to more frequent demands for cultural examinations for *Mycobacterium tuberculosis,* staphylococci, and fungi, and for the microscopic examination for intestinal parasites. It has long been felt that a mere total of tests performed gives little indication of the actual work load of a laboratory. No completely satisfactory system has been evolved for estimating the load, but the Dominion Bureau of Statistics system, which is based on one unit of work equivalent to ten minutes of time spent, has considerable merit. In Table I the total numbers of tests carried out at the main laboratories during 1956 and 1957 are shown, together with the unit values of these tests. The same procedure has been adopted in recording the work load of the two branch laboratories for 1957 in Table II.

TESTS FOR THE DIAGNOSIS AND CONTROL OF VENEREAL DISEASES

Standard tests for syphilis have been carried out on an increasing number of blood specimens. The possibility of curtailing some of this case-finding work has been under active consideration, as the proportion of positive reactors thus discovered is becoming progressively smaller. Conversely, 1.8 per cent of 2,850 Hungarian immigrants were found positive, and 1.2 per cent of eighty-three Portuguese immigrants, compared with an incidence of about 0.2 per cent in the white Canadian population.

The *Treponema pallidum* immobilization (T.P.I.) test has been carried out on 280 sera so far this year by the Ontario Provincial Laboratories and the Federal Laboratory of Hygiene. Sixty-one per cent of these sera proved to be positive. Several new treponemal antigens are now available commercially, and a small study is in progress to evaluate the results using the Reiter's protein complement-fixation antigen.

Over 300 exudates have been examined by the dark-field method for *Treponema pallidum.* Over 10 per cent of the 170 persons examined proved positive. This represents a considerable increase over last year, when only seven cases were diagnosed by this technique.

The eighth evaluation survey of sero-diagnostic procedures organized by the Federal Laboratory of Hygiene has been completed, and the results obtained in the British Columbia Division of Laboratories compare favourably with those obtained in Ottawa. The Laboratory of Hygiene is to be congratulated upon the smooth and efficient conduct of this survey, and it is hoped that this valuable service will be continued.

An increased number of specimens were received for cultural and microscopic examination for *Neisseria gonorrhœæ.* Further studies have been carried out on the survival of this organism in a transport medium.

TESTS RELATING TO THE CONTROL OF TUBERCULOSIS

Once again there was, during the past year, a considerable increase in the requisitions for both microscopic and cultural tests for the diagnosis of tuberculosis. The increase was approximately 10 per cent in the cultural work. A serious outbreak of disease amongst the guinea-pigs used for virulence tests has resulted in considerable additional work.

The problems associated with the identification and virulence testing of atypical cultures continue to demand investigation. The mortality rate for tuberculosis is decreasing each year due to improved diagnostic measures and the increased use of suitable antibiotic agents. In spite of this trend, additional laboratory work is inevitable in the diagnosis, treatment, and prevention of tuberculosis.

SALMONELLA, SHIGELLA, AND OTHER ENTERIC PATHOGENS

In contrast to last year, there have been few epidemics due to enteric pathogens, and the number of routine specimens submitted for examination has decreased by approximately 5 per cent. The number of Salmonellæ isolated from different patients has shown a marked decrease, from 300 in 1956 to a little over 200 in 1957. An interesting feature of this year was, however, that twenty-two different serological types were isolated, four more than last year. The most common types isolated during the first ten months of 1957 were *S. typhi-murium* (eighty-nine), *S. heidelberg* (twenty-three), *S. thompson* (twenty-one), *S. newport* (seventeen), *S. paratyphi B* (eleven), and *S. typhi* (eight).

Salmonella typhi has been isolated from only eight individuals, compared with twenty-eight in 1956. These organisms were of five different phage types, which indicates that there have been at least five unassociated typhoid incidents in British Columbia. An interesting study leading to the discovery of a previously unsuspected typhoid carrier was carried out. Extensive studies were made of the organisms isolated during the course of this investigation, and many of them were phage-typed through the kind services of the Quebec Division of Laboratories.

A striking decrease in the incidence of dysentery due to *Shigella sonnei* has occurred in the current year. In 1955, 246 new cases were diagnosed bacteriologically, while in 1956 the number rose to 292. During the first ten months of 1957, only ninety-three cases have been diagnosed.

The demand for agglutination tests for the diagnosis of diseases such as enteric fever, brucellosis, and infectious mononucleosis has remained steady. One new serological technique has been introduced—namely, the antistreptolysin-O titre estimation—which is of considerable value in confirming or disputing the clinical diagnosis of rheumatic fever, glomerulonephritis, and other Group A streptococcal infections.

Pathogenic *Escherichia coli* strains have been isolated from children in four incidents of gastro-enteritis. The strains recovered were serotypes 055, 0111, and 0126.

SANITARY BACTERIOLOGY

Examination of Dairy Products

Since the implementation of the milk-sampling programme laid down in the "Milk Industry Act," 1956, there has been a small but definite decrease in the total number of milk samples received for examination. The field staff are to be complimented on the greater care taken in shipping of samples, which has resulted, even in the summer months, in a much higher proportion of milk samples reaching the laboratory at a temperature below the statutory maximum of 10° C.

Bacteriological Examination of Water

A proportion of the water samples received for bacteriological examination is sent in by private citizens dwelling in remote areas of the Province. Where possible, arrangements are made for field staff to visit such places to carry out a sanitary survey in the neighbourhood of the water-supply, the survey being essential for the assessment of a water-supply. Where no sanitarian is available, the private citizen is issued a copy of the National Health Department's excellent booklet on "Rural Waters."

Bacterial Food Poisoning

There has been a further increase in the number of specimens of food which have been submitted for bacteriological examination because they were suspected of causing food poisoning. The pathogenic organisms isolated were *Staphylococcus aureus* coagulase positive (twelve times; from custard, potato salad, meringue, canned peas, sardines, cooked meats, turkey, and ham), *Bacillus cereus* (twice; from custard and milk pudding), and *Streptococcus viridans* (eight times; from fish, sauce, chicken, and turkey). The largest food-poisoning incident, which affected seventy-five people, was due to coagulase-positive *Staphylococcus aureus*.

OTHER TYPES OF TESTS

Diphtheria

The number of nose and throat swabs submitted for the diagnosis of diphtheria remains fairly constant. During the first ten months of this year, *Corynebacterium diphtheriæ* has been isolated from seven individuals, compared with two last year. Diphtheria thus remains a potential threat to health, which is undoubtedly kept in check by the current widespread immunization programme provided at public expense by the Health Branch.

Parasitic Infestations

A survey of technical skill in the identification of parasites has been carried out by the Federal consultant parasitologist. These Laboratories were complimented on achieving a higher proportion of correct identifications than other Provincial laboratories. The value of this diagnostic service to physicians in the Province is reflected in the steady increase in the number of specimens submitted each year. Skin-test antigens for the diagnosis of worm infestations which occur in British Columbia have been made available to physicians through this Division by the Federal consultant parasitologist.

Fungous Infections

Once again there has been a substantial increase in the demand for this type of investigation. Over half of the specimens were submitted for the isolation of pathogenic yeasts. Most of the other specimens have been submitted by dermatologists for the diagnosis of dermatomycosis, and during the first ten months of the year no less than forty-one pathogenic dermatophytes were isolated, compared with twenty-seven during the corresponding period last year. The senior bacteriologist in charge of this work attended a four-week course of instruction in medical mycology on National health grants.

Miscellaneous Tests

Laboratory facilities are now available for the phage-typing of staphylococci. In order to standardize methods and obtain information about the staphylococcus-carrier rate of the general public, a pilot study consisting of four surveys has been carried out using the laboratory staff as a study group. It is planned to undertake studies to determine the method of spread of these organisms in the community. Screen phage-typing of *Salmonella typhi* strains isolated during the search for a typhoid-carrier have also been carried out.

Virous Infections

The total number of virous complement-fixation tests carried out during the current year was more than double that of 1956. This was due, in part, to an outbreak of human psittacosis occurring at Duncan in May and June of 1957, and partly to an increased demand for this type of diagnostic test by clinicians. The outbreak of psittacosis was of

particular interest in that it was the first Canadian outbreak of human psittacosis due to the spread of the virus by turkeys. Human infection resulted from handling infected turkeys in a poultry-processing plant. Following this outbreak, arrangements were made for the inclusion of psittacosis in the Schedule of Industrial Diseases of the British Columbia Workmen's Compensation Board.

A number of specimens have been submitted to the Laboratory of Hygiene for the isolation of viruses. The presence of the Asian strain of influenza virus in the Province was first reported by the Laboratory of Hygiene on October 4th, 1957. Other viruses isolated from specimens submitted from this Province include Poliovirus Type I (once) and ECHO virus (once).

Chemical Analyses

The Chemistry Section, which was opened in 1956, is staffed by one bacteriologist with training in chemistry and has undertaken upwards of seventy chemical analyses. In addition to these examinations, this Section carries out chemical tests which are necessary for the control and production of media. The services of this Section in carrying out tests for water pollution will undoubtedly be an important factor in the work of the Pollution-control Board.

BRANCH LABORATORIES

The two branch laboratories—one at the Royal Jubilee Hospital, Victoria, and the other at the Kootenay Lake General Hospital, Nelson—have continued to carry out public health bacteriology for the areas in which they are located. The general scope of their work is similar to that of the main laboratories in Vancouver, but difficult specimens are submitted to the main laboratories for confirmation. The volume of work undertaken at these two laboratories has remained substantially the same as last year, and is recorded by tests and by units in Table II. In order to maintain the standard of testing and efficiency of these branch laboratories, six liaison visits were made by the Director and the Assistant Director—two to the Nelson laboratory and four to the Victoria laboratory. A detailed investigation of the work of the latter laboratory has been made, and recommendations have been submitted on its future. Members of the staff of the branch laboratories have visited the main laboratories as a part of in-service training. It is anticipated that the new branch laboratory at the Kootenay Lake General Hospital will be available for occupation late in 1958.

GENERAL COMMENTS

Of the nine new technical positions provided under National health grants, seven have now been filled, and the new staff members have been employed in carrying out the new tests which have been introduced and in meeting the increased work load in most of the routine laboratories. Two additional non-technical appointments have been authorized under National health grants, bringing the total authorized establishment of this Division to sixty-one. Of these appointments, forty-five are professional or technical and sixteen non-technical. Staff separations during the years have shown a marked decline on last year's high total, but still represent over a third of the total establishment. It is to be hoped that this downward trend will continue, as the stabilization of the staff position results in increasing the efficiency of the Division.

The Division's staff-training programme has entered its second season. During the fall of 1957 some ten lectures on public health bacteriology and related subjects were arranged. One senior bacteriologist has proceeded on an in-service training visit to the Provincial Laboratories of Ontario and to the Laboratory of Hygiene. This visit was made possible by a National health grant. Eight members of the staff gave lectures or instruction at the University of British Columbia in the Faculty of Medicine and in the

Department of Bacteriology. Practical courses of instruction in serological technique were given by the Division for students attending the technicians' training-school sponsored by the Health Branch.

In December the Director attended the thirteenth annual meeting of the Technical Advisory Committee on Public Health Laboratory Services to the Federal Ministry of Health, and also the annual meeting of the Laboratory Section of the Canadian Public Health Association, at which two papers were presented—one on "Psittacosis" and the other on "The Search for a Typhoid Carrier."

The staff, both technical and non-technical, are to be congratulated on a year of hard work and efficient performance of standard tests. The steady increase in routine work and the introduction of a variety of new tests have both been accepted cheerfully, and a high standard of performance has been maintained.

TABLE I.—STATISTICAL REPORT OF EXAMINATIONS AND WORK LOAD IN 1956 AND 1957, MAIN LABORATORY

	Unit[1] Value	1957		1956	
		Tests Performed	Work-load Units	Tests Performed	Work-load Units
Animal inoculations—					
Tuberculosis	10	434	4,340	413	4,130
Diphtheria virulence	6	10	60	7	42
Blood serum agglutination tests—					
Typhoid-paratyphoid group	2	9,332	18,664	10,028	20,056
Brucella group	1	4,586	4,586	5,544	5,544
Paul-Bunnell	2	3,303	6,606	3,465	6,930
Miscellaneous	2	146	292	45	90
Complement-fixation tests for viruses	4	216	864	112	448
Cultures—					
M. tuberculosis	6	27,207	163,242	24,953	149,718
Salmonella and Shigella organisms	7	11,130	77,910	12,351	86,457
Phage-typing of Salmonellæ	5	1,644	8,220	------	------
C. diphtheriæ	5	9,184	45,840	9,290	46,450
Hæmolytic staphylococci and streptococci	5	4,272	21,360	5,073	25,365
Phage-typing of staphylococci	10	521	5,210	------	------
N. gonorrhœæ	5	9,822	49,110	8,894	44,470
Fungi	5	673	3,365	593	2,965
Food poisoning	5	81	405	56	280
Miscellaneous	5	2,443	12,215	2,426	12,130
Direct microscopic examinations—					
N. gonorrhœæ	2	27,886	55,772	27,419	54,838
M. tuberculosis (sputum)	2	21,822	43,644	20,291	40,582
M. tuberculosis (miscellaneous)	2	5,385	10,770	4,662	9,324
Treponema pallidum	3	372	1,116	295	885
Vincent's spirillum	2	213	426	223	446
Intestinal parasites	3	2,635	7,905	2,290	6,870
Miscellaneous	2	2,035	4,070	1,865	3,730
Serological tests for syphilis—					
Blood—					
V.D.R.L.	1	168,473	168,473	163,556	163,556
V.D.R.L. quantitative	2	2,143	4,286	1,371	2,742
Complement fixation	2	25,420	50,840	21,527	43,054
Cerebrospinal fluid—					
Complement fixation	2	2,722	5,444	2,312	4,624
Quantitative complement fixation	2	45	90	35	70
Cerebrospinal fluid—					
Cell count	2	376	752	307	614
Protein	2	1,934	3,868	1,628	3,256
Colloidal reaction	3	2,695	8,085	2,355	7,065
Milk—					
Standard plate count	4	4,925	19,700	5,722	22,888
Coli-aerogenes	2	4,571	9,142	5,588	11,166
Phosphatase	3	3,209	9,627	3,782	11,346
Resazurin	1	492	492	103	103
Water—					
Standard plate count	2	1,161	2,322	1,073	2,146
Coli-aerogenes	5	9,282	46,410	8,442	42,210
Chemistry—					
Water—					
Full	25	57	1,425	------	------
Partial	4	12	48	------	------
B.O.D.	20	14	280	------	------
Miscellaneous	10	2	20	------	------
Unclassified tests	10	108	1,080	120	1,200
Totals	----	372,993	878,376	358,216	837,790

[1] 1 D.B.S. unit=10 minutes of work.

TABLE II.—STATISTICAL REPORT OF EXAMINATIONS AND WORK LOAD DURING THE YEAR 1957, BRANCH LABORATORIES

	Unit[1] Value	Nelson		Victoria	
		Tests Performed	Work-load Units	Tests Performed	Work-load Units
Animal inoculations	10	.....	.....	13	130
Blood serum agglutination tests—					
Typhoid-paratyphoid group	2	380	760	129	258
Brucella group	1	76	76	82	82
Paul-Bunnell	2	.....	.....	165	230
Cultures—					
M. tuberculosis	6	.....	.....	1,757	10,542
Typhoid-Salmonella-dysentery group	7	89	178	434	3,038
C. diphtheriæ	5	248	1,240	2,613	13,065
Hæmolytic staphylococci and streptococci	5	248	1,240	2,613	13,065
N. gonorrhœæ	5	.....	.....	368	1,840
Fungi	5	.....	.....	198	990
Miscellaneous	5	744	3,720	.....	.....
Direct microscopic examinations—					
N. gonorrhœæ	2	211	422	511	1,022
M. tuberculosis (sputum and miscellaneous)	2	167	334	1,757	3,514
Treponema pallidum	3	.....	.....	14	42
Vincent's spirillum	2	14	28	38	76
Fungi	2	.....	.....	198	396
Intestinal parasites	3	57	171	304	912
Serological tests for syphilis—					
Blood—					
V.D.R.L.	1	3,000	3,000	20,859	20,859
V.D.R.L. quantitative	2	15	30	245	490
Complement fixation	2	.....	.....	1,141	2,282
Cerebrospinal fluid—Complement fixation	2	.....	.....	531	1,062
Cerebrospinal fluid—					
Cell count	2	6	12	322	644
Protein	2	6	12	322	644
Colloidal reaction	3	57	171	261	783
Milk—					
Standard plate count	4	859	3,436	823	3,292
Coli-aerogenes	2	697	1,394	823	1,646
Phosphatase	3	372	1,116	730	2,190
Resazurin	1	218	218	93	93
Water—					
Standard plate count	2	.....	.....	1,407	2,814
Coli-aerogenes	5	745	3,725	1,407	7,035
Unclassified tests	10	30	300	.....	.....
Totals	—	8,239	21,583	40,158	93,036

Grand totals: Tests, 48,397; units, 114,619.

[1] 1 D.B.S. unit=10 minutes of work.

REPORT OF THE REHABILITATION CO-ORDINATOR

C. E. BRADBURY

The development of a rehabilitation service in the Health Branch has had two main purposes. The first has been to study the needs of the handicapped individually and to help them directly as far as possible; the second has been to study, develop, and co-ordinate resources to meet those needs.

The first of these two purposes has been the one which, to date, has received major attention. In addition to the very real personal help which casework can bring the individual disabled person, the formation of a casework service results in the gathering of much information which could not be obtained readily in any other way. The individual needs of handicapped persons referred to the Rehabilitation Service have been studied on a broad basis and recommendations made for a suitable course of action, aimed in each case toward the physical, social, vocational, and economic independence of the handicapped person. There is considerable rehabilitation work with the disabled being done in British Columbia, a great portion of it by voluntary and private agencies.

It is felt the statistical material which is appended is interesting and valuable. It will add greatly to our knowledge when mechanisms exist for the collection of similar data from all agencies in the rehabilitation field. This function of compiling statistics is one which the Health Branch is particularly equipped to do.

CO-ORDINATION

In the complex field of rehabilitation of the disabled, co-ordination is an activity which is very difficult to describe. In the broadest sense, some contribution to co-ordination is made each time the representatives of two or more agencies meet to discuss and solve problems relating to the improvement of their services to their clients. Each time such a discussion is held, progress is made which benefits the individuals with whom the agencies are concerned.

The personnel of the Rehabilitation Service take active part in many boards, committees, and meetings which primarily are interested in the rehabilitation of the disabled. These activities are significant in the development of co-ordination.

However, the Rehabilitation Service, more specifically, is active in two ways—through active casework for individual patients, and through direct work with voluntary and government agencies whose services are important in rehabilitation. Regular consultation with agencies directly involved in the rehabilitation of disabled persons has been important in improving co-ordination. In this respect the agencies discussed below may be cited.

THE G. F. STRONG REHABILITATION CENTRE

Meetings are held twice each month with the professional staff of the Centre to discuss and plan for the rehabilitation of selected patients. Further, the Assistant Provincial Health Officer, the Chairman of the Medical Advisory Panel of the Registry for Handicapped Children, and the medical consultant in rehabilitation all serve on the Medical Advisory Committee of this Centre.

THE REGISTRY FOR HANDICAPPED CHILDREN

Both the Registry and the Rehabilitation Service are concerned with the rehabilitation of the group of registered young disabled persons between the ages of 16 and 21. Because of this dual interest, meetings with the staffs of the Registry and the Rehabilitation Service are held every other week to discuss individual cases, and, by arrangement, cases in the age-group 16 to 21 are continued by the Registry or they may be transferred

to the Rehabilitation Service. The Registry also frequently requests consultative advice with regard to some of its registrants below the age of 16.

Social Welfare Services

No programme or regular meetings with the personnel of the various social welfare agencies has been established, but the Rehabilitation Service is continuously in communication with the social welfare agencies about individual cases.

Department of Education

Effective liaison and co-ordination has been maintained with this Department through the Director of Technical and Vocational Education. In addition, the Co-ordinator of Rehabilitation serves as a member of the Department's Training Selection Committee, which deals with all applications for training under the various schedules of the Canadian Vocational Training Agreement. In this connection it should be noted that all applications for training under Schedule R must be initiated and approved by the Rehabilitation Service before being presented to the Training Selection Committee.

National Employment Service

The Rehabilitation Service and the regional officers of the National Employment Service have taken steps which, it is hoped, will ensure a closer working relationship with placement officers throughout the Province.

In June the Rehabilitation Co-ordinator assisted senior regional and head office staff with the preparation and operation of two area training-schools for special placements officers—one in Penticton and one in Vancouver.

Canadian Medical Association, British Columbia Division

The medical consultant in rehabilitation is a member of the rehabilitation committee of this organization.

CASEWORK OF THE REHABILITATION SERVICE

One of the most important functions of the Rehabilitation Service has been to maintain a continuous interest in patients throughout the whole process of rehabilitation. Rehabilitation services in British Columbia are obtained from a variety of agencies, many of which maintain no direct working relationship with the others. The consequence has been that disabled persons often have received excellent treatment and service in one or two phases of rehabilitation, but frequently there has been no progression to a logical conclusion. It has been our aim to ensure the orderly progression of the patient from one specialized service to the next without delays; for example, a patient in his progress from dependency to gainful employment may require attention from any or all of the following: His private physician, a health unit, social agency, physical rehabilitation clinic, psychologist, vocational counsellor, vocational-training school, placement officer, and, finally, an employer. Through the attention of this service, the varied resources of a group of medical, social, and vocational facilities are co-ordinated and related to the requirements of the individual patient.

A total of 276 cases have been accepted for rehabilitation study. The tables appended to this report are an analysis of the results of the work done for them.

The number of patients referred for study each year is shown in Table I. In Table II the case load is analysed by age-groups and result of study. It should be stated that wherever a patient is classified as rehabilitated in this report, it means that the patient has been proven to have become gainfully employed and financially independent. This

criterion is used deliberately as a definite index which can be employed by any agency as a sound objective evaluation of results.

The case load is almost evenly divided between the active, not rehabilitated, and rehabilitated categories. Slightly over 6 per cent (eighteen) of the case load withdrew voluntarily and 2 per cent (six) refused to proceed with any part of the programme. Results are not known in 4 per cent (twelve) of the cases. As might be expected, 59 per cent (forty-three) of those classified as rehabilitated were in the age-group 20 to 39 years. The whole of the group classified as rehabilitated (seventy-three) constitutes 26 per cent of the total case load. If the same rate can be predicted for the seventy-two patients classified as active, another eighteen patients will become economically independent as a result of rehabilitation study and service.

Table III is an analysis of the general occupational classification of patients prior to referral. It will be noted that 17 per cent (forty-eight) had no previous occupation and 9 per cent (twenty-six) were students—that is, a total of seventy-four patients or 26 per cent had never been gainfully employed. Another seventy-four previously were employed in occupations classified as unskilled, and ten had come from labouring jobs in basic industries. This information should be studied in conjunction with the information presented in Table IV, where it is shown that the great majority of patients (176) had only Grade X academic education or less and no vocational training of any kind. It can be expected that a non-disabled person with a less than adequate academic background and no specific vocational skills or training will experience difficulty in achieving a satisfactory occupational adjustment. When a physical disability is added to these vocational handicaps, the difficulties are increased tremendously.

Under Schedule R of the Canadian Vocational Training Agreement, provision is made for disabled persons to take vocational-training courses. A total of 101 persons have taken advantage of this provision, and of the forty-eight who completed the training, forty-four are employed. A further nine persons who did not complete their course also obtained employment as a result of their training.

Four persons completed training and were not yet employed at the end of the year. Of these, one suffered a relapse and the other three were victims of the general conditions of unemployment. Twenty-nine presently are in training and seven have applied and have had their applications approved by the Training Selection Committee.

As shown in Table II, seventy-three patients have been rehabilitated. Table V shows the earnings of these patients in their present employment.

Table VI shows the source from which the seventy-three rehabilitated patients received financial support prior to acceptance for study. It is significant that 53 per cent (thirty-nine) were in receipt of financial assistance from the Province or a municipality. A further 7 per cent received assistance from other public sources.

TABLE I.—PATIENTS REFERRED FOR REHABILITATION STUDY IN HEALTH BRANCH—NUMBER OF PATIENTS REFERRED ANNUALLY, SEPTEMBER 30TH, 1954, TO NOVEMBER 30TH, 1957.

Year	Number of Patients		
	Male	Female	Total
1954	1	----	1
1955	38	14	52
1956	78	39	117
1957[1]	66	40	106
Totals	183	93	276

[1] To November 30th, 1957.

TABLE II.—PATIENTS REFERRED FOR REHABILITATION STUDY IN HEALTH BRANCH—CLASSIFIED BY AGE-GROUP AND RESULT OF STUDY, SEPTEMBER 30TH, 1954, TO NOVEMBER 30TH, 1957.

Age-group (Years)	Assessment Not Complete					Assessment Completed				
	Active	Deferred	Voluntary Withdrawal	Not Known	Non-co-operative	Not Rehabilitated	Deceased	Referred to Handicapped Childrens' Registry	Rehabilitated (Employed)	Total
0–9	—	—	—	—	—	—	—	1	—	1
10–19	13	2	2	1	—	8	—	—	9	35
20–29	23	6	9	4	2	18	—	—	22	84
30–39	13	4	4	5	2	13	—	—	21	62
40–49	17	2	2	1	1	15	1	—	16	55
50–59	5	3	1	—	1	15	—	—	5	30
60 and over	—	—	—	—	—	5	—	—	—	5
Not stated	1	2	—	1	—	—	—	—	—	4
Totals	72	19	18	12	6	74	1	1	73	276

TABLE III.—PATIENTS REFERRED FOR REHABILITATION SERVICE IN HEALTH BRANCH—CLASSIFIED BY SEX AND OCCUPATIONAL CLASSIFICATION PRIOR TO REFERRAL, SEPTEMBER 30TH, 1954, TO NOVEMBER 30TH, 1957.

Occupational Classification	Male	Female	Total
1. Professional and managerial occupations	3	2	5
2. Clerical and sales occupations	23	20	43
3. Service occupations	3	19	22
4. Agricultural, fishery, forestry, and kindred occupations	10	—	10
5. Skilled occupations	20	2	22
6. Semi-skilled occupations	8	5	13
7. Unskilled occupations	70	5	75
8. Students	14	12	26
9. No previous occupation	26	22	48
10. Not stated	5	5	10
11. Other	1	1	2
Totals	183	93	276

TABLE IV.—PATIENTS REFERRED FOR REHABILITATION STUDY IN HEALTH BRANCH—CLASSIFIED BY SEX AND ACADEMIC EDUCATION AND VOCATIONAL TRAINING PRIOR TO REFERRAL, SEPTEMBER 30TH, 1954, TO NOVEMBER 30TH, 1957

Age-group (Years)	No Academic Education						Grades I to X						Grades XI to XIII						University Education		Total		Grand Total (F. and M.)
	With Vocational Training		With No Vocational Training		Not Stated		With Vocational Training		With No Vocational Training		Not Stated		With Vocational Training		With No Vocational Training		Not Stated						
	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	
0– 9	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
10–19	—	—	2	1	—	—	—	—	9	16	—	—	1	—	2	4	—	—	—	—	14	21	35
20–29	1	—	—	4	—	—	—	1	21	35	—	1	3	2	5	10	—	—	1	—	31	53	84
30–39	—	—	—	5	—	1	1	2	14	24	1	—	—	5	3	4	—	—	—	2	19	43	62
40–49	—	—	—	—	—	—	2	11	16	21	—	—	—	2	1	2	—	—	—	—	19	36	55
50–59	—	2	—	2	—	—	1	5	6	10	—	—	1	3	—	—	—	—	—	—	8	22	30
60 and over	—	—	—	—	—	—	1	2	—	2	—	—	—	—	—	—	—	—	—	—	1	4	5
Not stated	—	1	—	—	—	—	—	1	—	1	—	—	—	—	1	—	—	—	—	—	1	3	4
Totals	1	3	2	12	—	1	5	22	66	110	1	1	5	12	12	20	—	—	1	2	93	183	276

TABLE V.—PATIENTS REFERRED FOR REHABILITATION SERVICE IN HEALTH BRANCH—ANALYSIS OF EARNINGS OF SEVENTY-THREE PATIENTS AFTER REHABILITATION TO GAINFUL EMPLOYMENT, SEPTEMBER 30TH, 1954, TO NOVEMBER 30TH, 1957.

Annual Earnings	Male	Female	Total
$0–$999	----	----	----
1,000–1,999	4	18	22
2,000–2,999	18	8	26
3,000–3,999	20	----	20
Over $4,000	1	----	1
Not stated	2	2	4
Totals	45	28	73

TABLE VI.—PATIENTS REFERRED FOR REHABILITATION SERVICE IN HEALTH BRANCH—ANALYSIS OF SOURCE OF SUPPORT PRIOR TO ACCEPTANCE OF SEVENTY-THREE REHABILITATED PATIENTS, SEPTEMBER 30TH, 1954, TO NOVEMBER 30TH, 1957.

Sex	Source of Financial Support					
	Private Source	Social Assistance	Other Public Source	Unemployment Insurance	Not Stated	Total
Male	18	21	4	1	1	45
Female	8	18	1	----	1	28
Totals	26	39	5	1	2	73

ACKNOWLEDGMENT

The National Department of Labour, the Department of National Health and Welfare, the Provincial Department of Education, the Social Welfare Branch, the Unemployment Insurance Commission, and many voluntary agencies have all been most helpful in the conduct of the rehabilitation programme. The Rehabilitation Service wishes to express its appreciation of this co-operation.

REPORT OF THE ACCOUNTING DIVISION

J. McDiarmid, Departmental Comptroller

The functions of the Accounting Division of the Department of Health and Welfare are to control expenditures, process accounts for payment, account for revenue, forecast expenditures, and prepare the Departmental estimates of revenue and expenditures in their final form.

During the year monthly statements of expenditure and other information were provided to the various divisions to assist them in keeping to their budgets.

In order to assist the branches and divisions in keeping a closer watch on their expenditures, this office has adopted a new system of records which provides more information for control. The resultant monthly statements issued within a few days after the end of each month now include paid accounts, unpaid accounts, and goods on order.

The Departmental Comptroller visited several field offices in the South Okanagan and Upper Fraser Valley Health Units, the G. F. Strong Rehabilitation Centre, and attended the annual meeting of the Medical Health Officers, which was held in Victoria from September 4th to 6th, 1957. Discussions of problems relating to the field were held during these visits.

The Mechanical Superintendent and his assistant followed a regular schedule of inspection trips throughout the Province in order that a close check be kept on the mechanical condition of Government-operated vehicles. Aside from the quarterly inspection of Government cars, stress has been laid on safety measures, with suggestions as to driving vehicles under adverse conditions, such as loose gravel, icy roads, etc.

A comparison of gross Health Branch expenditures for the fiscal year 1956/57 with those for 1955/56 shows that the proportion of expenditure on treatment has gone down 2.8 per cent and that on prevention has gone up 3.1 per cent.

Printed by Don McDiarmid, Printer to the Queen's Most Excellent Majesty
in right of the Province of British Columbia.
1958

635-258-3951

REPORT OF THE ACCOUNTING DIVISION

J. McDIARMID, DEPARTMENTAL COMPTROLLER

The functions of the Accounting Division of the Department of Health and Welfare are to control expenditures, process accounts for payment, account for revenue, forecast expenditures, and prepare the Departmental estimates of revenue and expenditures in their final form.

During the year monthly statements of expenditure and other information were provided to the various divisions to assist them in keeping to their budgets.

In order to assist the branches and divisions in keeping a closer watch on their expenditures, this office has adopted a new system of records which provides more information for control. The resultant monthly statements issued within a few days after the end of each month now include paid accounts, unpaid accounts, and goods on order.

The Departmental Comptroller visited several field offices in the South Okanagan and Upper Fraser Valley Health Units, the G. F. Strong Rehabilitation Centre, and attended the annual meeting of the Medical Health Officers, which was held in Victoria from September 4th to 6th, 1957. Discussions of problems relating to the field were held during these visits.

The Mechanical Superintendent and his assistant followed a regular schedule of inspection trips throughout the Province in order that a close check be kept on the mechanical condition of Government-operated vehicles. Aside from the quarterly inspection of Government cars, stress has been laid on safety measures, with suggestions as to driving vehicles under adverse conditions, such as loose gravel, icy roads, etc.

A comparison of gross Health Branch expenditures for the fiscal year 1956/57 with those for 1955/56 shows that the proportion of expenditure on treatment has gone down 2.8 per cent and that on prevention has gone up 3.1 per cent.

Printed by Don McDiarmid, Printer to the Queen's Most Excellent Majesty
in right of the Province of British Columbia.
1958

425-258-1951