

PROVINCE OF BRITISH COLUMBIA

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Sixty-seventh Annual Report of the  
**Public Health Services  
of British Columbia**

HEALTH BRANCH

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE

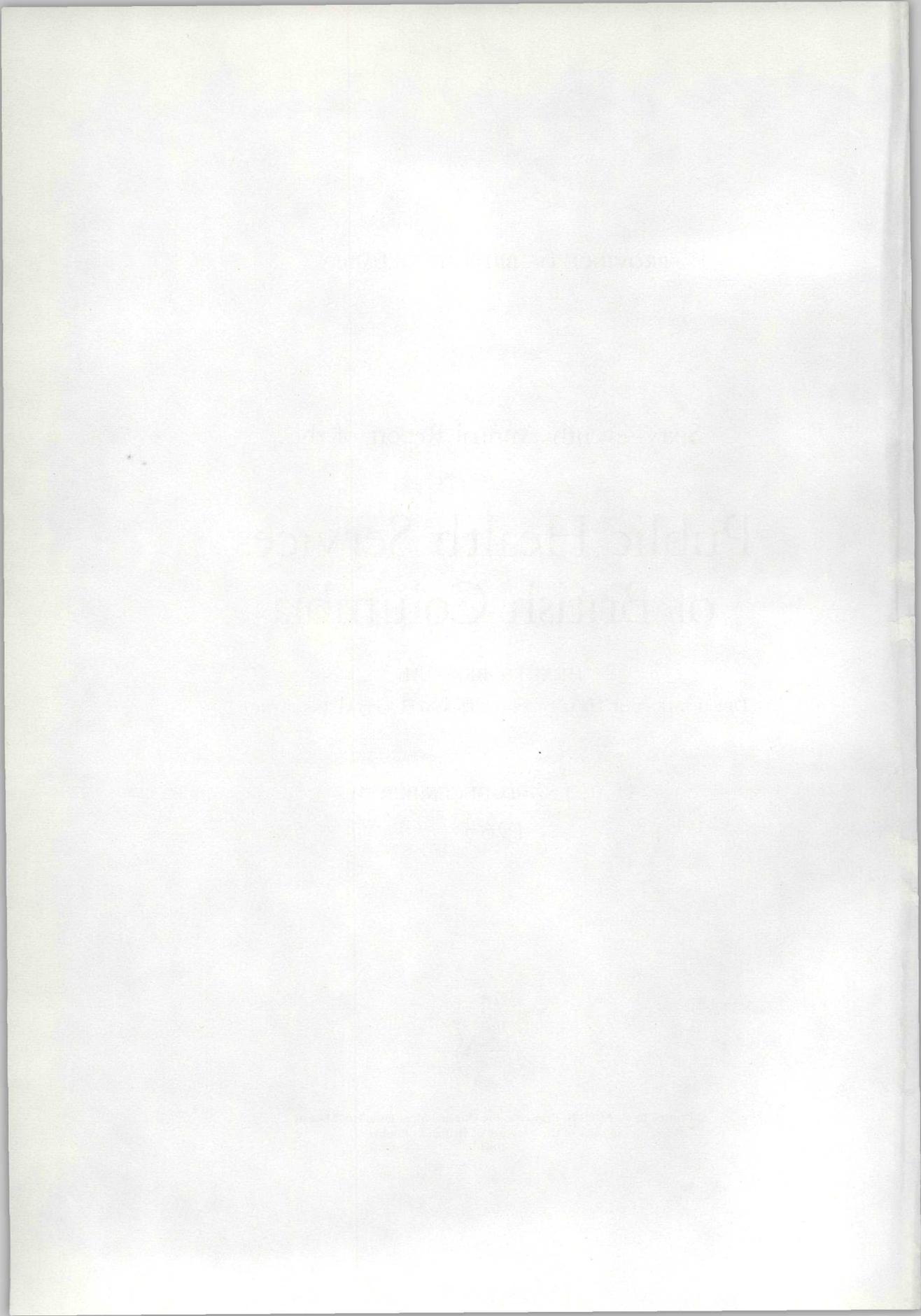
YEAR ENDED DECEMBER 31

1963



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1964



OFFICE OF THE MINISTER OF HEALTH SERVICES  
AND HOSPITAL INSURANCE,  
VICTORIA, B.C., January 23, 1964.

*To Major-General the Honourable GEORGE RANDOLPH PEARKES,  
V.C., P.C., C.B., D.S.O., M.C.,  
Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits the Sixty-seventh Annual Report of the Public Health Services of British Columbia for the year ended December 31, 1963.

ERIC MARTIN,  
*Minister of Health Services and Hospital Insurance.*

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE  
(HEALTH BRANCH),

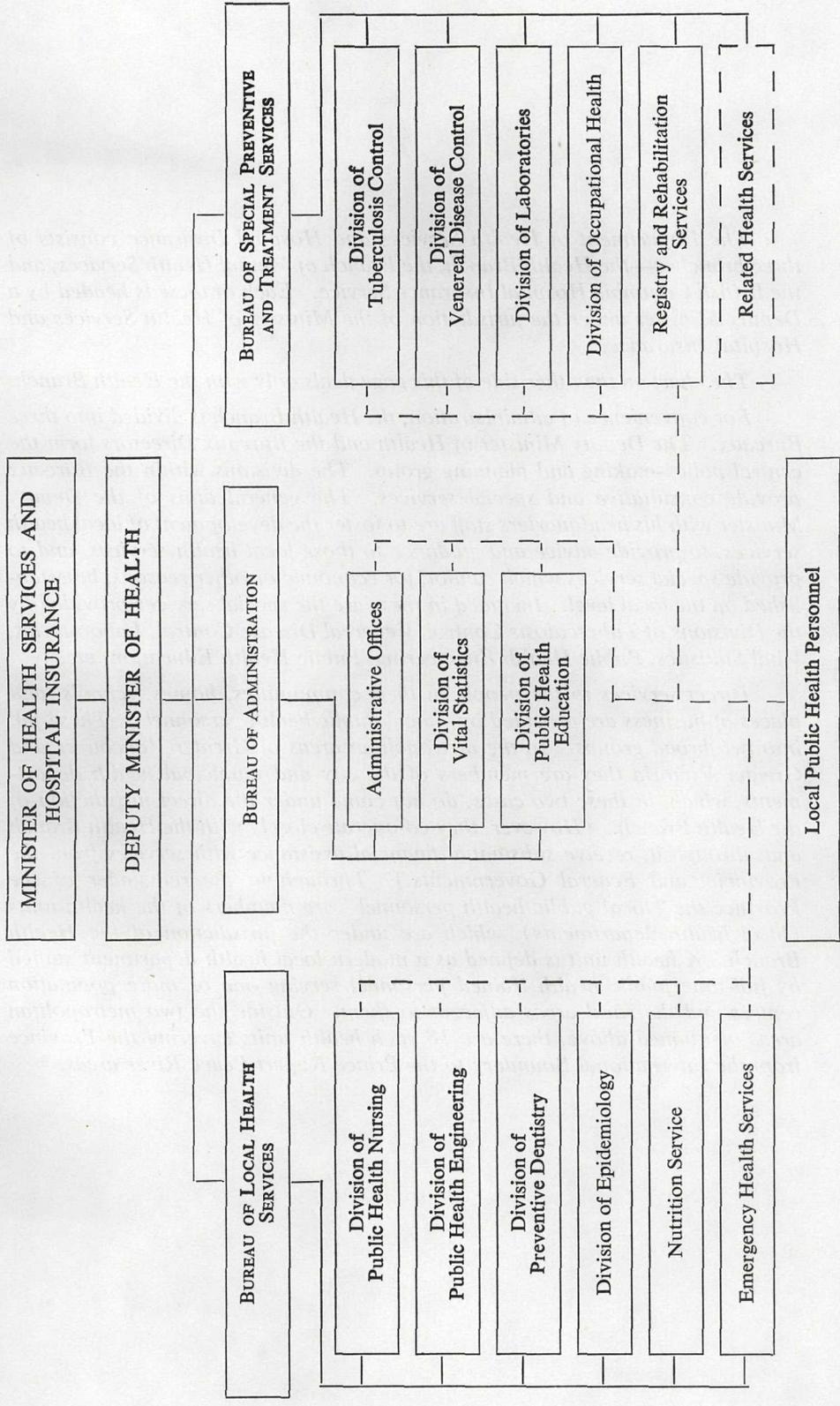
VICTORIA, B.C., January 22, 1964.

*The Honourable Eric Martin,  
Minister of Health Services and Hospital Insurance,  
Victoria, B.C.*

SIR,—I have the honour to submit the Sixty-seventh Annual Report of the Public Health Services of British Columbia for the year ended December 31, 1963.

J. A. TAYLOR, B.A., M.D., D.P.H.,  
*Deputy Minister of Health.*

# HEALTH BRANCH ORGANIZATION



*The Department of Health Services and Hospital Insurance consists of three branches—the Health Branch, the Branch of Mental Health Services, and the British Columbia Hospital Insurance Service. Each of these is headed by a Deputy Minister under the jurisdiction of the Minister of Health Services and Hospital Insurance.*

*The chart on the other side of this page deals only with the Health Branch.*

*For convenience of administration, the Health Branch is divided into three Bureaux. The Deputy Minister of Health and the Bureaux Directors form the central policy-making and planning group. The divisions within the Bureaux provide consultative and special services. The general aims of the Deputy Minister with his headquarters staff are to foster the development of local health services, to provide advice and guidance to those local health services, and to provide special services which cannot, for economic or other reasons, be established on the local level. Included in these are the special services provided by the Divisions of Tuberculosis Control, Venereal Disease Control, Laboratories, Vital Statistics, Public Health Engineering, Public Health Education, etc.*

*Direct services to the people in their communities, homes, schools, and places of business are provided by "local public health personnel." These fall into two broad groups. In the metropolitan areas of Greater Vancouver and Greater Victoria they are members of the city and municipal health departments, which, in these two cases, do not come under the direct jurisdiction of the Health Branch. (However, they co-operate closely with the Health Branch and, through it, receive substantial financial assistance with services from the Provincial and Federal Governments.) Throughout the remainder of the Province the "local public health personnel" are members of the health units (local health departments), which are under the jurisdiction of the Health Branch. 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. Outside the two metropolitan areas mentioned above, there are 18 such health units covering the Province from the International Boundary to the Prince Rupert-Peace River areas.*

## TABLE OF CONTENTS

	PAGE
General Statement.....	9
Bureau of Administration.....	12
Division of Vital Statistics.....	16
Division of Public Health Education.....	25
Accounting Division.....	29
Bureau of Local Health Services.....	31
Bureau of Special Preventive and Treatment Services.....	56
Division of Tuberculosis Control.....	70
Division of Venereal Disease Control.....	81
Division of Laboratories.....	83
Division of Occupational Health.....	92
Registry and Rehabilitation Services.....	95

TABLE OF CONTENTS

General statement	1
Division of Administrative Services	1
Division of Air Pollution	1
Division of Child Welfare	1
Division of Public Health Education	1
Accounting Division	1
Division of Mental Health Services	1
Division of Social Prevention and Treatment Services	1
Division of Tobacco Use Control	1
Division of Vector Disease Control	1
Division of Laboratories	1
Division of Occupational Health	1
Division of Radiation Services	1

# Sixty-seventh Annual Report of the Public Health Services of British Columbia

## HEALTH BRANCH

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE

YEAR ENDED DECEMBER 31, 1963

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The Health Branch, which has existed now in one form or another for 95 years, has striven toward the organization of basic public health services to advance the prevention of disease and the active promotion of health. To accomplish this most effectively, there has been a constant endeavour to encourage the development of adequate local health departments designed to supervise the health needs, problems, and services of the residents. The Health Branch provides the direction, supervision, consultation, and assistance to the staffs employed within these local health agencies. This requires that the Health Branch exercise a continuous surveillance of all the factors and facilities that may have a bearing on the health of the people throughout the Province. This Report touches on the numerous tasks involved in that objective.

### THE PROVINCE AND ITS PEOPLE

The area of the Province is about 366,000 square miles. There were 36,000 people added to the population in 1963, to bring the total to 1,695,000. Over the Province as a whole this gives a population density of 4.6 persons per square mile, but the topography of the country makes uneven distribution of the population inevitable. Economic and climatic factors add their influence to promote a concentration of people in the south-western corner of the Province, where almost one-half dwell in the metropolitan areas of Greater Vancouver and Greater Victoria. With more than 72 per cent resident in urban areas, British Columbia ranks with Ontario among the Provinces with the highest proportion of urban dwellers. About 13.4 per cent of the total population are beyond 60 years of age.

Preliminary data compiled from the vital statistics records filed in 1963 reveal certain features of the population for the year. The downward trend in the birth rate, which has been evidenced since 1958, continued in 1963, to establish a rate of 22.1 births per 1,000 population, even lower than the rate of 23.0 established last year. This is the lowest rate since 1945.

Marriages occurred slightly more frequently than in 1962, the rate of 6.9 per 1,000 population this year comparing with that of 6.7 for the previous year. This reverses the downward trend of the last few years, but is significantly below the peak rate of 12.5 of 1941.

The record low infant death rate of 23.0 per 1,000 live births established last year was essentially maintained for 1963, during which the preliminary rate of 23.1 was recorded. This is a significant improvement over the rather high infant death rates that existed through the fifties. Continued special studies have been directed to this field over the past several years and are to be maintained in endeavours to further reduce causes of foetal wastage.

A plateau of 0.3 per 1,000 live births seems to be the situation in maternal deaths, since it has been maintained at this same figure for the third consecutive year.

The over-all crude death rate per 1,000 population this year was 8.8, equalling the 1961 rate, the lowest since 1933. Among specific causes, heart disease ranked highest, at a rate of 334.1 per 100,000 population, somewhat less than the rate of 342.2 for 1962. On the other hand, deaths from cancer increased to a rate of 155.0, the highest in the last seven years. Lung cancer deaths accounted for about 16 per cent of the total deaths from cancer. In third place as a cause of death was that commonly classed as a "stroke" or "apoplexy," which established a rate of 96.3, about the same as that set last year.

A bright note in the mortality picture this year is the sharp drop in deaths due to accidental causes, to a rate among the lowest in many years. The preliminary figure is 62.0 per 100,000 population, considerably below the 1962 rate of 69.7. Substantial reductions in mortality involving motor-vehicles were recorded, the rate dropping to 21.9 per 100,000 population from a 1962 rate of 24.2. Deaths from fire were also significantly reduced, to 3.3 per 100,000 population from 5.5 the year previous. Deaths due to accidental poisonings decreased also, involving only 89 lives this year, compared with 112 last year, but deaths due to drownings showed a slight increase, to take 119 lives this past year as against 112 the previous year.

The upsurge in venereal disease reported by almost every health officer has been a cause of some concern. This trend was indicated in the last Annual Report and has been continued through 1963. Gonorrhœal infections showed an increase of 27 per cent in incidence, at a total of 5,016 reported cases. The greatest incidence is in the 20-34 age-group, involving almost as many females as males. More serious is the marked increase in infectious syphilis, which at one time seemed well on the way to ultimate control through antibiotic therapy. In recent years more and more cases are appearing, a situation that seems universal across the continent. In British Columbia the incidence increased 54 per cent in 1963 over 1962, involving 282 persons, the majority in the 30-44 age-group. Males are affected about five times as frequently as females.

Infectious hepatitis continued to be reported from every part of the Province. At least 1,736 cases are known to have occurred during the year, a slight reduction from the 1,889 reported in 1962. This is a most serious and potentially disabling disease of children and young adults, but with relatively few fatalities.

A slight increase in the number of cases of infectious dysentery, to total 510, was recorded, and since it involved all areas of the Province, it would seem that the causative organism is well seeded throughout the Province. No immunizing agent is available, and antibiotics are notoriously ineffective in treatment. Perhaps the most useful measures in preventing the spread of this infectious condition are the simple ones of general hygiene.

Only six cases of typhoid or paratyphoid fever were reported this year, representing one of the lowest numbers ever. Studies carried on during the past few years have shown that faulty private sewage-disposal systems are frequently the vehicle through which the infection is spread from healthy carriers.

It is of interest to note that some 35 deaths occur in Canada from whooping-cough each year, most of them in infants under 1 year of age. Although 711 cases were reported in British Columbia last year, there have been no deaths in this Province since 1958, a very satisfactory result of the intensive efforts in immunization as conducted by the local health departments.

British Columbia continues to remain singularly free of diphtheria, having experienced only one confirmed case in 1963 despite the fact that the number of new

diphtheria cases in Canada as a whole is still higher this year than last, due in particular to outbreaks in two of the Prairie Provinces. Immunization in this field is probably a significant factor.

Botulism continues to show itself periodically. In 1963 there were two cases, one of whom died. These occurred as the result of Indians eating fermented salmon eggs, a traditional native delicacy.

This year, and for the first time since records of poliomyelitis were started, there have been no cases of paralytic poliomyelitis reported in British Columbia. This is a bright note in communicable-disease control and may be a reflection of the intensified poliomyelitis immunization programmes that have been conducted over recent years. Immunization records reveal that by school-leaving over 90 per cent of all children have been adequately immunized, but efforts are to be devoted to maintaining the immunization status of the population into the future.

A moderate decline in the incidence of streptococcal infections was recorded for 1963, which may indicate that a peak incidence in this cyclical condition has been passed. The infection seems to have become less severe in recent years, and the availability of modern antibiotics, so effective against this organism, has served to reduce the complications that were so feared in the past.

## REPORT OF THE BUREAU OF ADMINISTRATION

As the chart at the front of this Annual Report shows, the Bureau of Administration has three parts—the general offices in the Health Branch headquarters, the Division of Vital Statistics, and the Division of Public Health Education. By the nature of their responsibilities and activities, the headquarters and these two Divisions are concerned with the programmes and procedures throughout the Health Branch as a whole.

Separate reports concerning the Divisions of Vital Statistics and Public Health Education appear elsewhere in this volume.

This section of the Report will deal with those matters which are of general interest in the Health Branch's operations.

### ORGANIZATION AND STAFF

During recent years newer methods in the treatment of tuberculosis have reduced the need for institutional care (although adding to the need for follow-up and treatment outside the institutions). In Pearson Hospital this has made available a number of beds. During the year a decision was made to use these beds for the care of patients now in the Provincial Infirmaries at Marpole and Allco, which have been under the jurisdiction of the British Columbia Hospital Insurance Service. This transfer will involve important changes in organization, staff, and physical accommodations. At the year's end, planning indicated that the transfer would take place in the early months of the new year.

In the Bureau of Special Preventive and Treatment Services, of which Pearson Hospital is a part, a replacement was found for Mr. W. J. Nichol, a former administrator, who had resigned in 1962. The replacement, Mr. J. F. Jauck, has had long experience in Provincial Government administration. His appointment was particularly timely in view of the Bureau's added responsibilities in relation to infirmary patients.

The Division of Laboratories made progress in its plans to develop a three-pronged service—virology and chemistry as well as bacteriology. Dr. G. D. M. Kettys assumed his position as head of the Virology Section following further post-graduate study in Toronto. Mr. A. J. Lynch, a well-qualified and experienced chemist, was recruited to head the Public Health Chemistry Section. Plans were made for further recruitment, particularly in the Virology Section, and it is hoped that these may be implemented in the new fiscal year.

In July Mr. R. Bowering, Director, Division of Public Health Engineering, resigned to accept a position with the International Bank for Reconstruction and Development, a specialized agency of the United Nations. Mr. Bowering had served with the Health Branch since 1940, and his resignation was a serious loss. He was replaced by Mr. C. J. Keenan, who had been second-in-command of the Division. Recruiting action to replace Mr. Keenan resulted in the selection of a qualified and experienced public health engineer who will join the staff in January, 1964.

The following list shows the various parts (divisions, offices, clinics, etc.) of the Health Branch with their location and the approximate number of persons employed at the end of the year:—

Health Branch headquarters (Victoria), Legislative Buildings, Victoria .....	38	
Health Branch office (Vancouver), 828 West 10th Avenue, Vancouver .....	31	69
Division of Vital Statistics—		
Headquarters and Victoria office, Legislative Buildings, Victoria .....	61	
Vancouver office, 828 West 10th Avenue, Vancouver....	16	77
Division of Tuberculosis Control—		
Headquarters, 2647 Willow Street, Vancouver .....	12	
Willow Chest Centre, 2647 Willow Street, Vancouver....	113	
Pearson Hospital, 700 West 57th Avenue, Vancouver....	163	
Poliomyelitis Pavilion, 700 West 57th Avenue, Van- couver .....	52	
Victoria and Island Chest Clinic, 1902 Fort Street, Vic- toria .....	11	
New Westminster Stationary Clinic, Sixth and Cameron, New Westminster .....	7	
Travelling Clinics, 2647 Willow Street, Vancouver .....	13	
Survey programme, 2647 Willow Street, Vancouver .....	6	377
Division of Laboratories—		
Headquarters and Vancouver Laboratory, 828 West 10th Avenue, Vancouver .....	64	
Nelson branch laboratory, Kootenay Lake General Hos- pital .....	1	
Victoria branch laboratory, Royal Jubilee Hospital <sup>1</sup> .....	—	65
Division of Venereal Disease Control—		
Headquarters and Vancouver clinic, 828 West 10th Ave- nue, Vancouver .....	17	
Victoria clinic .....	1	
New Westminster clinic .....	1	19
Local Public Health Services (health units)—		
East Kootenay, Cranbrook .....	22	
Selkirk, Nelson .....	12	
West Kootenay, Trail .....	18	
North Okanagan, Vernon .....	17	
South Okanagan, Kelowna .....	29	
South Central, Kamloops .....	21	
Upper Fraser Valley, Chilliwack .....	22	
North Fraser, Mission .....	16	
Boundary, Cloverdale .....	50	
Simon Fraser, New Westminster .....	23	
Gibsons-Howe Sound, Gibsons .....	5	
Saanich and South Vancouver Island, 780 Vernon Ave- nue, Victoria .....	35	

<sup>1</sup> Services are purchased from the Royal Jubilee Hospital, which uses its own staff to perform the tests.

Central Vancouver Island, Nanaimo .....	43	
Upper Island, Courtenay .....	24	
Cariboo, Williams Lake .....	14	
Skeena, Prince Rupert .....	15	
Peace River, Dawson Creek .....	16	
Northern Interior, Prince George .....	16	
		406
Local Public Health Services (nursing districts)—		
Kitimat .....	3	
Ocean Falls .....	1	
Telegraph Creek .....	1	
Tahsis .....	1	
Stewart .....	1	
Cassiar .....	1	
		414
Total .....		1,021

The total number, 1,021, was seven more than that reported at the end of 1962. There were also part-time employees in many of the places listed. These totalled the equivalent of approximately 58 full-time employees.

Local Public Health Services rose from second to first place in respect to number of employees, increasing over the year from 387 to 414. The Division of Tuberculosis Control dropped from first to second place, decreasing from 402 to 377. This was a continuation of the trend which has been evident in recent years. The staff of the Division of Laboratories was four larger than that reported at the end of 1962. The other offices and divisions showed no significant changes in the number of employees.

#### STAFF-TRAINING

Again, during 1963, a number of Health Branch employees took postgraduate training, usually leading to a diploma or a master's degree in one of the public health specialties. Funds from National Health Grants were used to help defray the costs. Fifteen employees completed such training, and 16 commenced their studies during the year.

The types of training, universities (in parentheses), and numbers trained were as follows:—

##### Completed training—

Diploma in Public Health Nursing (British Columbia) .....	8
Nursing Administration and Supervision (Toronto) .....	1
Diploma in Public Health (Toronto) .....	3
Diploma in Bacteriology (Toronto) .....	1
Diploma in Dental Public Health (Toronto) .....	1

##### Commenced training—

Diploma in Public Health Nursing (British Columbia, 6; McGill, 2; Western Ontario, 1) .....	9
Nursing Administration and Supervision (Toronto) .....	2
Diploma in Public Health (Toronto) .....	3
Master of Public Health (Minnesota) .....	1

In addition, some members of the Health Branch staff were able to attend relatively short courses. National Health Grants also helped to defray the costs of this training. The courses and numbers attending were as follows:—

Elements of Air Quality Management (University of California).....	2
Orientation for Sanitarians in Occupational Health (Olympia, Wash.)	2
Public Health Law for Sanitarians (University of British Columbia, evening lectures) .....	15
Cleft Palate Habilitation (University of Oregon).....	1
Dental Care for Handicapped (University of Oregon).....	1
Public Health Refresher Course (University of Toronto).....	1

During the year the Division of Public Health Nursing embarked upon a programme to reinforce the public health nurses' training in psychiatric nursing. Through the co-operation of the Mental Health Services Branch and the Civil Service Commission, two senior public health nurses completed a three-month course at the Provincial Mental Hospital and two other nurses commenced such training. According to present plans, it is intended to continue this programme of training a few nurses at a time.

The Public Health Institute, which provides training for the field staff of the Health Branch, was held at the University of British Columbia in May. The principal speaker was J. Roby Kidd, M.A., Ed.D., LL.D. (secretary-treasurer of the Social Sciences Research Council, Ottawa). Dr. Kidd presented four lectures in the field of adult learning and education of the public.

Again, members of the Health Branch participated in civil defence training. Twenty-six of the public health staff attended courses during the year.

#### RECIPROCAL AGREEMENTS (TUBERCULOSIS)

The agreements themselves remained unchanged. With Alberta, Manitoba, and Ontario they continued at \$10 *per diem* and with Saskatchewan and Quebec at \$8 *per diem*.

For varying lengths of time during the year, 10 British Columbia cases were hospitalized in other Provinces. The distribution was as follows:—

	Total for Year	Accounts Received
Alberta .....	6	\$4,530.00
Saskatchewan .....	1	1,536.00
Manitoba .....	1	490.00
Ontario .....	2	1,450.00
Quebec .....	—	—
Totals .....	10	\$8,006.00

The number from other Provinces who received care in British Columbia during the year totalled 12. The distribution was as follows:—

	Total for Year	Accounts Rendered
Alberta .....	4	\$9,400.00
Saskatchewan .....	—	—
Manitoba .....	2	3,110.00
Ontario .....	5	4,710.00
Quebec .....	1	2,008.00
Totals .....	12	\$19,228.00

## REPORT OF THE DIVISION OF VITAL STATISTICS

The Division of Vital Statistics performs two major functions in the Health Branch. One of these is to administer the Province-wide vital statistics registration system while the other is to provide a centralized statistical service to the Health Branch, to the Mental Health Services Branch, and to certain voluntary health agencies.

The Division is required to administer the *Vital Statistics Act*, the *Marriage Act*, and the *Change of Name Act* and to operate a registry of wills notices under the *Wills Act*. These vital statistics registration services are available to the public through the central office in Victoria and approximately 90 district offices located in the main population centres throughout the Province.

In order to carry out its extensive statistical responsibilities, the Division employs a staff of trained bio-statisticians and statistical clerks and operates a self-contained mechanical tabulation section, which includes key-punching, verifying, sorting, collating, and tabulating equipment. While the main statistical resources of the Division are centred in Victoria, a statistical office is also maintained in the Provincial Health Building in Vancouver.

### REGISTRATION SERVICES

#### ADMINISTRATION OF THE VITAL STATISTICS ACT

The bulk of the registration duties of the Division devolve from the *Vital Statistics Act*. This Act prescribes the manner of registration for all births, stillbirths, marriages, deaths, adoptions, and divorces that occur within the Province and also provides for the issuance of certificates and other forms of certification from the registrations which are filed. The Act also sets forth the circumstances under which registrations may be amended to take cognizance of adoption or legitimation or to rectify errors or omissions which may exist.

The *Vital Statistics Act* requires that the Province be divided into vital statistics registration districts, and that each birth, death, marriage, and stillbirth be registered in the district in which the event occurred. For this purpose 73 registration districts have been established in the Province. In each of these districts there is an appointee known as the District Registrar of Births, Deaths, and Marriages, whose office is located in the main population centre. In some districts it has been found expedient to establish sub-offices in other population centres in order to provide convenient service to local residents. Thus there are approximately 90 locations within the Province where a District Registrar or Deputy District Registrar may be found. In addition, in order to facilitate registration of vital statistics events amongst the native Indian population, all Indian Superintendents within the Province are ex officio District Registrars of Births, Deaths, and Marriages for the area encompassed by the respective Indian Agencies.

In approximately half of the districts, the appointment as District Registrar of Births, Deaths, and Marriages is held by the local Government Agent, and the provision of vital statistics service is assumed by the staff of the Agency. In locations where Government Agents are not available, the District Registrar appointments are usually held by members of the Royal Canadian Mounted Police or by municipal officials. In a few districts the appointments are held by other Governmental employees or by private individuals.

The responsibility for registering births rests with the parent, while the responsibility lies with the funeral director for registering deaths and stillbirths. Marriages

must be registered by the officiating minister or clergyman in the case of marriages solemnized under religious auspices and by the officiating Marriage Commissioner in the case of civil marriages. Adoptions and divorces are registered only in the central office of the Division upon information supplied by the various Supreme Court Registries of the Province.

Registrations which have been accepted by District Registrars are forwarded to the central office on a weekly basis. During the period of time that the original registration is in the hands of the District Registrar, he is empowered to issue certifications from it, but once the original registration has been submitted to the central office in Victoria, certifications are available only from this latter source. All original registrations ever filed in this Province are maintained in the vaults of the Division. In addition, for security purposes and for certain administrative uses, up-to-date microfilm copies of all registrations and of all important subsidiary documentation are maintained.

On July 1, 1962, a new *Vital Statistics Act* came into effect in this Province. This Act adheres closely to the uniform Vital Statistics Act which was recommended by the Committee of Commissioners on Uniformity of Legislation in Canada, and which has been implemented by the majority of the Provinces of Canada. It is gratifying to note that the advantages which were anticipated from this improved legislation have been amply demonstrated, and that the functioning of the vital statistics registration system has been improved thereby. The restrictions which the new Act imposed on the issuance of certificates and certified copies of registrations as a safeguard against the improper disclosure of information of a personal nature appear to have been both accepted and appreciated by the general public.

#### ADMINISTRATION OF THE MARRIAGE ACT

All matters relating to the legal requirements which must be observed in connection with the solemnization of marriage, the legal qualifications of individuals to marry, and the authorization of ministers and clergymen to perform the marriage ceremony are regulated by the *Marriage Act*. Under this Act the Division of Vital Statistics is required to license ministers and clergymen of recognized religious denominations who desire to solemnize marriage and to deal with applications from previously unregistered denominations seeking such authority for their clergymen. It is also the responsibility of the Division to arrange for the appointment of Civil Marriage Commissioners in order to accommodate those persons who do not wish to be married by a religious ceremony. It is a further responsibility of the Division to appoint Issuers of Marriage Licences throughout the Province and to supervise their work.

As at December 31, 1963, there were 168 Civil Marriage Commissioners in the Province and 211 persons authorized to issue marriage licences. On the same date there were 2,233 ministers and clergymen, representing 137 religious denominations, authorized to solemnize marriage. During the year 294 clergymen were licensed, while 264 licences were cancelled due to transfer out of the Province or due to death. In addition, 50 temporary licences were issued to non-resident clergymen who were ministering in the Province for brief periods only. Two new religious denominations were recognized under the *Marriage Act* during the year.

#### ADMINISTRATION OF CHANGE OF NAME ACT

The *Change of Name Act* provides a means whereby persons may change either their given names or their surnames upon meeting certain requirements set forth in the Act. The Act expressly forbids any changes of name which are not made in

accordance with its provisions, although it exempts changes of name resulting from marriage, adoption, or legitimation, or changes in the given name of a child made under the *Vital Statistics Act* and prior to the child's 12th birthday.

Public notice of the intention to apply for the legal change of name must be published in *The British Columbia Gazette* and in a newspaper circulating in the district wherein the applicant resides. All legal changes of name which have been granted by the Director are likewise published in *The British Columbia Gazette*. During 1963, 487 change of name applications were granted, compared with 443 in the previous year. Many of these applications covered several members in a single family, so that in total around 800 individuals were affected. Almost half of the applications are made by married men, while an additional one-third are made by single men. Under the Act the privilege of changing the surname of a child is accorded only to a married man. Hence a single, widowed, or divorced person may not change his child's or her child's surname.

#### REGISTRY OF WILLS NOTICES

An amendment to the *Wills Act* in 1945 provided for the establishment of a Registry of Wills Notices, to be administered by the Division of Vital Statistics. This Registry makes it possible for a testator to file with the Division a notice stating that he has executed a will and giving the location where the will is deposited. A testator may also file supplementary notices showing changes of location of the will or indicating revocation of the will. Under no circumstances are the wills themselves accepted for filing by the Division. The filing of a notice respecting a will is not obligatory, but the services of the Wills Registry are available to all persons who wish to ensure that information which will lead to the discovery of their wills will be readily available upon their death. The Courts require that a search be made of the wills notices on file in this Registry before they will proceed with an application for probate of a will.

There was a 34-per-cent increase in the number of wills notices filed during the year. Almost 11,300 notices were accepted in 1963, compared with 8,400 in 1962. By the end of 1963, 88,400 wills notices were on file in the Division.

#### VOLUME OF REGISTRATIONS AND CERTIFICATIONS

The volume of registrations filed in 1963 was 4 per cent higher than that for 1962, while certifications issued declined by almost 2 per cent. Revenue collected by the central office increased by almost 17 per cent.

##### Registrations accepted—

Birth registrations .....	37,926
Death registrations .....	14,998
Marriage registrations .....	11,699
Stillbirth registrations .....	488
Adoption orders .....	1,585
Divorce orders .....	1,541
Delayed registrations of birth .....	335
Wills notices .....	11,298
Legal changes of name .....	487
Legitimations of birth .....	150
Alterations of given name .....	203

Certifications issued—	
Birth certificates .....	53,524
Death certificates .....	7,949
Marriage certificates .....	5,722
Baptismal certificates .....	17
Change of name certificates .....	665
Divorce certificates .....	336
Photographic copies of registrations .....	11,643
Searches of wills notices .....	7,593
Non-revenue searches for Government departments .....	9,083
Revenue received by the central office .....	\$99,798

#### BIO-STATISTICAL SERVICES

The Research and the Mechanical Tabulation Sections of the Division of Vital Statistics together constitute a centralized statistical workshop capable of providing a wide range of demographic and health statistics and statistical analyses. Thus the Division not only compiles the conventional vital statistics of the Province from the registration of births, deaths, marriages, stillbirths, adoptions, and divorces, but also provides a full statistical service to all other divisions and units of the Health Branch. In addition, it provides similar service to the Mental Health Services Branch and to a number of voluntary health agencies receiving Governmental financial support. The vital statistics of the Province are published annually in a detailed report which is available for public information.

#### HEALTH BRANCH STATISTICS

The Division's most extensive statistical commitments are to those divisions of the Health Branch which provide treatment services to the public, since statistical analysis and control are vital to the efficient operation of such direct-care programmes. Detailed statistics relating to the operation of the Division of Tuberculosis Control and to the known case load of tuberculosis patients in the Province are compiled. This involves the maintenance of the tuberculosis known case register in the form of both alphabetic and numerical indexes and the statistical processing of all new notifications of tuberculous infection, of all admission and discharge records of tuberculosis institutions, and of the records of the large-scale tuberculin testing surveys.

For the Division of Venereal Disease Control, two important series of statistics are compiled—one relating to the new cases of venereal infection reported in the Province and the other to the epidemiological aspects of venereal disease case-finding and contact-tracing.

In the field of dental health statistics, the Division continued its collaboration with the Division of Preventive Dentistry in carrying out the annual community dental health surveys in selected areas of the Province. During 1963 the health units in the Kootenay areas of the Province were surveyed and the results published in the Division's special report series. Preparatory work was done in designing the sampling plan for the surveys of the northern health units of the Province which will be carried out during 1964.

Other projects carried out in co-operation with the Division of Preventive Dentistry included a study on caries prevalence among children receiving continuous penicillin therapy. This study involved dental examination of children who had received penicillin therapy under the Health Branch's rheumatic fever prophylaxis

programme. The dental status of these children was compared with that of children in the general child population as revealed by the community dental health surveys. Another study completed during the year related to the data collected in connection with the survey of the effectiveness of topical applications of stannous fluoride to the teeth of school-children. This new study further evaluated the results of this treatment in the light of their relationship to previous caries experience.

Information from the daily service reports of all public health nurses in the Provincial service is forwarded to the Division of Vital Statistics on a monthly basis for statistical processing. Machine tabulations are prepared which form the basis of monthly and annual statistical analyses which are used within the Health Branch in administering the public health nursing programme. Assistance was given to the Division of Public Health Nursing in revising the reporting procedures in connection with the daily service reports. The new procedures have simplified and reduced the amount of clerical work involved in the completion of the daily service reports, while at the same time improving the nature of the data available on nursing activities.

A special analytical report was prepared and published in the Division's special report series on the home nursing care programmes which were in operation during 1962. Statistics relating to the 1963 home care programmes were processed and will be available for analysis in the near future. This particular series of statistics, which has been prepared annually since 1959, is being discontinued as at the end of 1963. The purpose for which the series was initiated—namely, to provide a comprehensive picture of the pattern and the types of services given and of the patient load—appears to have been adequately served, and it is not considered necessary to continue the routine collection of individual reports on home-care visits.

As in previous years, a special time-study analysis of the work of the public health nurses was carried out. The 1963 study differed from the earlier ones in that it was based on the work carried out on 10 specified days in a five-week period, whereas formerly the study was based on a consecutive four-week sample period.

Medical reports of all children referred for examination under the new referral system were forwarded to the Division for statistical analysis during the year. The information which will be derived from this statistical series will be used in evaluating the referral system of school medical examinations.

The annual reports of school health programmes which are submitted for each school in the Province were also processed during the year. These reports yield information respecting the immunization status of school-children as at the end of the school-year.

The reports of accidental poisonings received by the various Poison Control Centres throughout the Province continued to be forwarded to the Division for mechanical processing. A series of statistical tables summarizing the data submitted was prepared for the Director of Epidemiology.

During the year the Division undertook the medical coding of all illnesses and disabilities reported on the medical examination of driver reports of the Motor-vehicle Branch. These medical items are included on the punch-card records of the Motor-vehicle Branch, and the punch cards are prepared by the Motor-vehicle Branch. However, the resultant statistical information respecting drivers having some form of medical disability and the accident experience of this group of drivers will be available to the Health Branch for study and analysis.

The Division continued to supervise several assignments in the field of epidemiological statistics. One of these was the registry of all newly diagnosed malignancies reported within the Province. The purpose of this registry is to make available statistics respecting the problem of malignant disease in this Province. Statis-

tics derived from this registry, together with statistics on cancer mortality derived from death registrations, are compiled annually into a special statistical report and released through the Division's special report series.

The Division also maintained the Province-wide notifiable-disease reporting system and compiled the periodic reports which are required in this connection. The Division likewise continued to maintain the register of cases on the rheumatic fever prophylaxis programme and to accord statistical treatment to the individual case reports.

For many years the Division has been engaged in a continuing statistical study of infant mortality in this Province, and a further special report on this topic was prepared during the year. This project is of the type usually referred to as a matched birth-death study inasmuch as data from both the birth registration and the death registration respecting each infant in the study are brought together in order to permit analysis of as many associated factors as possible. In the British Columbia study, a third source of information—namely, the medical information appearing on the Physician's Notice of Birth—is also utilized, and this enables additional refinements to be made in the resultant statistical analyses.

A punch-card record is maintained of all disabled persons receiving training under either the M or R Schedule of the *Canadian Vocational Training Act*. Statistics compiled from this series during the year were made available to the Rehabilitation Service of the Health Branch and also to the Department of Education and the Department of Social Welfare.

#### REGISTRY FOR HANDICAPPED CHILDREN AND ADULTS

Although the Registry for Handicapped Children and Adults is administered by the Director of Registry and Rehabilitation Services, the Division of Vital Statistics provides the day-to-day supervision of the Registry and has the responsibility of processing and analysing the statistics which stem from it. Over 25,000 persons, most of whom are children, have been registered with the Registry since its inception in 1952. The Division compiles extensive statistical tabulations respecting handicapped persons and produces the annual statistical report of the Registry. In addition, mechanically tabulated indexes of all registered cases are prepared each year on both an alphabetic basis and on the basis of specific disability. These indexes are used administratively within the Registry. Separate alphabetic and disability indexes are prepared for each health unit in the Province, showing all registered cases for whom the place of residence is within the health unit area.

Work of reviewing records of the Registry with a view to the identification of family groups continued during the year. This project is being undertaken by the geneticist in the Department of Pædiatrics at the University of British Columbia, who serves as a consultant to the Registry. Already over 450 families having more than one member with a handicapping condition have been identified in the 5,900 files which have been reviewed to date. This project has demonstrated the advantages which would accrue if the statistical information concerning individual cases which is available from the Registry files could be correlated with the statistical information respecting the same individuals which appears on the registrations of birth. In view of this, it has been arranged for searches to be made in the birth indexes of the Division of Vital Statistics for all children registered with the Registry who were born in British Columbia. When the birth registration number is located, it is added to the Registry file and to the Registry punch card, thus making possible the mechanical correlation of statistical information from these two sources.

Arrangements have been made with the Health Centre for Children for the Registry to provide the annual follow-up of 300 deaf and hard-of-hearing children of pre-school age who constitute a special project of the Health Centre. The provision of a follow-up programme of this nature is one of the types of service which the Registry is able to offer to agencies giving specialized types of health care since the Registry procedures have been developed with such a purpose in mind.

Increasing use is being made of the data available in the Registry for research purposes. While information on individual cases is treated as being strictly confidential, the Registry has always made statistical information freely available to bona fide researchers in the medical field. During the year an investigation was carried out respecting the incidence of anencephaly, particularly with respect to the native Indian population. Another investigation is under way with respect to the relationship between maternal age and certain congenital malformations. Several papers were prepared upon request during the year for publication in scientific journals.

A great deal of interest in the organization and operation of the Registry has continued to be shown by persons outside of British Columbia, and during the year there was a steady stream of visitors to the Registry from other Provinces and countries. Information respecting the Registry has been made available to persons in many parts of the world. Staff members of the Registry continue to participate on committees and executive boards of voluntary agencies in order to provide the best possible liaison with these agencies and to facilitate the co-ordination of services.

In the statistical processing of Registry records, the limitations of the International Statistical Classification of Diseases, Injuries, and Causes of Death as a diagnostic code for handicapping conditions have become very apparent. In view of this, considerable time was spent during the year developing a classification which would more adequately meet the needs of a registry of the handicapped. It is planned to use this new code on an experimental basis during the forthcoming year, while at the same time continuing to code all cases according to the existing International Statistical Classification in order that comparability with previously prepared statistics and with statistics from other areas will not be lost.

During the year the Division has been participating in a national committee which is studying the occurrence of congenital anomalies. Although the committee has not yet concluded its work, it has become evident that there is a great need for reliable statistics on the occurrence of congenital anomalies. It has also become clear that no single present source of information respecting anomalies is likely to yield a complete picture of the problem. In view of this, arrangements were made to develop a registry of congenital anomalies within the framework of the Registry for Handicapped Children and Adults. Case reports from the several presently available sources of information on congenital anomalies will be forwarded to the Registry, where they will be processed, using the established Registry procedures and equipment. As part of the regular Registry routine, all new case reports will be checked against those previously received in order to avoid duplicate registration. The sources of information which are being utilized in this project are the routine registrations received by the Registry in the normal course of its operation, the cause of death information appearing on infant death registrations, the medical information appearing on the Physician's Notice of Live Birth and Stillbirth, the medical information appearing on stillbirth registrations, certain information appearing on the obstetrical discharge reports of the four large hospitals participating in the obstetrical discharge study, and the admission-separation reports of the British Columbia Hospital Insurance Service.

## MENTAL HEALTH SERVICES BRANCH STATISTICS

It is also the responsibility of the Division to provide statistical service to the Mental Health Services Branch of the Department of Health Services and Hospital Insurance. This commitment requires the statistical processing of the admission and separation records of each patient treated in the institutions of the Mental Health Services Branch, and also the statistical processing of the records respecting adult patients treated at the Mental Health Centre at Burnaby. The Division also prepares the detailed statistical tables which are required for the Annual Report of the Mental Health Services Branch. During the year the Division participated in several special studies undertaken by staff members of the Mental Health Services Branch.

## STATISTICAL SERVICE TO OTHER HEALTH AGENCIES

The Division continued to provide a fairly extensive statistical service to a number of other health agencies and departments. In most instances this service extends to the actual processing of the records of the agency, as well as to the provision of consultant service in statistical matters. Such a service is provided to the British Columbia Cancer Institute and to the G. F. Strong Rehabilitation Centre. Service is also given to the speech and hearing programme being undertaken jointly by the Health Branch and the Poliomyelitis and Rehabilitation Foundation of British Columbia, and to the study relating to maternal mortality, maternal morbidity, and foetal wastage under the direction of the Department of Obstetrics, University of British Columbia.

One of the largest statistical undertakings of the Division relates to the statistical service given to The B.C. Government Employees Medical Services. The morbidity statistics of this medical care plan are published annually in the special report series of the Division. A feature of the latest report in this series, covering the year 1962, was a more detailed classification of the causes of illness being experienced by members of the plan.

Another statistical undertaking which has greatly increased in size during the last few years is the servicing of the Province-wide cytology programme. During 1963 the Division processed on to punch cards about 140,000 cytological examination reports relating to approximately 125,000 women. This was an increase of 15 per cent over the volume handled in 1962. Extensive sets of statistical tabulations and analyses were prepared for the cytology laboratory from the punch-card files. The statistical treatment of the cytological examination reports has become especially valuable in view of the present magnitude of the project and the widespread interest it has occasioned. Early indications are that the cytology programme is significantly reducing the incidence of invasive carcinoma of the uterine cervix, and it is of paramount importance that reliable statistical data be available to permit accurate monitoring of any trends which become manifest and to enable scientific evaluation of the programme to be made.

In addition to the continuing statistical undertakings referred to above, the Division is called upon to provide a wide range of statistical information to Governmental and non-Governmental agencies and to private individuals. A number of smaller statistical projects were undertaken for various agencies and research workers in the health field. Consultant service in bio-statistical matters was also given to a large number of individuals and agencies, particularly in the Vancouver area. The Vancouver statistical office of the Division is particularly active in meeting requests for consultant service, especially from medical students and medical research workers associated with the University of British Columbia.

The Division also continued to maintain the register of all printed forms in use throughout the Health Branch. All newly proposed forms are reviewed with respect to both format and content, with special attention being given to those forms which require, or which may subsequently require, statistical treatment. All orders for printed forms are checked against the register to ensure that the most up-to-date draft is being submitted, and that all recommended improvements have been incorporated.

## REPORT OF THE DIVISION OF PUBLIC HEALTH EDUCATION

In addition to the Director, the Division is currently staffed by a consultant who, as well as having administrative responsibilities, is a specialist in in-service education of the field staff, a consultant in school health education, and a public health education assistant who is involved primarily with photography, audio-visual aids, and written material. Clerical and stockroom personnel are employed in the operation of the Health Branch library and the facilities required for the ordering, stocking, and distribution of educational aids.

Elsewhere in the Province, the health educator trainee for the Greater Vancouver Metropolitan Health Services is receiving postgraduate training in public health at the University of California. At present the health education position for the Greater Victoria Metropolitan Board of Health remains vacant.

### SCHOOL HEALTH EDUCATION

The programme of health education begun 18 months ago by the Consultant in School Health Education has been advanced in three areas. Services have been provided to, firstly, the Department of Education; secondly, the Colleges of Education, both at the University of British Columbia and the University of Victoria; and, thirdly, to the staff of health units and schools throughout the Province.

It was mentioned in the report for 1962 that plans had been made with the Department of Education for the introduction of a nutrition-teaching project designed for Grades I to VII on an experimental basis. Among the schools expressing interest in this project, two on Vancouver Island were selected. Results of this experiment should be available by the spring of 1964.

In response to increased interest and awareness of the adverse relationship between cigarette smoking and health, teaching units were prepared for the Grade V level—the age at which a large percentage of smokers begin the habit—and for the Grade VIII programme of studies. A similar approach to the subject of posture was under way at the conclusion of the year. Teaching units on hearing and vision are planned for 1964.

The development of teaching units on tobacco was the first and undoubtedly one of the most far reaching of Departmental activities to educate the public concerning the health risks associated with the use of tobacco, particularly cigarettes. The Director, together with the secretary of the Non-Smokers' Association of Canada, accompanied the Minister of Health Services and Hospital Insurance at a Federal-Provincial Conference on Smoking and Health in November, at which time the Minister outlined the Province's programme of smoking education. Supplementing the emphasis being placed upon health education of school-children, commencing at about 10 years of age, are measures to inform the public of the hazards of smoking. Much of these are undertaken by the Non-Smokers' Association, to which the Provincial Government provides a grant-in-aid.

As part of the series of inquiries being conducted in the continuing evaluation of the school health programme, two studies pertaining to the use of audio-visual aids and written materials by teachers were initiated in two health units. One study has been completed, and this indicated that pamphlets and posters on health currently available to school-teachers are viewed by them as not being particularly useful, and that more emphasis on the provision of teacher references and teaching

kits is required. This latter conclusion is particularly significant to the Division, as it was largely for these purposes that the Consultant in School Health Education was employed.

In respect to sex education, consultant service has been provided to three local health jurisdictions. At the request of the Division, tape recordings of talks to high-school students have been prepared by one Medical Health Officer to demonstrate to other health unit staffs the type of material that has been used successfully, and plans have been explored by the Division in connection with the development of a suitable black-and-white film to accompany these tapes for purposes of staff education. In addition, diagrammatical charts were prepared on an experimental basis for use by Medical Health Officers in the classroom.

#### AUDIO-VISUAL AIDS AND WRITTEN MATERIALS

Of the 70 films and filmstrips previewed during the year, 10 films and 6 strips were added to the Division's visual education library. An additional 11 films and 29 filmstrips were transferred from the former Indian Health Services in Vancouver. This development has resulted in the centralization of health film facilities of over 500 prints now available to all Provincial and Federal health authorities within this Province. Although the number of film showings increased very slightly over the number for 1962, the number of confirmed bookings has reached an apparent plateau established last year. However, the number of film requisitions which could not be filled has increased significantly, thus confirming the need to obtain additional prints of films, particularly those used in conjunction with classes for expectant parents. An increase of slightly under 500 bookings was recorded for such classes. This number is likely to increase as a result of the purchase, through National Health Grants, of 16-mm. motion-picture projectors for three new health unit offices which opened during the year.

Shortly after the transfer of films and filmstrips from Medical Services Directorate in Vancouver to this office, arrangements were completed whereby pamphlets and posters produced specifically by the Department of National Health and Welfare for use with Indian people are now ordered, stocked, and distributed by this Division for distribution throughout the Province. Both of these measures are logical developments in the trend toward closer co-operation between Provincial and Federal health jurisdictions and in the Provincial assumption of responsibility for public health services previously provided by the Indian Health Services.

The bi-annual servicing programme for some 60 movie projectors is progressing most satisfactorily, and it is estimated that henceforth the annual cost of maintenance for these projectors will be minimal in view of this routine programme. Further, several projectors purchased in 1949 under the National Health Grants programme have been completely rebuilt, thus obviating the necessity for purchasing new equipment.

In the provision of posters and pamphlets, considerable reliance is placed on the free availability of publications from the Department of National Health and Welfare. To supplement these, two new publications were prepared in 1963, two revisions were completed, and at the end of the year one pamphlet was under preparation. One of the new publications was prepared in connection with the oral polio vaccination programme in November, and was used in connection with immunization and consent forms to explain the nature and purpose of the vaccine. In addition, press releases, feature articles, bumper stickers, and similar materials were prepared and issued to supplement similar activities undertaken by local Kinsmen Clubs and the Poliomyelitis and Rehabilitation Foundation of British Columbia.

The second new publication was on the subject of smoking, which received attention early in the year with the production by the Provincial Government of a brochure prepared by the Non-Smokers' Association of Canada entitled "Smoke Is for Fish, Ham, and Bacon . . . but Not for You," and through the printing of a poster "Put It Out before It's Too Late," directed specifically at school-aged children.

Initial steps have been taken for the preparation of a leaflet dealing with the work of the sanitary inspector as a member of the health unit team, the next in a series enlarging upon the leaflet produced two years ago under the title "You and Your Health Unit."

The Division continued to extend facilities for photographs and slides for health unit displays, opening ceremonies for newly constructed health centres, for the Departmental exhibit at the Pacific National Exhibition, and for such Departmental publications as the Nursing Care Manual. In addition to press releases for issue from the office of the Minister, several articles were prepared for the British Columbia Government News.

#### IN-SERVICE EDUCATION

Departing from the customary practice of meeting at a hotel or school auditorium, the 1963 Annual Public Health Institute was convened at the University of British Columbia, utilizing on-campus residences for the housing of staff and classrooms for both general and sectional meetings. It would appear that although this four-day in-service training course can be scheduled only following the conclusion of the academic year in mid-May, arrangements on the University campus were sufficiently satisfactory to warrant the future utilization of University facilities. Guest speaker this year was Dr. J. R. Kidd, secretary-treasurer of the Social Sciences Research Council, Ottawa, who delivered four talks dealing with the role of education and educational techniques in the provision of health services. The balance of the programme consisted of lectures and panels given by persons drawn from the University and from the staff of the Health Branch, both on the health unit and Provincial level.

It is possible to schedule meetings such as this only during a brief period between the conclusion of the academic year and the commencement of the summer session. For this reason, the sanitary inspectors' refresher course, scheduled for January, 1964, cannot be held on the University campus as previously planned. Consequently, a hotel in the Vancouver area that has recently undergone extensive refurbishing for the purpose of catering to small meetings has been selected in the hope that this facility, or another similar to it, can be utilized for future short courses for specific groups of health unit staff on a regular basis, until suitable facilities can be made available at the University during the academic year.

This Division was represented by the Consultant in Health Education on the Policy Manual Committee, a group responsible to the Director of Local Health Services for developing a comprehensive guide outlining policies and procedures affecting local health services personnel. During the past year the development of this manual has required a great deal of time from the Committee members, with the result that the development of new sections has reached an interim plateau. Consequently, the bulk of the material issued to the field staff during 1963 consisted of 73 amendments and revisions to existing sections. New sections were issued dealing with sanitation policies and procedures, mental health services, and standards of meals for welfare institutions.

One hundred and seventy-two new titles were added to the Health Branch libraries in Victoria and Vancouver, and an additional 10 for each of the health unit

main office libraries. Of these, five were provided to all branch offices as well. The Division again wishes to express appreciation to the Provincial Librarian for making available the services of a reference librarian, firstly, to reorganize the Health Branch libraries in Victoria and Vancouver seven years ago and, secondly, to supervise the cataloguing of library holdings since that time. The reference librarian, Miss Margaret Hastings, has been of invaluable assistance to both members of this Division and to other members of the Health Branch in connection with their frequent requests for searching of the literature.

Effective January, 1964, the monthly staff publication "News and Views" will consist of two distinct parts. The first of these will be primarily educational in nature, while the second will be devoted to administrative matters, with a section dealing specifically with routine administrative instructions previously issued by means of circular memoranda. Further, steps have been taken to improve the scope of the educational section as a means of informing health unit staffs of developments within the Department and the field of public health in general. Two specific areas of subject-matter will be continued on a monthly basis—namely, venereal disease and smoking. For each, "News and Views" will contain reference material for staff education purposes, together with information designed specifically for use by health unit personnel with the mass media and with community groups. Information issued in this manner will be supplemented by further reference material and educational aids for each subject as part of a total comprehensive and integrated programme.

#### SURVEYS AND RESEARCH

During the past few years, numerous attempts have been made to assist the health units develop evaluation procedures by which the success of various programmes conducted at the local level could be more adequately measured. To this end, this Division was represented on an *ad hoc* committee established three years ago to recommend the establishment of record systems to collect data as a basis for the evaluation of services provided. The resignation of the chairman from the Health Branch terminated this committee. However, in 1963 this Division was involved in a further move to establish and standardize the recording of basic data pertaining to health unit operations through the preparation of recommendations for the format and content of health unit annual reports. In essence, these recommendations provided for a report in two parts—the first, containing programme highlights, to be used locally for publicity purposes, and the second, a statistical record, to serve as the basis for evaluating programme accomplishments. The recommended revised format will be followed in three health units in the preparation of their reports for 1963, on an experimental basis.

It was mentioned in the report for 1962 that a methodology was being designed for the collection and analysis of base-line data on public knowledge, attitudes, and habits with respect to commonly recommended health practices. During the course of the year such a methodology was developed as an instrument which could be used in any part of the Province to collect information on various sets of health practices—child-rearing, nutrition, dental, etc. At the conclusion of the year it was planned to test this methodology in a pilot project pertaining to dental health in the Trail area of the West Kootenay Health Unit. Appraisal of the data collected in this survey should indicate to the health unit specific areas of dental health practice, or groups of persons in the community, in which educational emphasis appears to be necessary. Following the completion and analysis of this particular study, the methodology will be available for application to other sets of health practices in future months.

## REPORT OF THE ACCOUNTING DIVISION

*For the Period April 1, 1962, to March 31, 1963*

The Accounting Division during 1963 processed thousands of accounts received from all parts of the Province for purchase of a variety of goods and services, ranging from small items costing a few cents to scientific equipment costing thousands of dollars. The needs of the divisions within the Public Health Services range from purchases of motor-cars to pamphlets, from pencils to calculators and computers. On the preventive side, the needs range from the purchase of vaccines to the operation of treatment centres and institutions. In dealing with these accounts, every effort is made to speed payment to the supplier.

Collections are handled amounting to several millions of dollars each year, moneys being received from billings covering treatment of patients who are the responsibility of the Department of Veterans Affairs, Department of Justice, other Provinces, Workmen's Compensation Board, etc. Local areas are billed for health services. Moneys are recovered from the Federal Government under the National Health Grants Programme.

The Payroll Section, which deals with deductions for income tax, superannuation, public services medical plan, unemployment and group life insurance, parking fees, purchase of bonds by payroll deduction, and other records pertaining to payroll matters, was faced with a further responsibility when the Government instituted semi-monthly pay in October, 1963. This meant that approximately 1,600 cheques a month had to be issued instead of the previous 850. However, a smooth operation was effected that did not necessitate any increase in staff.

Amendments to the Accounting section of the Policy Manual continued to be made in order to keep up to date with changes made in policy and procedures.

The Mechanical Section of the Division continues to give inspections and other services to vehicles operating on the Island and the Lower Mainland as far as the Village of Hope. An arrangement was made with the Department of Highways to inspect all Government-owned vehicles operated by health personnel through the northern, central, and eastern parts of the Province. This service has proved most satisfactory, with a considerable saving of dollars. Several additions have been made to the fleet of vehicles, and a number of older vehicles have been replaced during 1963.

A large copy machine has been installed within the Division, and copy work is being carried out for the Accounting Division and other sections of the Health Branch. The machine has reduced the work load within the clerical and typing sections of the offices, copies being made of several thousand documents each month.

The table shown at the end of the report gives a comparison of gross expenditures and percentage of expenditure related to the various services within the Health Branch over a three-year period covered by the fiscal years 1960/61 to 1962/63.

The Public Health Services show a total expenditure for the fiscal year April 1, 1962, to March 31, 1963, of \$8,199,685, which is an increase in expenditure over the previous fiscal year of \$239,724. Approximately 50 per cent of this increase is due to salary increases granted personnel within the various divisions during 1962/63.

The Division of Tuberculosis Control continues to show a decrease in expenditure, which amounts to 2.8 per cent over the fiscal year 1961/62.

Local Health Services, which covers the health services throughout the Province outside the metropolitan areas of Greater Vancouver and Greater Victoria, continues to increase in percentage of gross expenditure in relation to total health expenditure, and during the fiscal year 1962/63 recorded an increase of 6.1 per cent over the previous fiscal year.

The services listed as cancer, arthritis, rehabilitation, research, etc., during 1962/63 show a percentage decrease in expenditure in relation to the total budget; nevertheless, increase in dollar expenditure amounts to \$16,615, which is an increase of 1.2 per cent over the previous fiscal year.

Poliomyelitis, General Administration, Division of Vital Statistics, Division of Laboratories, and the Division of Venereal Disease Control, all show increases in expenditure, which reflect salary increases granted personnel within these divisions.

*Comparison Table of Public Health Services Gross Expenditure  
for the Fiscal Years 1960/61 to 1962/63*

Service	Gross Expenditure			Percentage of Gross Expenditure		
	1960/61	1961/62	1962/63	1960/61	1961/62	1962/63
Division of Tuberculosis Control .....	\$2,265,614	\$2,090,284	\$2,031,829	28.3	26.3	24.8
Local Health Services .....	2,692,908	2,944,595	3,125,632	33.6	37.0	38.1
Cancer, arthritis, rehabilitation, research, etc.	1,379,975	1,369,604	1,386,219	17.3	17.2	16.9
Poliomyelitis .....	478,009	365,482	382,096	6.0	4.6	4.7
General administration and consultative services .....	412,442	408,752	438,741	5.1	5.1	5.4
Division of Laboratories .....	379,134	376,234	421,481	4.7	4.7	5.1
Division of Vital Statistics .....	308,802	310,176	318,430	3.9	3.9	3.9
Division of Venereal Disease Control .....	93,422	94,834	95,257	1.2	1.2	1.2
Totals .....	\$8,010,306	\$7,959,961	\$8,199,685	100.0	100.0	100.0

## REPORT OF THE BUREAU OF LOCAL HEALTH SERVICES

This report summarizes the work of the Divisions of Public Health Nursing, Preventive Dentistry, Epidemiology, Public Health Engineering, and the Nutrition Service. Although accepting their individual areas of responsibility, the personnel of these Divisions work as a closely knit group in order to provide supervision of and consultative services to local health services in the field throughout the Province. The work of the latter is also included in this section of the Report, and more detailed information can be obtained by reference to individual health unit annual reports.

### *HOME CARE PROGRAMME*

In providing services under this programme, the public health nurse works closely with the private physician, under whose instructions the patient's care is directed, and also with the medical director of the health unit and with members of various other disciplines. Together they accept responsibility for meeting the needs of the patient at home in his family environment. These persons are members of existing community organizations or services—for example, social workers, physiotherapists, homemakers, etc.—and liaison between them is already well established.

The organized home nursing programme in local health units continued to expand, so that in 39 areas home care and rehabilitation nursing are provided as part of the basic public health service. The population served now amounts to 427,723, or approximately 51 per cent of the population in the health units. During this year 40,408 nursing-care visits were made, a 4-per-cent increase over 1962 and a 100-per-cent increase over five years ago.

To help provide continuity of nursing care from hospital to home, liaison is obtained by regular visits on the part of the public health nurse to local hospitals. Nurses have been active in the follow-up of patients discharged from "activation units" in hospitals such as the Kelowna General, Prince George Regional, and the Gorge Road Hospital, Victoria. Instruction in self-care is an important part of the programme and enables the patient to return as nearly as possible to normal living at the earliest opportunity. The use of a physiotherapist in the Greater Victoria Metropolitan Health Service to provide consultative assistance to public health nurses and to assist in the assessment of needed care for individual patients has demonstrated the value of utilizing this type of worker in home care services. It is planned to appoint a second part-time physiotherapist in the Central Vancouver Island and Upper Island Health Units as soon as a suitable person can be found.

The latest statistical analysis of the organized nursing-care programme was completed during the year and published in the Division of Vital Statistics Special Report No. 74, "Nursing Care Programmes Statistics, British Columbia, 1962." When the statistics for 1963 are completely analysed together with those for the past four years, it is anticipated that comprehensive data will be available not only on the trends in nursing care, but also to indicate the importance and need for the continued development of this programme. In 1962 there were 23,612 patients under care who received 32,596 visits. This represents a 19-per-cent increase in numbers of patients and a 39-per-cent increase in numbers of visits over the previous year. The majority of patients (73 per cent) were in the age-group 60 years and over, and received the bulk of service (80 per cent of total visits).

Thirty-one per cent of the patients cared for under this programme were discharged from hospital to the home care service, with the remainder being referred from the community. It is estimated that in 1962 a total of 22,736 hospital days

was saved, of which 15 per cent were acute hospital days, 65 per cent were chronic hospital days, and 20 per cent were in other types of institutions. The total was 20 per cent higher than in 1961. The actual savings in cost to the family or subsidizing agency may be estimated by calculating the cost of days which might have been spent for care in an institution. At an estimated cost of \$20 per day for an acute hospital bed, \$12 per chronic bed, and \$7 per day for other types of institutional care, it can be estimated that this service alone represented a saving of \$247,309 in 1962 in institutional costs. Of greater importance, perhaps, is the fact that many patients have been able to continue a relatively normal life as a result of professional nursing care being made available at home. The public health nursing service works closely with the Victorian Order of Nurses, particularly in the development of rehabilitation nursing services, and subsidizes the salaries of additional employees for the Order, to include one physiotherapist and four public health nurses.

The need for more organized homemaker services has been stressed, to encourage the development of better care in the community. This programme has gone forward slowly, but this year has seen the establishment of a homemaker service in Courtenay, while plans are in progress to organize a similar service at White Rock. Public health nursing consultants are working with the Nursing Consultant of the British Columbia Hospital Insurance Service in planning an educational programme for operators of private hospitals to assist in promoting rehabilitation nursing and utilization of local health resources.

It must be evident from the foregoing that home care services, as operated by the Health Branch, are part of a total community health programme available to all. As such, and to obtain maximum co-ordination of existing resources, these services can best function from the community health centre, used as it is by both the official and voluntary health agencies.

#### PATTERNS OF DISEASE

Each week every Medical Health Officer in the Province notifies the Health Branch of all cases of communicable disease that have occurred within the health unit area. This weekly report to the Health Branch serves two purposes: to give a week-by-week picture of the communicable-disease situation throughout the Province and thereby to give early warning of an epidemic situation, and to permit the Health Branch to follow the pattern of disease incidence on a long-term basis and so to evaluate preventive measures being taken.

This year, and for the first time since records of POLIOMYELITIS were started in 1924, there have been no cases of paralytic poliomyelitis reported in British Columbia. This is a happy situation, and may reflect the work of health unit personnel in encouraging acceptance of both the Salk and the Sabin poliomyelitis vaccines by their local residents. Initially, the Salk vaccine is offered to infants at about 4 or 5 months of age as part of their routine immunization. Immunization records reveal that by school-leaving age over 90 per cent of all children have had at least six doses of this vaccine. It is considered probable that the absence of a single case of paralytic poliomyelitis during the year indicates that the population of British Columbia is now beginning to reap the benefit of the massive immunization campaign against poliomyelitis carried out over the past three years. During November the Health Branch carried out the second stage of a Province-wide Sabin vaccine campaign. In 1962 just under 70 per cent of those living in the northern and interior parts of the Province were offered the oral vaccine, and this year 28.4 per cent of the total population accepted the oral product. It is intended that a second Province-wide campaign will be carried out in the spring of 1964.



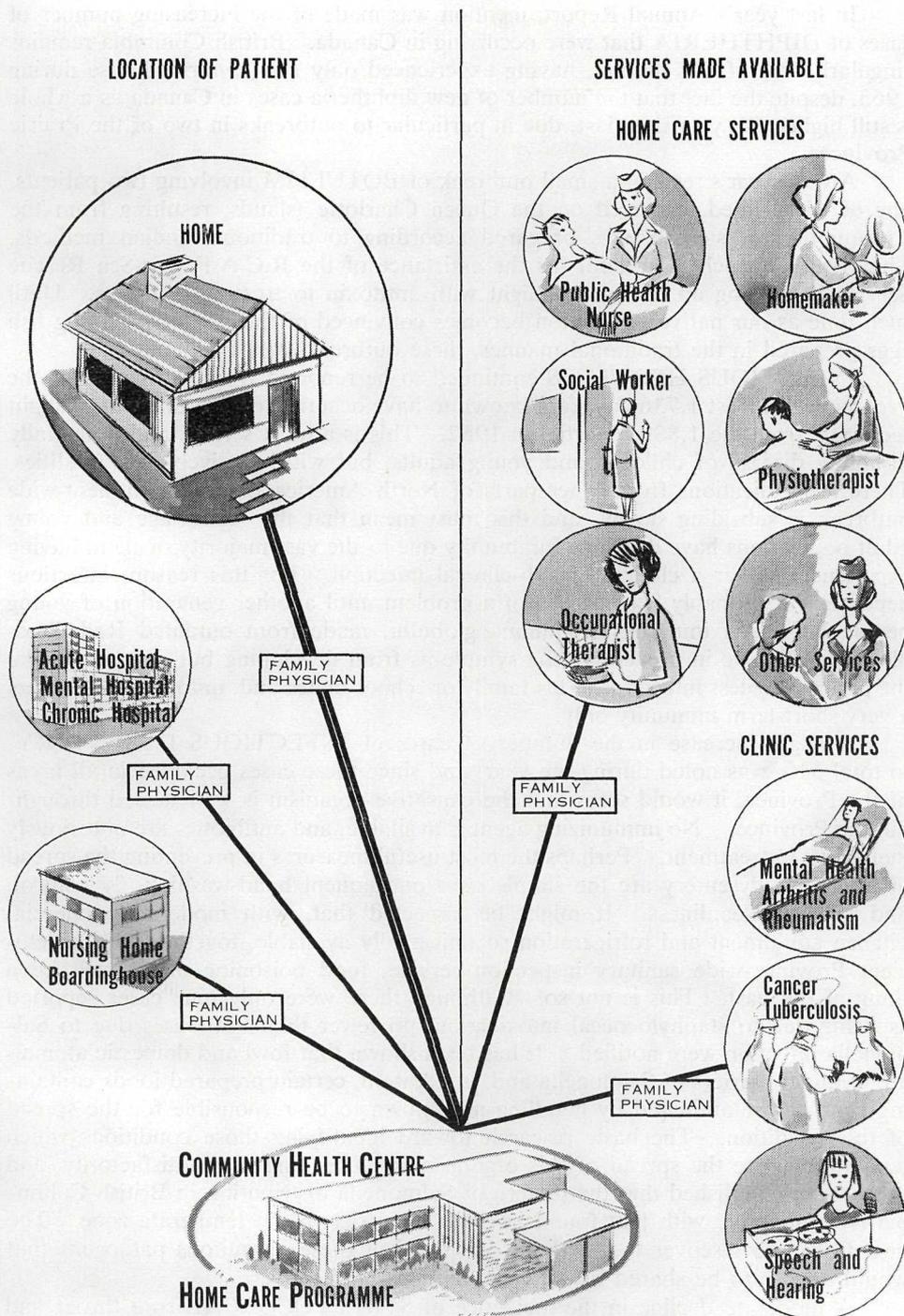
In the comfort and familiar surroundings of her own home, the diabetic patient receives the necessary daily injections during a visit of the public health nurse. Many services such as this are a daily requirement, attended to on week-ends by special relief nurses.



Often when the patient with respiratory and cardiac ailments is beyond the acute stage of his illness in hospital, the family physician may feel that he can respond to treatment given in his home.



The nurse visiting the home uses many of her special skills in caring for the patient confined to bed.



All home care, including the facilities of special clinics, is arranged by the staff of the community health centre. Of the total number of patients receiving services, approximately two-thirds remain in the home, without need for institutional care.

In last year's Annual Report, mention was made of the increasing number of cases of DIPHTHERIA that were occurring in Canada. British Columbia remains singularly free of this disease, having experienced only one confirmed case during 1963, despite the fact that the number of new diphtheria cases in Canada as a whole is still higher this year than last, due in particular to outbreaks in two of the Prairie Provinces.

After a year's respite, a small outbreak of BOTULISM involving two patients, one of whom died, occurred on the Queen Charlotte Islands, resulting from the consumption of salmon eggs prepared according to traditional Indian methods. The Health Branch is grateful for the assistance of the R.C.A.F. Air-Sea Rescue Service in making an emergency flight with antitoxin to treat the patients. Until such time as our native population becomes convinced of the danger of eating fish eggs prepared in the traditional manner, these outbreaks will continue.

INFECTIOUS HEPATITIS continued to be reported from every part of the Province. At least 1,736 cases are known to have occurred during the year, a slight reduction from the 1,889 reported in 1962. This is a most serious and potentially disabling disease of children and young adults, but with relatively few fatalities. There are indications from other parts of North America that the continent-wide outbreak is subsiding slowly, and this must mean that the school-age and young adult populations have developed immunity due to the vast majority of them having experienced either a clinical or sub-clinical infection. For this reason, infectious hepatitis will probably become less of a problem until another generation of young people lack such immunity. Gamma globulin, made from outdated Red Cross blood, is effective in preventing the symptoms from developing but does not make the patient any less infectious to his family or school-mates and, unfortunately, offers a very short-term immunity only.

A slight increase in the number of cases of INFECTIOUS DYSENTERY, to total 510, was noted during the year, and since these cases occurred in all areas of the Province, it would seem that the causative organism is well seeded throughout the Province. No immunizing agent is available, and antibiotics are notoriously ineffective in treatment. Perhaps the most useful measures in preventing the spread of infectious dysentery are the simple ones of frequent hand-washing, fly control, and general cleanliness. It might be expected that, with modern commercial kitchen equipment and refrigeration so universally available, together with an efficient Province-wide sanitary inspection service, food poisoning might well be a thing of the past. This is not so! Although there were only nine cases reported as being due to staphylococcal intoxication, no fewer than 330 cases due to Salmonella infection were notified. It has been shown that fowl and domestic animals are frequent carriers of Salmonella and, in addition, certain prepared foods containing eggs or contaminated by handling are known to be responsible for the spread of this condition. The basic research toward identifying those conditions which tend to enhance the spread of this organism is proceeding very satisfactorily, and it has been established that the pattern of Salmonella distribution in British Columbia is comparable with that found in other countries in the temperate zone. The next task is to discover the methods of spread of these ubiquitous pathogens that would appear to be shared by humans, animals, and birds.

A moderate decline in the incidence of STREPTOCOCCAL sore throat and scarlet fever was reported during the year, and this may indicate that we have now passed another peak in this cyclical disease. Typically, the streptococcal infections have become much milder in recent years, and the availability of modern antibiotics, which are so effective against this organism, have also served to reduce the complications that were so feared in the past.

Only six cases of TYPHOID or paratyphoid fever were reported this year, representing one of the lowest numbers ever. Studies carried on during the past few years have shown that faulty private sewage-disposal systems are frequently the vehicle through which typhoid fever is spread from healthy carriers of this disease.

It is of interest to note that some 35 deaths occur in Canada from WHOOPING-COUGH each year, most of them in infants under 1 year of age. Although 711 cases of whooping-cough were reported in British Columbia last year, there have been no deaths in this Province since 1958, a very satisfactory result of the intensive efforts in immunization as conducted at Child Health Conferences.

The upsurge in VENEREAL DISEASE reported by almost every Medical Health Officer in British Columbia this year has been the cause of great concern. Last year 3,962 cases of gonorrhœa were reported; this year the total was 5,016, which is an increase of 1,054 cases. Syphilis, which is a much more serious disease than gonorrhœa, was also more prevalent, and 282 cases in the infectious state were diagnosed, to represent an increase of 99 over last year's total of 183 cases. This is more than 21 times the 1955 total of 13 cases. In certain areas where the increase in syphilis has been most marked, steps are being taken to provide additional assistance to the local health unit staff in order to afford prompt follow-up of all named contacts to the infection. The Division of Public Health Education is also taking steps to see that information about venereal disease is regularly brought before the public. Steps have also been taken to advise the physicians in private practice of the concern of public health officials, and if we are to reverse the present trend, the whole-hearted co-operation of these local physicians is essential.

This work in the control of communicable disease involves the local public health nurses to a considerable extent, and this year, for example, some 12,333 visits were made to tuberculosis patients and their contacts, while 3,728 streptomycin injections were given. Increased time was spent on case-finding, utilizing the tuberculin test, with 28,260 tests performed this year, a 27-per-cent increase over 1962. In venereal disease control, treatments, examinations, and follow-up activities involved the nurses on 2,750 occasions, a 50-per-cent increase over last year. All in all, prophylactic treatment for communicable disease involved 35,865 injections, an increase of 22 per cent. If we add immunization injections to this total, we find that 239,964 doses were given to prevent and treat communicable disease, together with an additional 2,964 sensitivity tests of various types.

The RHEUMATIC FEVER prophylaxis programme, introduced in 1958, appears to have stabilized, with an enrolment of approximately 1,100 children and young adults, the new additions to the programme being balanced by those who drop out for a variety of reasons. During the year a substantial decrease in the price of penicillin permitted the maximum age for participation in this programme to be raised from 18 to 21 years with no increase in cost. The public health nurses provided nursing supervision to 847 children on this programme by regular home visits, and at the year's end a full-scale review of the whole programme has been started, and it is hoped that an accurate means of assessing its worth can be found.

Another rather specialized programme is that developed for POISON CONTROL purposes. There were about 100 accidental poisonings reported each month during 1963. Approximately three-quarters of the persons involved were below 5 years of age. There has been no significant change in the number of such cases occurring during the past five years. Aspirin and compounds containing aspirin were responsible for over 30 per cent of the poisonings reported to constitute the major hazard. Fortunately, only one child died from accidental poisoning during 1963. The parents of many of the children were visited subsequent to the poison-

ing incident by a public health nurse in an effort to continue further education and also to collect additional information, from which it was found that the poisonous substance was most frequently located in the kitchen rather than taken from the bathroom medicine cabinet, as is commonly thought. The British Columbia Pharmaceutical Association has assisted by purchasing and distributing an excellent display on accidental poisonings to all its member pharmacies. This association has also printed and distributed, through many retail pharmacies, a card giving the antidote to many common household poisons.

*Reported Communicable Diseases in British Columbia, 1959-63*  
(Including Indians)  
(Rate per 100,000 population.)

Reported Disease	1959		1960		1961		1962		1963	
	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate
Botulism	—	—	—	—	9	0.6	—	—	2	0.1
Brucellosis	6	0.4	3	0.2	2	0.1	2	0.1	1	0.1
Cancer	3,758	239.8	4,073	254.2	4,324	265.4	4,208	253.6	5,232	308.7
Diarrhoea of the newborn ( <i>E. coli</i> )	53	3.4	24	1.5	35	2.1	19	1.1	27	1.6
Diphtheria	—	—	—	—	1	0.1	3	0.2	1	0.1
Dysentery—										
Amoebic	1	0.1	2	0.1	2	0.1	1	0.1	4	0.2
Bacillary	336	21.4	1,192	74.4	307	18.9	152	9.2	169	9.9
Unspecified	62	3.9	319	19.9	499	30.6	336	20.3	337	19.9
Food poisoning—										
Staphylococcal intoxication	8	0.5	238	14.9	3	0.2	175	10.5	9	0.5
Salmonella infections	355	22.6	434	27.1	475	29.2	357	21.5	330	19.4
Unspecified	3	0.2	52	3.2	46	2.8	24	1.4	15	0.9
Hepatitis, infectious	907	57.9	924	57.7	1,677	102.9	1,889	113.9	1,736	102.4
Leprosy	—	—	—	—	—	—	1	0.1	1	0.1
Malaria	—	—	3	0.2	1	0.1	—	—	1	0.1
Meningitis, viral or aseptic—										
Due to poliovirus	3	0.2	137	8.6	3	0.2	1	0.1	—	—
Due to coxsackie virus	23	1.4	36	2.2	10	0.6	—	—	1	0.1
Due to ECHO virus	—	—	1	0.1	—	—	—	—	—	—
Other and unspecified	56	3.6	83	5.2	87	5.3	42	2.5	63	3.7
Meningococcal infections	31	2.0	16	1.0	15	0.9	13	0.8	7	0.4
Ornithosis	1	0.1	—	—	—	—	—	—	—	—
Pemphigus neonatorum	3	0.2	5	0.3	12	0.7	—	—	1	0.1
Pertussis	680	43.4	962	60.1	212	13.0	456	27.5	711	41.9
Poliomyelitis, paralytic	132	8.4	165	10.3	6	0.4	2	0.1	—	—
Scarlet fever	3,839	245.0	1,576	98.4	1,081	66.4	573	34.5	426	25.1
Streptococcal sore throat	724	46.2	633	39.5	987	60.6	681	41.0	673	39.7
Tetanus	3	0.2	2	0.1	3	0.2	2	0.1	2	0.1
Trichinosis	—	—	7	0.4	23	1.4	2	0.1	—	—
Tuberculosis	1,200	76.6	1,173	73.2	968	59.4	865	52.1	780	46.0
Typhoid fever	4	0.3	5	0.3	7	0.4	7	0.4	5	0.3
Paratyphoid fever	12	0.8	20	1.2	21	1.3	3	0.2	1	0.1
Venereal disease—										
Gonorrhoea	3,360	214.4	3,546	221.4	3,670	225.3	3,962	238.8	5,016	295.9
Syphilis—										
Primary and secondary	55	3.5	56	3.5	64	3.9	183	11.0	282	16.6
Other	216	13.8	191	11.9	148	9.1	138	8.3	202	11.9
Other venereal disease	6	0.4	2	0.1	—	—	—	—	2	0.2
Non-gonorrhoeal urethritis, venereal	281	17.9	352	22.0	297	18.2	308	18.6	217	12.8
Totals	16,118	1,028.6	16,232	1,013.2	14,995	920.5	14,479	872.8	16,254	958.9

#### ADMINISTRATIVE CONSIDERATIONS

Once again it might be stressed that the work of central office staff in the Bureau of Local Health Services is designed to support that of health unit personnel who are responsible for the actual implementation of the various programmes at

the local level. Although Provincial Civil Servants, the staff of the local health unit under their respective health unit directors are seconded upon appointment to their local municipalities and school boards. At the same time they accept responsibility for ensuring that the many provisions of the *Health Act* and regulations pertaining thereto are carried out. In order to achieve a high over-all standardization of service throughout the Province, much of the detail in administration and personnel management is handled by central office staff.

The expansion of community mental health programmes was discussed in some detail in last year's report. During the year, extension of the existing health centre in Nanaimo was completed, to offer headquarter facilities for the psychiatric team of the Vancouver Island Mental Health Clinic. Working in close liaison with Mental Health Services, exploratory discussions were held in Trail and Prince George to anticipate similar developments in these areas. In the meantime, various meetings have resulted in improved communication and closer liaison between Mental Health, Welfare, and Health Branch personnel.

With the incorporation of Indian Health Services in the Medical Services Directorate, Department of National Health and Welfare, a close and happy relationship continues with the personnel involved. During the year, public health nursing service was again extended to a number of Indian reserves, under a special arrangement with the Department of National Health and Welfare. These reserves included Iskut Lake, Fort Rupert, and Quatsino, and approximately 26 per cent of the Indians living on reserves throughout the Province now receive public health nursing service from their local health unit. In addition, a standard policy was developed whereby health unit directors and sanitary inspectors would make themselves responsible for providing a consultation-only type of inspectional service to Indian reserves. As a further example of the continued integration of health services for the native Indian population of British Columbia, dental services are now provided by the Health Branch to Indian children in four areas of this Province through supplementary community preventive dental programmes. Responsibility for the local share of the costs of these programmes is accepted by the Medical Services Directorate, the clinical services being provided by dental public health externs already scheduled to visit the area.

The programme of health centre construction continued with completion of health centres at Gibsons, Castlegar, and Surrey, while others are under construction or in the planning stage in Sidney, Cloverdale, Rutland, Hope, Terrace, Courtenay, and West Vancouver.

Under the grant-in-aid programme, physicians are encouraged to take up residence in remote communities where they may provide service on a periodic schedule of visits to neighbouring communities which are not sufficiently large in themselves to support a physician. Eighteen physicians are presently in receipt of these grants.

#### PERSONNEL

As in any large organization, the inevitable turnover prevailed during the year, and the usual number of resignations and transfers took place, to present some acute problems in regard to recruitment, primarily of health officers, but also to some extent of public health nurses. Among central office staff, the resignation of the Director, Division of Public Health Engineering, who had been with the Department for 23 years, was accepted with regret in order that he might take up a post as technical adviser with the International Bank for Reconstruction and Development, a specialized agency of the United Nations. The vacancy was filled by the Assistant Director, and it is hoped that as little interruption to normal ser-

vices as possible will be incurred. This Division has experienced a marked increase in routine work load following the establishment of the Pollution-control Board. It is hoped that the personnel will be in a position to meet the various demands placed upon them following the appointment of additional staff early in the coming year, so that, in turn, they can offer an increased measure of consultative advice to the staffs of the local health units during the years ahead.

Changes in the employment of public health physicians occurred in the Central Vancouver Island, North Fraser, West Kootenay, East Kootenay, Cariboo, Northern Interior, and Peace River Health Units, while continuing vacancies in the ranks of health officers exist in four health units, and due to lack of applicants it has not been possible to fill these positions at year's end. During the year, three health officers proceeded on course to obtain the D.P.H. at the University of Toronto with the assistance of National Health Grants, and two returned, having completed the course, to take up positions as health unit director.

The retirement of one regional dental consultant, after 10 years' service with the Division of Preventive Dentistry, created a vacancy, which was filled shortly thereafter, but at the year's end the resignation of another dental consultant to go into private practice created a further vacancy, which had not been filled at the year's end.

Among the public health nurses it was possible to add 11 nursing positions at the local health unit level, to provide additional services in communities which have had population increases and thus an increased demand for service during the year. These positions were allocated to the following health units: South Central, two at Kamloops and one at Merritt; Simon Fraser, two positions at Coquitlam; Boundary, at Langley and Surrey; West Kootenay, at Trail; South Okanagan, at Kelowna; Central Vancouver Island, at Duncan; Upper Island, at Courtenay. The organized home nursing service was extended to the following areas: Kent Municipality, Harrison, Agassiz, South Fort George Local Care Area, and Ladysmith Local Care Area. Funds were made available to New Westminster in the Simon Fraser Health Unit so that an additional public health nurse and week-end relief nurse could be employed, thus enabling a reorganization of their home nursing service to bring it in line with that offered elsewhere in the Province. The level of qualified public health nurses in the service has been maintained through a planned education programme, and at the present time 90 per cent of the public health nursing staff are fully qualified, while the remainder are having field experience in preparation for the required university programme. During the year, eight nurses returned from educational leave of absence after completing the diploma course in public health nursing at the University of British Columbia with the assistance of National Health Grant bursaries. Nine more are attending this year under similar arrangements at the University of British Columbia or other centres, while four are completing the programme without financial assistance. One senior public health nurse completed a postgraduate course in supervision at the University of Toronto, and two are now attending the University of Toronto to complete a similar programme. The public health nursing trainee programme has continued to be our only certain method of securing suitable public health nurses to fill key positions requiring public health nurses with some experience.

Although public health nurses have taken courses in psychiatric nursing and mental health as part of their basic preparation, it has not been possible for all nurses trained in this Province to have clinical experience in psychiatric nursing through limitations in training facilities. Therefore, we were fortunate to arrange with the Nursing Education Department of Mental Health Services to take eight

experienced public health nurses into the three-month affiliation programme each year. These students have been given additional experience over that usually available to undergraduate nurses, and receive a National Health Grant bursary while on course. It is hoped that during the coming year special short-term courses in mental health will be made available as "refreshers" to those who completed psychiatric nursing programmes some time ago. The public health nurses themselves act as field guides for public health nursing students completing degrees and diploma courses in public health nursing. During the year 19 students from the University of British Columbia and two from the University of Alberta had planned educational field experience for four weeks. In addition, a total of 202 undergraduate nurses from six schools of nursing in British Columbia had one-week periods of field observation. Health units throughout the Province are utilized for this purpose, and thus assist in providing a background in public health nursing for nurses completing their basic training. In addition, 10 practical-nurse students from vocational training schools had two weeks of experience in the Central Vancouver Island Health Unit.

In order to overcome staff shortages in the ranks of the sanitary inspectors, the programme of in-service training was continued with the appointment of seven sanitary inspector trainees. These trainees are attached to health units for approximately 10 months' training, which leads to the certificate in sanitary inspection, and of these seven, five were successful in attaining their certificate last June. The remaining two completed their field training and wrote their examinations in November.

Sanitary inspector positions were filled in the following health units: Boundary, Simon Fraser, Central Vancouver Island, East Kootenay, and North Fraser. In addition to continued in-service training, three senior sanitary inspectors and the Assistant Director, Division of Public Health Engineering, attended a five-day course on air pollution at Berkeley, Calif. Two other senior sanitary inspectors attended an orientation course in occupational health at Olympia, Wash. These training courses were supported by National Health Grants, and further opportunities for training were given to two senior sanitary inspectors by attending at the annual Canadian Public Health Association Convention in Winnipeg.

Within the over-all framework of the Provincial civil defence organization, this Health Branch is responsible for the development of emergency health services planning to include the training of selected individuals throughout the Province. In regard to the latter, two hospital disaster institutes were held this year—one in Kelowna in the spring and the other in Victoria during November. These were designed to encourage the administrative and medical staffs of acute general hospitals to plan in advance how to cope with a major internal or community disaster, and were attended by representatives of almost every hospital in the Okanagan and on Vancouver Island respectively. It is planned to hold similar institutes in all other areas of the Province in the next two years. Training of health department staffs in emergency health procedure has been carried on actively during the year, and 26 Health Branch staff and 9 others who have been assigned responsible positions in emergency health services attended advanced courses at the Civil Defence College in Arnprior.

### SERVICES AND PROGRAMMES

For the purposes of presentation, it is necessary to allot individual programmes to specific disciplines such as nursing, dentistry, sanitary inspection, etc., but it should be recognized that the staff of the health unit who ultimately provide this

service must, to achieve maximum efficiency, work as a homogeneous group, each having a close interest in, and taking some measure of responsibility for, the work of his colleagues.

#### PUBLIC HEALTH NURSING\*

Public health nurses are assigned to communities where they function as members of the local health unit team. They number 256 full time, 16 part time, and, in addition, there is one part-time physiotherapist and one practical nurse on staff. This service is designed on a generalized basis to meet the health needs of all members of the family, while certain programmes are directed toward specific age-groups or conditions where special health problems are known to exist. The public health nurse's time is spent in providing direct care, in health instruction and counselling, in planning and organizing for care and service, and in health supervision.

Family health service may be said to begin with health instruction to EXPECTANT PARENTS, on either an individual or on a group basis. During the year, 62 centres offered classes for expectant parents and had an attendance of 22,345. The group represents about 10 per cent of the new mothers. Attendance increased by 10 per cent over last year, with approximately the same number of expectant mothers registered. In addition, 4,018 expectant mothers were visited at home. Pre-natal programmes take 2.5 per cent of the nurse's time.

Following the BIRTH OF THE BABY, the public health nurses made 25,164 post-natal visits in addition to 20,046 visits to newborn infants. This means that early home visits were made to approximately 86 per cent of all infants born in the health unit areas.

There are 738 centres where Child Health Conferences are held on a regular basis, and during the year 62,548 infants and 69,222 pre-school children attended, representing increases of 5 and 10 per cent for infants and pre-school children respectively over 1962. In addition, public health nurses made home visits to 37,835 infants and 44,096 pre-school children, an increase of about 8 per cent. These visits are made for health supervision, guidance and instruction to parents to assist them to recognize the physical and emotional needs of their children, and to secure assistance as required. In all, the INFANT AND PRE-SCHOOL PROGRAMME takes 15.4 per cent of the public health nurse's time.

The SCHOOL HEALTH PROGRAMME takes about 31 per cent of the public health nurse's time, which is about the same percentage of her total time as shown in a similar study conducted 10 years ago. However, her time is now being used much more effectively than in previous years, as a result of the modified school health programme being followed throughout the Health Branch. Home-visiting is an important part of the nurse's service in the schools, and 45,085 visits were made concerning school-children. Teacher-nurse conferences totalled 6,247, an increase of 10 per cent, while individual services totalled 141,586, up 7 per cent from last year, and including such items as rechecks on vision and hearing screening, individual inspections, interviews, health instruction, etc.

The organized HOME NURSING PROGRAMME has been described in some detail as a highlight at the beginning of this report.

As mental health facilities are gradually becoming more available with the development of COMMUNITY-BASED MENTAL HEALTH CLINICS, public health nurses are taking a more active part in the referral and follow-up of selected patients. Nurses made 9,861 mental health visits this year, representing an increase of 10 per cent over last year. About 7.1 per cent of the public health nurse's time is

\* The statistics in this section concern the services provided by public health nurses under the jurisdiction of the Provincial Health Branch and do not include services provided by Greater Vancouver, Victoria, Esquimalt, Oak Bay, and New Westminster.

now being used for this purpose. In addition, mental health teaching is incorporated into all aspects of family health counselling by the public health nurse, so that the time shown does not represent the total extent of participation in the broad field of mental health.

Public health nurses have been active in assisting with other special programmes, such as speech and hearing, retarded children, kindergarten children, poison-control follow-up, health education, Well Women's Clinics, and cancer control, the degree of participation depending upon the local needs and resources. This year, too, they commenced a programme whereby health consultation was made available to operators of boarding homes. In all, public health nurses visited a total of 129,085 homes (a 20-per-cent increase) and attended 1,857 meetings to promote health services and programmes.

#### NUTRITION

Morbidity and mortality can be measured on a statistical basis, but the nutritional status of any given population group is much harder to assess. Nevertheless, the wise choice of food is of great importance at all ages, from infancy into the twilight years. Public health personnel have a role to play in encouraging sensible attitudes toward food and imparting sound nutritional information. The nutrition service provides assistance to personnel in the field by means of correspondence, visits to the field, and the supply of reference and education material in co-operation with the Division of Public Health Education. Fifty rat-feeding demonstrations were carried out in schools during the year to demonstrate to pupils the effect of good food on the health of the rat, and indirectly on the health of the human. These rats are supplied by the Animal Nutrition Laboratory of the University of British Columbia.

Much of the work of the Nutrition Service involves assistance to certain segments of the population, and in particular the preparation of food in various types of institutions. Through the co-operation of the British Columbia Hospital Insurance Service, visits have been paid to 12 hospitals, and there is a great demand for additional work in this field. Several private hospitals have also been assisted in this way, and standards have now been drawn up for food service in this type of institution. A considerable amount of time is involved in reviewing and modifying plans for hospital kitchens.

An Interpretation of the Regulations Governing Food Service under the Welfare Licensing Board was completed during the year with the assistance of the Greater Vancouver Metropolitan Health Service nutrition consultant. Following approval by the Welfare Licensing Board, this interpretation is now being used as a guide by the operators of welfare licensed boarding homes. Consultative advice is also being given to other agencies, to include the Social Welfare Department with regard to low-cost budgeting and market lists, British Columbia Forest Service with ration lists, the Y.M.C.A. with camp menus and market lists, and the civil defence organization with emergency supply lists for municipal headquarters. Co-operation with the Vancouver nutrition co-ordination group has continued and a "question and answer" column on nutrition has been published twice weekly in a Vancouver newspaper. This represents an attempt to answer the public's queries about nutrition and to offset much current food fad information, which is, unfortunately, all too commonly believed.

#### PREVENTIVE DENTISTRY

Untreated dental disease among the children of British Columbia remains a public health problem of the most serious concern. A survey in 1963 of children in the Kootenay areas showed an average of 3.7 teeth per child with easily detectable

and untreated dental decay. These children at the age of 15 years have an average of 12 of their 28 permanent teeth showing past or present tooth decay. Four out of every 10 of the 1,439 children examined in this survey were seen to have untreated gingivitis (inflammation of the gums). More than two-thirds of these school-children had some form of malocclusion (crooked teeth). Only four of all the children examined were receiving orthodontic treatment.

On the other hand, it is noteworthy that bad as these figures are, they represent an improvement over the results of the previous survey in this area five years ago, in that a considerably larger number of children are now receiving dental treatment. None the less, the school-children of this area have approximately 100,000 decayed teeth urgently in need of treatment. Such a stupendous task rather obviously cannot be accomplished by the 30 dentists practising in this area, nor by twice or even three times this number.

The therapeutic tools available in dentistry are very limited, and the comparative scarcity of dentists suggests that the battle against the overwhelming forces representing dental disease can only be won by using the weapons of prevention.

*Table I.—Full-time Preventive Dental Treatment Services in British Columbia, Shown by Local Health Agency, School-years 1957/58 to 1962/63*

School-year	Number of School Districts Included	Pre-school Children Dentally Completed	Grade I Pupils				Total of Columns (1), (2), and (3)
			School Enrolment	Dentally Completed by School Clinics (1)	Requiring No Treatment when Examined (2)	Attending Family Dentist (3)	
1957/58.....	9	2,213	13,715	3,204	5,587	3,208	11,999
1958/59.....	8	2,538	14,091	3,617	5,952	3,508	13,077
1959/60.....	6	2,459	14,134	3,631	6,406	3,510	13,547
1960/61.....	6	2,603	14,353	3,804	6,548	2,969	13,321
1961/62.....	6	2,578	14,116	3,569	6,827	2,810	13,206
1962/63—							
Greater Vancouver Metropolitan Health Service.....	5	3,214	12,037	3,684	5,648	2,130	11,462
Greater Victoria School District.....	1	.....	2,303	3	1,427	631	2,061
Totals.....	6	3,214	14,340	3,687	7,075	2,761	13,523

This table demonstrates two very important aspects of these programmes:—

- (1) The increased number of pre-school children benefiting by these services.
- (2) Of the total Grade I school enrolment in these metropolitan areas, 49.3 per cent of children did not appear to be in need of dental treatment by classroom examination, and of the remainder, 25.7 per cent were subsequently treated by the school dental clinics and 19.3 per cent by their family dentists. A total of 94.3 per cent of the Grade I pupils of these areas was therefore either dentally fit when examined or restored to dental health during the year.

A most important aspect of these programmes involves counselling of parents, and during the year 8,390 parents in the metropolitan areas individually received advice as to how dental disease and thereby dental bills for their children could be most significantly reduced.

Table II.—Part-time Preventive Dental Treatment Services (Community Preventive Dental Programmes) in British Columbia, School-years 1957/58 to 1962/63

School-year	Number of Local Health Unit Areas in Which Programmes Operated	Number of School Districts in Which Programmes Operated	Number of Programmes Which Operated	Number of Dentists Participating	Pre-school Children Dentally Completed	Grade I School Enrolment of Programme Areas	Grade I Pupils Dentally Completed	Total Completed, Pre-school, Grades I, II, and III
1957/58	17	53	80	114	2,277	11,214	4,999	8,793
1958/59	17	59	93	126	2,760	12,948	5,981	10,212
1959/60	17	67	97	134	2,797	13,403	6,079	10,130
1960/61	17	66	95	130	3,701	10,340	4,426	9,045
1961/62	18	65	84	134	4,122	10,406	3,897	8,974
1962/63	18	63	83	126	4,642	9,255	3,449	8,888

The 18 health units and two nursing districts of this Province serve a total of 76 school districts. During the school year 1962/63, there were organized, in 63 of these school districts, 83 separately sponsored community preventive dental programmes. Some 126 dentists in private practice gave generously of their time to provide counselling and clinical services within these programmes.

In Table II it is noted that, during the year 1962/63, 8,888 children received dental care, and of these, 4,642 (52.2 per cent) were pre-schoolers. Of all these children, 5,623 received the additional decay-preventing benefits of a topical application of a fluoride solution.

The dental public health extern programme permits preventive dental services to be made available to the younger children of some 55 smaller and often remote and isolated communities without a resident dentist. During the year, five dental public health externs were recruited on a 12-month appointment basis.

During 1963, two more communities—Kamloops and Fort St. John—commenced fluoridation of their community water supply. This brings to 11 the number of communities in the Province with a controlled fluoridation having a total population of some 70,700, representing 4.1 per cent of the total population of the Province. In plebiscites held at the year's end, two additional communities—Williams Lake and Squamish—voted in favour of fluoridation.

During the past 10 years, the population of British Columbia has increased by 37.7 per cent, whereas the number of dentists has increased by only 25.8 per cent, representing a ratio of 1 dentist to every 2,377 persons in the Province. The pressure of demand for dental services on the practising dentists of the Province is extremely heavy, as reported later, and for these reasons further advances toward the establishment of a Faculty of Dentistry at the University of British Columbia were welcomed during the year. At the close of 1963, Dean S. Wah Leung had three of his staff working with him in the development of plans for the first class of undergraduate dental students to enrol in the fall of 1964, and the first class of dental hygienists to enrol in the fall of 1965 or 1966. The Director of the Division of Preventive Dentistry is a member of an *ad hoc* advisory committee assisting the Dean in matters concerned with the initial organization and development of this Faculty.

The executive committee of the British Columbia Cancer Foundation decided, late in the year, to develop plans to expand the British Columbia Cancer Institute to provide additional accommodation for cytological services, to include space for an oral cytological service. It is felt that such a service can confidently be expected to increase the rate of detection of early cancerous lesions of the oral cavity, and it

is hoped that it may be inaugurated, at least on a limited scale, during the latter months of 1964.

At the close of the year, policies pertaining to the community preventive dental programmes as operated in communities where practising dentists are located were being closely scrutinized, and it is anticipated that certain changes will be effected in these policies during the coming year, following further discussion with representatives of the British Columbia Dental Association.

#### PUBLIC HEALTH ENGINEERING

This Division is concerned with the entire field of environmental sanitation as it relates to community water supplies, sewage systems, sewage-disposal methods, stream pollution, and the technical administration of the Pollution-control Board. This work is fulfilled by a limited number of engineers, who, working in conjunction with the sanitary inspectors in the field, conduct sanitary surveys and extend various advisory services to municipalities, consulting engineers, and private citizens. In conjunction with this work, the Division offers consultative services to the health unit staffs themselves in a wide variety of subjects, to include subdivision approvals, slaughter-houses, shellfish, private drinking-water wells, septic-tank systems, control of watersheds, fluoridation, and many others.

During 1963, 74 projects and sets of plans dealing with waterworks construction were classified by the Division as acceptable for approval, while a number of plans were rejected. The number of plans approved this year represents a 30-percent increase over last year. Approximately 85 per cent of the population of the Province drink water protected by chlorination. Of considerable concern are those communities which draw their domestic water from the rivers of the Province, since, with the rapid industrial and population growth now being experienced, it is not possible to prevent a growth of contamination in the rivers. River supplies and other unprotected sources of domestic water which, in the past, have enjoyed a degree of safety as a result of an undeveloped hinterland cannot much longer anticipate to benefit from the illusion that because the water was suitable in the past, it will continue to be so in the future.

This Province is one of the few remaining areas where, as a result of the abundance of natural waters coming from uninhabited mountain watersheds, it is still reasonable to require no more than chlorination as the only means of treatment. It is anticipated that within the next decade a number of communities now obtaining water from large rivers may have to build filtration plants. During the year a Waterworks Operators' Course was held at the University of British Columbia, and over 50 operators from all over the Province attended, while the Health Branch contributed extensively to the organization of this course as a co-sponsor, lectures being given by three staff members from this Division.

With the passing of numerous sewer by-laws during 1963, it is now estimated that some 65 per cent of the population of the Province is served by public sewage systems. The remainder of the population continues to utilize the well-known common household septic-tank system, with varying and, in some cases, doubtful degrees of success. One hundred and twelve sets of plans were cleared for approval under the *Health Act* during the year, and this represented the greatest number to date in any one year, again reflecting the steady growth of the Province as a whole. Many of the projects so approved incorporate treatment of the sewage, an aspect of sewage development encouraged by the Division and one much needed in many areas to compensate for the polluting effects of a rapidly growing population. Early in the year the Iona Island Treatment Plant, which is eventually to give high-rate primary treatment to all the waste from the Vancouver area, was officially opened. This is

the largest single treatment plant ever built in the Province, at a cost of some \$5,000,000. This plant will, in the first instance, be primarily concerned with the removal and treatment of all sewage which in the past contributed to the unsatisfactory conditions existing in English Bay during the summer swimming season. Of the many accepted methods of treating sewage, particularly for small to medium-sized communities, lagoons or oxidation ponds continue to be the most popular method, as recommended by consulting engineers in the Province. This trend is in keeping with the United States, where over 2,000 lagoons are now in use for treating domestic and industrial wastes.

Increasingly heavy responsibilities have been accepted by the Division in the provision of technical, secretarial, and administrative services to the Pollution-control Board. This Board, which deals specifically with pollution of water only, was set up in 1956, and the terms of the *Pollution-control Act* allow that the Department of Health may provide staff for the administration of the Act. In this regard, the Director of the Division is appointed secretary and executive engineer to the Board. A deputy secretary is also appointed from the staff of the Division. In 1956 the territorial area of jurisdiction of the Pollution-control Board was the Lower Fraser River basin downstream to the Village of Hope, including the Boundary Bay area. In 1961 the territorial area under the authority of the Board was extended to include all of the Columbia River drainage basin which lies to the north of the 49th parallel, or that which lies solely in British Columbia. Again, effective January 1, 1963, the jurisdiction of the Board authorized under the *Pollution-control Act* was enlarged to take in the remainder of the Fraser River basin above Hope and most of the populated area of Vancouver Island. The effect of these extensions of the areas under the Board's control is clearly reflected in the number of permits issued annually by the Board, permitting waste to be discharged. In 1962 there were 12 permits issued, as compared to 8 in 1961, and, by comparison, in 1963 this has jumped to 19, with 16 undecided applications still awaiting decision. In addition to the routine processing and issuing of permits, the Division, in conjunction with the health units in the areas concerned, undertook a survey of the Columbia River in 1962, the results of which were tabulated and presented in report form to members of the Board early this year. As a result of the Board's deliberations on the findings of the survey, it was deemed expedient to advise all communities which discharge sewage wastes into the Columbia-Kootenay River watercourse that treatment of all raw sewage must forthwith be considered indispensable. The beneficial effects of this action will not be felt immediately as it will take some time for the various communities to have engineering reports prepared by the consulting engineers, by-laws approved by voters, tenders let, and construction undertaken. Nevertheless, the long-term beneficial effect is bound to be considerable since numerous communities will be affected by this action, to involve a present-day total population of about 50,000 inhabitants.

A continued steady increase in the demand for SANITARY INSPECTION services as carried out by sanitary inspectors under the guidance of the Medical Health Officer is noted throughout the Province in association with further developments in the economy and increasing population. Developments such as the opening of the Rogers Pass highway, increased tourism, and increase in construction in the northern areas have made heavy demands in many of the sanitary inspector's day-to-day responsibilities. Time spent in such activities as pollution control, occupational health services, and other developing programmes has necessitated the development of a more standardized approach to the implementation of these services in all health units. During the year the sanitation consultant from central office has made regular visits to all health units to study all aspects of programming. A Policy and Procedure Manual for Sanitary Inspectors was completed, while a complete revision of the

various forms utilized in this programme has been carried through in an endeavour to improve efficiency and achieve maximum results within the limited time available.

Many problems associated with continued population increase in unorganized areas have appeared, and will continue to appear, until such time as some more satisfactory method of regulatory control is made available. Community planning areas and the *Local Services Act* offer a measure of assistance, but problems of garbage control and poor sanitation continue to plague the sanitary inspector in these areas.

The SHELLFISH PROGRAMME is presently being completely revised, absorbing a great deal of the time of the Chief Sanitary Inspector. Oysters produced commercially in British Columbia are grown on leased Crown foreshore, and 85 leaseholders work some 2,900 acres in 170 parcels of foreshore land. There were 34 shucking and packing plants in production during the year. Any grounds considered unsuitable for oyster culture for public health reasons will not be leased by the Provincial Lands Service. Extensive sanitary and bacteriological surveys in two areas involving 29 leases were carried out in co-operation with the Division of Public Health Engineering of the Department of National Health and Welfare. As a result, several leases in one growing area were found to be contaminated by land drainage, which resulted in restrictions being placed on the harvesting of oysters for market purposes. In the category of clams and mussels, the problem of toxicity, which was manifest in 1943 and 1957, occurred again in 1963. On the advice of the Pacific Coast Shellfish Committee, a ban was placed on the collection of clams for market purposes on a goodly portion of our coastal area. Unlike the episodes of 1943 and 1957, no persons were affected with paralytic shellfish poisoning due to an early alert, made possible by the routine sampling and toxicity determinations through the Federal Fisheries Department.

A major change in the MILK-CONTROL PROGRAMME was effected during the year by the transfer of certain responsibilities from the Health Branch to the Department of Agriculture. Since the turn of the century, when milk was actively linked to the spread of communicable disease in epidemic form, the Medical Health Officer has been engaged in the milk-control programme. With the advent of pasteurization and a steady decline in the distribution of raw milk, no disease has been attributable to milk for more than a decade. The public health significance of milk as a vehicle of infection has become negligible, as shown by the routine sampling and testing. For these reasons, it seemed logical to link this programme of sampling and testing to the other routine activities conducted by the Department of Agriculture, and in this final year of Health Branch activity the bacterial quality of pasteurized milk at 5,400 colonies per millilitre represented an all-time low. Likewise, the coliform content of pasteurized milk as a quality criterion established a record, to show improvement over all previous years.

Before a licence is granted by the welfare institutions licensing authority to various organizations to operate summer camps, these must be inspected, and of 42 camps in which inspections were carried out during the year, 28 were classified as good, 10 as fair, and 4 as poor.

Throughout the Province, 78 SLAUGHTER-HOUSES are licensed under the *Stock Brands Act*. These premises are inspected for sanitary conditions prior to the granting of the licence. Four of the premises have Federal meat inspection, six of the premises have Provincial meat inspection, and four have municipal meat inspection. The remaining 63 premises, located in rural areas, are without meat inspection, but distribute altogether less than 5 per cent of the meat sold in the Province.

Among other LEGISLATIVE ACTIVITY during the year, municipal by-laws were submitted and approved, including "Sanitation of Food Premises" by the Corporation of Delta, "Sanitation Amendment By-law" by the City of Prince George, "Meat Inspection Amendment" by the City of Kelowna, and "A By-law to Rescind a Milk By-law" by the Village of Squamish. An amendment to section 14 of the Sanitary Regulations to lessen restrictive distances in respect to the location of slaughter-houses was approved by the Lieutenant-Governor in Council. Under the *Meat Inspection Act*, meat inspection areas were established by the Municipality of Coquitlam and another area under the direction of the Greater Victoria Metropolitan Board of Health.

#### EMERGENCY HEALTH SERVICES

This programme has made good progress during the year. The basic plan for the provision of an emergency health service for both natural and wartime disaster has been brought up to date and carried down to the zone level. A plan for the expansion of the public health services of the Province to meet a major disaster will shortly be completed. Early this year the Minister of Health Services and Hospital Insurance signed an agreement with the Minister of National Health and Welfare whereby emergency medical equipment and supplies owned by the Federal Government were released to the Health Branch for pre-positioning in strategic sites throughout the Province. The first units of this equipment, in the form of two advanced treatment centres, have been placed in the Health Centre Building in Duncan. Many more advanced treatment centres and the first of over twenty 200-bed emergency hospitals will be pre-positioned in the next few years.

Early in the year one health unit director in each civil defence zone was appointed Zone Emergency Health Services Director by Order in Council and given the authority to plan, organize, and direct a zone emergency health service. The first real step has now been taken to organize an emergency health service at the municipal level, where it will have to function in the event of a disaster.

#### SCHOOL HEALTH PROGRAMME

The school health programme which went into effect September, 1962, continued throughout 1963 and was subjected to intensive study. Two changes have already been made as a result of these studies—the addition of audiometric screening in Grade I and changes in the method of providing health teaching aids to teachers. Two procedures in the recommended programme have been substantiated by studies—namely, discontinuing the reading of smallpox revaccinations and limiting routine tuberculin testing to one grade. The studies also indicate the value of increased screening programmes in kindergartens, possibly extending in a modified form to nursery schools.

The Consultant in School Health Education on the staff of the Division of Public Health Education has been involved in three areas during the year providing service to the Department of Education, to the Colleges of Education, and, lastly, to the staff of health units and schools throughout the Province. Two schools on Vancouver Island were selected for the introduction of a nutrition teaching project for Grades I to VII. Teaching units were also prepared for the Grade V level—one on the relationship between cigarette smoking and health and another on posture. It is anticipated that an additional unit will be prepared for hearing and vision during the coming year. It is felt that the development of this teaching unit on tobacco may have far-reaching effects in that it will make the student at the Grade V level, the age at which a large percentage of smokers begin the habit, aware of

the hazards of smoking. At year's end, meetings were held with representatives of the British Columbia Division of the Canadian Medical Association, who have expressed an interest in assisting with the revision of the present health-teaching curriculum, and also with representatives of the Department of Education, who are responsible for curriculum planning. It is anticipated that major changes will be effected in the health-teaching curriculum over the next two to three years.

As anticipated in last year's Annual Report, a major change has been made this year in reporting the school health programme. The following tables give data for the Victoria metropolitan area and the area served by the Health Branch, and all available figures have been included for the Vancouver metropolitan area.

*Table III.—Number of Pupils with Immunizations Up to Date on Entry to Grade I, 1963*

Item	Victoria	Province Excluding Vancouver and Victoria
Total pupils enrolled.....	3,289	23,033
Smallpox.....	1,984 (60.3%)	14,580 (63.3%)
Diphtheria, pertussis, tetanus, and poliomyelitis.....	1,999 (60.8%)	14,712 (63.9%)

NOTE.—Information for Vancouver not available.

Figures have been collected this year for the first time to show the immunization status of pupils on entry to Grade I. It will be noted that 60 per cent or over are protected against smallpox, diphtheria, pertussis, tetanus, and poliomyelitis at the time they enter school, which is an indication of the effectiveness of the pre-school immunization programme.

*Table IV.—Number of Pupils in All Grades with Immunizations Up to Date, 1963*

Item	Vancouver	Victoria	Remainder of Province
Total pupils enrolled.....	126,984	31,947	207,037
Smallpox.....	96,057 (75.6%)	24,501 (76.7%)	174,843 (84.5%)
Diphtheria.....	100,172 (78.9%)	26,468 (82.8%)	181,669 (87.7%)
Tetanus.....	94,219 (74.2%)	26,169 (81.9%)	177,287 (85.6%)
Poliomyelitis.....	113,942 (89.7%)	26,549 (83.1%)	182,518 (88.2%)

The immunization status of pupils in elementary and secondary schools continues to be high, and most percentages show a slight increase over last year.

*Table V.—Number of School Medical Examinations (All Grades), 1963*

Item	Vancouver	Victoria	Remainder of Province
Number of routine examinations by school medical officer.....	17,032	2,053	3,354
Number of routine examinations by family physicians.....	-----	917	1,826
Number of referral examinations by school medical officer.....	11,224	1,263	4,326

In the school health programme, which came into effect in September, 1963, for areas served by the Health Branch, routine examinations were no longer recommended, and emphasis was placed on referral examinations. It was pointed out,

however, that health unit personnel, with the concurrence of the local physicians, might wish to encourage examination by the family physician prior to entering school. It will be noted that in Provincial areas 1,826 pupils were so examined. The 3,354 pupils shown as having routine examinations by the school medical officer are mainly those pupils examined in May and June, 1963, in preparation for entry to school.

*Table VI.—Number of Planned Conferences with Teachers and Number of Pupils Referred from Conferences (All Grades), 1963*

Item	Victoria	Province Excluding Vancouver and Victoria
Total number of divisions .....	797	6,764
Number of divisions for which conferences held .....	586 (73.5%)	5,022 (74.2%)
Number of pupils referred to public health nurse from conferences .....	1,896	18,203

NOTE.—Information for Vancouver not available.

It will be noted that planned conferences between the teacher and the nurse were held for almost 75 per cent of the divisions. In the elementary schools this figure is close to 100 per cent, but this aspect of the school health programme is progressing more slowly in secondary schools because of the more complex arrangement of classes. Another interesting observation is that in areas served by the Health Branch 18,203 pupils were referred to the nurse from these conferences for investigation and follow-up. This represents almost 9 per cent of the total enrolment.

*Table VII.—School Health Programme in Kindergartens, 1963*

Item	Victoria	Province Excluding Vancouver and Victoria
Number of pupils enrolled .....	1,320	1,384
Total number of divisions .....	46	52
Number of divisions in which teacher-nurse conferences held .....	20 (43.5%)	40 (76.9%)
Number of pupils referred to public health nurse from conferences .....	55	125
Number of referral examinations by school medical officer .....	23	13

NOTE.—Information for Vancouver not available.

This year, figures are available for the first time for kindergartens in all areas outside the Vancouver metropolitan area. In areas served by the Health Branch, teacher-nurse conferences were held for about 77 per cent of divisions and just under 1 per cent of the pupils were referred to the nurse for follow-up. This is the first year that a unified health programme has been in operation for kindergartens, and it is anticipated that next year will see an increase in both these percentages.

## RESEARCH

To be able to identify specific areas of the disease picture in which immediate improvement is required, it is essential that the refined tools of detailed survey and research be utilized on a continuing basis. It is also implicit in an organization if it is to be ongoing and efficient that it continually evaluate programming. Once again during 1963, health unit staffs throughout the Province obtained various opportunities to maintain their critical faculties at a high level by reviewing various aspects of

service and by participation in actual research projects, as and when opportunity presented itself. It is recognized that these activities impose an additional work load on the staff, but this is more than balanced by the stimulation and interest engendered by such studies and the resulting improved efficiency of operation.

In the field of COMMUNICABLE-DISEASE CONTROL, a study on the incidence of respiratory diseases was conducted by the staff of the North Fraser Health Unit after certain of the physicians, practising in the Maple Ridge Municipality, had expressed an opinion to their Medical Health Officer that the children in this municipality suffered from an excessive amount of illness, and offered in evidence the fact that the rate of admission for respiratory disease to the Maple Ridge Hospital was considerably higher than the admission rates to neighbouring municipal hospitals. A special study was undertaken to determine whether this impression could be borne out statistically, and, as part of the investigation, absentee rates for respiratory and other illnesses were calculated for selected schools in Maple Ridge and the other school districts within the North Fraser Health Unit area. This study confirmed the physicians' impression that the admission rate to the local hospital for childhood respiratory illness was high, but no reason for this was apparent. It was shown that the rate of school absenteeism in Maple Ridge due to illness was actually lower than the surrounding municipalities. It is planned to continue this study with the assistance of the local hospital medical staff.

In five health units an attempt was made to establish the dosage of gamma globulin necessary for the prophylaxis of infectious hepatitis. During the year, records were kept on over 500 family and school contacts to infectious hepatitis who were given the standard prophylactic dose of gamma globulin. This was done in order to determine whether or not the dosage now being given was offering adequate protection. These reports are now being analysed to see if the increased dosage now being recommended in some centres is necessary in this Province.

Certain field trials were conducted in the use of Sabin vaccine, the trivalent oral poliomyelitis vaccine presently being used in Canada. Due to the fact that in a few vaccines one or possibly two of the three strains of the vaccine fails to multiply, this vaccine has been shown not to be fully effective in every case. As a result, the person in question does not acquire complete protection with one feeding. The Connaught Medical Research Laboratories, who supply all the vaccine used in this Province, have attempted to overcome this problem by adjusting the relative proportions of the three strains of living virus in their vaccine. The Upper Island Health Unit staff are presently conducting field trials of this new vaccine in conjunction with the Health Branch. If it proves fully efficacious, it will be possible to give complete protection against poliomyelitis with one dose of oral vaccine rather than two or three as presently required.

Year by year the DIVISION OF PREVENTIVE DENTISTRY demonstrates a most commendable activity in initiating various projects, stimulated by the tremendous need that exists to develop satisfactory techniques of prevention in this field.

A report, "Relationships between Gingivitis and Other Dental Conditions," derived from data accumulated in the survey of the dental health status of children of British Columbia conducted in 1962, demonstrates a relationship between the presence of gingivitis and poor oral hygiene, with malocclusion (especially crowding, overjet, and overbite) and with the presence of carious permanent teeth. This report will shortly be published by the journal of the Canadian Dental Association. Another paper accepted for publication, entitled "Indices Reflecting Demand for Dental Services in British Columbia," has proved to be an area of research as yet but little explored anywhere in the world. This survey resulted in some most

interesting information provided by 67 per cent of the dentists practising in this Province. While only 4.1 per cent reported that they employed the services of a dental hygienist, either full time or part time, 56.6 per cent reported that they would utilize this auxiliary service if personnel were available. From replies received, 24.5 per cent of the dentists reported that they were too busy to accommodate all patients seeking their care; 10.9 per cent reported they were not busy enough. The greatest pressure for dental services on the practising dentists in this Province appears to be in the Kootenays, Vancouver Island (excluding Greater Victoria), and the northern areas of this Province, and, to a lesser extent, the Fraser Valley. It is interesting to note that a non-emergent new patient seeking an operative session (that is, to receive a restoration (filling)) would have to wait, on an average, 17.3 days in Greater Victoria and some 79.6 days in the Kootenays.

Another paper accepted for publication and prepared by the regional dental consultant formerly in the northern areas is entitled "Prevalence of Enamel Opacities and Hypoplasias of Non-fluoride Origin in Permanent Teeth of Children." The regional dental consultant to the Fraser Valley, in collaboration with the Department of Paediatrics of the Faculty of Medicine of the University of British Columbia, has prepared two reports for publication, entitled "Dentition in the Assessment of Development" and "Tetracycline Staining, Enamel Dysplasia, and Other Diseases Where Attention to Children's Teeth Provides Information."

Nearing completion at the year's end are two most interesting reports prepared as a result of a joint study carried out by the former director and regional dental consultant, Northern Interior Health Unit, Prince George, "Fluid Intake Patterns of Children Aged Six in a Northern Community" and "Caries Prevalence Related to Water Intake of Children Aged Six in a Fluoridated Community."

The regional dental consultant, Vancouver Island, is presently completing two reports—"Supervised Toothbrushing Using a Fluoride Phosphate Solution" and "Toothbrushing Drills in Schools as an Aid in Caries Control." Preliminary appraisal of the results of these studies carried out among Grade I pupils would indicate that supervised brushing with this solution five times during the school-year did significantly delay, if not prevent, caries of the newly erupted permanent teeth by almost 40 per cent. This study will be continued for a further year and complemented by an additional study among a group of older children to commence early in 1964. The second study demonstrated that children who had received toothbrushing instruction in the classroom had a significantly lower (25 per cent) caries attack rate of their deciduous teeth during the 12-month study period than a comparable group of children who received no such special instruction.

With the co-operation of the dentists and Board of School Trustees in Chilliwack, a study is proceeding among 600 Grade I pupils. Approximately half of these children have received a topical application of an acidulated fluoride phosphate solution which previous pilot studies have suggested may reduce dental caries by as much as 70 per cent. Also under consideration for the coming year is a study to evaluate the preventive values of a newly developed dental adhesive material when applied to the pits and fissures of newly erupted permanent teeth.

#### CLERICAL

In an effort to increase efficiency in the clerical aspects of health unit operation, a survey of administration in local health units was carried out throughout the Province. The results of this survey necessarily varied from one health unit to another. However, it did serve to point up certain problem areas which were requiring a great deal of clerical time to include transfer of health records, pulling

and refiling family folders, recording of school immunizations, preparation of health unit annual reports, etc. Although much of this time was felt to be justified, the need for improvement and change was indicated in certain procedures, and a number of changes have already been made at year's end. Considerable duplication of work and unnecessary recording have been eliminated, and local office procedures seem to have been improved generally. The need for a periodic critical evaluation and a constant awareness of clerical and administrative problems were brought to the attention of many senior staff.

### HEARING

In co-operation with the Out-patient Department, Health Centre for Children, health units participated in a study relating to 300 children enrolled in the pre-school hearing programme of the Health Centre for Children. The objective of this study was to determine whether these children were known to the health unit prior to enrolment and whether deafness had been suspected by the public health nurse. The study is not yet complete, but preliminary figures indicate that about 70 per cent of the children had been seen by the public health nurse, the majority being seen in the first month of life. The nurse suspected deafness in a very small percentage.

The public health nurse is in a unique position to identify hearing loss at an early age so that the children may be fitted with a hearing aid and enabled to hear speech at a time when the potential for learning language is at its peak. It is generally accepted that if speech training of the child with impaired hearing is to be successful, it should be started no later than in the second year of life. Because of the potential importance of the public health nurse's role, arrangements were made for a presentation on "Hearing Impairment in Childhood" at the Public Health Institute in May. This presentation included the demonstration of simple techniques for testing the hearing of infants and pre-school children. These techniques were later incorporated into a written guide, which is now being utilized by the nursing staff throughout the Province.

### SCHOOL HEALTH

In the 1962 Annual Report, reference was made to studies relating to the school health programme. Twenty-eight studies were undertaken by health units on 15 topics. Nineteen final reports have been received, five are pending, and four studies will continue until June, 1964. A preliminary report of these studies indicates that the data will be invaluable when the present school health programme is being reviewed in the summer of 1964. In addition to these studies by individual health units, a study of the school medical examination was undertaken by all health units. This study was designed to measure statistically certain aspects of the school medical examination, such as the reason for referral to the school medical officer, the number of pupils with significant defects which were either new or known but not under adequate care, the number of these conditions which are amenable to treatment, and the number which were subsequently brought under care. Of the 4,083 pupils examined, 1,758 (43 per cent) had significant conditions, in contrast to a five-year average of 16.4 per cent from routine examinations. In addition to the studies reported above, five new topics have been added for study in the school-year 1963/64—the role of the volunteer, the health programme in vocational schools, the ventilation of schools, the test for colour-blindness for Grade VII boys, and an evaluation of the use of pamphlets in health-teaching.

## PUBLICATIONS, 1963

(Prepared by personnel, Bureau of Local Health Services.)

- "Congenital Deformities Associated with the Use of Thalidomide during Pregnancy, British Columbia, 1961-62," by A. Larsen, L. Hole, and Barbara Mackenzie, *C.J.P.H.*, November, 1963.
- "Emergency Public Health Planning in British Columbia," by A. Larsen, *C.J.P.H.*, September, 1963.
- "Malocclusion and Dental Caries," by D. Stothard and F. McCombie, *J. of C.D.A.*, July, 1963.
- "A Voluntary Health Agency in Dental Public Health," by A. S. Gray, *B.C.D.A. News Bulletin*, December, 1963.
- "Programme for Three-year-olds at White Rock, B.C.," by J. M. Conchie, *B.C.D.A. News Bulletin*, October, 1963.

## REPORT OF THE BUREAU OF SPECIAL PREVENTIVE AND TREATMENT SERVICES

The main divisions of the Bureau are Tuberculosis Control, Venereal Disease Control, Laboratories, Occupational Health, and Registry and Rehabilitation Services. With the exception of staff changes, the operation of the Bureau has not changed appreciably during 1963. The total number of staff positions is 491, a decrease of 20 from 1962, chiefly in the Division of Tuberculosis Control, resulting from the decrease in in-patients. It was necessary to add to the Divisions of Venereal Disease Control and Occupational Health because of the increase in the volume of work. During the latter part of the year an Assistant Administrator was added to the Bureau to assume responsibilities in personnel work, and business and institutional management.

The Division of Tuberculosis Control has had a decrease in the number of patients receiving hospital care in 1963 from 230 on January 1, 1963, to 205 at the end of November, 1963. The extensive case-finding survey was continued during the year, and plans are being formulated to survey the Greater Vancouver area early in 1964. The survey will include the tuberculin testing of all school and pre-school-age children and the tuberculin testing and X-raying of adults. The Division is working in co-operation with the British Columbia Tuberculosis Society and the metropolitan health services in this very comprehensive programme.

Plans are also being formulated to move 31 patients from Allco Infirmary and 101 patients from the Marpole Infirmary to the Pearson Hospital. In order to accommodate these patients and provide for their various needs, it has been necessary to plan for a number of structural changes to the hospital. The Division of Tuberculosis Control will be responsible for these patients.

The Division of Venereal Disease Control has experienced a constant increase in its case load during 1963. This has necessitated additional staff as well as an increased work volume for the epidemiologists. Additional details will be found elsewhere in this Report.

The Division of Laboratories has expanded its services during 1963. The new virus laboratory was organized, and a considerable amount of equipment has been purchased to carry out the necessary procedures. As the work in the virus laboratory is expanded, additional professional and technical staff will be required.

The Occupational Health Services, which were moved in 1962 to the Bureau headquarters in the Provincial Health Building, have continued expanding their services. A full-time secretarial service was added. The occupational health nurse developed a regular visiting schedule to cover all major Government offices in the Greater Vancouver area. These regular visits provide the local administrators and employees with consultative service in the various health problems. The radiological section of the Occupational Health Services has expanded its service to cover all forms of ionizing radiation and related problems.

### VOLUNTARY HEALTH AGENCIES

As will be indicated in subsequent reports concerning the voluntary agencies, the Bureau continued in its liaison function with these groups. The services rendered by the various agencies show the many community needs that are being met by the voluntary services. The agencies whose activities are included in this report receive financial support through the Health Branch.

## BRITISH COLUMBIA CANCER FOUNDATION

The British Columbia Cancer Foundation has continued its operation of the British Columbia Cancer Institute with its attached 36 beds, the Victoria Cancer Clinic in Victoria, and the 14 consultative cancer clinics throughout the Province.

In 1949 the British Columbia Cancer Foundation was named by the Provincial Government as the agency responsible for the treatment programme in cancer control. The Cancer Control Grant of the National Health Grants is used mainly for the operation of the Foundation. The operational expenses are met by this Cancer Control Grant and by a matching grant from the Government of the Province of British Columbia, together with fees from private patients.

The executive committee of the British Columbia Cancer Foundation recently approved of the construction of a fifth floor on the Institute Building to provide laboratory and office space for an enhanced chemotherapy programme and additional space for the expanding cytology programme. Consideration is also being given to the purchase of a Linear Accelerator X-ray machine of 6,000,000 volts for the treatment of patients under high oxygen pressure.

The new Victoria Cancer Clinic is now in operation.

At the annual meeting of the members of the Foundation, held on December 4, 1963, Mr. George S. Clark was elected president.

## BRITISH COLUMBIA MEDICAL RESEARCH FOUNDATION

The British Columbia Medical Research Foundation is a voluntary society whose objective is to provide a small fraction of the financial support which is required by medical research workers in the Province but which is not readily obtainable from the research departments of the Federal Government or from the large voluntary health agencies. Research grants may be made by the Foundation in support of projects in any medical institution in the Province, but a special effort is made to avoid placing undue emphasis on any one disease or in any particular field of medical science.

Since most of the large medical research agencies in Canada distribute their grants at some specific time of the year, the relatively small grants which the Foundation is able to make can often be put to the most profitable use when there is a definite shortage of funds from other sources. Such grants often make it possible for research workers who have recently arrived in the Province to make a start on their research projects in time to make a successful application to one of the National agencies.

The budget of the British Columbia Medical Research Foundation for the year 1963 was approximately \$33,000, of which slightly more than half was provided by a Provincial Government grant. This sum of money is considerably less than 5 per cent of the grants made available from all sources to medical research workers in British Columbia, but the speed and efficiency with which the Foundation's medical board and the board of trustees are able to act makes it possible for the Foundation to assist the medical research activities of the Province in a manner which is surprisingly effective in proportion to the small sum of money actually expended.

## G. F. STRONG REHABILITATION CENTRE

The G. F. Strong Rehabilitation Centre is a non-profit community organization registered under the *Societies Act* and the *Hospital Act* of British Columbia.

Its primary purpose is to assist in the rehabilitation of disabled children and adults, on an in-patient and out-patient basis, through an integrated programme of medical, psychological, social, educational, and vocational evaluation and services

under competent professional supervision. The major portion of such evaluation and services is furnished within the Centre, and all medical and related health services are prescribed by and under the supervision of physicians employed by the Centre.

In fulfilling its purpose, the Centre has developed a co-operative working relationship with other community organizations in order to bring the maximum resources possible to bear on the problems experienced by disabled individuals in the Province.

The admission policy requires that patients must be physician-referred, and only those patients will be admitted who, in the opinion of the Medical Director, will benefit from the services offered.

No one is refused admission because of inability to pay. In-patients are covered under the provisions and regulations of British Columbia Hospital Insurance Service, subject to the co-insurance charge of \$1 a day. Items such as wheelchairs, braces, artificial limbs, and self-help devices are not covered by British Columbia Hospital Insurance Services, nor are out-patient services.

Grants received from the Provincial Health Branch make it possible to substantially reduce the amount of the fee for out-patient care. On verification of their financial status, patients who are unable to pay the co-insurance charge or out-patient fee or who are unable to pay for prescribed appliances will have the cost of their requirements reviewed by the sponsorship social worker for possible referral to an appropriate voluntary or Government agency for sponsorship.

It has not been possible to compile the statistics for 1963 at the time of preparing this report. However, it is expected, based on 11 months of actual experience, that the extent of services provided by the Centre in 1963 will be similar to that provided in 1962. Out-patient attendances will be reduced slightly from the previous year and total in-patient days will be greater.

While detailed statistics cannot be included in this report for 1963, the statistics available for 1962 will be of interest and generally will reflect the Centre's operating experience for 1963. As the Centre for several years has been over-utilizing the designed capacity of its physical facilities, no major change can be expected in the extent of services provided despite a consistent waiting list for in-patient care. It is expected that detailed planning for the expansion of the Centre will commence as soon as the extent of expansion required has been determined co-operatively with British Columbia Hospital Insurance Service.

In 1962, 512 patients were admitted to a programme or seen in consultation, exclusive of 126 patients carried over from the previous year. Including 41 patients treated by the professional staff of the Canadian Arthritis and Rheumatism Society, 131 patients were admitted as in-patients during the year. In 1962, 14,407 bed-days were recorded, and in 1963 this figure will be exceeded. It is of significance to note that only eight of the in-patients for 1962 were over 60 years of age.

There was a 6-per-cent increase in the number of unmarried patients admitted and a corresponding decrease in those married. It is well recognized that the single person often poses greater rehabilitation problems than those who are married and have a home and family. The ratio of the sex of patients admitted was unchanged from the previous year, with 60 per cent being males.

The cause of disability in the new patients showed a variation from past experience. The number of poliomyelitis patients continued to decline. There was an increase in patients with spinal cord injuries and a decrease in cerebral vascular accident patients. An upward trend in the incidence of higher-level spinal cord lesions also was noted, with more cervical cord injuries being admitted.

In addition to the foregoing statistics, 275 children were provided services in the cerebral palsy out-patient clinic, aggregating 7,047 visits for the year, which is a decline of approximately 15 per cent. This clinic is operated co-operatively with the Cerebral Palsy Association of Greater Vancouver.

The Centre continues to provide space and facilities for the treatment services of the Canadian Arthritis and Rheumatism Society. Meeting facilities also are regularly provided for about 25 voluntary professional organizations.

Monthly and other staff education meetings contribute to maintaining a high standard of knowledge of new and advanced techniques and of developments taking place in ancillary services in the community.

The Centre's professional educational programme provides teaching services for medical students, internships for physiotherapists and occupational therapists, and field placements for social workers. As a result of the course offered at the University of British Columbia, the amount of staff time devoted to internships for physiotherapists and occupational therapists has been considerably increased. Orientation courses are regularly arranged for student social workers and other groups. Many of the teaching-hours contributed by Centre personnel are assigned to student health nurses, public health nurses, paediatric and other graduate nurses who are exposed by practical demonstration of the Centre's programme to the scope of the residual effects of disease and injury treated. Annual reports, which provide more detailed information, are available on request from the G. F. Strong Rehabilitation Centre.

#### MULTIPLE SCLEROSIS SOCIETY OF BRITISH COLUMBIA

This year has been one of steady growth and development for the Society in many fields. With the assistance of other voluntary agencies, Provincial health units, and others, nearly 100 new patients were registered and several additional centres added to the mailing list. Patient aid was provided on a correspondingly increased scale.

Through the Society's News Letter, and with the aid of films and lectures, the educational programme to make patients and the public aware of up-to-date methods of treatment and of developments in the field of research was continued. A marked increase in the number of requests from registered nurses' associations, public health nurses, and nurses in postgraduate studies for literature, films, and general information on the Society's work was noted in the latter half of the year. This interest will be encouraged and, it is hoped, expanded in the coming year by developing a library of the latest films and other educational material for the use of professional and other groups interested in the problems of multiple sclerosis.

A Vancouver branch was formed in May, and an active women's auxiliary, in addition to raising funds for the Society's work in Vancouver, now provides many additional services for needy patients and has proved invaluable in meeting emergency situations. The Ocean Falls branch, formed in 1962 with eight members, increased its membership to 95 in 1963. In addition to the Vancouver and Ocean Falls branches, there is a branch in Powell River, and plans call for the establishment of three branches in the Okanagan. In Victoria and New Westminster there are multiple sclerosis groups not yet affiliated with the Provincial Society.

Another development during the year was the drawing-up of a working agreement between the Provincial Society and the National Society in Montreal which will enable the Provincial Society to support research while still continuing to function chiefly in the field of patient aid. During the year the Provincial Society contributed to the more practical side of research by selecting patients for participation in a research project financed by the Multiple Sclerosis Society of Canada and being

conducted at the University of British Columbia. The results of this research will be made known in the spring of 1964.

#### CANADIAN ARTHRITIS AND RHEUMATISM SOCIETY

The first objective of the Canadian Arthritis and Rheumatism Society is to sponsor medical research into arthritis and the allied rheumatic diseases. Until a satisfactory cure or control is discovered, the Society endeavours to provide the best possible modern treatment.

In British Columbia the Canadian Arthritis and Rheumatism Society provides many services for those afflicted by rheumatic disease. The treatment programme is administered by the medical director working out of the Society's medical centre in Vancouver. At the Centre there are facilities for in-patient treatment available to any resident in British Columbia. The Vancouver out-patient treatment department is also located here. Patients are cared for by the Society's treatment team, and all services are co-ordinated so that each patient receives individual attention and the best possible care. At the Vancouver medical centre, physiotherapy, occupational therapy, hydrotherapy, nursing, social service, and vocational counselling may be prescribed. Outside Vancouver the Society's physiotherapy service operates on an out-patient basis or in the patient's home if necessary.

To augment the Provincial physiotherapy programme, travelling services are provided. Throughout the year the travelling occupational therapy van visited many British Columbia towns, and approximately 100 patients were seen. Travelling consultant service was also provided to British Columbia centres, and during 1963 the Society's consultants saw 202 patients. In 1963 an assistant physiotherapy supervisor joined the staff of the Society to co-ordinate field services throughout the Province.

The children's arthritis treatment programme became well established this year. Organized by the Society in conjunction with the University of British Columbia, this programme cared for 56 children in 1963.

A total of some 5,000 patients was treated by the Society in 1963, and some 65,000 individual treatments were provided by its medical staff. Of these, 78 per cent were arthritics and 22 per cent non-arthritics.

Overcrowded conditions at the Vancouver medical centre have hampered service for several years. In an attempt to relieve the situation, an out-patient department has operated twice a week at Holy Family Hospital since March. The pressing need for more in-patient beds continues to be a problem. A boarding home for out-of-town patients who require intensive treatment at the Vancouver medical centre is being planned. Building should commence in 1964.

The professional education programme has included orientation courses for nursing students from two Vancouver training hospitals and from the University of British Columbia's medical school.

A medical staff conference was held for all the Society's team workers in the Province during May, 1963.

Once again, several students from the School of Rehabilitation Medicine at the University of British Columbia interned at the Vancouver medical centre during the summer.

Six thousand dollars was given to 16 British Columbia students in bursary awards from the Society's bursary fund. The bursaries enable the students to study at the School of Rehabilitation Medicine. The fund is supported by community groups and clubs throughout the Province, and was set up with a view to relieving the shortage of rehabilitation staff, so vital to the Society's treatment programme.

The annual medical lecture was given in November by Dr. Halsted Holman, from the Stanford University medical school. Dr. Holman spoke on the relationships between transplantation immunity and the immunological abnormalities in rheumatic diseases. He was a most interesting and popular speaker.

The Arthritis Research Unit at the University of British Columbia was extended in 1963 to include the new virology research laboratory. Here research into the possibility that some form of virus may be related to rheumatoid arthritis is being carried out. Findings of the Society's epidemiology survey, supported under National Health Grants, into the incidence of arthritis amongst the Haida Indians were made public in July. Results showed that between 15 and 20 times more spinal arthritis was evident amongst the Haidas as has been found in similar surveys conducted in other parts of the world.

During the fall of 1963 the Carscraft Workshop moved into new premises in Vancouver. Originally planned as a diversional workshop for those severely affected by rheumatic disease, its members now include people disabled from other causes, such as stroke and cerebral palsy. All are taking part in a six-month pilot project to see how this type of workshop can function at a community level. A wide variety of attractive craft articles is produced by Carscraft workers. Finished work is sold in the Carscraft Bluebird Shop, which now adjoins the workshop. Previously the Bluebird Shop was operated on a temporary basis during the Christmas season; now it has been included in the new premises and hopefully will be open all year round.

The public education programme included tours and "open house" days at the Vancouver medical centre, enabling members of the public to see the work of the Society. Some 200 lectures and film shows were given to community clubs throughout the Province, and the Society's staff and volunteer workers participated in many television and radio shows.

Volunteer workers provided boundless assistance throughout the Province, driving patients for treatment, assisting at the treatment centres, and helping to stretch Society funds in an endless variety of ways.

#### BRITISH COLUMBIA EPILEPSY SOCIETY

In reviewing the work of the British Columbia Epilepsy Society for the year 1963, certain major activities would appear to warrant special mention, as follows:—

- (1) A branch known as the Nanaimo and District Branch of the British Columbia Epilepsy Society was formally launched at a meeting in the Maffeo Auditorium, Nanaimo, on March 13th by the then president of the Society, Mr. R. R. Jeffels. The Mayor of Nanaimo and other dignitaries were present and promised continued support for this newly formed agency. This branch has been active in publicizing the work of the Society in Nanaimo and acts as an information and referral agency for local epileptics.
- (2) The Vancouver Epilepsy Centre, despite its many vicissitudes, frustrations, and setbacks, has succeeded in solidifying its programme and gaining recognition and acceptance for it in many areas.
- (3) Through various media, not the least of which was the British Columbia Neurological Institute and Foundation's financial campaign in the Interior of the Province, the existence of the British Columbia Epilepsy Society as a source of information and aid has become more widely known, with the result that a marked increase in requests from private physicians, health units, and welfare agencies for assistance with their problem cases has been received. Ofttimes the major problem has been financial, more

particularly the cost of providing anti-convulsants for patients over a sufficient period of time to permit adequate evaluation to establish satisfactory control.

During its current fiscal year (April 1, 1963, to March 31, 1964) the British Columbia Epilepsy Society has underwritten the cost of anti-convulsant medication for cases resident outside the Greater Vancouver area in the budgeted amount of \$498 as at the end of December. In addition, transportation costs have been paid in one instance to permit evaluation at the Vancouver Epilepsy Centre for a case from Vancouver Island, and other direct-aid grants have been made.

The routine month-by-month activities have continued. There have been four issues of the News Letter in 1963. The mailing list has increased from 850 in January to 1,500 for the December issue.

The British Columbia Epilepsy Society is very proud of the efforts made by its Vancouver branch toward co-operative action in the area of diagnosis, treatment, and rehabilitation programming with the Greater Vancouver Cerebral Palsy Association, and believes that this effort will result in greatly enhanced services to both the cerebral palsied and the epileptic.

The British Columbia Epilepsy Society whole-heartedly supports the programme of the British Columbia Neurological Institute and Foundation and is underwriting one-third of Institute's portion of the cost of the symposium recently sponsored by that society.

#### BRITISH COLUMBIA HEART FOUNDATION

The British Columbia Heart Foundation is a voluntary society whose object is to further the study, prevention, and relief of cardiovascular disease. Its primary functions, therefore, are the carrying-out of effective research and education programmes.

Over 96 per cent of the Foundation's income is provided by the general public, and an annual pattern of increasing financial support was again borne out by a \$40,000 increase in the Foundation's income for the fiscal year 1962/63. Consequently, the Foundation was able to expand its programmes and activities substantially.

During the past year, total research support amounted to \$120,394, of which the major part was spent on research being carried out by 18 scientists, or teams, in British Columbia. A most important segment of the work being supported is the clinical research being carried on at various cardiac units in the Province and major hospitals developing better methods of diagnosis and constantly seeking improved techniques for open-heart surgery.

The annual cardiac symposium is now classed as one of the most important scientific events of the year in British Columbia and is the mainstay of the Foundation's professional education programme. It attracts physicians from all over this Province and also from Washington and Oregon. The high calibre of lecturers at this annual event and the format which enables attending physicians to acquire new information in a most effective manner are proving exceptionally popular.

Similarly, the Foundation's activities in the fields of public education and information are constantly growing. During the year almost 400,000 pamphlets have been distributed, and the demand for guest speakers, films, public meetings, and so on is steadily increasing. The Foundation has recently produced a Canadian pamphlet designed exclusively for a sensible approach to school-children. This pamphlet concentrates on the physiological functions of the heart as a pump and ignores diseases of the heart.

As in the past, close co-operation with Provincial health units has led to the distribution of much supporting material stressing the value and effectiveness of the Provincial Government's rheumatic fever prophylaxis programme.

### NATIONAL HEALTH GRANTS

During the year the Principal Medical Officer, Research Development, of the Department of National Health and Welfare, visited this Province and discussed the policies of the current research projects and anticipated research projects with all the principal investigators. Since there were funds still available under the Public Health Research Grant, it was possible to increase our requests for equipment this year. Much is gained through these visits of senior personnel.

During the period 1948/49 to 1961/62, which was the first 14 years of operation of the National Health Grants programme, the total of all grants made available to the Province was \$49,462,692. Of this, \$39,813,797, or 80 per cent, was expended.

### PROFESSIONAL TRAINING GRANT

Support was given to the training of personnel of voluntary health agencies, the University of British Columbia, the Mental Health Services Branch, and the Health Branch under this grant. The Sixth Annual Postgraduate Course for Medical Laboratory Technologists was held in Kamloops, with funds being provided to the Royal Inland Hospital for attendance of lecturers and administration requirements. Interest in this course has increased each year, with personnel also attending from other Provinces and the United States.

The Health Branch and the British Columbia and Yukon Division of the Canadian Cancer Society continued to jointly support the training of radiotherapy technicians at the British Columbia Cancer Institute and cytotechnicians at the Vancouver General Hospital.

The Department of Continuing Medical Education, Faculty of Medicine, University of British Columbia, through this grant, was able to sponsor various lectures and courses for physicians, nurses, and other health personnel both in Vancouver and in other areas throughout the Province.

Continued assistance was provided for the extension courses on hospital organization and management, nursing unit administration, and medical record librarians, which are sponsored by the Canadian Hospital Association and Canadian Nurses' Association.

Although financial support was derived through the British Columbia Hospital Insurance Service under provisions of the *Hospital Insurance and Diagnostic Services Act*, rather than through National Health Grants, the Deputy Provincial Health Officer continued to evaluate and make recommendations concerning hospital personnel applying for short-term training (less than three months). This evaluation is undertaken at the request of the Hospital Insurance Service. Ninety-two persons were trained under the plan during the year.

### HOSPITAL CONSTRUCTION GRANT

The allocation to British Columbia for 1963/64 is \$2,865,849. By December, 1963, these funds were committed as follows:—

Public hospitals .....	\$1,719,514
Community health centres .....	104,036
Total .....	<u>\$1,823,550</u>

The policy in relation to this grant permits the unused portion of the Province's allocation to be carried forward for use in subsequent years.

#### MENTAL HEALTH GRANT

Twenty projects received support from the Mental Health Grant in 1963. Seven of these supported professional staff for the programme of the Mental Health Services Branch, and among other developments made possible the expansion of community mental health centres to Central Vancouver Island and the Kootenay region. There was also provision for expansion of the service in the Okanagan Mental Health Centre.

A project to assist the Department of Psychiatry, University of British Columbia, was continued. The purpose of this project is to support the postgraduate training of physicians in the specialty of psychiatry in order that they may be available upon completion of training to expand the public psychiatric services and teaching facilities of the Province.

Mental health programmes for the metropolitan health committees of Vancouver and Victoria were assisted by grants to supply professional psychiatric staff and staff for their clinics.

The School of Social Work, University of British Columbia, was assisted by a grant which provided the salary of a student field-work placement supervisor.

Professional training under the grant was provided to a number of social workers who are enrolled in the School of Social Work at the University of British Columbia and to one clinical psychologist who is pursuing advanced studies at the University of Ottawa.

The research projects at the University Departments of Psychiatry and Pharmacology continue to be important efforts, and they have again been sustained largely by Mental Health Grant funds combined with Provincial grants-in-aid.

#### TUBERCULOSIS CONTROL GRANT

Since the Division of Tuberculosis Control is responsible for the majority of the tuberculosis services, the largest portion of this grant is allocated to the Division. Details of the programme appear in a later section of this Health Branch Report.

The tuberculosis programme carried out by the Metropolitan Board of Health of Greater Vancouver and the Sunny Hill Hospital (Princess Margaret Children's Village) was financed through this grant.

Payment to general hospitals for X-ray films on admission of patients, purchase of X-ray equipment for health units and general hospitals, antimicrobial therapy, and special out-patient investigations in general hospitals were also supported by this grant.

#### PUBLIC HEALTH RESEARCH GRANT

The Department of Surgery, Faculty of Medicine, University of British Columbia, completed three of their research studies, as follows:—

- (1) Study of epidemiology and control of infection caused by staphylococci in patients in a general hospital.
- (2) A study of methods of total cardiac by-pass in the small animal.
- (3) Development of surgical relief of tricuspid valve atresia by right atrial-pulmonary artery-shunt.

The Department of Pædiatrics, Faculty of Medicine, University of British Columbia, completed the following two research projects:—

- (1) Bleeding tendencies in the newborn and correlation with a micro test of blood coagulation.
- (2) Evaluation of serum hormonal iodine levels in early infancy.

The following four new research studies were commenced this year:—

- (1) Department of Surgery: An investigation of methods of producing respiratory insufficiency in dogs in order to study the effects of treatment with high atmospheric pressure.
- (2) Department of Preventive Medicine: An epidemiological survey of the prevalence of chronic respiratory disease and peptic ulcer symptoms in Chilliwack City.
- (3) Department of Biology: A study of the variety and relative prevalence of mould spores and pollens in Vancouver and their possible relation to human respiratory allergy.
- (4) Department of Surgery, Ophthalmology Research Unit, and the Medical Research Foundation of Victoria: Chronic simple glaucoma—the setting-up of a statistical pilot study to evaluate the parameters which may subsequently be used in a collaborative study to assess the long-term effects of ocular dynamics on visual function. Each agency is carrying out the same project in the Victoria and Vancouver areas.

The following projects were continued this year:—

- (1) Department of Medicine in co-operation with the G. F. Strong Laboratory for Medical Research: Investigations of arthritis and rheumatism.
- (2) Department of Pædiatrics: Auditory disorders in children of pre-school age in British Columbia.
- (3) Department of Obstetrics and Gynæcology: A study of hydrocortisone levels in placental extracts, amniotic fluid, and maternal and umbilical cord blood in normal and abnormal pregnancies.
- (4) British Columbia Research Council: Gas chromatographic techniques for the identification of low concentrations of atmospheric pollutants.
- (5) British Columbia Research Council: Investigation of improved methods for controlling schistosome dermatitis in British Columbia lakes.
- (6) Department of Surgery, Ophthalmology Research Unit: Establishment of a glaucoma unit to include clinical and basic research.
- (7) Medical Research Foundation of Victoria: Tonography and water-drinking tests for detecting glaucoma among hospital patients.
- (8) Provincial Division of Laboratories: Salmonella problem—search for reservoirs and vehicles of human infection.
- (9) Department of Surgery, Ophthalmology Research Unit: (i) Pilot study initiating a retina service; (ii) clinical study of neo-vascularization in diabetic retinopathy.
- (10) Department of Pædiatrics and The Woodlands School: Chromosome studies on some individuals with mental defects.

#### GENERAL PUBLIC HEALTH GRANT

The local health services general public health programme continued to receive assistance. Detailed information has been outlined earlier in this Health Branch Report.

Support was provided to the Greater Vancouver Board of Health and Greater Victoria Board of Health for staff and equipment.

The venereal disease control programme received the total funds available for its services, which is on a Provincial matching basis. The report of this Division appears in a later section of the Health Branch Report.

The British Columbia rheumatic fever prophylaxis programme case load now appears to have stabilized at about 1,100. A minor change of policy has raised

the maximum age of acceptance from 18 to 21 years, which was made possible by a substantial reduction in the price of penicillin.

The public health nursing staff is continuing to make quarterly visits to the homes of all those on the programme, and everyone not taking his medication regularly is being dropped.

A detailed analysis of the operation of the whole programme is under way, and it is hoped to have a full report ready for the Provincial Advisory Committee early in the new year.

Equipment was purchased and personnel provided through this grant for the operation of a virology laboratory in the Division of Laboratories. This will greatly increase the services provided by the Division to the Province.

A research study on dental caries control in children in various areas of the Province was conducted under the direction of the Division of Preventive Dentistry, Health Branch.

The hospital-utilization project conducted by the Department of Preventive Medicine, Faculty of Medicine, University of British Columbia, was completed. Two further reports were published—namely, Metropolitan Hospital Planning Council, the pædiatric bed use study, and a study of pædiatric bed use in the Province of British Columbia.

Funds were granted for the purchase of equipment for the Medical Sciences Buildings at the University of British Columbia.

Medical-student interns were once again assigned to divisions of the Health Branch during the summer months with support received through this grant.

Increased assistance was given to the Canadian Council on Hospital Accreditation to provide technical advisory services concerning hospital care in order to improve quality and standards.

In order to enable the Province to avail itself of technical advisory assistance in the development of public health service, funds were provided to the Canadian Hospital Association on a *per capita* basis.

The Metropolitan Board of Health of Greater Vancouver was able to increase its school dental programme with further equipment purchased through this grant.

#### *Laboratory Advisory Services*

The greatest emphasis toward the improvement of laboratory services during the past year was in the field of education.

The curriculum for the new programme of training medical laboratory technologists at the British Columbia Institute of Technology was drawn up, and lists of equipment were compiled.

The Sixth Annual Postgraduate Course in Medical Technology in Kamloops had a registration of 110. The programme was enlarged to attract technologists with various levels of experience; consequently, workshops, seminars, and papers encompassed advanced as well as basic subjects. The technical supervisor of Clinical Laboratory Services was Chairman of the Advisory Committee of this course and assisted with plans, both previous to and during the week.

The Canadian Society of Laboratory Technologists instituted higher level of certification for members by the acquisition of credits partly derived from advanced courses. The Department of Continuing Medical Education at the University of British Columbia, in conjunction with the Department of Pathology at the University and the British Columbia Association of Pathologists, initiated a two-year correspondence course in clinical chemistry, due to the great interest shown (there

were 150 registrants). The pathologists and senior technologists were involved in marking assignments and organizing seminars.

The Canadian Association of Pathologists realized there was no yardstick with which to measure the future needs of pathology in Canada. The pathologist at St. Paul's Hospital in Vancouver was asked to form a committee to study these needs in British Columbia and the technical supervisor was asked to assist. A preliminary report was made and presented to the annual meeting of the Canadian Association of Pathologists in June.

Five regional laboratories continued to function and improve their services to the smaller hospitals in their areas. Two other regions were awaiting the appointment of a pathologist.

The Sub-committee of the Laboratory Advisory Council had an active year. Meetings were held with the Construction Division of the British Columbia Hospital Insurance Service and architects to review plans and make recommendations for laboratories in several hospitals, including those proposed for Duncan, Grand Forks, Sechelt, and Richmond. The Technical Sub-committee met on several occasions to advise on equipment for which grants were requested.

#### *Radiological Services*

The Regional Radiological Service is continuing its programme of radiation surveys and consultations on all matters pertaining to the use of ionizing radiation under the Director of Occupational Health.

It has become increasingly evident that the demand for expanded coverage from this service is required as professional organizations and governments study the problems of radiation. The British Columbia Division, Canadian Association of Radiologists, has recommended registration and inspections of all X-ray equipment in the Province. The Department of National Health and Welfare has set up a committee to study and bring in recommendations for uniform Provincial regulations in the use of all X-ray equipment. Other professional groups, both in the healing arts and industry, are requesting increased X-ray inspection services, which this office is having difficulty in providing. This Service also supplies the Atomic Energy Control Board's inspection service for the Province.

With the ever-increasing use of radioisotopes in medicine, industry, research, and commerce, and the attendant problems of acquisition, storage, and use, there will be the need for a qualified radiation physicist in the near future who can act as a consultant to the professions and give guidance to the staff.

There were 929 radiation surveys and consultations conducted by two staff members in 1963. The west coast of Vancouver Island and Mainland to Stewart were visited for the first time this year. The areas of Prince Rupert, Prince George, and Lytton were visited a second time in three years.

The surveys and consultations carried out are as follows:—

- |  |     |
|--|-----|
| (a) X-ray surveys—doctors, chiropractors, dentists, veterinarians,<br>and industrial.....        | 213 |
| (b) X-ray equipment, shielding, technical instruction to operator,<br>and department design..... | 516 |

Consultations were held relating to the above with architects, owners, service houses, and other Government regulatory agencies.

Through the Bureau, the Radiological Advisory Council will again conduct its annual refresher courses for medical X-ray operators on both the elementary and advanced level. These courses are designed to assist the rural technician, particu-

larly in the smaller hospitals. Courses will be conducted in the new British Columbia Institute of Technology, where X-ray equipment is being installed.

The Radiological Advisory Council continued to act as an adviser to the British Columbia Hospital Insurance Service in approving applications for grants toward the purchase of X-ray equipment and reviewing sketch-plans and working drawings as they pertain to X-ray suites. The value of X-ray equipment approved to date is \$287,685.

The office of the technical adviser acts as secretary to the Technical Advisory Committee on Radiography to the British Columbia Institute of Technology in the development of plant layout, equipment, curriculum, and staff.

As the rural hospitals of the Province are finding it increasingly difficult to obtain staff replacements for their X-ray departments, this office is receiving an increasing number of requests for assistance. To overcome this problem in 1964, plans are being devised to set up a placement bureau under the supervision of this office.

During the year the British Columbia College of Dental Surgeons was assisted in conducting three regional X-ray refresher courses for dentists and dental assistants. This programme will be continued.

The training centre at the British Columbia Institute of Technology for X-ray technicians will give a five-month course, with the first class starting in September of 1964. The Institute programme is being co-ordinated with the practical training to be given in the seven approved training hospitals, where the students apply for initial admission.

#### CANCER CONTROL GRANT

This is a matching grant, and the largest portion of the funds is used for the operations of the British Columbia Cancer Foundation. Details of the programme of the Foundation are outlined earlier in this Health Branch Report.

The balance of the funds was provided to the cytological diagnostic laboratory, which is operated by the Director, Department of Pathology, Vancouver General Hospital. During the year there was a 16.2-per-cent increase in the volume of work carried out in the laboratory. An estimated 150,000 specimens were examined at a cost of 99 cents per specimen, as compared with 35,000 in 1958/59 at a cost of \$1.33 per specimen. The total number of women screened one or more times for cervical cancer was 265,938. This laboratory also undertook the training of three cytotechnicians for a hospital in the Prairies in order to assist them in setting up their cytological diagnostic programme.

The British Columbia and Yukon Division of the Canadian Cancer Society continued to play a most important role in the educational programme.

#### MEDICAL REHABILITATION AND CRIPPLED CHILDREN GRANT

The Registry for Handicapped Children and Adults continued to receive support. Details of the programme appear in a later section of this Health Branch Report.

Provision was made to the speech and hearing programme, which operates under the administration of the Vancouver General Hospital; Department of Paediatrics, Faculty of Medicine, University of British Columbia; and the Poliomyelitis and Rehabilitation Foundation of British Columbia. The Foundation also supplied considerable support toward the programme.

Continued assistance was provided to the Cerebral Palsy Association and the G. F. Strong Rehabilitation Centre.

Funds were supplied for the care of thalidomide babies in the Province, including medical care, travel for consultations, and purchase of prosthetic equipment.

The medical rehabilitation services supplied by the British Columbia Division of the Canadian Arthritis and Rheumatism Society were financed under this grant, as was the home care programme.

#### CHILD AND MATERNAL HEALTH GRANT

During the year the administration of services previously supplied by the Health Centre for Children was reallocated. The Vancouver General Hospital received support toward the psychiatric and eye clinic, the Metropolitan Board of Health of Greater Vancouver received support toward the public health nursing and dental clinics, and the Department of Pædiatrics, Faculty of Medicine, University of British Columbia, received support toward the pædiatric consultant services.

The Metropolitan Board of Health of Greater Vancouver received equipment for its pre-natal programme.

The University of British Columbia child health programme continued operation with funds received from this grant.

Continued assistance was provided to the British Columbia Co-ordinating Council for Child Care, with support also being supplied by the British Columbia Society for Crippled Children. This Council continued to closely review the pædiatric needs in this Province.

The study on maternal mortality, maternal morbidity, and certain aspects of foetal wastage was continued by the Department of Obstetrics and Gynæcology, Faculty of Medicine, University of British Columbia. Continued assistance with this project was provided by the Division of Vital Statistics (Health Branch).

The research study on the investigation of metabolic disturbances in children with mental retardation and nervous disorders carried out by the Department of Pædiatrics, Faculty of Medicine, University of British Columbia, was completed during the year.

A new research project was commenced by the Department of Pædiatrics on the neurological and ophthalmic disorders in children of low birth weight. This study would assist in the earlier detection and treatment of abnormalities.

The following three research projects were continued by the Department of Pædiatrics:—

- (1) Neurological development of the newborn infant in relation to earlier detection of cerebral palsy and mental retardation.
- (2) Methods of respiratory function testing in the newborn infant—design, standardization, and clinical application.
- (3) Correction of experimental neonatal atelectasis.

## REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL

G. F. KINCADE, DIRECTOR

This is the twenty-ninth annual report of the Division of Tuberculosis Control and covers the activities for the calendar year 1963. In recent years the reports have emphasized the changing problem in tuberculosis control from treatment and the operation of sanatoria to case-finding and community surveys. The greatest problem in tuberculosis today is still the detection of the unknown case of tuberculosis, but the methods of finding these cases are gradually changing and becoming more selective. This has been made possible by use of the tuberculin test, which indicates those people in the population who have been infected with tubercle bacillus and are the potential cases of tuberculosis of the future. About 20 per cent of the total population of British Columbia is so infected, and about 5 per cent of these, or approximately 20,000 people, will develop tuberculosis some time during their life span if present trends continue. It is estimated that 75 per cent of the tuberculosis that will be developed in the future will come from persons already infected, while the other 25 per cent will come from persons who will be infected from outside sources.

The present programme of tuberculosis control is based on the identification of the positive tuberculin reactors and the re-examination of these people periodically throughout their life. Intensive tuberculin surveys have been carried on throughout British Columbia on a large scale for six years now, and most of the people in the Province have been tuberculin-tested, except those in the Kootenay region and the private residential areas of Vancouver and Victoria. It is anticipated that by the end of 1964 almost all areas of the Province will have been covered by tuberculosis surveys, and the rest will be done by early in 1965. Thereafter it will be possible to provide a tuberculosis case-finding programme by re-examining only the positive tuberculin reactors in each community rather than all the residents, as has been necessary in the past.

Other than the treatment programme, which will be discussed later, the follow-up and supervision of the known cases of tuberculosis is one of the most important phases of the work of the Division.

### DIAGNOSTIC CLINICS

There are over 16,000 known cases of tuberculosis, excluding Indians, on the records of the Division, of which about 15,000 are classified as inactive. Even amongst these inactive cases there is a high risk of breaking down, and in our experience one-half of 1 per cent to 1 per cent annually reactivate and are brought back under treatment. Through close supervision it is possible to detect reactivation early, so that the consequences do not prove too serious. This supervision is carried out by the diagnostic clinics of the Division, and the service is provided through stationary clinics in the larger centres and travelling clinics, which visit all the smaller places of the Province to examine these known cases. There are about 4,800 known cases amongst Indians in the Province, of which the great majority are inactive, and these are looked after both for treatment and supervision by the Medical Services Directorate of the Department of National Health and Welfare. However, a large number of Indians of white status are the responsibility of the Division of Tuberculosis Control.

To provide close supervision of the known cases of tuberculosis that are in greatest need of attention, an active register is maintained. This is in addition to the complete register of all known cases of tuberculosis. The active register includes all cases classified as active and quiescent and all those inactive less than two years.

It also includes all cases on antimicrobial therapy, whether inactive or active, and it also includes suspects.

There are approximately 2,000 cases on this register, and through it those who are or could become serious problems can be followed closely. It is possible to determine how well these patients are keeping their clinic appointments, and when they lapse it is possible to take immediate action to bring them back under supervision.

The register includes the patients on antimicrobial therapy outside of hospital, of which there are over 1,000, and it provides for careful supervision of these patients. Without close clinical and public health supervision, treatment outside of hospital would not be practical or, indeed, warranted.

The following is a tabulation of the active register as of December 31, 1963, and is compared to December 31, 1961 and 1962:—

*Breakdown of Cases on Active Register*

Registry	Total Dec. 31, 1963	Total Dec. 31, 1962	Total Dec. 31, 1961
Out-patients.....	1,804	2,175	2,426
In-patients (excluding the Provincial Mental Hospital).....	198	222	248
Provincial Mental Hospital.....	67	68	63
Total cases.....	2,069	2,465	2,737
Out-patients—			
Private supervision.....	46	35	45
Clinic supervision.....	1,758	2,140	2,381
Active pulmonary.....	416	411	470
Active non-pulmonary.....	121	119	102
Quiescent.....	15	18	.....
Inactive pulmonary <sup>1</sup> .....	1,011	1,343	1,555
Inactive non-pulmonary <sup>1</sup> .....	192	218	255
Suspects.....	49	66	44
On antimicrobials—			
Active cases.....	475	460	512
Quiescent cases.....	8	11	.....
Inactive cases <sup>1</sup> .....	525	662	715
Suspects.....	13	8	7
Total out-patients on antimicrobial therapy.....	1,021	1,141	1,234
Not on antimicrobials—			
Active cases.....	61	70	60
Quiescent cases.....	7	7	.....
Inactive cases <sup>1</sup> .....	679	899	1,095
Suspects.....	36	58	37
Total out-patients not on antimicrobial therapy.....	783	1,034	1,192
Laboratory findings—			
Pulmonary with positive material.....	104	92	106
(a) Chronic.....	40	45	.....
(b) Other.....	64	47	.....
Non-pulmonary with positive material.....	33	28	34
(a) Chronic.....	1	3	.....
(b) Other.....	32	25	.....
Total out-patients with positive material.....	137	120	140
Outstanding appointments—Unanswered inquiries regarding broken appointments.....	21	29	23
Unsuccessful in follow-up (joint decision of clinic director and health unit)—			
(a) Illness or infirmity.....	4	4	3
(b) Unco-operative.....	34	42	34
Number of "address unknown" cases on registry—			
Active cases.....	20	18	23
Quiescent cases.....	.....	.....	( <sup>2</sup> )
Inactive cases.....	67	49	( <sup>2</sup> )
Suspects.....	7	9	7
Total.....	94	76	30
Number of cases who became unknown during year.....	41	41 <sup>3</sup>	30 <sup>3</sup>

<sup>1</sup> Inactive cases are those which have been inactive less than two years and those which have been inactive over two years but are receiving antimicrobial therapy.

<sup>2</sup> Information not available.

<sup>3</sup> Eighteen of the cases lost in 1961 and 1962 have since been located.

It will be seen that an active register is maintained for each of the Willow Chest Centre, Victoria and Island Chest Clinic, New Westminster Stationary Clinic, and for the travelling clinics. Each register is further broken down by health units and school districts and is monitored by specially trained full-time staff. This keeps the information up to date and provides the clinics and the health units with data relative to individual patients.

The cases on the active registry are continually changing as the patients' status changes. For example, at the end of December, 1961, there were 2,737 cases on the register, while at the present time there are about 700 less. During the same period there has been a reduction of about 600 cases classified as "inactive less than two years." As previously noted, an appreciable number of inactive cases break down and these become re-entered on the registry as active cases. From the register it will be seen that there are almost 800 cases being treated with antimicrobial therapy as out-patients, and this is about 400 cases less than it was two years ago.

#### TRAVELLING DIAGNOSTIC CLINICS

The basic Divisional policy for the Interior Travelling Clinic, the Kootenay Travelling Clinic, and the Coast Travelling Clinic remained unchanged during this past year. Minor changes as proposed in the 1962 Report were instituted and have been working satisfactorily. The main change involved the Kootenay Travelling Clinic, where the type of clinic normally held—that is, a film-taking clinic with a follow-up consultation clinic—was changed to the type of clinic where the physician and X-ray technician are in attendance at the same time. This procedure only came into operation in the last third of the year, so that its full effects are not yet apparent, but it is expected that this will be more satisfactory from the point of view of an increase in the number of patients seen by the clinic physician and actually a decrease in the amount of time spent by the technician in travelling. At the end of a full year of operation, enough information should be available to form a definite opinion whether or not the present frequency of routine visits, which is every four months, is adequate. At the present time the physician attached to the Kootenay Travelling Clinic only spends part time on this work, and his duties include travelling to the different centres to see patients and reporting on films taken at those clinics. All referred films coming from the clinic area are read and reported by other physicians on the staff.

In the 1962 Report it was pointed out that efforts were being made to cut down the patient load for the travelling clinics by a greater selectivity of the type of case being referred back for follow-up. There are many patients who, after being seen by the clinic physician on three or four occasions, no longer need this and can be referred to the local hospital for their annual routine recheck film. At the present time no results of this plan are apparent in the statistics, and the reason for this is considered to be the fact that many parts of the areas covered by the travelling clinics have recently been visited by the mobile survey unit. This always results in an increase in the number of persons referred to the travelling diagnostic clinics, and it is possible that this increase has been balanced by the intentional decrease in the numbers referred to clinic for continued follow-up.

The over-all figures for the year's work show only two significant changes. One of these is a drop in the number of diagnostic out-patient films referred to the Coast Clinic, from 2,700-odd to 1,000-odd. It is possible that this may be explained on the basis of the extensive work done by the mobile survey unit in all the Coast Clinic area excepting Powell River. People who were having annual rechecks and who were done in the survey would be referred directly by the survey unit for a

film in one year. This may also, in part at least, account for the other significant change of a drop in the number of large hospital admission films received by the Coast Clinic. Otherwise the figures show no great variation from the previous year, and in some instances are a little up and in others a little down.

The annual patient survey at The Tranquille School, Dellview Hospital, and Skeenaview Hospital, operated by the Provincial Mental Health Service, has been maintained. The annual surveys of Marpole and Allco Infirmaries were not done in 1963 because of the imminent likelihood of these patients being moved to Pearson Hospital. The nurse-technician of the Kootenay Travelling Clinic continued with tuberculin testing in schools and did approximately 9,800 tuberculin tests. This completed a three-year programme of tuberculin testing which covered all schools in the East and West Kootenays.

Most of the clinics are held in health unit quarters, and this, as usual, has been a most satisfactory arrangement. Travelling clinic itineraries are constantly reviewed regarding the desirability of increasing or decreasing the frequency of visits to various centres. This matter is discussed with the director of the health unit concerned. A recent increase in population and the number of cases in Merritt justify an increase in that centre from one to two a year. Re-establishing clinic visits to Lillooet is also under consideration.

The co-operation of the health unit staffs is, as usual, excellent, and their continued co-operation is very much appreciated by all of the travelling clinic staff associated with them.

#### MOBILE SURVEYS

Continuing the over-all plan to cover the whole Province with total community tuberculin and X-ray surveys, the following areas were screened for the first time during 1963:—

- (1) Boundary Health Unit, including Ladner, White Rock, Cloverdale, Whalley, Newton, and North Surrey.
- (2) Central Vancouver Island Health Unit—Nanaimo and vicinity.
- (3) Skeena Health Unit, including Terrace, Prince Rupert, Queen Charlotte Islands, and Stewart.
- (4) North Fraser Health Unit—Agassiz, Mission, and Haney.
- (5) Squamish and Howe Sound.

During the year 137,584 persons were screened and 34 new active cases were discovered, which is one new active case for every 4,046 persons screened.

As is customary, the X-ray vans returned to the places surveyed the previous year, including Kelowna, the Cariboo, and Peace River areas, to re-X-ray the tuberculin positive reactors only. X-rays were taken of 13,537 persons, and seven new active cases and seven tuberculosis suspects were found in this group.

In reviewing the survey statistics for 1962, two areas stood out because of the exceptionally high incidence of tuberculous infection and disease. Prince Rupert had a tuberculin positive rate of 32.3 per cent for all age-groups, compared with the Province's average of 16.8 per cent, and 27.8 per cent of the 18-year-olds were positive, compared with 9 per cent for the Province as a whole. Twenty-two new cases of tuberculosis were found in just over 9,000 examinations. Terrace had a positive tuberculin rate of 24 per cent for all ages and 19 per cent for 18-year-olds.

Because of this, it was decided to repeat the total community survey again this year, making a special effort to get as near 100 per cent of the population as possible. All pre-school and school children had repeat tuberculin tests, including

the positives from last year. Adults who were positive in 1962 had repeat X-rays; all others had a tuberculin test and X-ray.

By this special effort we hoped, first, to pick up unknown cases who missed the survey last year; second, to find out how many positive reactors had developed disease in one year; and, thirdly, to find out how many people were infected in one year as indicated by tuberculin conversion. This was the first time that a complete survey had been repeated in two successive years, and there was some doubt as to how it would be received.

In Terrace 6,048 persons were tested this year. There were eight tuberculin converters, one of whom had developed active disease (this was a child who lived next door to one of the active cases found last year). One other active case was found. This was a previously known case of tuberculosis who had reactivated and who was not examined in the 1962 survey.

In Prince Rupert 9,428 persons were tested, which is approximately the same as last year. There were 51 tuberculin converters, four of which had active disease. Nineteen converters and the four cases had definite contact with a reactivation case that was missed in the survey last year. Four other new active cases have been found to date. Three of these were tuberculin positive but had a negative X-ray in the 1962 survey. The other active case moved to Prince Rupert within the last year.

These results indicated that the previous survey did not detract from the present survey, since the turnout was equally good in Prince Rupert and better in Terrace. It was felt that the coverage in Terrace was quite satisfactory. In Prince Rupert there is still a considerable number who missed both surveys, but this number would be further reduced in subsequent surveys. This experiment indicated that frequent surveys of high-incidence areas are not only worthwhile, but obligatory for good tuberculosis control, as was proven previously by repeated surveys of Vancouver's high-incidence "skid road" area.

The tuberculosis survey methods developed in British Columbia have attracted much attention elsewhere because of their success. By special invitation of the National Tuberculosis Association of the United States, an outline of the type of combined tuberculin and X-ray survey used in British Columbia was given at its annual meeting in Denver in May, and the British Columbia programme has served as a model for similar programmes in several parts of North America, including five States in the United States.

#### STATIONARY DIAGNOSTIC CLINICS

In the Willow Chest Centre, which serves Greater Vancouver, there was little change in the volume of work handled. This clinic operates in a very close, cordial relationship with the Metropolitan Health Service in Vancouver to provide a complete tuberculosis service for the area. A large-scale school tuberculin testing programme is carried on by the Metropolitan Health Service field staff in Grades I and VI each year, which includes almost 20,000 pupils. All of the equipment, such as the needles and syringes, is cleaned and sterilized by the Willow Chest Centre, and technical help is provided by the clinic for these surveys.

A major policy change in the Willow Chest Centre to reduce the work has been the setting-up of a system whereby certain types of cases under surveillance can be followed by miniature X-ray on a routine basis, rather than by large X-rays. This will reduce the volume of work in the diagnostic clinic and at the same time provide a satisfactory examination for the patients coming to the clinic, who will continue to be notified of the need for this examination. While in the past many

persons have been given the tuberculin test at the Willow Chest Centre, this has now been put on a routine basis, and all patients coming to the clinic will be urged to have a tuberculin test as part of their tuberculosis examination.

The Victoria and Island Chest Clinic has increased its volume of work during the year with the taking-over of the travelling clinic work for all of Vancouver Island. Formerly the area north of Campbell River was the responsibility of the Coast Travelling Clinic, but with the expansion of public health services to the north end of the Island and with better lines of transportation, it became possible to make this change. Tuberculin testing is carried out in the schools of Victoria, and special surveys were conducted of the inmates at William Head Penitentiary and on two deep-sea ships where tuberculosis had been found.

The New Westminster Stationary Clinic provides tuberculosis service for the City of New Westminster and surrounding area, as well as providing a travelling clinic service for the Fraser Valley and Boundary Health Unit areas. The volume of work during the year remained fairly constant, but there were more diagnostic films taken than in the year before, mostly due to the fact that there were more special examinations as a result of a tuberculosis survey in the Boundary Health Unit area. Fewer miniature X-rays were taken as a result of the increase in the tuberculin testing programme and the fact that several community surveys were held in the city and neighbouring municipalities in the last couple of years. This clinic also provides a tuberculosis programme and a consultation service for Oakalla Prison Farm, the British Columbia Penitentiary, and the Haney Correctional Institution. At Oakalla 6,948 routine miniature X-rays were taken on prisoners admitted, and from them 10 new cases of tuberculosis were found. The active cases so found were transferred to tuberculosis institutions for treatment, while the inactive cases were kept under supervision in Oakalla by the clinic director. Each year the inmates and staff of the Federal Penitentiary in New Westminster are X-rayed by the mobile unit. No active cases of tuberculosis are kept in the Penitentiary, but 31 of the inmates are considered to have inactive tuberculosis, and these are examined periodically by the clinic. The inmates at Haney Correctional Institution are all screened at Oakalla before going into that institution, so there is no tuberculosis problem at Haney. However, throughout the year a sizeable number of inmates was referred for examination, but nothing of consequence was found.

The tuberculosis service provided by the Division of Tuberculosis Control at the Provincial Mental Hospital, Essondale, continues to operate most effectively, with little change in the volume of work. However, in common with all tuberculosis institutions, the North Lawn Building at Essondale, through reduction of numbers of tuberculosis cases under treatment, is now admitting non-tuberculous chest cases, which occupy about half of that building. There was a further reduction in tuberculosis cases under treatment there during the past year, from 140 to 119. During the year there were 82 admissions, 77 discharges, and 25 deaths, mostly from non-tuberculous conditions. There are an additional 236 inactive cases of tuberculosis in other parts of the Provincial Mental Hospital who are under close supervision, as well as 168 non-tuberculous chest conditions which are being followed. A routine tuberculosis survey is provided for all patients and staff, and in carrying out this work approximately 17,000 chest X-rays were taken, as well as 3,600 tuberculin tests. B.C.G. vaccinations were given to 160 members of the staff. It is significant and an indication of the control that is exercised through this programme that there were no cases of tuberculosis found amongst the staff of Essondale, The Woodlands School, or Valleyview during the past year. Amongst

the patients there were 14 new cases of tuberculosis diagnosed, of which four were considered active.

### SOURCES OF NEW CASES OF TUBERCULOSIS

While much attention is spent on the treatment and supervision of known cases of tuberculosis, the ultimate aim in tuberculosis control is to detect those persons in the population who may unknowingly have tuberculosis and may be spreading infection. For this reason, it is important that we should recognize the sources and the methods which lead us to the discovery of new cases. This information is presented in the following table:—

*Proportion of Cases of Tuberculosis Reported as a Result of Examination by Clinics of the Division of Tuberculosis Control<sup>1</sup>*

Source of initial referral—	Per Cent
Physician referral .....	46.8
Combined X-ray and tuberculin survey (includes 4 tuberculin survey only) .....	17.7
Organized X-ray survey .....	0.7
Contact investigation .....	5.8
Obligatory X-rays .....	18.7
Self-referral .....	7.9
Routine general hospital admission X-ray .....	2.2
Notified on death .....	0.2
Original X-ray taken by—	
Clinics of Division of Tuberculosis Control .....	24.0
Mobile survey unit .....	17.8
General hospitals—	
In-patients .....	12.2
Out-patients .....	6.3
Health units—Metropolitan Vancouver and Courtenay .....	3.8
Mental Health Services .....	3.4
Department of Veterans Affairs .....	1.3
Private radiologist .....	2.7
Non-pulmonary with negative chest film .....	2.7
Ex-Province, including immigration .....	21.1
Other .....	4.7

<sup>1</sup> Based on first nine months of 1963.

It will be noted that the private practitioner is still the chief source of referral of cases of tuberculosis, and 46.8 per cent were so referred during the past year. The tuberculosis surveys accounted for 18.4 per cent, while 18.7 per cent were referred for examination because of the fact that X-rays were obligatory for them. Obligatory X-rays include routine X-rays that are mandatory in some industries, in hospital employment, for immigration purposes, and similar requirements. An analysis of the facility by which the diagnosis of tuberculosis was made shows that 41.8 per cent of the cases had their original X-ray taken by the Division of Tuberculosis Control and that 18.5 per cent were diagnosed as a result of an X-ray taken in the general hospitals. A very significant proportion, 21.1 per cent of the new cases, had their original X-ray taken outside the Province and were known cases of tuberculosis before arriving in British Columbia.

## TREATMENT SERVICES

For the first time in some years there was no reduction in the number of beds being operated for the treatment of tuberculosis in Willow Chest Centre and Pearson Tuberculosis Hospital during the current year. This number remained at 265 beds, of which 172 are at Pearson Tuberculosis Hospital and 93 at Willow Chest Centre. However, there was a reduction in the number of patients in sanatorium as of November 30, 1963, compared with the year before, this reduction being from 230 to 205. This represents a reduction in patients of about 10 per cent, as against an average 15-per-cent per annum reduction in beds each year from 1952 to 1961. The percentage reduction in sanatorium population has been fairly constant, but in total numbers the reduction in patients in recent years has been relatively few in number. However, as a result of the experience of the past year, it has been possible to determine that half of the tuberculosis beds at Pearson Hospital, which represent 132 beds in one block, can be made available for other purposes, and it has been decided that these beds will be used to accommodate the total complement of patients at Marpole and Allco Infirmaries. In view of the fact that one complete block can be used for the infirmary patients, complete segregation of these patients from the tuberculous patients is possible. Plans are under way for the transfer of infirmary patients early in 1964. When the above-noted changes are put into effect, there will be approximately 220 beds for the treatment of tuberculous patients, 132 being at Pearson Hospital and 98 at Willow Chest Centre.

Admissions to the two sanatoria in 1963, excluding review cases and transfers, totalled 384, of which 275 were first admissions and 109 were readmissions. This compares with 402 admissions in 1962, of which 285 were first admissions and 112 were readmissions. As a comparison, there were 924 admissions in 1956, of which 323 were readmissions. During the last calendar year there were 16 cases admitted to sanatorium for treatment of non-pulmonary tuberculous conditions other than pleurisy. This amounted to 4.2 per cent of the total admissions. A high percentage of these cases are treated surgically. There were 47 cystoscopies carried out on genito-urinary cases and eight major operations related to the kidneys. In the treatment of orthopaedic tuberculosis, there was only one major operation done, a spinal fusion, most of the cases being treated by immobilization through the use of plaster casts. There was a further slight decline in the number of major chest operations done, from 36 in 1962 to 34 in 1963, and this included 18 resections and 11 thoracoplasties, as well as four thoracotomies. In 1956 there were 285 major chest operations done. As has been indicated before, surgery is now playing a small part in the treatment of tuberculosis. There were only 60 bronchoscopies done on in-patients, and 58 on out-patients who were temporarily admitted for this procedure. However, all forms of non-tuberculous surgery are performed on tuberculous cases, and these included 33 operations classified as minor and four classified as major.

*Patients in Sanatoria*

Date	Total Sanatorium Population	50 Years of Age and Over	Percentage 50 Years of Age and Over
November, 1952	838	276	32.9
November, 1955	615	251	40.8
November, 1958	332	189	56.9
November, 1961	244	128	52.5
November, 1962	230	126	54.8
November, 1963	205	121	59.0

The diminishing number of sanatorium patients and the increasing proportion of persons over 50 years of age in sanatorium over the past 10 years is clearly shown from the preceding table. The number of patients under treatment has been reduced over 75 per cent, while the proportion of older persons has almost doubled. There are now only 84 persons under 50 years of age in sanatorium, as compared to 121 above that age. Of the patients 50 years of age and over, 87 per cent are males and only 13 per cent are females. In the total sanatorium population, 79 per cent are males and only 21 per cent are females. Before the days of drug therapy for tuberculosis, the majority of patients in sanatorium were female. At the present time there are about four times as many males in sanatorium as females, and only 36 per cent of the male population is under 50 years of age. This again highlights the fact that tuberculosis is now a problem of the older person, particularly the older male. Many of these cases in sanatorium are long-time chronic cases, but many others are of recent origin, the disease having developed late in life. These latter cases respond quite well to treatment and eventually are discharged, so that even in the older age-group this population is not static.

### RESPIRATORY PHYSIOLOGY

During that period about 10 years ago when a large volume of lung surgery was being done, a Department of Respiratory Physiology was organized within the Division of Tuberculosis Control for the better selection of cases that would be able to undergo lung surgery. This proved to be a great assistance in the proper selection of cases, particularly those with border-line respiratory reserve. As the volume of tuberculosis diminished, it was possible to offer this service to other hospitals and medical practitioners for the investigation of non-tuberculous chest cases. Gradually the volume of non-tuberculous chest work increased to the extent that it was much greater than the volume of lung function tests that were being done for tuberculous patients. A plan was eventually worked out whereby this department would be operated under the University of British Columbia medical school and supported not only by the Division of Tuberculosis Control, but also by the Vancouver General Hospital and the University as well, with additional support from the Tuberculosis and Chest Disabled Veterans Section of the Canadian Legion. This change occurred early in 1963 and is proving most satisfactory. The laboratory is still located in the Willow Chest Centre, but the staff are now employees of the Faculty of Medicine, University of British Columbia. The contribution of the Division of Tuberculosis Control toward the cost of investigation of tuberculous cases is the provision of part of the salary of the respiratory physiologist.

### POLIOMYELITIS PAVILION

The Division of Tuberculosis Control continues to provide care and treatment for chronic poliomyelitis patients in the Poliomyelitis Pavilion at Pearson Hospital. These patients, on the average about 35 in number, are those persons who have had poliomyelitis and have been left with severe residual paralysis and could not be taken care of outside of hospital. This number has been accumulated over the years, and it is interesting to note that during the past year no new cases of poliomyelitis have been added to this group. When we consider past experience, this fact alone speaks volumes for the effectiveness of prophylactic vaccination against poliomyelitis. There was a slight reduction in patient-days treatment in 1963, to 11,559 from 12,733 in 1962.

It has been difficult to maintain an adequate physiotherapy service due to the fact that there was a complete turnover of staff. This is because most of the physiotherapists are transients and were only stopping temporarily before returning to their homes or visiting other countries. It is hoped that with the graduation of physiotherapists from the University of British Columbia this situation will be corrected. The care provided in the Poliomyelitis Pavilion is highly technical and demanding, and requires a dedicated type of personnel which is not always easy to acquire. However, in spite of difficulties it has been possible to maintain the service at a high level. This service is not only medical, but includes physical and vocational rehabilitation as well. Many individuals provide voluntary service for the poliomyelitis patients, and we are particularly grateful to the Poliomyelitis Foundation and South Vancouver Kinnette Club for their assistance.

### PROFESSIONAL EDUCATION SERVICES

Education at all levels, both lay and professional, has always been considered one of the most important aspects of tuberculosis control, and probably in no other disease is the public as well informed as it is about tuberculosis. Within the Division of Tuberculosis Control a broad programme of professional education is continually carried out. A full-time nursing instructor is in charge of this programme for nurses. Each year approximately 300 student nurses from the Lower Mainland training-schools come to the Division of Tuberculosis Control for one week of classroom instruction. A similar course of instruction is provided for the nursing schools in Victoria and Kamloops for about 165 students. All student nurses in British Columbia must take this course before they are allowed to write their registered nurse's examination. Special courses are provided for students at the University of British Columbia in the basic nursing course and in the public health nursing course. Practical nurses taking their training through the Vancouver Vocational Institute are instructed in tuberculosis, and during the past year 131 took the lectures on tuberculosis, and 40 of these also had five weeks' ward experience in the Division. In addition, lectures on tuberculosis are provided for the psychiatric nurses at Essondale.

The medical staff of the Division also instructs the medical students from the University of British Columbia. A series of 10 lectures is given in the third year, and during the fourth year all medical students spend a week in the Willow Chest Centre. Various members of the medical staff participate in postgraduate courses put on at the Vancouver General Hospital and by the University of British Columbia Department of Continuing Medical Education, and many of the nursing staff participate in postgraduate nursing courses. It will be seen that the educational programme is one of the major activities of the Division, and with reduction in staff brought about by the decreasing numbers of patients under treatment and fewer beds in operation, this programme frequently taxes our resources to the limit.

### ACKNOWLEDGMENTS

A well-developed programme of tuberculosis control must be based firmly on a well-balanced plan to cover all phases of the work, which includes treatment, case-finding, rehabilitation, and prevention through education and supervision. In carrying out such a programme, many persons and groups are involved. We are particularly fortunate that such a programme does exist, and that we have the help of many individuals and groups to assist in carrying out all phases of the work. One of the biggest factors in the success of the programme in this Province over the years has been the fact that a highly developed field health service has existed.

Working through them and with their enthusiastic co-operation, it has been possible to provide close supervision and follow-up of the known cases and suspects in even the remote areas. Public health nurses are responsible for the close supervision of over a thousand tuberculous patients being treated on an out-patient basis and for the distribution of their drugs. They assist in the organization of community surveys and are entirely responsible for the identification and examination of contacts of cases of tuberculosis. In the latter they have been particularly successful in that they have been able to bring to examination almost 95 per cent of all persons identified as contacts.

Previous Reports have mentioned the important role of the British Columbia Tuberculosis Society in the campaign against tuberculosis. This has in no way diminished, and the Society continues to take responsibility for a most important phase of the work—namely, the organization of community surveys—as well as an educational programme to keep the public informed about tuberculosis. In the present year the Society has provided additional funds to assist in the large-scale community tuberculosis survey in Vancouver, through which it will supply additional equipment and staff that will be necessary to carry out this work. This constitutes a very large outlay of funds in addition to the regular programme, which is very costly. The Society recently has broadened its programme to include respiratory diseases, and in connection with this has made a grant during the past year of over \$100,000 to the University of British Columbia Faculty of Medicine, part of which is for continuing medical education in tuberculosis and respiratory diseases and the major portion for the establishment of a Department of Respiratory Diseases within the Faculty of Medicine. It will be readily seen that this voluntary organization is a most vital force in the programme of tuberculosis control.

Special mention should be made of two other divisions of the Health Branch which provide such an important service to the Division of Tuberculosis Control. The Division of Vital Statistics records the essential data on the tuberculosis programme and tabulates the information periodically throughout the year and in the Annual Report. The Division of Laboratories provides a routine bacteriological service for tuberculosis, as well as a special service for sensitivity studies, all of which is most important in the routine supervision of the patients and in the selection of the proper drugs for their treatment. The co-operation and enthusiasm of all personnel within the Health Branch leave nothing to be desired in the common purpose of tuberculosis control.

The Medical Services Directorate of the Department of National Health and Welfare continues to operate a most successful programme of tuberculosis control for those natives that are their responsibility. This service works in close liaison with our own, frequently exchanging services and often working on joint projects.

The Sunny Hill Hospital for Children (previously the Vancouver Preventorium) continues to provide the only treatment facility for children suffering from pulmonary tuberculosis. This is a voluntary agency whose work is, for the most part, supported by the Provincial Government. The majority of the children in the Sunny Hill Hospital are non-tuberculous, but this was originally a tuberculosis hospital, and tuberculous patients still have first claim on the beds when needed. The capacity of this institution is about 70 beds, and during the past year at the peak there were 20 tuberculosis cases. There were 3,927 patient-treatment days provided for tuberculosis, and this was little changed from the previous year. The clinical facilities for the investigation and examination of these children and their medical supervision are provided through the Division of Tuberculosis Control, and a very close working arrangement continues with the staff at the Sunny Hill Hospital.

## REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL

JOHN H. SMITH, DIRECTOR

The sharp upward trend in incidence of primary and secondary syphilis (the infectious stages) reported in 1962 has continued in 1963. Total cases reported are 282, an increase of 99 cases or 54 per cent over 1962. The greatest incidence is in the 30-44-year age-group. Males are affected about five times as frequently as females.

Reported cases of gonorrhœa for 1963 total 5,016, an increase of 1,054 cases or 27 per cent over 1962. This is the greatest increase in any year since 1956. In this disease the greatest incidence is in the 20-34-year age-group. The difference in numbers of males and females affected is less marked than in syphilis.

The situation in British Columbia reflects an experience common to other North American centres. The increase, particularly of syphilis, has again become a matter of grave and general concern.

British Columbia achieved notable success in reducing the high incidence of venereal disease during the war and post-war years and in maintaining the position in following years. The present upsurge may, in part, be due to failure of some groups to recognize that the threat of venereal disease still exists in a situation that apparently is controlled.

To reverse the present trend, the Division is dependent on the assistance of the private physician and physicians in other agencies to detect venereal disease in their patients. Means by which the Division can be of greater assistance to physicians in this effort are presently under consideration. It is encouraging that of total notifications of venereal disease in 1963, an increased proportion was reported by sources other than the Division.

### ADMINISTRATION

The first appointee to the position of Assistant Director took up her duties March 1, 1963. Miss C. Eriksson, R.N., transferred to the position from the British Columbia Hospital Insurance Service, Consultation and Inspection Division. This appointment has relieved the Director of some of the details of administration.

The venereal disease programme in Victoria is now under the direction of the Medical Health Officer of the Greater Victoria Metropolitan Board of Health. Statistics for the Victoria clinic are therefore no longer reported separately, but are included with statistics for that health jurisdiction.

### EPIDEMIOLOGY

Treating the diagnosed case is only one step in the control programme. Locating the source of infection and contacts to infection and bringing these to treatment are essential to break the chain of infection. The promptness with which this is accomplished determines the degree of control. Additional staff time for this activity has been allocated this year. The patient-interviewing and follow-up involved are time-consuming and difficult techniques at best, and can be particularly so in public clinics, where many patients represent the element of the population that has a limited sense of responsibility toward themselves and others. On several occasions it was necessary to invoke the *Venereal Diseases Suppression Act* to compel recalcitrant individuals to submit to treatment. In these instances and other situations, the Division acknowledges the continued assistance and co-operation of the Vancouver Police Department and the Metropolitan Board of Health.

Prompt reporting and more complete contact information by other agencies and physicians would support the effort of the Division's epidemiology workers. The Division staff are prepared to assist by interviewing patients on behalf of physicians and agencies when their initial effort fails to elicit complete information.

### RESEARCH

Dr. Denys Ford, Associate Professor, Faculty of Medicine at the University of British Columbia, has temporarily suspended that part of his research project (etiology of non-gonorrhœal urethritis and its relation to certain forms of arthritis) that was based at the Vancouver clinic of the Division. The Division is prepared to extend co-operation and use of facilities again to Dr. Ford on request.

### EDUCATION

All hospital schools of nursing now include the study of venereal disease and venereal disease control in general courses on communicable disease and community health services. For this reason the hospital student-nurse affiliation programme was discontinued this year. The Division continues to contribute to the education of these students by participating in the programmes at the hospital school.

Twelve students in the University of British Columbia's Public Health Nursing Diploma Course spent one week each in the Division for field-work experience. Division staff presented a panel discussion on venereal disease and its control to a combined group of basic nursing and public health nursing students at the University of British Columbia. They also participated in a presentation on venereal disease and its control at the Provincial Public Health Institute.

The Director has conducted discussions and shown films to pre-release groups at Haney Correctional Institution. His brief article, "Rapid Rise in Incidence of Syphilis in B.C.," was published in the September, 1963, issue of the British Columbia Medical Journal.

The Division continues to employ part-time physicians for limited periods in its Vancouver clinics, working under the direction of the senior medical consultant. The programme is designed to provide opportunity for experience to as many general practitioners as possible.

### PUBLIC AND SPECIAL CLINICS

Health units represent the Division in rural areas. The volume of work in some is sufficient to warrant the operation of clinics as a health unit activity. Such clinics operate at New Westminster, Prince Rupert, Prince George, Dawson Creek, and Kamloops.

The special clinic at the Juvenile Detention Home in Vancouver was discontinued. Study revealed that the detection rate did not justify staff time expended. A modified programme is now carried out by the staff of the institution. The special clinics at Vancouver City Gaol, Oakalla Prison Farm, and Willingdon School for Girls are maintained. Attendance at all Vancouver clinics has increased by 2,000 in 1963. The number of persons attending for blood tests for immigration, pre-employment, and pre-marital examinations remains the same; therefore, the increased attendance is totally accounted for by patients examined or treated for venereal disease.

## REPORT OF THE DIVISION OF LABORATORIES

In December, 1962, the Division received approval in principle for the proposed reorganization of the Division of Laboratories from five bacteriology and one chemistry sections to three major sections — (1) public health bacteriology, including mycology and parasitology; (2) public health chemistry; and (3) virology. In 1963 detailed plans for this reorganization were prepared and partially implemented. The second physician appointed in 1962 completed his training in virology and opened the new Virology Section in 1963. A senior public health chemist was appointed to develop additional facilities in the field of water-pollution control and later to introduce laboratory facilities for air-pollution control and occupational health. On October 1, 1963, the responsibility for examining milk and dairy products was transferred from this Division to the Dairy Branch of the Provincial Department of Agriculture.

The work load at the main laboratories of the Division showed an increase of just over 2 per cent, from approximately 930,000 D.B.S. units in 1962 to approximately 950,000 D.B.S. units in 1963. The major increases in work were in mycology, cultures, and smears for the diagnosis of gonorrhœa, general serology, cultures for enteropathogenic *Escherichia coli*, and water bacteriology; decreases occurred in chemistry and in the examination of milk and milk products.

In Table I the total number of tests and the work load in units performed in 1963 at the Main Laboratory are compared with the 1962 figures. The work load associated with the Salmonella research project, amounting to over 70,000 D.B.S. units, is not included. The work loads for 1963 in tests and units performed at the Nelson and Victoria Branch Laboratories are recorded in Table II. Each Dominion Bureau of Statistics (D.B.S.) unit is equivalent to 10 minutes of work.

The total work load of the Division of Laboratories in 1963 was as follows:—

	D.B.S. Units
Main Laboratory .....	949,960
Salmonella project .....	71,062
Nelson Branch Laboratory .....	30,998
Victoria Branch Laboratory .....	106,235
	<hr/>
Total .....	1,158,255

### TESTS FOR THE DIAGNOSIS AND CONTROL OF VENEREAL DISEASES

In the past five years the demand for standard tests for syphilis (S.T.S.) showed a significant decrease of 2 to 15 per cent per year; in 1963 the demand increased by approximately 4 per cent compared with 1962. The *Treponema pallidum* immobilization (T.P.I.) test was performed by the National Laboratory of Hygiene and the Ontario Provincial Division of Laboratories on 209 sera; positive results were reported on 91 patients (45 per cent), compared with 1962 when 91 out of 245 sera (37 per cent) were reported positive. The free service provided by these two laboratories is gratefully acknowledged.

During 1963, 637 exudates from 450 individuals were examined by the dark-field technique for the presence of *Treponema pallidum*. One hundred and forty (31 per cent) of these patients were positive, compared with 30 per cent in 1962, 13 per cent in 1961, and 10 per cent in 1960.

A series of tests, using rapid plasma reagin cards, was performed to assess the value of this new screening procedure for syphilis. Preliminary tests indicated that the results of this technique are difficult to read and may be misleading.

The Division of Laboratories participated in the current syphilis serology evaluation survey conducted by the National Laboratory of Hygiene. The object of this survey is to maintain a high degree of reproducibility of performance and reading of Standard Tests for Syphilis in Public Health Laboratories throughout Canada.

The demand for laboratory work in the diagnosis and control of gonorrhœa increased by nearly 20 per cent in 1963. Eighteen per cent more specimens were submitted for microscopical examination, and 21 per cent more specimens were submitted for culture. Out of 40,700 smears examined, 6,000 were positive (15 per cent); out of 12,200 cultures investigated, 2,800 were positive (23 per cent). The percentages positive in 1962 were 13 and 20.

#### OTHER SEROLOGICAL PROCEDURES

The demand for serological tests used in the diagnosis and control of typhoid fever, glandular fever, and brucellosis increased in 1963. The number of specimens submitted for antistreptolysin O titre estimation rose by 24 per cent, from 2,500 in 1962 to 3,100 in 1963. The technique for performing this test used in the diagnosis and control of acute rheumatism was simplified. Each year since this test was first undertaken in 1959 there has been appreciable increase in demand.

Over 100 serum specimens were collected and shipped in connection with an antibody survey for Frater virus. About 3,500 serum specimens were collected for a survey undertaken by the G. F. Strong laboratory in a study of rheumatoid arthritis.

Out of 107 serological tests performed at reference laboratories in Canada and the United States, 15 positive and 3 doubtful results were obtained: Positive—6 toxoplasmosis complement-fixation tests, 4 toxoplasmosis Sabin-Feldman dye tests, 2 cat scratch complement-fixation tests, 1 hydatid complement-fixation test, 1 leptospiriosis agglutination-lysis test, and 1 filariasis hæmagglutination test; doubtful—3 trichinosis precipitin and agglutination tests.

#### TESTS RELATING TO THE DIAGNOSIS AND CONTROL OF TUBERCULOSIS

The number of smears examined microscopically for *Mycobacterium tuberculosis* in 1963 was 9,700, approximately the same as in 1962. The requests for culture of sputum decreased from 19,600 in 1962 to 18,900 in 1963. The requests for culture of other specimens, such as urines, stomach washings, and serous fluids, increased from 4,600 in 1962 to 4,900 in 1963.

The number of guinea-pig inoculations performed was curtailed as these tests proved of little value in the identification of unclassified mycobacteria. Cultures of *M. tuberculosis* from new cases were tested for their susceptibility to streptomycin, isoniazid, and para-amino salicylic acid. The Special Tuberculosis Bacteriology Section, in co-operation with the Provincial Division of Tuberculosis Control, participated in the National Study of Primary Drug Resistance undertaken by the Hamilton Health Association, Ontario, under the auspices of the Canadian Tuberculosis Association.

#### ISOLATION AND IDENTIFICATION OF PATHOGENIC ENTERIC BACTERIA

The number of specimens received for culture increased from 15,400 in 1962 to 15,600 in 1963. Pathogenic enteric organisms were isolated from 671 individuals,

compared with 697 in 1962, as shown in Table III. They included 392 *Salmonellæ*, 139 *Shigellæ*, and 140 enteropathogenic *Escherichia coli*, in 1963.

Twenty-two different *Salmonella* types were isolated in 1963, compared with 20 in 1962. The most common *Salmonellæ* isolated from man in 1963 were *Salmonella newport* (C2), 106; *S. heidelberg* (B), 95; *S. typhimurium* (B), 57; and *S. thompson* (C1), 53 (Table IV).

Four major *Salmonella* food-poisoning outbreaks were investigated in 1963, as follows:—

- (1) Stool specimens from 117 out of 915 Girl Guides were cultured; 12 yielded *S. newport* (C2). The same type of *Salmonella* was isolated from remnants of cooked turkey meat.
- (2) Stool specimens from 63 out of 85 Forest Rangers were tested; 11 yielded *S. newport* (C2). No food remnants were available, but turkey was served at the suspected meal.
- (3) Stool specimens from a number of the 180 bank employees who attended a banquet were tested; 5 yielded *S. heidelberg* (B) and 6 yielded *S. saint paul* (B). No food remnants were available, but turkey was served at the suspected meal.
- (4) Stool specimens from 105 out of 150 individuals attending a Reserve Unit party were tested; 49 yielded *S. newport* (C2), 8 yielded *S. heidelberg* (B), and 9 yielded both these types. *S. newport* (C2) was isolated from the sole remaining bowl of potato salad which had been stored in the deep-freeze; turkey was served at the suspected meal, but none was available for bacteriological examination. As a public health control measure, those persons who had attended the party were excluded from attending the annual summer camp held two weeks after the party.

Of the 139 patients with bacteriologically proven *Shigella* infection, 60 yielded *Shigella sonnei*, 32 yielded *Sh. flexneri*, and 47 *Sh. boydii* 2. Most of the *Sh. boydii* infections occurred at an Indian banquet on Vancouver Island. There were no outbreaks attributed to enteropathogenic *Escherichia coli*; the 140 strains isolated were of the following serotypes: 026:B6 (42); 0125:B15 (20); 055:B5 (17); 0119:B14 (17); 0128:B12 (15); 0111:B4 (12); 0126:B16 (7); 0127:B8 (7); and 086:B7 (3).

The *Salmonella* project continued throughout 1963 with support from Provincial funds and a National Health Grant. The second progress report covering the 26-month period August 1, 1961, to September 30, 1963, was submitted to the Department of National Health and Welfare with a request for continued support in the fiscal year 1964/65.

### SANITARY BACTERIOLOGY

The responsibilities of the Milk and Water Bacteriology Section included the bacteriological examination of dairy products, of water and waste water, and of foods. On October 1, 1963, the responsibility for examining dairy products was transferred from the Division of Laboratories to the Dairy Branch of the Provincial Department of Agriculture. The co-operation of the Dairy Branch in the smooth transfer of responsibility is gratefully acknowledged. On November 1, 1963, the responsibility for examining foods suspected as vehicles of food-borne disease was transferred to the Enteric Bacteriology Section of this Division. With effect from November 1, 1963, the Water Bacteriology Section was merged with the Chemistry Section as part of the reorganization of the Division. The Division of Laboratories

is most appreciative of the close co-operation with local health services in the sampling programmes for dairy products and water.

#### EXAMINATION OF DAIRY PRODUCTS

The work load in connection with the examination of milk and dairy products decreased by 33 per cent, from 34,700 D.B.S. units in 1962 to 23,400 D.B.S. units in 1963. This was due to the discontinuation of the milk-sampling programme of the armed forces in British Columbia at the end of April, 1963, and to the transfer of responsibility for the entire milk programme at the beginning of October, 1963.

Of the 324 milk shipments received in 1963, only three arrived at the Main Laboratory at a temperature in excess of 10° C.; these were therefore unsuitable for examination.

#### EXAMINATION OF WATER

The demand for bacteriological examination of water samples increased by 7 per cent, from 13,400 in 1962 to 14,400 in 1963. This increase was due to additional study of the pollution of bathing-pools. In December, 1963, it was decided to undertake "completed" tests on selected drinking-waters which were positive at the "confirmed" stage of the coliform test.

#### BACTERIAL FOOD POISONING

In 1963, 53 food remnants suspected of causing food poisoning were examined bacteriologically. Pathogenic agents were isolated from five: *Staphylococcus aureus* from Cheddar cheese, watermelon, hamburger, and custard, and *Salmonella newport* (C2) from turkey slices.

#### OTHER BACTERIOLOGICAL TESTS

##### DIPHTHERIA

Virulent *Corynebacterium diphtheriae* was isolated from only one patient during 1963. This patient was visiting Vancouver from an isolated logging camp; no carriers were discovered among his close contacts. Thus, in the past five years, diphtheria was diagnosed in five unassociated persons; in 1959 and 1960 there were no cases, in 1961 one case, in 1962 three cases, and in 1963 one case.

##### BLOOD CULTURE

Of the 224 blood cultures submitted for examination, 11 yielded organisms. The bacteria isolated were *Staphylococcus aureus* (3), *Staph. albus* (2), *Streptococcus viridans* (4), *Escherichia coli* (1), and *Salmonella paratyphi B* (1).

#### FUNGOUS INFECTIONS

The demand for mycological investigations, which rose from 450 in 1955 to 3,100 in 1962, again rose by over 20 per cent in 1963 to almost 3,800. The following dermatophytes were identified in 1963: *Trichophyton rubrum* (177), *Microsporum canis* (69), *T. mentagrophytes* (66), *Epidermophyton floccosum* (16), *T. tonsurans* (12), *T. verrucosum* (5), and *M. gypseum* (2). *Candida albicans* was isolated on 489 occasions and other strains of *Candida* on 246 occasions. Twelve infections with *Malassezia furfur* were diagnosed microscopically.

Almost 30 per cent of the specimens submitted for mycological examination proved positive.

## PARASITIC INFECTIONS

Requests for examinations for intestinal parasites, which increased from 1,600 in 1955 to 4,900 in 1962, rose to over 5,000 in 1963. The following protozoan parasites were identified in specimens of faeces: *Entamæba coli* (191), *Giardia lamblia* (104), *Endolimax nana* (65), *Entamæba histolytica* (39), and *Iodamæba bütschlii* (6). Cysts of the pathogenic *Entamæba histolytica* were identified in specimens from over 20 inmates of an institution, none of whom had gastro-intestinal symptoms. The public health significance of these findings is difficult to evaluate. The following helminth eggs were identified: *Trichuris trichiura* (47), hookworm (28), *Clonorchis sinensis* (19), *Enterobius vermicularis* (16), *Ascaris lumbricoides* (10), *Diphyllobothrium latum* (3), *Tænia* spp. (3), and *Hymenolepis nana* (2). The following adult worms were also seen: *Tænia* spp. (7), *Ascaris lumbricoides* (6), *Enterobius vermicularis* (3), *Diphyllobothrium latum* (2), *Dipylidium* spp. (1), *Gordius* spp. (1), and 1 nematode larva. Out of 1,995 National Institute of Health swabs examined, 412 revealed eggs of *Enterobius vermicularis*. Two ectoparasites, *Phthirus pubis* and *Ixodes pacificus*, were identified.

## VIRAL INFECTIONS

Twenty-six viral complement-fixation tests were performed on sera from 10 patients. Sera from four patients were positive when tested with the mumps viral antigen.

During 1963, specimens from 92 patients were shipped to the Virus Laboratories, National Laboratory of Hygiene. Viruses were isolated from nine of these patients: Poliovirus Type 3 (1), Coxsackie A (1), Coxsackie A23 (1), ECHO 4 (1), and not yet identified (5).

## PUBLIC HEALTH CHEMISTRY

The work load in the Chemistry Section decreased from almost 25,000 units in 1962 to 13,400 units in 1963. This decrease was due to the absence of a chemist during the first six months and to reassessment of the unit values of some of the tests in July, 1963. The requests for Biochemical Oxygen Demand (B.O.D.) determinations increased from 25 in 1962 to 77 in 1963, but the requests for partial and complete chemical analysis of water samples decreased from 700 in 1963 to 200 in 1962.

## BRANCH LABORATORIES

The Kootenay Lake General Hospital provided part-time technical assistance and vacation relief to the technician in charge of the Nelson Branch Laboratory. The Director visited the Branch Laboratory in August, 1963, to advise the technician and to meet the medical and administrative staff of the hospital and the Director of Selkirk Health Unit. The work load increased from 28,700 D.B.S. units in 1962 to 31,000 D.B.S. units in 1963, an increase of about 8 per cent (Table II).

The Royal Jubilee Hospital laboratory continued to provide public health laboratory service to the Greater Victoria Metropolitan Board of Health. The work load increased by 14 per cent, from 93,600 D.B.S. units in 1962 to 106,200 units in 1963 (Table II). The Director made one visit to the laboratory, and the senior serologist also visited Victoria to rectify anomalies in the performance of one of the standard tests for syphilis.

## GENERAL COMMENTS

In June Dr. G. D. M. Kettys successfully completed the University of Toronto Diploma in Bacteriology Course; he visited the virology sections of the Ontario Provincial Division of Laboratories, the National Laboratory of Hygiene, the University of Manitoba, and the University of Alberta to observe the operation of virology services in other parts of Canada. The senior bacteriologist selected for duty in the new Virology Section spent one month of in-service training in the virology section at the University of Manitoba. Structural alterations were made in the virology suite. Additional equipment, including an ultracentrifuge capable of spinning at 40,000 revolutions per minute, and an autoclave and a dry-ice cabinet were purchased. The advice and help received from Dr. D. M. McLean, virologist, Hospital for Sick Children, Toronto; Dr. J. C. Wilt, Professor and Head, Department of Bacteriology, University of Manitoba; and Drs. F. P. Nagler and S. F. Kitchen, Chief and Consultant, Virus Laboratories, Laboratory of Hygiene, are acknowledged with thanks. Grants were received from the Department of National Health and Welfare to assist in training personnel and equipping the new Virology Section.

The first year of a three-year expansion programme in public health chemistry began in May, 1963, with the appointment of an experienced public health chemist, Mr. A. J. Lynch. During the first year additional equipment was purchased to widen the scope of tests available for the analysis of water and waste water. At the same time the responsibility for calibrating and distributing chemistry field kits was transferred from the Bureau of Local Health Services to the Division of Laboratories. With a view to co-ordinating laboratory tests for water bacteriology and water chemistry, the Water Bacteriology Section was amalgamated with the Public Health Chemistry Section in October, 1963.

Two one-week courses on serological techniques were conducted at the Vancouver General Hospital; 60 trainee technologists from the schools of medical laboratory technology attended. Seven members of the staff lectured or instructed at the University of British Columbia in the Departments of Bacteriology and Nursing and in the Faculty of Medicine.

The second progress report on the Salmonella project (supported in part by Provincial funds and in part by a National Health Grant) was submitted in October, 1963.

In August the Director presented a paper at the 18th annual meeting of the International Northwest Conference on Diseases in Nature Communicable to Man, held at Kamloops. In October the Director attended a meeting of the Sub-committee on Emergency Public Health Laboratories, in Ottawa, to discuss the provision of laboratory services in the event of national disaster and then proceeded to Arnprior to attend the Emergency Health Planning and Operations Course. In December the Director attended the 19th annual meeting of the Technical Advisory Committee on Public Health Laboratory Services to the Deputy Minister of National Health, in Ottawa, and presented a paper at the 31st annual Christmas meeting of the Laboratory Section, Canadian Public Health Association, in Toronto.

During a year of reorganization, all members of the staff are to be congratulated on undertaking an increased work load and maintaining a high standard of efficiency.

Table I.—Statistical Report of Examinations and Work Load in 1962 and 1963, Main Laboratory

	Unit <sup>1</sup> Value	1963		1962	
		Tests Performed	Work-load Units	Tests Performed	Work-load Units
Enteric Laboratory—					
Cultures—					
Salmonella-Shigella .....	7	13,356	93,492	13,274	92,918
Pathogenic <i>E. coll</i> .....	10	2,276	22,760	2,097	20,970
Chemistry Laboratory—					
Water—					
Complete analysis .....	100 <sup>2</sup>	46	4,940	113	11,300
Partial analysis .....	.....	154	1,946	485	9,838
B.O.D. ....	150 <sup>2</sup>	77	6,525	25	3,750
Milk and Water Laboratory—					
Milk and milk products—					
Plate count .....	4	3,032	12,128	4,482	17,928
Coliform .....	2	2,732	5,464	4,037	8,074
Phosphatase .....	3	1,873	5,619	2,794	8,382
Resazurin .....	1	210	210	333	333
Water—					
Plate count .....	2	1,518	3,036	1,378	2,756
Coliform .....	5	14,370	71,850	13,429	67,145
Food poisoning examination .....	15	53	795	60	900
Miscellaneous Laboratory—					
Animal virulence (diphtheria) .....					
	6	4	24	6	36
Cultures—					
<i>C. diphtheria</i> .....	5	11,501	57,505	11,180	55,900
Hæmolytic staph.-strep. ....	5	11,360	56,800	10,959	54,795
Miscellaneous .....	5	4,167	20,835	3,829	19,145
Fungi .....	5	3,791	18,955	3,106	15,530
<i>N. gonorrhæa</i> .....	5	12,226	61,130	10,037	50,185
Direct smear—					
<i>N. gonorrhæa</i> .....	2	40,670	81,340	34,618	69,236
Vincent's spirillum .....	2	135	270	125	250
Miscellaneous .....	2	3,511	7,022	3,362	6,724
Serology Laboratory—					
Agglut. tests—Widal, Paul-Bunnell, Brucella					
Anti-streptolysin test .....	5	3,127	15,635	2,532	12,660
Blood—					
V.D.R.L. (qual.) .....	1	128,693	128,693	124,615	124,615
V.D.R.L. (quant.) .....	2	2,282	4,564	1,558	3,116
Complement-fixation .....	2	9,258	18,516	8,952	17,904
C.S.F.—					
Complement-fixation .....	2	1,835	3,670	1,706	3,412
Complement-fixation (quant.) .....	2	13	26	11	22
Cell count .....	2	23	46	49	98
Protein .....	2	52	104	70	140
Darkfield— <i>T. pallidum</i> .....	3	637	1,911	612	1,836
Viruses—					
Complement-fixation .....	4	26	104	17	68
Shipping .....	2	88	176	86	172
Tuberculosis Laboratory—					
Animal inoculation .....	10	400	4,000	648	6,480
Antimicrobial sensitivity .....	25	1,105	27,625	1,174	29,350
Atypical mycobacteria .....	25	314	7,850	312	7,800
Cultures— <i>M. tuberculosis</i> .....	6	23,765	142,590	24,260	145,560
Direct smears— <i>M. tuberculosis</i> .....	2	9,654	19,308	9,674	19,348
Intestinal parasites .....	3	5,044	15,132	4,909	14,727
Totals .....	.....	327,060	949,960	313,873	929,321

<sup>1</sup> One D.B.S. unit=10 minutes of work.<sup>2</sup> Unit values changed July 1, 1963.

Table II.—Statistical Report of Examinations and Work Load during the Year 1963, Branch Laboratories

	Unit <sup>1</sup> Value	Nelson		Victoria	
		Tests Performed	Work-load Units	Tests Performed	Work-load Units
Enteric Laboratory—					
Cultures—					
Salmonella-Shigella .....	7	292	2,044	1,872	13,104
Pathogenic <i>E. coli</i> .....	10	-----	-----	923	9,230
Milk and Water Laboratory—					
Milk and milk products—					
Plate count .....	4	438	1,752	502	2,008
Coliform .....	2	362	724	383	766
Phosphatase .....	3	205	615	202	606
Resazurin .....	1	76	76	51	51
Water—					
Plate count .....	2	-----	-----	1,454	2,908
Coliform .....	5	1,730	8,650	3,789	18,945
Food poisoning examination .....	15	-----	-----	24	360
Miscellaneous Laboratory—					
Animal virulence (diphtheria) .....	6	-----	-----	4	24
Cultures—					
<i>C. diphtheriae</i> .....	5	754	3,770	1,969	9,845
Hæmolytic staph.-strep. ....	5	754	3,770	1,969	9,845
Miscellaneous .....	5	772	3,860	80	400
Fungi .....	5	-----	-----	754	3,770
<i>N. gonorrhæa</i> .....	5	-----	-----	388	1,940
Direct smear—					
<i>N. gonorrhæa</i> .....	2	284	568	619	1,238
Vincent's spirillum .....	2	17	34	20	40
Miscellaneous .....	2	35	70	160	320
Serology Laboratory—					
Agglut. tests—Widal, Paul-Bunnell, Brucella	2	255	510	640	1,280
Blood—					
V.D.R.L. (qual.) .....	1	4,349	4,349	12,820	12,820
V.D.R.L. (quant.) .....	2	14	28	164	328
Complement-fixation .....	2	-----	-----	786	1,572
C.S.F.—					
Complement-fixation .....	2	-----	-----	244	488
Cell count .....	2	-----	-----	309	618
Protein .....	2	-----	-----	309	618
Darkfield— <i>T. pallidum</i> .....	3	-----	-----	13	39
Viruses—Shipping .....	2	-----	-----	4	8
Tuberculosis Laboratory—					
Animal inoculation .....	10	-----	-----	6	60
Cultures— <i>M. tuberculosis</i> .....	6	-----	-----	1,360	8,160
Direct smears— <i>M. tuberculosis</i> .....	2	59	118	1,060	2,120
Intestinal parasites .....	3	20	60	908	2,724
Totals .....	-----	10,416	30,998	33,786	106,235

<sup>1</sup> One D.B.S. unit=10 minutes of work.

Table III.—Pathogenic Enteric Bacteria—New Patients with Positive Laboratory Results

Year	Salmonellæ	Shigellæ	Pathogenic <i>E. coli</i>	Total
1957 .....	243	174	7	424
1958 .....	344	552	143	1,039
1959 .....	458	388	207	1,053
1960 .....	472	1,161	199	1,832
1961 .....	521	323	153	997
1962 .....	443	151	103	697
1963 .....	392	139	140	671

Table IV.—The Most Common *Salmonellæ* Isolated from Man in the Five-year Period 1957 to 1961 Compared with 1962 and 1963

Organism	1957 to 1961		Total, 1962	Total, 1963	Total, 1962/63	Average per Year, 1962/63
	Total	Average per Year				
1. <i>S. typhimurium</i> (B).....	620	124	34	57	91	46
2. <i>S. heidelberg</i> (B).....	591	118	164	95	259	130
3. <i>S. thompson</i> (C1).....	258	52	120	53	173	87
4. <i>S. newport</i> (C2).....	133	27	38	106	144	72
5. <i>S. paratyphi B</i> (B).....	127	25	10	13	23	12
6. <i>S. typhi</i> (D).....	37	7	6	9	15	7
7. <i>S. brandenburg</i> (B).....	30	6	5	1	6	3
8. <i>S. tennessee</i> (C1).....	29	6	7	5	12	6
9. <i>S. san diego</i> (B).....	28	6	4	—	4	2
10. <i>S. montevideo</i> (C1).....	26	5	—	2	2	1
11. <i>S. bareilly</i> (C1).....	18	4	—	—	—	—
12. <i>S. oranienburg</i> (C1).....	10	2	9	1	10	5
13. <i>S. blockley</i> (C2).....	10	2	—	—	—	—
14. <i>S. saint paul</i> (B).....	6	1	15	14	29	14
15. <i>S. choleraesuis</i> (C1).....	3	1	7	1	8	4
--- Other <i>Salmonellæ</i> .....	112	22	24	35 <sup>1</sup>	59 <sup>1</sup>	29 <sup>1</sup>
Totals.....	2,038	408	443	392	835	418

<sup>1</sup> Includes cultures not yet identified.

## REPORT OF THE DIVISION OF OCCUPATIONAL HEALTH

The Division of Occupational Health has been very active this year in a variety of fields, which included several new departures from the established programme—for example, pesticides and air pollution.

The move of the Division to Vancouver has resulted, as predicted, in increased involvement of the Occupational Health Division staff with other specialists and organizations working in this field; also, the facilities provided by the chemistry laboratory in the Provincial Health Building have enabled the service to be improved.

During 1963 there has been greater demand on radiation protection services, in addition to the radiation inspections and surveys. Courses have been arranged for industrial, medical, and dental technicians in various parts of the Province.

A closer liaison has been developing with personnel of other departments, including the Factories Branch of the Department of Labour, the Department of Mines and Petroleum Resources, the Department of Agriculture, and the Federal Food and Drug Directorate. This is essential, as many of the problems encountered by this Division and these other services overlap.

Several interesting visitors spent some time with the Division during the year. These included two representatives from the Department of National Health and Welfare, Dr. Peter Bird, Director of the Radiation Protection Division, and Dr. Morris Katz, Air Pollution Consultant of the Occupational Health Division.

### EMPLOYEES' OCCUPATIONAL HEALTH SERVICE

The employees' occupational health programme has been expanded and improved, and almost half of the Director's time is required for this service. Operational difficulties are still being encountered, but it is hoped that soon all employees will understand the main aim of the service, which is to maintain and improve health of employees so that each individual may function as a productive, self-respecting, happy worker for a maximum period of time.

As mentioned in last year's Report, plans had been made with the Civil Service Commission to have the Medical Declaration (C.S.C. 5) form replaced by a new Sickness Report. This new form came into use in July and appears to be serving its purpose adequately; that is, providing the Occupational Health Service with confidential information on the employees' illnesses. The largest source of Sickness Reports (absences extending over five days) at the present time appears to be in personnel of the Mental Health Services Branch, and arrangements are being made to employ a full-time occupational health nurse to service the mental health institutions at Essondale, Valleyview, and Woodlands.

The processing of the Sickness Reports is time-consuming, as it involves follow-up correspondence and telephone calls to physicians and department supervisors in Vancouver, Victoria, and outlying parts of the Province. On several occasions the assistance of the local health officers has been enlisted in discussing an employee's health problem with the attending physician.

Talks explaining the functions of the Occupational Health Service have been given by the Director to supervisory groups at Valleyview and the Government office building at 411 Dunsmuir Street in Vancouver.

The occupational health nurse in Vancouver attends seven Government buildings weekly and makes unscheduled visits to many other departments when necessary.

In Victoria the Occupational Health Centre continues to operate in the Douglas Building with the services of a full-time nurse and a part-time physician. It is hoped arrangements will be made in the near future for the nurse to visit other

Government buildings in the Victoria area at regular intervals in order that employees outside the main Legislative Buildings may benefit from the service.

A total of 7,730 services was rendered to Government employees during the year.

#### OCCUPATIONAL HYGIENE SERVICES

Work toward the development of an effective occupational hygiene programme for the Province has continued during the year, and this has been helped in no small way by the interest shown by the Medical Health Officers and sanitary inspectors throughout the Province.

Two sanitary inspectors attended an industrial hygiene course at Olympia, Wash., and later two members of the Division of Public Health Engineering attended a course on air pollution at Berkeley, Calif.

#### EDUCATION

In promoting occupational health services in industry, assistance has been given to the Victorian Order of Nurses, which gives part-time service to many industrial plants. Discussions have been held with the Burnaby health department regarding development of its employee health programme.

The Division has been consulted frequently in the planning of the student health programme for the British Columbia Institute of Technology, which will be opening in 1964.

Several lectures in occupational health programmes were given at the University of British Columbia nursing school.

Two papers were presented during the year—one to the Pest Control Operation Association on "Health Hazards," and another to the local chapter of American Material Handlers' Association on "Mental Stress in Industry."

#### RADIATION PROTECTION SERVICES

With the expansion of the Occupational Health Division, more of industry is being made aware of the radiation services offered by this Division. Inquiries and consultations regarding licensing, use, and safety are on the increase.

A total of 88 hospitals, research centres, and industries using radioisotopes has been issued 201 licences. New licences being processed through this office have reached an average of two a day, showing a steady increase over the past two years. The number of radiation surveys of radioisotope users amounted to 28, while radioisotope consultations pertaining to licensing, regulations, procurement, use, safety, and disposal amounted to 172.

The Film Badge Monitoring Service from Ottawa will change the first of next year to an automatic process that will give more accurate and speedy results of personnel exposure. During the past year there were several high exposures reported by the Province of British Columbia, and after careful investigation the cause of these high readings remains unsolved.

The Director of the Division has been appointed to a committee on radiation hazards of the new accelerators, a field of radiation which, up to this time, has not been investigated in this country. This committee is comprised of members of the Atomic Energy Commission, Chalk River, and the Radiation Protection Division, Ottawa.

The public at large still has little concept of the meaning and dangers of radiation and radioactive materials, as was the case in the following example referred to this Division for investigation. A company that reclaims silver from old X-ray film

has its operations in a remote area north-east of Vancouver. There is considerable smoke and ash falling from this burning process. The Division conducted an examination of the operation and concluded that there was no particular health hazard involved.

This Division co-operates with the Bureau of Local Health Services in reviewing plans of health unit buildings that will include X-ray facilities for radiation protection. There is also a close working liaison with the Attorney-General's Department in recommending safe practices in the use of radiation equipment in Provincial gaols. The Federal penitentiary has likewise made use of our consultative services.

A close-working relationship has also developed with the Radiation Protection Division of the Department of National Health and Welfare and the Atomic Energy Control Board of Ottawa. Though their requests for inspection and information have increased, the Division has been able to deal with them as the work involved is often closely related to our own radiation field programme.

Radiation surveys and consultations totalled 930 for the year 1963. These included industrial and commercial establishments, research centres, and medical-dental offices. The greatest of problems were again found to be the lack of proper shielding. Restricting the X-ray to the correct field under investigation by the use of cones, collimators, and lead diaphragms aided in correcting some of the problems. The absence of aluminum filters was found to be a major source of trouble and is easily correctible. The use of lead-rubber aprons and gloves for the operator was emphasized. It was found that gonadal shielding for the protection of the patient was being used more consistently.

An industrial radiographers' refresher course is again to be conducted in January, 1964, sponsored this time by the British Columbia Vocational School with this Division assisting. It is being expanded to include a two-day programme for senior radiographers who wish to prepare for their Canadian Government Specifications Board examinations. It is expected that a number will be attending from Alberta as this is the only Canadian programme of this type in Western Canada.

Other related services carried out by the Radiation Protection Section are listed under "Radiological Services" in the Report of Special Preventive and Treatment Services.

#### MISCELLANEOUS ACTIVITIES

An interdepartmental committee on air pollution was set up at the request of the Minister of Municipal Affairs, on which the Director represented the Health Branch. Other members on the committee included representatives from the Departments of Mines and Petroleum Resources, of Lands, Forests, and Water Resources, and of Recreation and Conservation. The chairman was the Deputy Minister of Municipal Affairs. A report was prepared and presented to the Minister.

An advisory committee, organized by the Minister of Agriculture, has been established to deal with a variety of problems, the main one being the sale and use of pesticides. The Director represents the Health Branch, along with two representatives from the Department of Agriculture, one from the British Columbia Veterinary Association, and one from the Pharmaceutical Association of British Columbia. One meeting has been held, and it is proposed to hold monthly meetings for the next six months.

## REPORT OF REGISTRY AND REHABILITATION SERVICES

C. L. HUNT, DIRECTOR

The Registry and the Rehabilitation Services, although basically serving different functions, are in fact becoming ever more closely integrated in their activities. Both are concerned with services to the handicapped. Both are concerned with detection and location of persons with health problems. In view of this, co-ordination and integration of the two services is becoming ever more closely established. Both services have derived benefit from this. The Registry, besides collecting data, has been able to expand its fields for service. The Rehabilitation Services have derived benefit from the case-finding facilities of the Registry.

Rehabilitation involves many Government and community agencies, and the services provided by these are rapidly being co-ordinated into a rehabilitation machine.

Besides the physical care of the handicapped, financial support and social services must be provided. Vocational assessment, education, and retraining also become involved. In order to meet these needs, there has been a growing liaison on the one hand between the various departments of Government concerned—the Health Branch, the Mental Health Services Branch, and the Departments of Social Welfare and of Education. On the other hand, the special services provided by community agencies are being used to an ever increasing extent.

The rehabilitation surveys which commenced in Nanaimo and Chilliwack on an experimental basis have developed into active programmes of rehabilitation in their local communities.

Arising from these experiments, a pattern for the development of local community rehabilitation services has developed, for gradual extension to other centres in the Province. A similar service is now being set up in Prince George. New Westminster, Richmond, Mission, and the Okanagan centres are now actively concerned in developing similar services.

This extension of services throughout the Province has been given impetus by the signing of the Federal-Provincial agreement which provides financial assistance for the vocational rehabilitation of disabled persons.

Whereas the principal referring agency to rehabilitation in local communities was, and still is, the Department of Social Welfare, a gradually increasing number of cases are now being referred by private physicians, National Employment Service, community agencies, and by the Registry.

One of the most urgent needs in the field of vocational rehabilitation has been the development in the Vancouver area of an efficient assessment and training programme in a sheltered workshop setting. This, thanks to the efforts of the Polio-myelitis and Rehabilitation Foundation of British Columbia, is now in process of development, and the service provided is already proving its usefulness.

All senior staff members of the Registry and Rehabilitation Services participate on committees and executives of voluntary agencies in order to offer co-ordinating service both on the individual patient level and the agency level.

### CASEWORK OF THE REHABILITATION SERVICE

In addition to those rehabilitation cases which are accepted for service by the local rehabilitation committees, certain others are accepted for casework service by the Rehabilitation Services located in the Vancouver offices of the Health Branch.

During the past year 126 new cases were provided with rehabilitation services by various community resources through the central office. Co-ordination of these services and follow-up are provided by the Rehabilitation Services after the vocational rehabilitation needs of each patient have been determined.

At December 31, 1963, 109 cases had been closed, 83 of which were placed in gainful employment and became self-supporting as a result of the services provided. A further 26 cases were closed without the ultimate goal of job placement having been achieved. Of these, 13 remained on Social Allowance, 1 was granted a War Veterans' Allowance, 1 obtained a Disabled Persons' Allowance, 7 continued to be supported by parents or relatives, 2 others are not known, and 2 died during the year.

The number of closures reported during 1963 is an increase of more than 20 per cent over the previous year, and the number reported closed and placed in gainful employment increased over 50 per cent.

At the time of acceptance for service, 48 of the 109 cases closed were supported through public assistance resources, 7 through unemployment insurance benefits, and the remaining 54 were being supported through private resources or a combination of private resources and public assistance.

A total of 46 of the closed cases had received vocational training prior to closure, of which 44 were trained under the provisions of Programme 6 of the Vocational and Technical Training Agreement. One was trained through the Department of Veterans Affairs resources, and one was able to finance his own training.

It is interesting to note that the annual expenditure from public assistance resources for the support of 48 of the 109 cases at acceptance was slightly in excess of \$75,000 per year. At closure the annual cost of support of those remaining on public assistance had been reduced to \$12,000 per year.

As mentioned above, 83 of the 109 individuals were placed in gainful employment and are now independent and self-supporting with a combined annual income of approximately \$200,000.

Cases accepted for rehabilitation services by the committees now functioning in Prince George, Nanaimo, and Chilliwack totalled 146 to November, 1963. Thirty-two (22 per cent) of these cases were rehabilitated to employment, 18 were closed as unsuccessful, while 85 were still under consideration.

#### THE REGISTRY FOR HANDICAPPED CHILDREN AND ADULTS

The number of registrations under the Registry for Handicapped Children and Adults since its inception in 1952 is more than 25,000. There is still a noticeable lag in adults being registered. The children are continuing to be registered at approximately 150 to 200 per month. Because the Registry has been in operation for 11 years, it is now becoming a useful research tool.

Many research projects have been, or are in the process of being, carried out, either directly within the Registry or in collaboration with other agencies. Relationship with the Division of Vital Statistics is close and essential. Indeed, research would be impossible without the help of that Division.

Research projects so far completed or at present under way include

- (a) the linking-up of information on the Registry with data available from the Notification and Registration of Birth, the Stillbirth Registration, and the Obstetrical Discharge Summary sheets;
- (b) a study of anencephaly and a comparison of the rates in North American Indians as compared with the whole population in the Province;

- (c) the development of a classification of congenital anomalies which is planned to overcome difficulties in coding and yet to remain simple enough to be used internationally;
- (d) the development of statistics linking maternal age with various congenital heart diseases, cleft palate, and harelip. Other studies in this field will follow in due course.

The review of congenital malformations occurring in more than one member of a family is continuing. This investigation is under the control of the genetic consultant to the Registry and is producing valuable information. A paper was presented by the genetic consultant at the Second International Conference on Congenital Malformations held in New York in July, 1963. This paper was entitled "The Use of Registries and Vital Statistics in the Study of Congenital Malformations."

The Registry in British Columbia continues to be of wide interest, and its staff has provided advice and patterns for development of Registries in other Provinces of Canada, and even as far afield as Australia.

A more complete review of the activities of the Registry appears in the Report of the Division of Vital Statistics.

The development of a medical specialty which is planned to be a distinct and separate branch of medicine is a process which has been going on for many years. It is the result of the increasing specialization of knowledge and the increasing complexity of the work which is done by the physician.

The process of specialization is a natural one. As the knowledge of a particular branch of medicine increases, the physician who is interested in that branch naturally turns his attention to it and devotes more and more of his time and energy to it.

This process of specialization is a double-edged sword. On the one hand, it allows the physician to become an expert in a particular branch of medicine and to provide the best possible care for his patients. On the other hand, it may result in a fragmentation of the medical profession and a loss of the broad perspective which is necessary for the proper management of the patient.

The American Medical Association is deeply concerned with the process of specialization and is committed to the principle of a broad and liberal medical education. It believes that the physician should be trained in a wide range of medical knowledge and should be able to provide a comprehensive medical service to his patients.

The Association is also concerned with the process of specialization because it believes that it is essential for the proper management of the patient. It believes that the physician should be able to see the patient as a whole and to understand the relationship between the various organs and systems of the body.

The Association is committed to the principle of a broad and liberal medical education and is committed to the principle of a comprehensive medical service. It believes that the physician should be trained in a wide range of medical knowledge and should be able to provide the best possible care for his patients.

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