PROVINCE OF BRITISH COLUMBIA

Seventy-fifth Annual Report of the

Public Health Services of British Columbia

HEALTH BRANCH

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE

YEAR ENDED DECEMBER 31

1971

Printed by K. M. MACDONALD, Printer to the Queen's Most Excellent Majesty
in right of the Province of British Columbia.
1972

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE (HEALTH BRANCH)

THE HONOURABLE RALPH R. LOFFMARK, Q.C.
Minister of Health Services and Hospital Insurance

SENIOR PUBLIC HEALTH ADMINISTRATIVE STAFF

J. A. TAYLOR
Deputy Minister of Health and Provincial Health Officer

G. R. F. ELLIOT
Director, Bureau of Special Health Services

A. H. CAMERON
Director, Bureau of Administration

K. I. G. BENSON
Director, Bureau of Local Health Services

D. MOWAT
Director, Division of Tuberculosis Control

G. WAKEFIELD
Director, Division of In-patient Care

E. J. BOWMER
Director, Division of Laboratories

H. K. KENNEDY
Director, Division of Venereal Disease Control

J. H. SMITH
Director, Division of Occupational Health

C. E. BRADBURY
Director, Division for Aid to Handicapped

J. H. DOUGHTY
Director, Division of Vital Statistics

A. A. LARSEN
Director, Division of Epidemiology

MRS. M. GREEN
Director, Division of Public Health Nursing

F. MCCOMBIE
Director, Division of Preventive Dentistry

W. BAILEY
Director, Division of Environmental Engineering

R. G. SCOTT
Director, Division of Public Health Inspection

M. A. KIRK
Senior Consultant, Division of Public Health Education

MISS P. WOLCZUK
Consultant, Public Health Nutrition

E. M. DERBYSHIRE
Pharmaceutical Consultant

H. J. PRICE
Departmental Comptroller

OFFICE OF THE MINISTER OF HEALTH SERVICES
AND HOSPITAL INSURANCE,
VICTORIA, BRITISH COLUMBIA, January 17, 1972.

To Colonel the Honourable JOHN R. NICHOLSON, P.C., O.B.E., Q.C., LL.D.,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits the Seventy-fifth Annual Report of the Public Health Services of British Columbia for the year ended December 31, 1971.

RALPH R. LOFFMARK
Minister of Health Services and Hospital Insurance

THE HON. RALPH R. LOFFMARK, Q.C.
Minister of Health Services and Hospital Insurance

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL
INSURANCE (HEALTH BRANCH),
VICTORIA, BRITISH COLUMBIA, January 11, 1972.

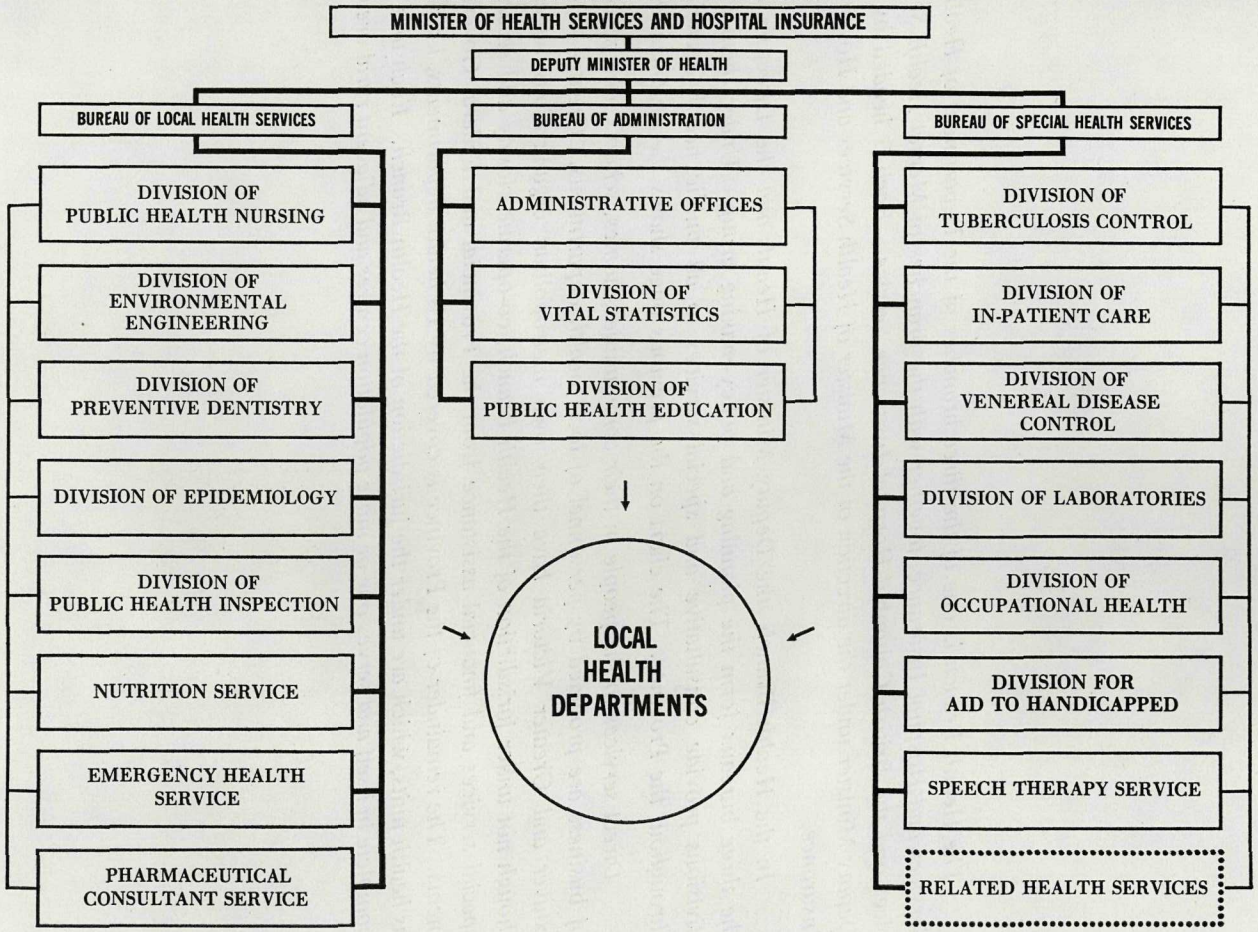
The Honourable Ralph R. Loffmark, Q.C.,
Minister of Health Services and Hospital Insurance,
Victoria, British Columbia.

SIR,—I have the honour to submit the Seventy-fifth Annual Report of the Public Health Services of British Columbia for the year ended December 31, 1971.

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

J. A. TAYLOR
Deputy Minister of Health and
Provincial Health Officer

HEALTH BRANCH ORGANIZATION



The Health Branch is one of the three branches of the Department of Health Services and Hospital Insurance, together with the branches of Mental Health Services and the British Columbia Hospital Insurance Service. Each is headed by a Deputy Minister under the direction of the Minister of Health Services and Hospital Insurance.

In the Health Branch, the Deputy Minister of Health and the Directors of the three bureaux form the planning and policy-making group. Under them the divisions provide consultative and special services to all public health agencies throughout the Province. The chart on the previous page shows the organization.

Direct services to the people in their communities, homes, schools, and places of business are provided by personnel of local health departments. Greater Vancouver and Greater Victoria have their own metropolitan organizations which, though not under jurisdiction of the Health Branch, co-operate closely and receive special services and financial assistance from the Provincial and Federal Governments. The remainder of the Province is covered by 18 health departments, known as health units, which are under the jurisdiction of the Health Branch. Each unit is complete in itself and serves one or more population centres and adjacent rural areas.

TABLE OF CONTENTS

	Page
Introduction	9
Communicable and Reportable Disease	13
Health and Our Environment	18
Specialized Community Health Programmes	24
Community Health Nursing	29
Home Care	31
Maternal and Child Health	35
School Health	36
Preventive Dentistry	38
Nutrition Service	42
Public Health Education	44
Vital Statistics	45
Extended Care	47
Aid to Handicapped	48
Laboratory Services	50
Emergency Health Service	52
Pharmaceutical Consultant Service	55
Council of Practical Nurses	56
Publications, 1971	57

Tables—

I—Approximate Numbers of Health Branch Employees by Major Categories at the End of 1971	58
II—Organization and Staff of Health Branch (Location and Approximate Numbers of Persons Employed at End of 1971)	58
III—Comparison of Public Health Services Gross Expenditures for the Fiscal Years 1968/69 to 1970/71	60
IV—Training of Health Branch Staff Proceeding Toward a Diploma or Degree in a Public Health Specialty	61
V—Training of Health Branch Staff by Means of Short Courses	61
VI—Reported Communicable Diseases in British Columbia, 1967–71 (Including Indians)	63
VII—Reported Infectious Syphilis and Gonorrhœa, British Columbia, 1946, 1951, 1956, 1961, 1964–71	63
VIII—Statistical Summary of Selected Activities of Public Health Nurses, September 1970 to August 1971, Inclusive	64
IX—Public Health Inspectors' Time-study	65
X—Statistical Summary of Public Health Inspectors' Activities, 1969–71, for 17 Provincial Health Units	66
XI—Report of Direct Service by Auxiliary Workers to Public Health Nursing Programme, September 1970 to August 1971	66
XII—Summary of Service Provided in Three Areas by Employees' Health Services Staff, 1971	67
XIII—Enrolment in Public and Private Schools in British Columbia, June 1971	67

Tables—*Continued* PAGE

XIV—Number of Pupils Receiving Basic Immunization Prior to Entering Grade I, September 1970 67
XV—Pupils Referred for Health Services 68
XVI—Registrations Accepted Under Various Acts 68
XVII—Case Load of the Division for Aid to Handicapped, January 1 to December 31, 1971 69
XVIII—Statistical Report of Tests Performed in 1970 and 1971, Main Laboratory, Nelson Branch Laboratory, and Victoria Branch Laboratory 70
XIX—Emergency Health Service Medical Units Pre-positioned Throughout British Columbia 71
XX—Licensing of Practical Nurses 71

Seventy-fifth Annual Report of the Public Health Services of British Columbia

HEALTH BRANCH

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE

YEAR ENDED DECEMBER 31, 1971

Although this is the Seventy-fifth Annual Report of the Public Health Services of British Columbia, services designed primarily to protect the health of the people of the Province had their origin through legislation introduced just over one hundred years ago. As originally established, it was essential to deal with epidemics of infectious diseases, such as smallpox and typhoid fever, which are now almost unknown entities in the disease incidence of the Province. However, throughout the years changes in the patterns of living have tended to create new forms of potential health hazards requiring new approaches in preventive medical practices in the interests of health protection for each community. While there have been many gains as a result of past endeavours, there is little doubt that the range of demands and needs is ever-increasing in a rapidly multiplying population. The programmes required now tend to concentrate attention toward improved social functioning for the communities. Health is no longer an entity in itself—if it ever was—but a means of attaining optimum well-being in the physical, social, and biological environment in which man must live. It invades the domains of human behaviour and it focuses on the individual, the family, and the community. In such a context, public health is not just a complex collection of functions, but a comprehensive entity involving the total health of populations and their social cultural groupings. Health affects and is affected by a multitude of factors, wherever people live. Consequently, over the 100-year period the narrow public health concept of the past to control and prevent the spread of infectious disease has been broadened toward a comprehensive community health programme to minimize the hazards that may generate morbidity and mortality among the people.

The best means of providing such a programme is through a well-organized network of local health services to cover the entire Province. As its major responsibility, therefore, the Health Branch has endeavoured to encourage the development of adequate health services at the local area which was best accomplished through the organization of health units, each of which operated under the guidance of a union board of health. This provided a community contact through which continuous surveillance of the local health needs and problems could be assessed to permit control measures to be designed to deal with them. Frequently the staff at the local level requires specialized consultative and analytical assistance which is made available to them through the divisions maintained at the Provincial level in the headquarters of the Health Branch. This report relates the significant features that have occurred during 1971 in serving the health needs of the Province.

THE PROVINCE AND ITS PEOPLE

The area of the Province is about 366,000 square miles. The population growth prevalent over the last two decades is being maintained as there was an increase of 63,000 people this year to provide a total approaching 2,200,000, which is almost double the count recorded 20 years earlier. Over the Province as a whole

this gives a population density of 6.0 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 persons in the southwestern corner of the Province, where almost one-half dwell in the metropolitan areas of Greater Vancouver and Greater Victoria.

Preliminary data compiled from the vital statistics records filed in 1971 reveal certain features of the population for the year. The birthrate at 16.1 per 1,000 population exhibited the lowest point to be attained in over 30 years. It marked a resumption of the downward trend which started in 1958 to be continued without interruption until 1968 when the rate reached a low of 16.8. The following year the rate was 17.1 and in 1970 a slightly higher rate of 17.2 was recorded. Associated with the decline in the birthrate there was a decline in the proportion of births classified as illegitimate, from 13.9 per cent in 1969 and 1970 to 12.3 per cent in 1971. This marked the first reversal of the substantial climb in this ratio, which has been evident since 1961.

More marriages were performed and while the preliminary rate was unchanged from the 1970 figure of 9.4, this is significant in view of the fact that it is the highest registered since the early 1950's. Nonetheless, it is considerably below the peak rate of 12.5, established in 1941.

While the crude deathrate in 1971 was above that of the previous year, being 8.1 per 1,000 population as compared with 8.0 in 1970, the latter rate was a record low for the Province and this year's rate is the next lowest ever recorded. It is one of those crude indicators utilized in assessment of health status of the people generally and the effectiveness of the total health services. Examination of that mortality rate by disease classification also reveals some rewarding figures. There was a further downward trend in the number of persons dying from heart disease per 100,000 population with the rate of 262, over 15 per cent below the 1969 rate of 310 and almost 25 per cent below the 1965 figure of 349. This may well be a reflection of the treatment facilities now available in intensive-care wards established in many of the hospitals which is promoting survival for patients who formerly would have died. Similarly, cancer mortality exhibited a decline this year at a rate of 150 compared with 155 in 1970. It represents a return to the somewhat lower rates of the early 1960's. Deaths occasioned by cerebral vascular disease have been declining fairly steadily since 1960. The rate of 85 for each 100,000 people in 1971 was the same as that for 1970, which in turn was the lowest rate recorded in recent years.

The preliminary infant mortality rate per 1,000 live births this year was 18.7. This was above the record low established in 1970 at 16.9 but is still one of the lowest rates achieved by the Province. It is also an encouraging statistic in view of the weight assigned to it in assessing the quality of health services available in the fields of maternal and child health.

Deaths due to accidents were somewhat above those for 1970, at a rate of 79 per 100,000 population as compared with 71 the previous year. This figure for the current year is among the highest recorded for many years. Somewhat over a third of them are recorded as due to motor-vehicle accidents, a lesser proportion than that of a year ago, while a higher proportion resulted from falls this year than last, 14 per cent compared with 13 per cent in 1970.

In this whole field of accidents, mention might be directed to the considerable effort that is often required to assist the patient. Frequently because of the nature and extent of the accident, air evacuation to larger centres of medical and hospital care for specialized treatment services becomes necessary. During the year over

100 air evacuations were undertaken, approximately 58 per cent of them in aid of accident victims (22 per cent due to motor-vehicle accidents and 36 per cent due to other forms of accidents). In addition, 24 per cent of the air transport trips were required for advanced medical conditions, 8 per cent for complications of pregnancy, 5 per cent in the interests of newborn infants. This is a service of tremendous value to citizens of this Province, only available because of the generosity of the Canadian Armed Forces whose flight personnel undertake these mercy flights, often at odd hours in hazardous flying conditions in very isolated areas. There is little doubt that while each trip is very much appreciated at the time by both the physician and the patient, there is often little understanding of the number of people involved in making the arrangements, the number of flights provided each year, the man-hours it entails, and the flying risk that is often encountered in it. It is a service that, in a mountainous coastal province such as this, requires different types of aircraft and highly skilled personnel; too often the impression is left that an air evacuation service can be simply and easily organized. It is unfortunate that so many of these flights have to be undertaken because some individuals refuse to adopt precautions to avoid an accident.

While there were no serious outbreaks of communicable disease there was a disturbing increase in incidence of diphtheria with 11 reported cases. It displays the need for continual vigilance in respect to communicable infections with maintenance of a thorough immunization programme which realistically should prevent such incidence. In the field of venereal disease, infectious syphilis has been maintained under reasonable control. Unfortunately, however, the same statement cannot be applied to the incidence of gonorrhœa which has been rising within recent years at an alarming rate. The increase has varied between 20 and 25 per cent each year since 1968 and is parallelled by the incidence of nongonococcal urethritis. It remains essentially a disease of the young people, among whom extraordinarily persistent case-finding methods are being devoted to track down sources of the disease.

The number of cases of active tuberculosis increased slightly, 475 cases being located. The rather low level of cases being determined raises questions about the case-finding methods since it becomes increasingly costly to maintain the present methods. It indicates the need to examine critically case-finding techniques in modification of nonproductive methods with increased emphasis toward more productive procedures. Then, too, with the newer techniques in treatment, questions can be posed about the need to maintain tuberculosis sanatoria for specialized care of these patients. It may well be that they could be absorbed into the mainstream of health care without danger to the community. It is a subject that is to be more thoroughly examined in the months ahead.

The individual reports of the various divisions reflect the operations of the Health Branch and elaborate in more detail on some of the points contained in this introduction.

Health Centre Construction Programme—The Provincial Health Centre Construction Programme continues to make progress. There are a number of health unit buildings similar to the one in the picture which is located at Kamloops. The programme during 1971, saw the completion of an extension to the Port Alberni Health Centre and extensions to existing health centres at Abbotsford and Nanaimo. Under construction is a large new combined Mental Health-Public Health facility in Maple Ridge. New health centres in Fort St. John and Mackenzie are in the planning stage.

COMMUNICABLE AND REPORTABLE DISEASE

Again this year there were no serious outbreaks of communicable disease in the Province.*

RUBELLA VACCINATION PROGRAMME, 1970/71

In September 1970, Provincial health units and municipal health departments throughout British Columbia began a programme of vaccinating children between the ages of 1 and 12 against rubella. This vaccination campaign had a double purpose. It was intended to be the start of a long-range programme to make all girls in the Province immune to rubella before they reached child-bearing age and it was intended, also, to meet the threat of an expected major outbreak of rubella during the winter of 1970/71. It was feared that such an epidemic might affect many young pregnant women who were still susceptible to the disease. Most cases of rubella occur in the 1-to-12 age-group and it was felt that if a high proportion of these children were immune, the likelihood of an epidemic would be greatly diminished.

What motivated the project is the fact that rubella, which was once considered to be a simple childhood disease, is now known to cause very serious consequences in the babies of women who contracted the disease during the early stages of their pregnancy. Vaccine for the programme was provided jointly by the Provincial Health Department, local municipal authorities, and a number of service clubs and foundations who made contributions to the fund. In a few areas of the Province the vaccine was sold to parents at cost.

The Health Branch administered the programme and it distributed a total of 295,896 doses of vaccine. In addition to this, about 14,000 doses of vaccine were sold by retail pharmacists on the prescription of private physicians. The programme was continued in 1971 with the vaccination of further children between the ages of 1 and 12.

The present level of immunity against rubella in British Columbia is considered to be reasonably good, and there is good evidence that the immunization programme has been useful in reducing the number of cases, in that a very high proportion of reported cases occurred in children who were older than the age-group just immunized. The peak incidence in past outbreaks has always been among younger children.

The desirability of a long-term vaccination programme against rubella can only be resolved through experience and further research.

DIPHTHERIA

The disquieting increase in the incidence of diphtheria reported last year has continued. All of the 11 reported cases this year came from the lower mainland. Most were in elderly males living alone and most were immunized. Virulent diphtheria organisms were found in discharging wounds and ears in 40 instances, rather than in their customary location in the patient's throat. The importance of maintaining a high level of immunity against diphtheria among children cannot be overemphasized.

FOOD POISONING

Food infection by organisms of the Salmonella group continued its annual increase with 548 cases being reported. This organism is very prevalent and readily contaminates so many foods that the most meticulous attention to proper food-handling techniques is necessary to reduce the incidence of this type of poisoning.

* *See* Table VI.

RHEUMATIC FEVER

The rheumatic fever prophylaxis programme showed only a very minor increase in numbers during the year. At the end of the year, 1,286 children were receiving free prophylactic penicillin daily in order to prevent a recurrence of their infection and possible heart damage.

TUBERCULOSIS

In 1970, a significant decrease in the number of active tuberculosis cases occurred. Four hundred and fifty-three cases were found representing a drop of 13 per cent. This decrease in 1970 was not confined to British Columbia but was found in other provinces as well. However, in 1971 there was an increase in the number of active cases to 475 so it would appear the 1970 figure did not indicate the start of a trend but may be regarded as a continuation of the fluctuating pattern observed for some years. In any event, tuberculosis continues to present a large health problem and there is little room for complacency. In many ways, as the numbers decrease, the difficulties in discovering active cases increases and results in an increase in the cost on a per-case basis. It is necessary to continue the critical examination of case-finding techniques and the modification of the nonproductive methods with greater stress being placed on the more productive procedures.

Of the total of 152,803 miniature X-rays taken in the Province in 1970, the general hospitals took 13,051, or 8.5 per cent. Of the 453 active cases found, almost one-half were from general hospitals.

The Division of Tuberculosis Control has continued the policy of transferring the miniature equipment to health units when they are removed from hospitals.

Contact tracing continues to be diligently carried out. The results show that 3 per cent of those contacts of an individual who has a positive smear have active disease. On the other hand, only 0.8 per cent of the contacts of an individual with a positive culture have active disease.

Mortality rates from tuberculosis remain low—the total for the Province in 1970 being 2.0 per 100,000.

The demand for sanatorium beds remains relatively unchanged. The proposed change to give the north-south wing of the second floor at Willow Chest Centre to the Vancouver General Hospital for cardiac surgical patients will require considerable redistribution of patients and, in all likelihood, the necessity of a third ward at Pearson Hospital. It has been proposed that all the patients at Willow Chest Centre be placed on the third floor with the remainder of the second floor being used for ancillary services, such as recreational therapy and occupational therapy. The new legislation for dealing with recalcitrant patients will be of assistance but there will be continued difficulties with lesser misdemeanors not justifying the utilization of this legislation.

The policy of out-patient treatment continues. Over the last few years, approximately 40 per cent of those diagnosed with active disease have received their treatment wholly as out-patients. Individuals with tuberculosis are admitted only if they cannot be treated in their home environment, have extensive or serious forms of disease, have problems with their treatment, are not progressing favourably, or refuse to co-operate. Native Indians continue to pose a problem because they often live in inaccessible regions so that out-patient supervision is not possible. They have also shown a tendency to discontinue their treatment on discharge from hospital so that, for these reasons, they are more frequently admitted and have a more prolonged hospital stay.

The mainstay of the tuberculosis control programme is still the stationary and travelling clinics, which continue case-finding and the following-up of known cases

of tuberculosis and investigate individuals suspected of having the disease. These clinics provide a valuable service to the community and often act as consultants in chest disease, assisting the private physicians.

In the process of seeking cases of tuberculosis, many other chest conditions, such as bronchogenic carcinoma, are brought to light. It is only because of these clinics that an extensive out-patient treatment programme has been carried out successfully. An essential portion of this programme has been the assistance of the local public health authorities who supervise treatment at the home level.

One area of the case-finding programme now receiving considerable attention is that of the community surveys. Consideration is being given to conducting surveys only in communities which do not have miniature X-ray facilities and in communities considered to be high-incidence areas. Further, consideration is being given to the use of a second van in special locations such as the Pacific National Exhibition, local fairs, and rodeos.

It was proposed that the school skin-testing nurse would work independently from the community survey, covering the schools throughout the Province and testing Grade IX students only, but local health authorities declined to take part in such a programme. Therefore, a pilot study will be conducted on Vancouver Island to determine the feasibility of the Division of Tuberculosis Control conducting such a programme on its own.

VENEREAL DISEASE

Infectious syphilis continues to be under good control but gonorrhœa continues to increase at an alarming rate.* The increase varies between 11 and 25 per cent each year and this has occurred since 1969. The incidence of nongonococcal urethritis parallels the incidence of gonorrhœa. Gonorrhœa is a disease of young people, particularly transients and unemployed young people. They are difficult to reach, and it has been necessary for field nurses to hold clinics where young people congregate.

Infectious Syphilis

The problem in controlling this disease remains much the same as it has in previous years. Single male homosexuals frequently travel to cities on the United States west coast, single males visit Mexico, and transients visit from the United States. Some of these people acquire the infection elsewhere and introduce it into the Province. The control programme is effective and so far has been able to contain the spread of this disease.

Latent Syphilis

Many people who have acquired an infection of syphilis have no skin manifestations to indicate the infection or they may be of a relatively minor nature and go unheeded. In order to uncover these latent cases so that they are prevented from going on to late manifestations—heart disease and paralysis—approximately 600 blood tests are taken each day. These blood tests are taken as part of prenatal and physical examinations by physicians, by the Red Cross Society on all blood donated, and in patients admitted to the veterans' hospitals and mental hospitals.

Gonorrhœa

Gonorrhœa is an infection which is usually limited to the genital tract. The incubation period is two to nine days and the male knows he is infected from the symptoms of a burning pain on urination and a discharge. The female, however, in most cases, has few or no symptoms, does not know she is infected, and continues to spread the disease.

* *See* Table VII.

- The infections occur mostly in young people who have evolved a permissive sexual attitude. This tends to occur when young people are away from home and are not under the influence of restrictive social and parental controls.
- The present epidemic is centred in young people living away from home and in the city of Vancouver. This group has been estimated to number 12,000 during the 1970/71 winter.
- The epidemic increases during the summer reaching a peak in September, remaining high throughout the fall, and showing a precipitous drop at Christmas-time. It is thought that the maintenance of the infection during the fall of the year is caused when young people who have been travelling return to the Province for the winter, and that the drop at Christmas-time is caused by young people returning to their homes elsewhere in the country at that time of the year.

Many young people have an "anti-establishment" attitude and do not wish to attend a formal clinic. It has been necessary to obtain the services of young nurses to work with these young people and hold clinics where they congregate. As these young people have many other problems it is necessary to provide a comprehensive service providing treatment where applicable and referral to other services when indicated.

During the summer of 1971 this service was extended by health units to hostels throughout the Province. In this way it has been possible to reach these young people and control gonorrhœa when it has been found. Unfortunately, the disease is still being spread faster than it is being eradicated so there is a continued increase in the number of cases reported.

Nongonococcal Urethritis

Nongonococcal urethritis is a disease similar to gonorrhœa but with a longer incubation period of 18 to 28 days and instead of a purulent discharge there is a watery discharge. The incidence of the infection in males parallels that of gonorrhœa. Current studies indicate that two organisms are involved, mycoplasma and conjunctivitis inclusion virus. Neither of these infections responds to treatment with penicillin but they both respond to seven days of therapy with tetracycline or sulpha. If a steady female partner is involved it is necessary also to treat this partner to prevent a rebound of the infection.

General

Diagnostic and treatment clinics are maintained in Vancouver, New Westminster, Victoria, Prince Rupert, Dawson Creek, Prince George, and Kamloops. Clinics are also operated at the Vancouver City Gaol, Willingdon School for Girls, and Oakalla Prison Farm.

In 1971, services to youth were provided by four public health nurses in the Vancouver metropolitan area, one of which was supplied by the Provincial Government, one by the city of Vancouver, and two by the Opportunities for Youth Program of the Federal Government. These services were also extended by public health nurses throughout the Province to local hostels.

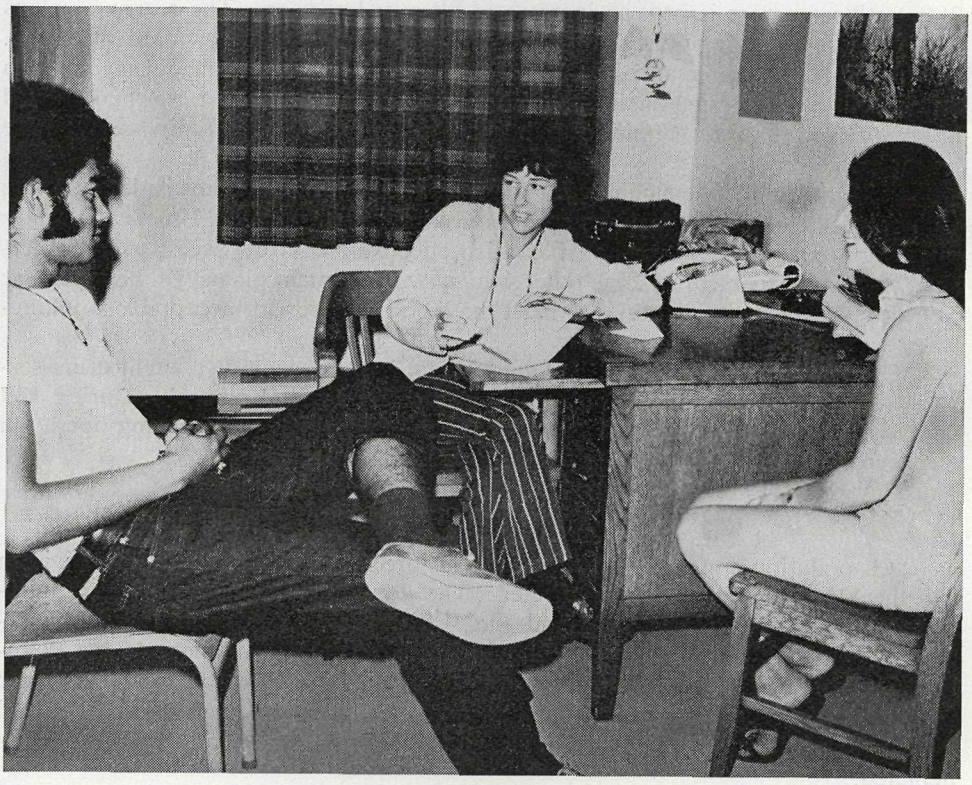
THE PUBLIC HEALTH NURSE AND DISEASE CONTROL

Public health nurses are involved in the prevention and control of a number of diseases.

- Tuberculosis is an important part of this programme. During the year, 7,777 visits were made to patients and their families.

- Public health nurses administered 15,552 tuberculin tests to determine sensitivity to tuberculosis. Most tests were given to contacts of known cases and to selected grades of school children in districts known to have a high incidence of tuberculosis.
- Visits for the control of venereal disease increased 34 per cent over last year for a total of 4,779 visits.
- Public health nurses supervised 1,118 children on rheumatic fever prophylaxis.
- In addition, 6,578 visits were made for epidemiological investigations and injections for infectious hepatitis.
- Public health nurses gave 623,235 individual immunizations at special clinics and child health conferences held in local districts. The 30-percent increase in numbers over the previous year was largely due to the addition of rubella immunization for protection of children between the ages of 1 and 12 years. *See* Table VIII for contribution of public health nurses to immunizations.

Immunizations as done by the public health nurses provided a measure of saving to the British Columbia Medical Plan which might otherwise be charged at a rate of $2 per dose for an over-all estimated saving of $1,246,000.



Disease control—A number of public health nurses work with young people in metropolitan areas. Many health problems are brought to their attention and this picture illustrates the casual approach toward what might otherwise be a difficult problem. The young couple in the photograph are members of the staff at the Vancouver YMCA-YWCA and acted as models to illustrate one facet of the work of a public health nurse in the city.

HEALTH AND OUR ENVIRONMENT

Work under this main heading is carried out by the Division of Environmental Engineering, the Division of Public Health Inspection, and the Division of Occupational Health. The reports of the three divisions are given separately as follows:

ENVIRONMENTAL ENGINEERING

The work of this Division is divided about equally between approving plans and specifications, under the *Health Act,* of all proposed public waterworks within the Province, and consulting with Medical Health Officers and their staffs on matters of small water supplies, small sewage-disposal systems, solid-waste disposal, public swimming-pools, and subdivision developments. Records kept include water analyses, master plans of water systems, fluoridation, public swimming-pools, and pollution control permits.

Water Systems

A Health Department final certificate of approval must be obtained by the owner of a public waterworks system prior to construction of the works. This year, 380 certificates were issued, an increase of 88 over last year. The review of plans and specifications for public waterworks has promoted a good standard of design. A waterworks design manual is near completion and will be made available to municipalities and design engineers. The manual should help to raise the standard of design even further. Copies of published *Water Quality Standards* are available on request.

It is noted that water quality for many municipal water systems is deteriorating with respect to æsthetic features such as colour and turbidity. Unless the water purveyor is prepared to buy the land which effectively controls access to his watershed or gain this control in some other way, water-treatment plants will be necessary in order for these municipalities to meet the high standards for acceptable drinking-water supplies.

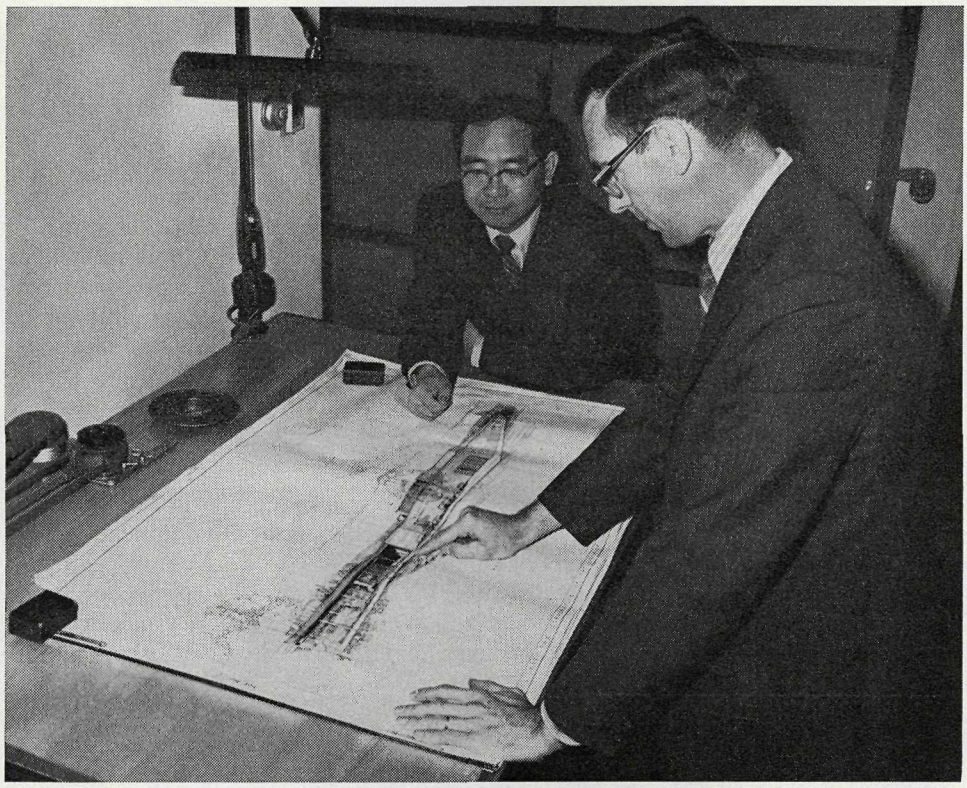
One of the major roles of the Division is to offer consultative engineering services to municipalities on subjects relating to environmental control. During 137 field visits, engineers inspected waterworks for the purpose of reviewing operation to ensure public health safety.

Pollution Control

All pollution control permit applications are reviewed jointly by the Division and the Medical Health Officer affected. The departmental policy requiring minimum primary-sewage treatment and the British Columbia recommended water-quality standards act as the principal guidelines for recommendations to the Pollution Control Branch concerning these permit applications. There was a dramatic increase in the number of permit applications referred to the Division in 1971 and it is expected the rate of increase will continue until the backlog of registrations is depleted.

Fluoridation

The investigation of fluoridation systems throughout the Province continued this year and recommendations were made to the Director of Preventive Dentistry regarding a supplementary control programme.



Engineering—Provincial Environmental Engineers review swimming-pool plans as consultants to local medical health officers. In this photograph they inspect plans for a swimming-pool at Kitimat, which was completed in 1971.

Swimming-Pools

The second edition of a swimming-pool manual was published. While the first edition (1969) dealt with the operation of larger municipal pools, the second edition focused on the smaller motel and apartment pools. The manual was given to an estimated 450 persons who attended a one-day short course offered at various centres throughout the Province. The course was presented by the engineers in co-operation with a number of health units.

Other Projects

Projects which were initiated in 1970 continued during 1971, and other activities are summarized below.

- Several units of a pre-fabricated sewage-treatment plant designed for a single home were tested in two health units. These plants performed very well and may prove to be satisfactory for certain residential lots unable to accommodate the conventional septic tank system.
- Another interesting project this year involved a mysterious chlorophenolic taste and odour in a waterworks system. After extensive sampling and testing, the cause was found to be the inside coating of a section of new pipe used in the distribution system. Half a mile of large-diameter pipe was replaced and the problem disappeared.

- Consultative services to the Medical Health Officers continued to be an important function of the Division. Engineers made 190 official visits to health unit offices. Services offered are largely dependent upon knowledge acquired by the staff at short courses and conferences which they are able to attend.
- Conferences attended this year included Environmental Management, Vancouver; Noise Abatement in the Seventies, University of British Columbia; Noise and the Environment, Vancouver; Public Works Association of British Columbia, Prince George. A short course on backflow prevention held in Los Angeles, California, was exceptionally worthwhile and a programme of education and promotion in this important public health measure is planned for the next few years. Another short course on Water Quality Studies given in Corvallis, Oregon, provided very much needed information in this changing field of sanitary engineering.

Public Education

The members of the Division accepted a number of requests to speak to service clubs, church groups, special interest groups associated with the environment, technical and professional groups, and school children.

Technical papers were presented to the B.C. Water and Waste School at the University of British Columbia, the Water and Waste Conference in Vancouver, the Provincial Aquatics Conference in Vancouver, and a University of British Columbia

Public health inspection—The tasks of public health inspectors in the Province are many and varied. In this photograph the Provincial Director of the Division of Public Health Inspection and a public health inspector are seen taking part in a Victoria television programme. The subject under discussion was cooking and holding temperatures for turkeys.

engineering extension course—Legal Aspects of Water Resource Management—in Vernon.

A brief was presented to the Pollution Control Board hearing in Victoria.

PUBLIC HEALTH INSPECTION

The Division of Public Health Inspection has been active in

- evaluating the programmes of public health inspectors by gathering statistical data and carrying out a time study;*
- revising the policy and procedure manual for public health inspectors;
- preparing pamphlets on the services provided by public health inspectors;
- reviewing plans of private water supplies and septic tanks;
- promoting educational television and radio programmes;
- writing food premises regulations and amendments to mobile-home parks, camp-sites, and sewage-disposal regulations.

Surveys

A bathing beach sampling programme was undertaken from June to August 1971

- to compare the total and fæcal coliform counts;
- to determine the optimal sampling frequency for beach waters;
- to assess the value of the fæcal coliform test.

Sampling was done by four Provincial health units and the Vancouver City Health Department. The results suggest a single standard (the fæcal coliform test) should be adopted for evaluating water quality used for primary contact recreation, and that the standard be applied to fresh, estuarine, and marine waters.

Educational Activities

The Director of the Division of Public Health Inspection has worked closely with the British Columbia Institute of Technology as a member of the Environmental Technology-Public Health Advisory Committee. The Health Branch provided field training for 10 students, and members of the Health Branch have acted as examiners for the Board of Certification of Public Health Inspectors of the Canadian Public Health Association.

Health inspectors have co-operated with the administrators of the Public Health Inspectors' course not only with field training, but also by the giving of lectures.†

Activities With Other Departments

The following points illustrate the Division's activities with other Government departments:

- Public health inspectors have worked very closely with Regional Districts, the Department of Highways, the Department of Municipal Affairs, and the Lands Branch in the control of subdivisions. Health Branch officials on the Interdepartmental Subdivision Committee assisted with the preparation of subdivision regulations.
- The Division has co-operated with the Department of Agriculture and the Vancouver Health Department to improve the quality of soft ice cream.
- Close liaison with the Federal Department of Fisheries has resulted in good control over commercial shellfish operations.

* *See* Table IX.
† *See* Table X.

OCCUPATIONAL HEALTH

RADIATION

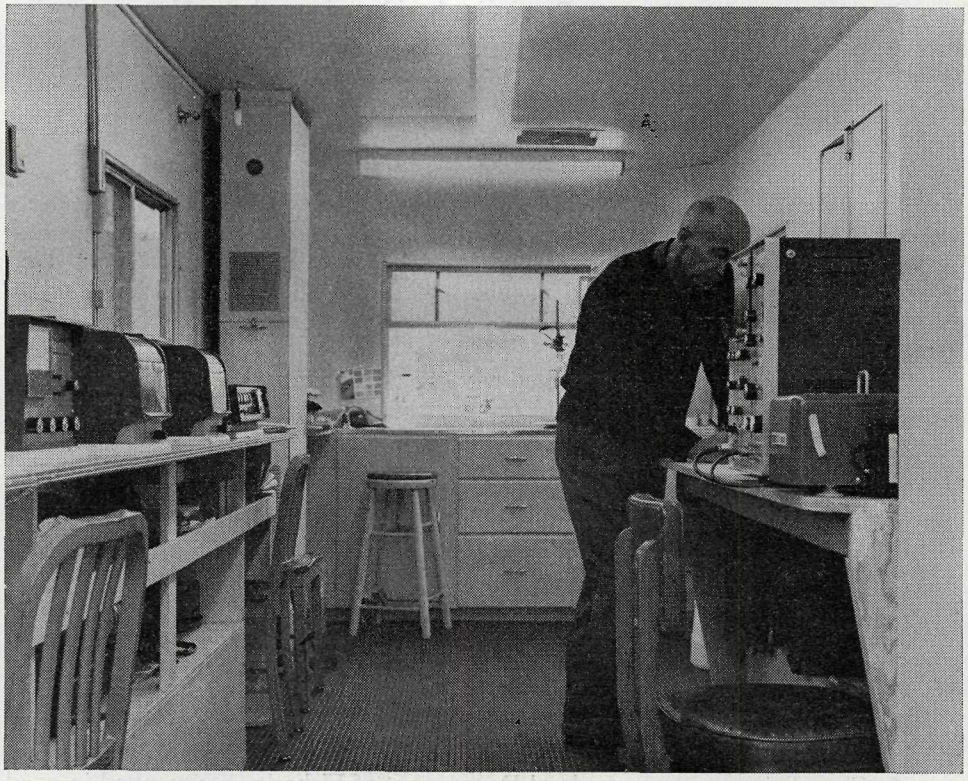
The Division of Occupational Health is responsible for radiation protection services in British Columbia.

Radiation emitting devices are no longer solely in the hands of the professional man or scientist, but are found in homes, schools, commercial establishments, and industry.

Man is becoming more concerned with his environment. Radiation can be a health hazard. Can it be reduced? International recommendations, national regulations, and professional codes of ethics are requiring a reappraisal of the situation with a view to a further reduction in the permissible limits, as more and more of the population is being exposed to this possible hazard. This increased concern is evidenced by the inquiries and the workload of the Radiation Protection Section.

In the case of radioisotopes, it is also of interest to note the comparison in the size of sources being used in industry. In 1962, the largest Cesium-137 source was 750 millicuries, today there are a number of sources throughout the Province of 5,000 millicuries. This increase in size brings with it increased problems of containment and radiation protection, and during the year samples from 48 industries were checked by the section and found to be clean.

There have been 18 inquiries or investigations during 1971 involving suspected or actual over-exposures to radiation and damaged shipments of radioactive



Radiation—The increasing use of electronic equipment poses the possibility of radiation leaks, which might be damaging to human health, and therefore the Health Branch has assembled sophisticated monitoring and testing equipment such as that shown in this photograph. It is available at all times to test possible radiation leaks.

materials. Two persons who received over-exposures to medical X-ray may experience serious health problems as a result.

With the increasing use of radioactive sources there is an increase in the likelihood of radiation-induced burns from the units involved. The radiation section now has instruments to check these units and a Provincial survey programme will be instituted as soon as staff can be trained.

As detailed in previous annual reports, the Tri-University Meson Facility (TRIUMF) on the campus at the University of British Columbia and the quarter scale working model are both progressing according to schedule. The model, known as Central Regional Model, has been partially activated to the stage where it has produced some radiation which caused concern by the radiation safety group, as there was no instrumentation available to measure it.

As previously reported, progress is being made in negotiations for the approval of a Provincial storage area for radioactive wastes from all parts of the Province.

Three American nuclear submarines have paid visits to Canadian waters, necessitating continuous environmental monitoring during their stay, which has been up to five days duration.

Acting as the advisers to the Atomic Energy Commission and the British Columbia Hospital Insurance Commission, the section has been called on by a number of hospitals in the Province to give active consideration to the danger and protection requirements for hospital radioactive installations.

Other Activities

The Director of the Occupational Health Division has been involved in numerous other activities appertaining to environmental health which include: Advisory Committee on Agricultural Pesticides; Interdepartmental Committee on Pesticide Use; TRIUMF Safety Advisory Committee; Health Department adviser to Pollution Control Branch for air pollution applications; Vancouver Regional District Noise Pollution Study and Nuclear Warships Local Authorities' Committee. The Division also provides consultative service on environmental and industrial hygiene matters to local health units and other departments of government.

SPECIALIZED COMMUNITY HEALTH PROGRAMMES

The Health Branch is responsible for the maintenance of a number of specialized programmes designed to help various sections of the community. These include people afflicted with a specific and sometimes rare disease, and elderly people and very young children requiring special care for a variety of reasons. Motor-vehicle and poisoning accidents are also covered by special programmes.

A summary of these is as follows:

KIDNEY FAILURE CORRECTION PROGRAMME

A kidney failure correction programme operated by the Health Branch is designed to maintain the life of patients who have kidney dysfunction and to reduce the cost of the care which otherwise would have to be given in hospital. There are approximately 75 hospital beds for patients with kidney dysfunction located at Vancouver, Victoria, Kamloops, and Trail. It is an expensive hospital service costing $18,000 per year per bed. As 25 to 30 patients are admitted each year, it is necessary to discharge this number of patients either to home dialysis or to have a kidney transplant. Patients can be maintained in good health with an artificial kidney in their own home, where the cost is less than $2,000 a year per patient. It is an efficient method of caring for these patients.

It takes approximately two months to train a patient to operate an artificial kidney machine. There are three centres at which patients may receive this training, located at the Vancouver General and St. Paul's Hospitals in Vancouver and the Royal Jubilee Hospital in Victoria. Approximately 25 patients per year receive this training. At the present time there are 76 patients being maintained at home.

Most patients are placed on a hæmodialysis programme whereby an artificial kidney functions to wash impurities from the blood. Each patient is required usually to dialyze his blood through this machine for approximately 10 hours, three times a week. In order to operate the necessary equipment, plumbing and electrical changes in the house are required amounting to $7,000. The dialysis solution, supplies, and drugs cost about $2,000 a year. Most patients are maintained in good health and are able to pursue normally productive lives engaged in their usual occupations.

There are some patients who for one reason or another cannot be placed on an artificial kidney. They may be placed on an alternative method known as peritoneal dialysis. Although this requires large quantities of solution at a relatively high cost, approximating $8,000 per year, it permits the patients to be ambulatory and gainfully employed while controlling the disease symptoms. It is a less costly procedure than hospital dialysis. This method of dialysis was providing therapy for 11 patients as the year ended.

The hospitals which undertook the distribution of the dialysate and other supplies to each patient are finding it to be an administrative burden as the numbers increase. Plans are being made to establish a central depot for dialysis equipment, supplies, and drugs through the pharmacy at Willow Chest Centre. A warehouseman has been employed to assist the pharmacist and expansion of storage accommodation is to be undertaken. Technical improvements in home dialysis equipment have occurred. A much more efficient artificial kidney is now being used that is only half the weight of the original 70-pound earlier models. One hospital is con-

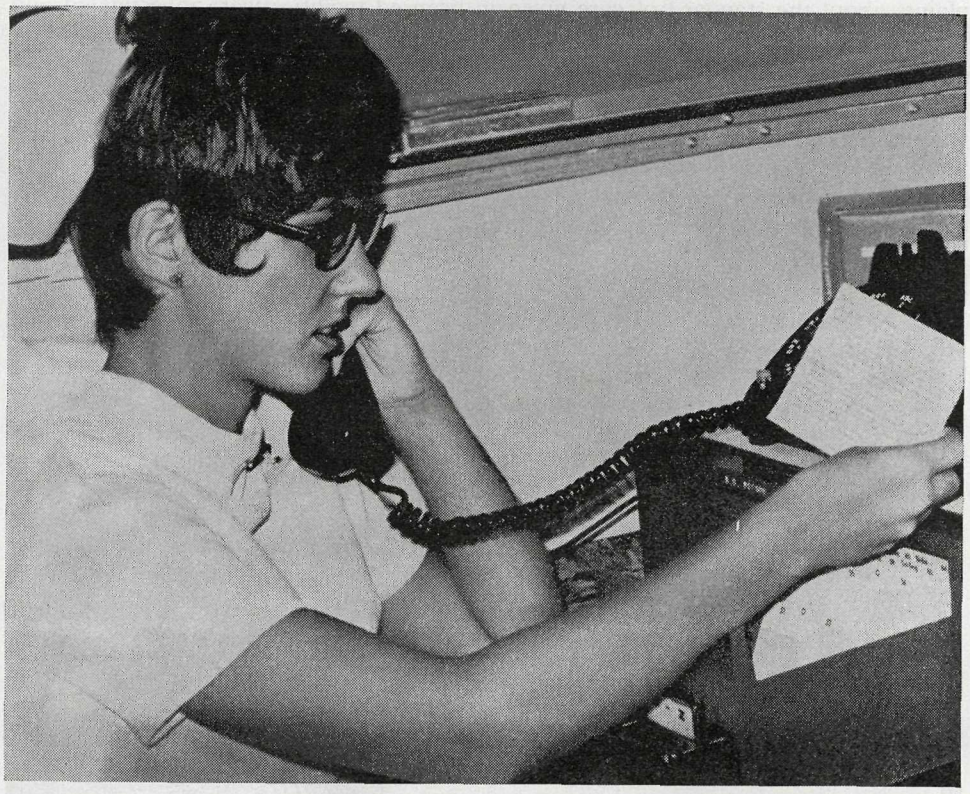
ducting a trial of a surgical union of an artery and vein from which to draw blood so as to reduce the complication of the blood clotting. Other changes are proposed but have not reached the production stage.

AGAMMAGLOBULINEMIA

There are now eight people with this rare condition receiving free monthly injections of immune serum globulin on a permanent basis. A number of applicants were rejected this year because the Advisory Committee to the programme did not feel that the medical indications for providing this product were sufficient to justify a commitment to supply this expensive medication.

POISON CONTROL

Ten more hospital-based poison-control information centres were established this year, to bring the total to 56. Well over 7,000 cases of accidental poisoning or drug abuse were reported during the year. It was not possible to open the planned Provincial referral centre due to lack of space at the Vancouver General Hospital, where it is to be located. However, all the equipment is now ready and it is hoped that space will be available in the new year.



Poison control—In this photograph a hospital nurse in Vernon consults the poison-control file in order to give fast service on emergency calls. There are 56 such centres in the Province.

MOTOR-VEHICLE ACCIDENT PREVENTION

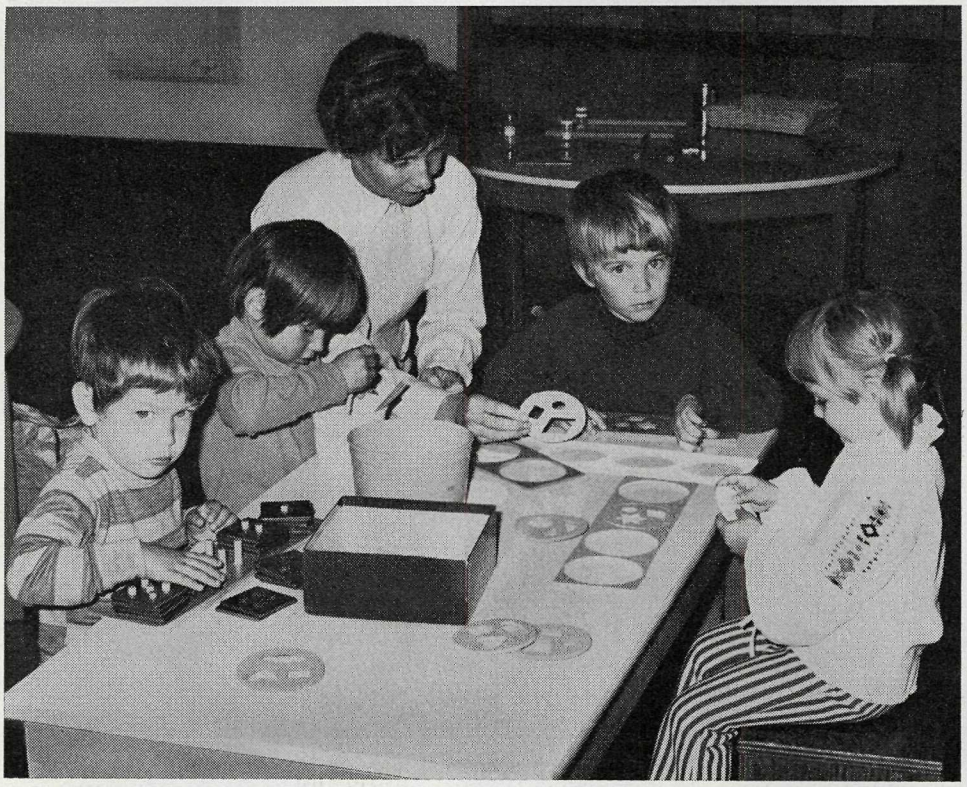
Again this year the Health Branch provided a consultative service to the Driver Licensing Division of the Motor-vehicle Branch by giving advice on the ability of persons with medical defects to drive safely. The revision of the booklet *Guide to Physicians in Determining Fitness to Drive a Motor-vehicle* is almost complete and it should be ready for distribution within the next few months. It is hoped that this guide will form the basis for Canada-wide standards.

COMMUNITY CARE FACILITIES LICENSING

The administration of the *Community Care Facilities Licensing Act* was transferred to the Minister of Health Services and Hospital Insurance this year, and the professional staff who carry out the licensing procedure called for under the Act were placed in the Health Branch.

Implied in the transfer was the need to give a greater emphasis to the physical, nutritional, and social well-being of approximately 92,000 persons, adults and children, in 1,100 licensed facilities throughout British Columbia.

A member of the Health Branch staff continued to act as Chairman of the Interdepartmental Licensing Board set up under this Act so that board policy and staff activities and inspections could be fully co-ordinated. As in past years, complaints about the standard of care given in licensed facilities were investigated and



Community care facilities—Fun for Fingers. Services to children in the Health Branch Group Day Care Programme is one of the fastest growing licensing activities. Children, such as those shown in this picture, are learning to develop social as well as tactile skills under the capable guidance of a fully qualified pre-school supervisor.

corrective action taken. In two instances, where deaths resulted from accidents in licensed rest homes, the coroner's jury made strong recommendations about the need for better supervision. The new regulations that are now being drafted will require a higher level of supervision for elderly guests.

Toward the end of the year, four personal-care homes were being planned under Government auspices.

Occupational health—There are 3 centres in the Province where employees of the Provincial Government may obtain advice on health problems. In this picture a Health Branch doctor examines a Government employee at the Victoria office.

EMPLOYEES' HEALTH SERVICE

The Provincial Government Employees' Health Service, operated by the Division of Occupational Health, has continued to give a variety of services to employee groups in Vancouver and Victoria (*see* Table XII). Moreover, in the Riverview area, due to an outbreak of salmonellosis, it was necessary to start health screening of all new food handlers, while extensive stool sampling of the present employees was carried out over a period of five or six months. In September, an extra nurse was provided by the Mental Health Services to expand the over-all programmes such as health screening, infection control, and safety instruction at Riverview, Valleyview, and The Woodlands School.

Early medical treatment can make a positive contribution to the productivities of employees in industry by improvement in the efficiency of patient treatment. To this end, the Division of Occupational Health endeavours to work with the practising physician in providing such ambulatory, diagnostic, therapeutic, and rehabilitative services as are feasible on the job. All but a small proportion of ill or injured employees can return to work after treatment at a physician-sponsored industrial health clinic with minimal time lost.

It is encouraging to note that a medical clinic in the Vancouver area is interested in developing an occupational health service for surrounding industry. The Division advised the clinic of the importance of establishing a service which is efficient in its handling of patients (employees) and also expeditious in its dealings with environmental problems within a plant.

The Director of the Occupational Health Division has been Chairman of the Civil Service Commission Screening Committee, which is set up to review cases of employees who have become incapacitated while employed in the Service. The purpose of this committee is to re-establish the employee in a job.

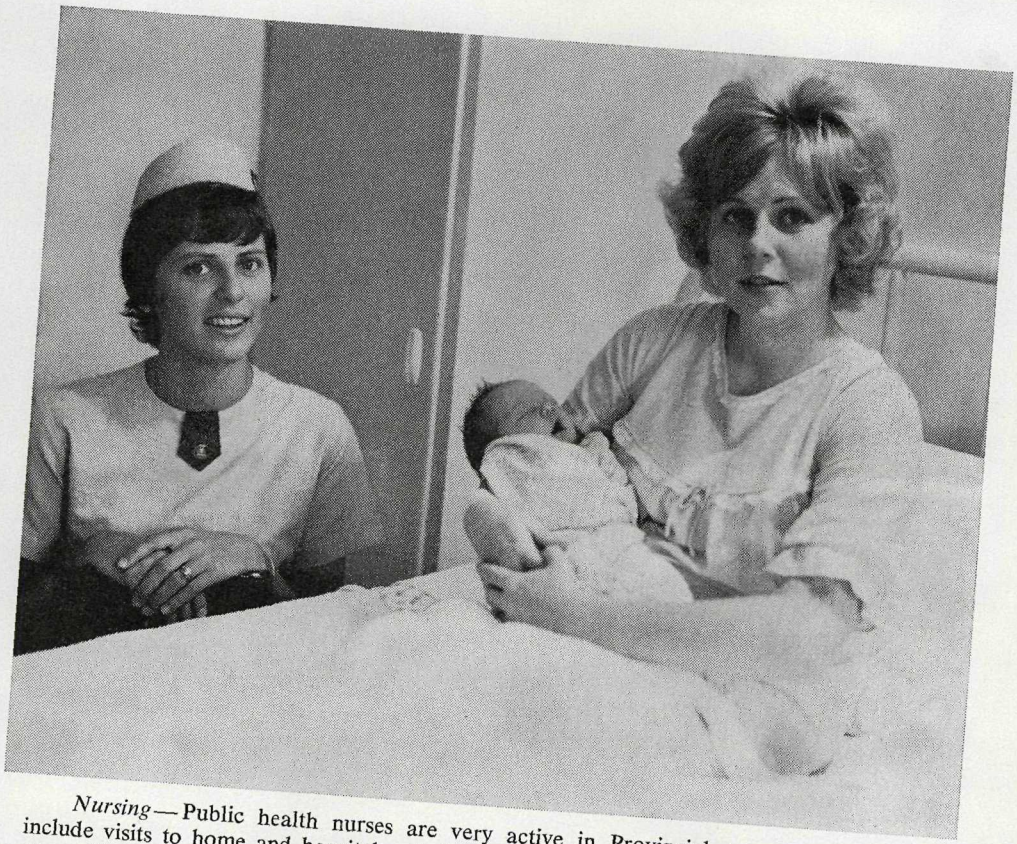
In October, the Civil Service Commission announced a programme dedicated to the recognition and treatment of alcoholism within the Government Service. Alcoholism is regarded as an illness and the programme is based on the rehabilitation of the problem drinker.

COMMUNITY HEALTH NURSING

Public health nursing is a family health service given in a community setting which involves working with families to help them improve their health and prevent illness. It includes the provision of screening for physical and emotional defects, the giving of nursing care, and immunizations.

In summary:

- All segments of society are served by the public health nurse, who works in a variety of settings such as homes, schools, health centres, and institutions.
- Programmes and services to selected age-groups vary. Where a "risk" factor exists a focal point for health promotion is provided.
- The public health nurse is able to extend her professional skills to many more people by utilizing assistants such as registered nurses for the nursing-care programme, health unit aides, volunteers and incentive trainees, and for other routine activities which do not require professional training in public health.*



Nursing—Public health nurses are very active in Provincial communities. These include visits to home and hospital and this picture shows a member of the nursing staff counselling a young mother at Vernon Hospital, preparatory to going home.

* *See* Table XI.

- Public health nursing service is provided within the established policies of the Health Branch and the health unit concerned so that similar public health nursing services are available to all the residents of the Province.
- The Public Health Nursing Division provides nursing consultant service to assist health units evaluate their programme so that services can be carried out as efficiently and economically as possible.
- To maintain a high quality of service relevant to changing social and economic conditions the Public Health Nursing Division plans and arranges for professional training to enable the public health nurses to keep their clinical expertise in public health nursing up to date.
- The public health nurses made 169,450 visits to homes to provide family service and in addition gave 206,618 individual professional services by telephone. (*See* Table VIII).

HOME CARE

Home care represents an important method of delivering health care in a setting other than an expensive hospital or institution, and thus it is an efficient and economical way of caring for persons at home who need part-time nursing and related health services. It is part of the generalized public health nursing programme given under the medical direction of a private physician.

As well as the public health nurse, various health workers are utilized for the benefit of individual patients. These include registered nurses, physiotherapists, orderlies, visiting homemakers, meals-on-wheels personnel, visiting volunteers, occupational and recreational workers.

- Home care is available in 113 communities to about 80 per cent of the population in health units. During the year the Kamloops service extended its area to include Valleyview municipality, and a new service commenced at Fort St. John.
- There were 82,296 home visits made for general nursing service which represents a 6-per-cent increase over the previous year. Sixty-nine per cent of patients on service were over 65 years of age.
- There were 10,827 additional home visits made to patients receiving care for emotional disorders. This included patients discharged from a psychiatric unit of an acute or psychiatric hospital, as well as services provided to the retarded.
- Ninety-four per cent of the patients receiving psychiatric mental health follow-up were under 65 years of age, with approximately 50 per cent being adults.
- At the accepted charge to the British Columbia Medical Plan of $2 for nursing visits by a voluntary nursing organization, an estimate of the saving to the plan represented by home care visits carried out by public health nurses is $186,000.
- A special home-care project was initiated in the Simon Fraser Health Unit in co-operation with the Royal Columbian and St. Mary's Hospitals. This project was designed to provide detailed information concerning the type and cost of a comprehensive service required for the early discharge of patients from acute hospitals to determine the types of patients and diagnosis most suitable for discharge. It includes the provision for measurement of change, by diagnosis, in the average length of hospitalization.

PUBLIC HEALTH PHYSIOTHERAPISTS

The primary responsibility of consultant public health physiotherapists, now serving in nine health units, is the promotion of rehabilitation nursing in the home care programme. During the year public health physiotherapists, who have also contributed to general health service, made 1,826 home visits, assessed 787 patients, and did 892 reassessments. (In 1970, home visits totalled 1,267, of which 521 were individual assessments and 566 reassessments.) Liaison with institutions which provide treatment service is necessary to ensure that rehabilitation nursing is carried on in the home situation and 432 liaison visits were made.

In addition, the public health physiotherapists provided instruction and education to public health nurses at 111 group sessions and in 439 individual case conferences. They also provided consultation and assessment for children in schools and kindergartens, where teachers were concerned about the muscular co-ordination of certain children, and thus have been most helpful in arranging needed care as indicated.

Physiotherapy—A Provincial physiotherapist demonstrates and explains the benefits of exercise to a senior citizen.

MENTAL HEALTH

In this programme the primary objective of the public health nurse is to prevent the development of mental illness, and to identify individuals who show early signs of potential illness so that they may be given assistance and thus avoid early breakdowns. In the course of their routine work, public health nurses see families in crisis situations so that they are particularly suitable and available to provide help when there is a high risk factor for potential breakdown. Special efforts are made to identify potential problems in home visits, child health conferences, prenatal classes, and schools.

- During the year public health nurses made 7,201 visits for primary prevention which represents a 22-per-cent increase over last year.
- In addition, they made 10,827 visits for secondary prevention to patients under care for emotional disorders.

YOUTH SERVICE

As it was believed that there might be a great influx of transient youth to the Province during the summer months, which would result in increased communicable disease, particularly venereal disease, arrangements were made for public health nurses in health units to provide special assistance to meet the possible health needs of transient youths. Special kits of literature and medical supplies were made available to all offices. During the period June through August, 698 transients were seen by public health nurses and approximately one-third of this group came to the health unit offices, the remainder being seen at youth hostels. Individual services numbering 768 were given. Varied reasons were given by the young people for seeking assistance:

- The majority (389) came because of minor injury, illness, skin infections, or intestinal disorders.
- 107 were seen for suspected venereal disease.
- 89 for general health information or advice on finance.
- 51 for contraceptive advice.
- Eight because of emotional disturbance.
- Eight because of drug abuse.

It is believed that the special programme for travelling youth probably prevented more serious health problems from developing, as needed care was given or arranged at an early stage.

ADULT AND GERIATRIC SERVICES

An important part of the work done by public health nurses is with adults for general health supervision. During the year, there were 45,987 visits for general health appraisal. This resulted in many persons obtaining early diagnosis, treatment, and care for medical conditions, and included general health guidance, nutrition advice, and referral to other agencies for further attention.

- Family planning counselling is included in discussions with parents at expectant parent classes, and in individual discussions at the time of home visits or at special clinics held in some health units.
- Adults receive special attention under special programmes, as noted elsewhere, particularly in relation to communicable disease control, home care, and maternal care.
- 56 per cent of the general health supervision visits and almost 70 per cent of home care visits were made to patients over the age of 65 years.

SERVICE TO INDIANS

Certain Indian reserves are provided with public health nursing service from health units through a special arrangement with the Medical Services Directorate of the Department of National Health and Welfare. One reserve at Parsnip River was added, so that public health nurses now serve 72 reserves with a population of about 9,400 Indians. It is interesting to note that close to one-third of the 50,663 Indians in the Province now live off the reserves and receive the same general health service as the non-Indian population. In addition, school health services are provided by public health nurses to all the Indian children who now attend Provincial schools.

AUXILIARY WORKERS FOR PUBLIC HEALTH NURSING PROGRAMMES

It has been possible for public health nurses to continue to provide a good quality of professional nursing service in spite of rising case loads by utilizing the services of auxiliary workers who have been trained on the job to do essential routine work. During the year, volunteers gave approximately 12,000 hours of their time which is equivalent to more than eight full-time workers. In addition, health unit aides extended their activities into the community setting where they have been able to assist public health nurses in schools and clinics. Incentive programme trainees also rendered valuable assistance (*see* Table XI).

MATERNAL AND CHILD HEALTH

Classes for expectant parents continue to be popular as indicated by an over-all increase of 30 per cent in attendance over the previous year. Of the classes, 60 per cent are open to both parents. Public health nurses centre their teaching around the physical and emotional problems of pregnancy, normal development, changed family relationships, nutrition, family planning, and include recommended relaxation exercises.

- Classes were held at 64 health centres where a total of 379 series were presented. It is estimated that around 50 per cent of all new mothers attend classes prior to the birth of their first baby.
- 4,659 expectant mothers took part, or 28 per cent more than last year, while 1,967 fathers attended, which is a 28-per-cent increase over last year.
- In addition, public health nurses made 4,447 prenatal and 20,123 postnatal visits to discuss maternal and child health.

INFANT AND PRE-SCHOOL CHILDREN

As prompt attention to potential health problems of early childhood will prevent these problems from becoming serious at a later date emphasis is placed on early case finding and arrangements for treatment and care. Public health nurses are involved in a number of programmes where they have the opportunity of assessing the health status of young children, in special clinics, child health conferences, kindergartens, and play groups, as well as in the home situation. Screening programmes include testing for hearing loss, vision, retardation, deviation from normal growth and development. A number of health units are using the standardized Denver Developmental Screening test, to assess for motor, language, and personal social development. More emphasis has been directed to the 3- and 4-year-old child.

- Public health nurses made 34,006 visits to homes of infants for general health assessment and counselling.
- 80 per cent of new-born infants received one visit from a public health nurse during the important first six weeks of life.
- 17,211 infants attended child health conferences which had a 5-per-cent increase over last year when public health nurses provided 18,822 individual services and counselling sessions.
- 6,966 pre-school children attended child health conferences where there was a 22-per-cent increase of children attending and the public health nurses provided 88,613 individual services.
- Public health nurses made 29,746 visits to homes on behalf of pre-school children of which 1,250 were for primary and secondary mental health problems.

SCHOOL HEALTH

This year a revision of the school health programme procedure manual was prepared jointly by members of the Department of Education and the Health Branch, and has been distributed to health units, district superintendents and school principals. This revision clarifies the responsibilities of health and education personnel and points up areas in which close co-operation is essential.

The school child continues to receive a major part of the time and attention of the public health nurse as well as the services of other members of the health unit staff—the health unit director, the public health inspector, the preventive dentistry team, and in some areas the speech therapist. Through the co-operation of the public health nurses, services are made available from the mental health team and many local and Provincial health and welfare services.

At 5 years of age approximately 70 per cent of children in British Columbia attend kindergarten and by 6 years of age virtually 100 per cent come under the surveillance of school and public health personnel. One can therefore appreciate the great potential for preventive health measures through the school health programme.*

Increasing emphasis on pre-school screening, particularly at the 4-year-old level, has an influence on the school health programme. If a pre-school child is found to be below the usual level of development for his age, the nurse works with the parent and the child to introduce activities which will help him to develop appropriate skills. Before the child enters school, either kindergarten or Grade I, the nurse gives the school principal any information which may be significant to the child's adjustment to school, such as health or developmental problems or cultural deprivation. This approach is in keeping with the concept of prevention and early remedial treatment and can have a far-reaching effect on a child's emotional health and his ability to adjust successfully to school. The public health nurse also tries to ensure that immunization is brought up to date before a child starts school. Table XIV shows that a high percentage of children have basic immunization prior to entering Grade I.

Another change has been the increasing use of auxiliary workers to assist nurses in schools. In the school year 1970/71, auxiliary workers employed as health unit aides and others who serve as volunteers have performed about 62,000 screening tests for vision and hearing as well as helping at immunization clinics. This assistance has freed the public health nurse for other work such as consultation with teachers and home visiting.

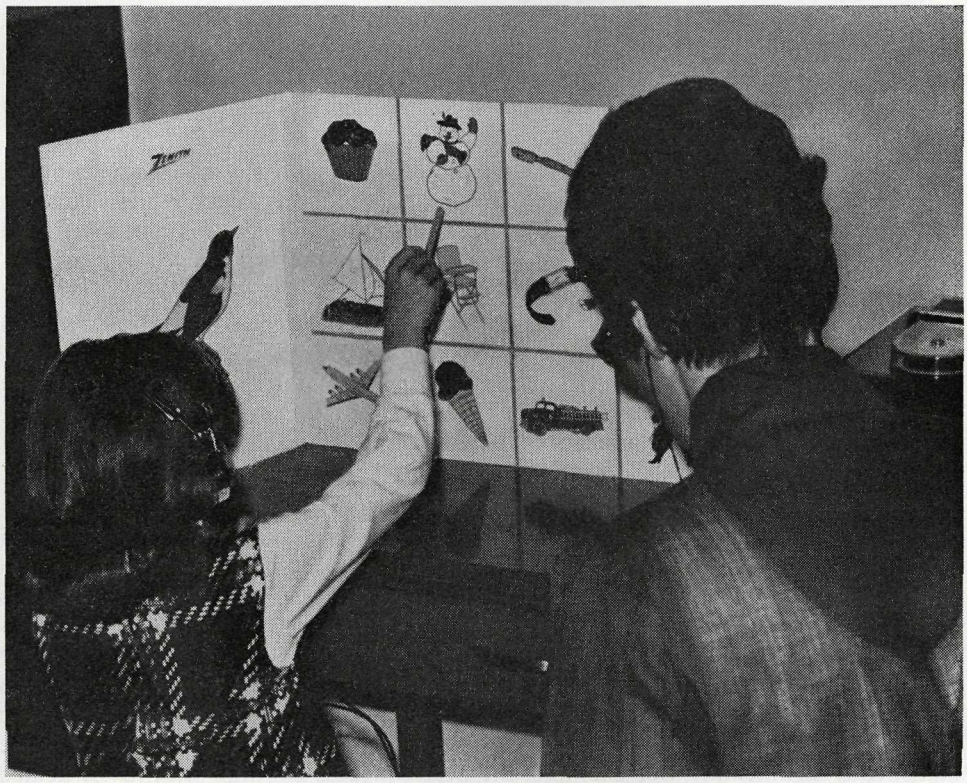
Rather than make routine inspections of large numbers of healthy children the nurses select children who have special needs. The teacher is a valuable ally in this selection. Her daily contact with a child familiarizes her with his usual appearance and behaviour and she can recognize early changes. She also has the opportunity to observe him in relation to his peers. In the past school year 15.3 per cent of school children were selected for special attention by the public health nurse and 7.5 per cent were referred by her for further care. (*See* Table XV.)

During the year public health nurses provided 267,245 individual services to pupils in schools, while 6,409 formal conferences were held with classroom teachers to review the health status of the children.

---

* *See* Tables XIII, XIV, and XV.

In addition 60,445 unscheduled conferences were held with teachers and the public health nurses participated in 2,126 teachers' meetings. The number of sessions held by the public health nurses with groups of pupils more than doubled, to 3,521 sessions. A total of 44,217 home visits were made on behalf of school children and 16 per cent of these visits involved emotional health problems.



School health—An audiologist tests a youngster's hearing with an audiometer in the Child Health Programme.

With an improved standard of living, extensive medical care coverage and increased preventive health care, physical defects are causing less concern than emotional problems. The most frequently discovered physical problems are defects of vision and by the time students reach Grade X about one-third are wearing glasses and would have been handicapped to some degree if the condition had not been discovered. Another aspect of physical care is immunization, and nurses have a responsibility for keeping protection at a high level, through offering reinforcing immunization in Grades I, V, and X.

In the area of mental health, in recent years public health nurses have had more preparation and in-service education on how to promote emotional health and deal effectively with children who have emotional problems. Support and guidance given early to the child, the family, and the teacher often result in preventing the development of a more serious problem.

PREVENTIVE DENTISTRY

The objective of the Division of Preventive Dentistry is to endeavour by all means available to improve the dental health status of the people of British Columbia. Ideal dental health status is the complete absence of oral diseases and dento-facial abnormalities. As yet but few persons may anticipate a lifetime completely free of oral disease (dental caries or periodontal disease), but a person's dental health may be very significantly restored by regular dental treatment and maintained by daily meticulous oral hygiene.

During 1971 results of two nation-wide dental health surveys were reported. The first included 12 dental health indices, and each was recorded for children between the ages of 5 and 16. Results were reported for each province and for all Canada. The children of British Columbia ranked in the first three positions in a majority of such age-specific indices.

The second national survey was carried out by adding a few selected dental questions to a labour force survey routinely conducted by the Dominion Bureau of Statistics. Results of this survey reported in British Columbia, on an average, more persons visited a dentist than in any of the other four regions (Maritime, Quebec, Ontario, Prairies), and this applied in all age groups, including those under 14 years of age.

In British Columbia a dental health survey is carried out each year by Provincial authorities in one of seven regions. In 1971, close to 1,500 children aged 7–15 years in the Vancouver Island Region were dentally examined. Comparisons with the last survey in this region in 1961 are difficult since this year four school districts were included which were not on the previous occasion the responsibility of this jurisdiction. Furthermore, in all these four districts there is an acute shortage of dental manpower and these children represented approximately 18 per cent of the total sample. In spite of this dilution some modest improvements were found in the dental health status of the children of this region and were demonstrated to be statistically significant. For example, the percentage of children with no untreated carious teeth at the time of examination increased from 13.7 per cent in 1961 to 16.1 per cent in this 10-year period. Also statistically significant was a decrease from 25.9 per cent to 22.1 per cent in the proportion of all children who had lost one or more permanent teeth. However, there are no grounds for complacency when we note that both in 1961 and again in 1971 there were 28 per cent of all children in the category "Neglected treatment for dental caries," i.e., having cavities but not one tooth restored. A great deal more needs to be done to decrease the prevalence of dental caries, as well as periodontal disease and malocclusion. Especially is this true for low and lower-middle income families, who find great difficulty in meeting the costs of treatment. As the result of failure to provide treatment, the child may become a life-long dental cripple.

Active concern for these children is growing rapidly. By resolution at the 1971 Annual Meeting of the Associated Boards of Health of British Columbia, their executive was directed to explore forthwith means by which a Dental Rehabilitation Foundation might be established to which parents of dentally neglected children might apply for assistance in the purchase of dental care for these children.

Under the direction of the Okanagan Regional Dental Consultant, a dentist with graduate training in public health, dental hygienists, dental assistants, registered nurses with training in preventive dentistry and appropriate clerical staff continue

to demonstrate how community dental health can be significantly improved with the utilization of such auxiliary personnel. In the fall of 1971 a similar but smaller programme commenced in the Fraser Valley, while a part-time programme operates in the Courtenay School District.

The successful results attained by the Okanagan dental hygienist programme have been well documented. For example, in 1965, prior to its activities in the Kelowna school, 53 per cent of the Grade I pupils were in need of dental treatment when examined in the schools. In 1971 only 36 per cent were in this category. Furthermore, in 1965, 24 per cent of these children had teeth extracted prematurely because of dental disease, but in 1971, only 11 per cent were so classified. As a result, the expansion of the dental hygiene programme is being considered.

Some 30 communities, each without a resident dentist were visited during 1971 by young graduate dentists. To each was provided on free loan a complete set of modern transportable dental equipment including a dental X-ray unit. In most communities a subsidized dental-care programme for younger children was arranged, the costs usually being shared with the board of school trustees of the local school district. This past year, in the belief that the knowledge of the necessity for early and regular dental care is now firmly established in most families of these communities, in a few places all treatment for all ages was rendered solely on a fee-for-service basis. From this experience stems the opinion that this programme is entirely viable on this basis. Moneys saved by the deletion of the subsidized dental-care programmes for younger children will be utilized to provide travel and other allowances for more dentists to provide more treatment service in the same areas or extend this service to other areas and (or) for the extension of truly preventive programmes operated by dental hygienists or other dental auxiliary personnel.

To overcome difficulties in finding suitable clinic accommodation for the visiting dentist, when he provides all treatment on a fee-for-service basis, the North Okanagan Union Board of Health has purchased a mobile trailer. The cost has been shared between this Health Branch and the Okanagan communities that will benefit by this service.

Three-year-old birthday card dental programmes continue to expand. During the period September 1970 to August 1971 close to 8,000 three-year-olds thereby visited their family dentists, an increase of 17 per cent over the previous year. These children received, at no direct cost to their parents, a dental examination, with X-rays if considered necessary. In addition, their teeth usually were painted with a decay-preventing fluoride solution and the parents received counselling in respect to oral hygiene and dietary practices for the prevention of dental decay. Currently such programmes operate in 48 school districts and it is hoped that a further six may be organized during the coming year. Participation in these programmes ranged from approximately 50 per cent in programmes in newly organized areas to well over 80 per cent where they have operated under optimum conditions over several years.

At the close of 1971 there were 1,042 dentists licensed to practise in British Columbia, of whom 102 newly registered this past year. Of these 16 were graduates of the University of British Columbia. It is hoped that this school will increase its graduating class to 31 in 1972.

The ratio of population to dentist at the beginning of 1971 was 2,309:1, which ratio since 1958 has been steadily improving. During the past 10 years this ratio has significantly improved in the Kootenay and Okanagan regions but remains a matter of some concern in the northern and northwestern areas of this Province. However, it can now be reported that 35 dentists newly registering in this Province

this past year elected to practise outside the metropolitan areas of Greater Vancouver and Greater Victoria. Also helping to increase available dental services in British Columbia are 153 dental hygienists, of whom in 1965 there were but 15. In addition, by regulations proposed by the College of Dental Surgeons of British Columbia and passed late in 1970, certified dental assistants are being trained in three vocational schools in this Province. These auxiliary personnel will be trained and authorized to carry out in the oral cavity certain simple technical procedures which previously required the services of a dentist or dental hygienist. At the close of 1971 there were 102 certified dental assistants registered in British Columbia.

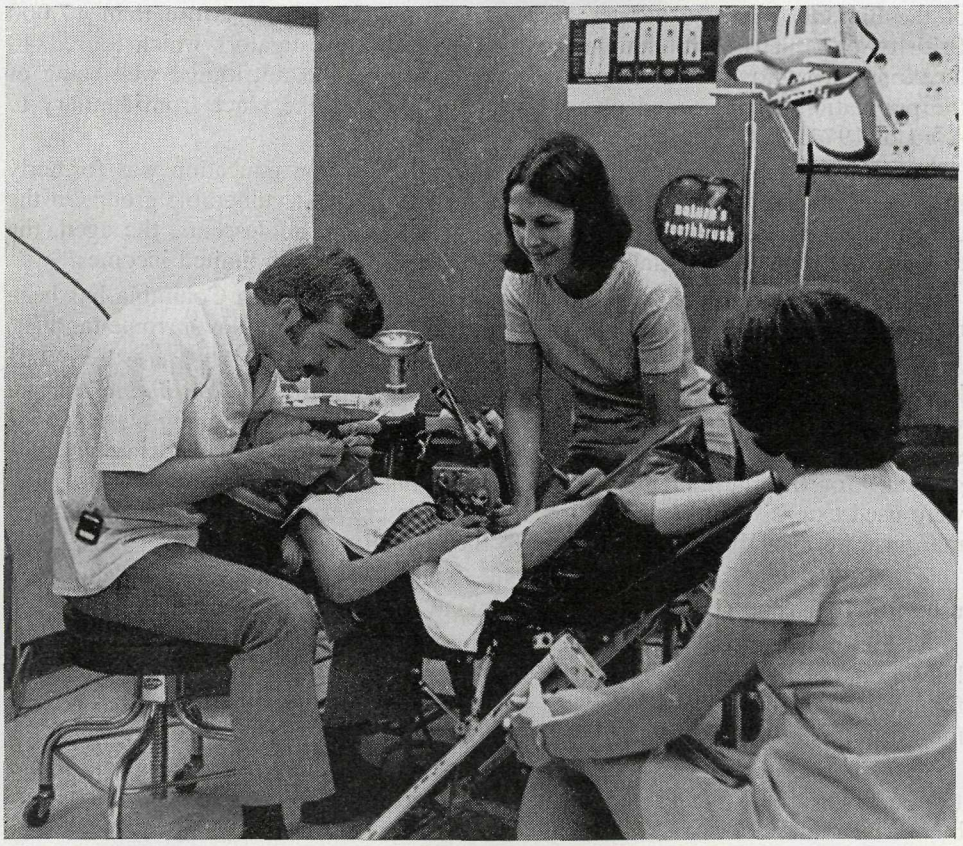
Dental brush-in—Grade III students at West Vernon Elementary School engage in a brush-in under the watchful eyes of a dental supervisor and her assistant. The youngsters are using self-applied prophylactic paste. Many children throughout the Province are checked for teeth disorders.

—Photograph courtesy of the Vernon News Ltd.

This Division continues to sponsor scientific clinical studies for the improvement of techniques for the prevention of dental diseases and abnormalities. During the past year two large-scale trials were initiated. Each included some 1,400 children initially in Grades IV and V, with one study being held in the Surrey School District and the other in six northern communities. Both studies are testing mouth rinses which in laboratory tests and animal trials showed great potential for the prevention of dental caries.

At the suggestion of a member of this Division, the Faculty of Dentistry of the University of British Columbia has applied for and received a research grant to develop a fluoride paste which would have an anticariogenic (decay preventing)

potential, and could be produced in quantity for large scale "brush-ins." This is a method of attempting to curb dental decay in children by the self-administration of a fluoride paste by means of a tooth brush. If the Faculty of Pharmacy is successful in its laboratory trials, a clinical trial of the effectiveness of the paste is planned.



Dr. and Mrs. David Gillett are kept extremely busy in Houston, British Columbia. As a recent graduate from dental school, Dr. Gillett and four others are spending a year touring various parts of the Province before settling down to regular practice. It is all part of a programme, in co-operation with the Health Branch, for pre-school children.

NUTRITION SERVICE

From June 28 to September 22, British Columbia participated in the first phase of the national nutrition survey—NUTRITION CANADA. More than 17,000 British Columbians were examined by the team of investigators which toured 40 locations throughout the Province collecting data on the nutritional well-being of the population. The second phase of the survey will take place from January to April of 1972.

In recent years the broad base from which nutrition education was formerly presented has had to be restricted to the nutritionally most vulnerable groups in the community. These are pregnant women, pre-schoolers, adolescents, the aged, the obese, those requiring special diet counselling, and those with limited incomes.

The area of concentration in nutrition education in British Columbia has been nutritional value for the food dollar with particular emphasis on low-income families.

Food buying slides have been reorganized and updated. Their use by public health nurses and home economics teachers under the title *Of Consuming Interest* was promoted for consumer groups, prenatal classes, family planning classes, high school home economics classes, homemaking classes for Indians, training programmes for visiting homemakers, and counselling low-income families. The slides were used extensively over television, and consumer cards carrying the same information were available for distribution to the general public.

A series of 55 basic low-cost recipes was developed for nutrition education using the four food groups as a guide to menu planning.

Consultative service was offered to the public in the form of curriculum guidelines for homemaker classes for those receiving social assistance and for low-income families. Individual counselling was given through the public health nurse to many multiproblem low-income families.

Weight-control information developed by the nutrition service was widely distributed throughout the Province for use primarily by the public health nurse and home economics teacher. *How to Be a Good Loser* slides and pamphlet were used as discussion guidelines for talks to weight-watching groups by members of the British Columbia Dietetics Association Auxiliary. A kit of materials for working with obese school children was used by several health units.

As a part of the health education programme for transient youth, a nutrition pamphlet entitled *Food for People on the Move* was prepared for distribution from health units, youth hostels, and kiosks, in order to provide practical nutrition information to this group in a readily acceptable form.

A programme of orientation of the public health nursing staff to the concept of nutrition education for the pre-schooler has been undertaken using materials from project Head Start of the United States Children's Bureau. Response has been favourable and the use of the film *Jenny Is a Good Thing* and other materials in child health conferences and pre-school discussion groups has begun in several areas.

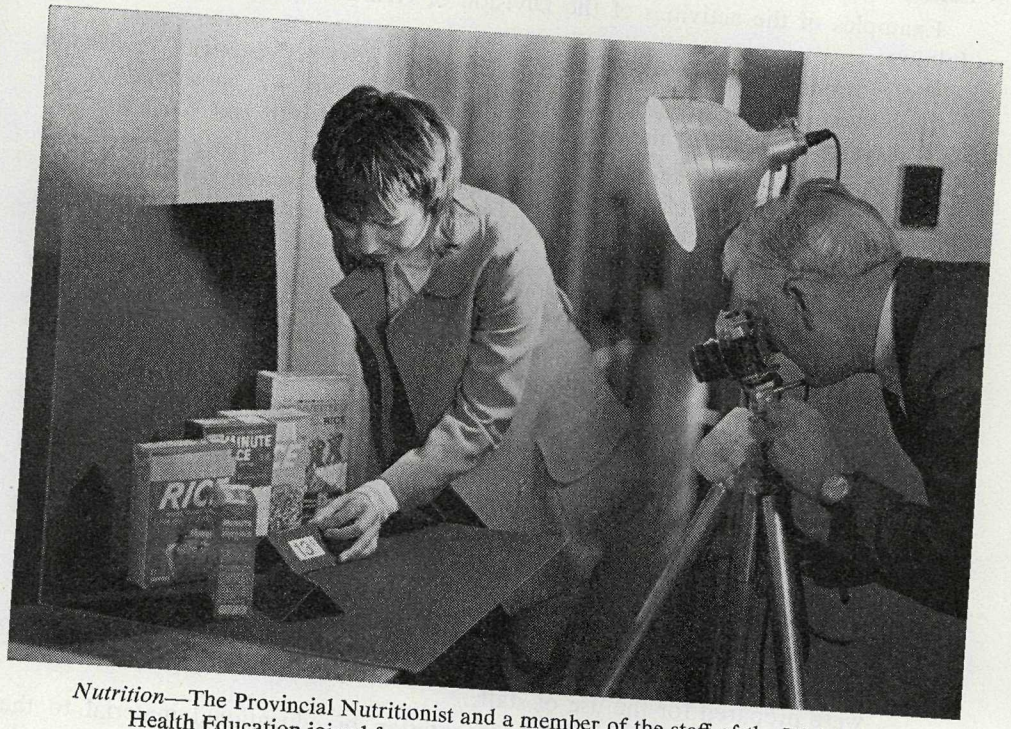
Consultative service to members of the community working with vulnerable groups remained a large part of the nutritionist's activities and included:

- Participation in a regional seminar for food service workers.
- Liaison with local dietitians concerning teaching aids available for childhood diabetes and alcoholic malnutrition.

- Advice to pre-school teachers in training in Vancouver and Victoria metropolitan areas.
- Twenty-nine visits to health unit offices and suboffices in 16 of the health units throughout the Province plus the metropolitan areas.
- Liaison with home economics instructors of the Department of Education, members of the British Columbia Dietetics Association, the Medical Services nutritionist of the Department of National Health and Welfare, the dietary consultant for Hospital Insurance, home economists of the Department of Agriculture, and members of the British Columbia Nutrition Co-ordinating Committee.
- Provision of resource services for the YMCA, Women's Institute, Consumers' Association, and various diet clubs.
- Assistance in supervising a University of British Columbia student community nutrition project with low-income families in Surrey, and a community nutrition experience for three dietetic interns.

Other activities of the Provincial Nutrition Service included:

- Distribution of general information on special diets.
- Direct service to the public on nutrition problems through press, radio, and television. Local health unit staffs were involved in this, and many requests were received for the service from women's page editors, open-line radio hosts, and daytime television hostesses.



Nutrition—The Provincial Nutritionist and a member of the staff of the Division of Health Education joined forces to prepare a series of food-buying slides.

PUBLIC HEALTH EDUCATION

Health, both personal and community, is of major concern today. The education of people in public health matters is a most important function of all members of the Health Branch staff who deal with people in their homes, in schools, at places of work, and in hospitals operated by the Health Branch.

On the staff are nurses, doctors, public health inspectors, speech therapists, dentists, occupational therapists, rehabilitation officers, clerical staff, and health educators, all of whom spend much of their time informing the public on public health matters and guiding them toward better health.

All staff members are involved in the assessment of the importance of health problems and determining the method of education to be used to meet those problems. The foregoing, in a health education programme, requires an understanding of human behaviour, human learning processes, and educational methods.

To assist the Health Branch staff who have direct contact with the public, the Health Branch maintains a central group of specialists in health education—the Division of Public Health Education. The Division provides an education consulting service, development and production of printed educational and audio-visual material, audio-visual equipment, and a library service.

Examples of the activities of the Division of Health Education in 1971 were as follows:

- Divisional staff acted in a consulting and advisory capacity to Health Education Research Project, in School District No. 47, sponsored by the Medical Services of the Department of National Health and Welfare.
- Lectures in health education were given to students in nursing and dentistry at the University of British Columbia, and a photographic workshop was conducted at the British Columbia Institute of Technology for students in public health inspection.
- Staff members participated in the formation of the British Columbia Health Education Council under the sponsorship of the Canadian Public Health Association (British Columbia Branch). The purpose of the Council is to foster communication, to identify gaps in present programmes, and to provide an opportunity for voluntary co-operation between agencies offering similar programmes.
- Divisional staff co-ordinated the evaluation and assessment of proposed Federal pamphlets on family planning.
- A film survey was conducted to determine the factors affecting utilization of films in an effort to assist future planning.
- In the technical field, three super 8-mm. films covering dental health, auditory assessment, and physical appraisal of the newborn child were developed.
- Educational slides dealing with nutrition, venereal disease, and home care were prepared for the use of staff.

Methods and techniques in the presentation of educational material to the public are studied carefully and evaluated for use in the Health Branch. An example is the increasing use to which television and radio are being put by staff members. Steady progress is being made in this field, and plans for the introduction and use of video-tape recording equipment are well advanced.

VITAL STATISTICS

The Division continued to carry out its statutory functions in the administration of the *Vital Statistics Act,* the *Marriage Act,* the *Change of Name Act,* and the *Wills Act;* and to provide centralized statistical service to the Health Branch as a whole, and to other Government departments and voluntary health agencies.

In connection with the administration of the above-mentioned Acts, services are provided to the public through the main office in Victoria, and about 110 district offices and suboffices throughout the Province.

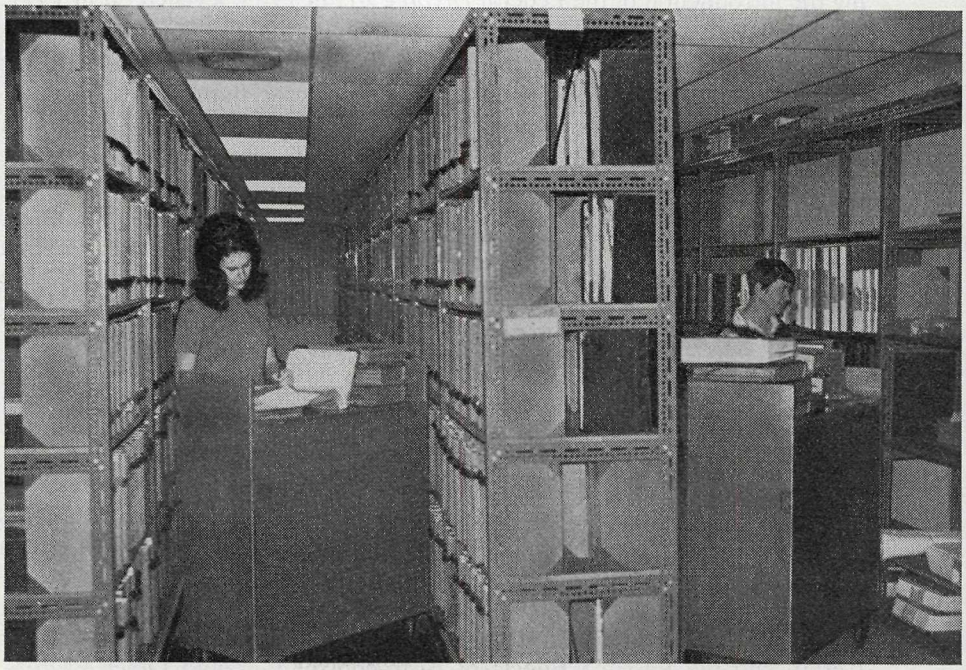
Table XVI indicates the volume of documents processed under the above-mentioned Acts in 1970 and 1971.

Significant features of the Division's work during 1971 were:

- The total volume of registrations continued to increase, due mainly to a substantial increase in registrations of wills notices under the *Wills Act,* and a slight percentage increase in the number of death registrations.
- The moderate decline in the number of birth registrations reflected a reversal of the upward trend of births during the preceding few years.
- Divorce registrations, which had risen sharply in the past two years following the introduction of the Federal *Divorce Act* in 1968, levelled off in 1971.
- By means of an amendment to the *Marriage Act,* the issue of marriage licences was extended to include marriages solemnized by civil contract which previously were authorized by a different procedure in this Province. At the same time the prescribed waiting period following application for a marriage licence was reduced by two days.
- The Division undertook analysis of the results of a dental survey to test the effectiveness of a caries-inhibiting chewing gum on Trail school children. A paper covering the findings of the survey was prepared in collaboration with examining dentists in charge of the study, and the Director of the Division of Preventive Dentistry.
- Field records of two studies of fluoridated mouth wash in the Fraser Valley and northern regions of the Province were also processed.
- The Division participated in a study of the role of radiographs in the determination of dental caries, and the resulting paper has been published in the *American Journal of Public Health Dentistry.*
- The Division continued to process statistical data for the Central Cytology Laboratory. About 380,000 forms representing that many cervical smears from screened women throughout the Province were transferred to punch cards and mechanically tabulated.
- The Division also participated in the planning, processing, and analysis of a special study entitled A Case Study of Pre-clinical Carcinoma of the Cervix and the Possible Effects of Birth-control Pills and Other Factors. A report on the study was submitted to the Food and Drug Directorate, Department of National Health and Welfare, at whose request it was undertaken.
- Assistance was given to a member of the British Columbia Cancer Institute in a study on mortality from cancer of different sites of the digestive system.
- The Registry for Handicapped Children and Adults continued to maintain a level of between 200 and 300 registrations per month. The Registry co-

operated with the Alberta Department of Health in a special study on reduction deformity in children born in 1970. One of the consultants to the Registry presented a paper at the International Congress of Pædiatricians held in Vienna in September 1971, summarizing the results of 20 years' experience of the Registry. The Registry staff also co-operated in several studies which utilized statistics collected in the Registry.*

- The Division continued to co-operate with the Child and Maternal Health Division of the Department of National Health and Welfare in the maintenance of a National Registry of Congenital Anomalies.
- The data derived from the Obstetrical Discharge Summary form, which is completed by three lower mainland hospitals, were processed in the usual manner, and assistance was given to a Vancouver physician in the preparation of a paper based on this study, and entitled *The Effect of Age on the Outcome of Pregnancy*.
- The results of a pre-school health screening of children in the Central Vancouver Island Health Unit were processed by the Division and tabulations were supplied to the health unit director. The results included counts of children found to have defective hearing or eyesight, or vascular diseases.
- The Division continued to provide biostatistical services to other divisions, other departments of Government, and voluntary agencies.



Vital statistics—Births, marriages, and deaths in British Columbia must be registered, and the various documents finally arrive in this section of the Division of Vital Statistics in Victoria. The picture shows two staff members working in the massive library of records.

* *See* "Publications," page 57.

EXTENDED CARE

The Pearson Hospital has two patient-care programmes, one being extended care for those requiring continuing care, including patients with severe respiratory disabilities from poliomyelitis, and the other for those with tuberculosis. There has been greater emphasis on admitting a younger age group to the extended-care wards, resulting in more activity in the physiotherapy and occupational therapy services.

Staff changes have mainly involved the retirement of several senior nursing personnel and recruitment difficulties because of an unusual decrease in numbers of graduate nurses seeking employment in the extended-care hospitals.

A study of the hospital's patient programme and facilities was carried out during the early part of the year by personnel from the Hospital Insurance Service. Their recommendations are being studied.

Constructional work included installation of improved ventilation and sound absorption materials in the Dietary Department and the exterior painting of the hospital.

There was an increase in the types of biochemical techniques now being done by the laboratory at the hospital, thus providing a more comprehensive service. The total laboratory work load increased slightly.

The activity wing services increased both in occupational therapy and physiotherapy. The latter acquired a flake-ice machine which provides a more suitable form of ice for treating patients with muscle spasms, and the manufacture of self-help aids by the occupational therapists increased in volume.

The Social Service Department in conjunction with the Division for Aid to Handicapped has reactivated the rehabilitation committee for patients in Pearson Hospital and Willow Chest Centre.

The Department of Nursing which supervises the in-service education programme has provided a high quality of leadership.

Students from the practical nurses course at the Vancouver Vocational Institute and physiotherapy and occupational therapy students from the School of Rehabilitation Medicine at the University of British Columbia attended at the hospital for part of their practical work. The patient tutoring service has been more active during the past year and the patient library service improved. The library is now under the supervision of the occupational therapy service.

The business office is proceeding with the amalgamation of the stores department of Willow Chest Centre with that of Pearson Hospital so that henceforth stores will be located at the hospital.

Again, the Women's Auxiliary made hospital life much more pleasant and easy. The members of this group started their programme at the Marpole infirmary long before that institution was closed and the patients transferred to Pearson Hospital in 1956. It is indeed fortunate for both patients and staff that these dedicated women have continued to give service at the new location.

AID TO HANDICAPPED

During the past year, the Division has undergone some changes. It has expanded to cover more areas of the Province and has experimentally begun to offer services to broader categories of disabled persons.

An important name change has been made from the Division of Rehabilitation to the Division for Aid to Handicapped. This describes more accurately the function and philosophy of the Division, which of necessity, was preoccupied with the vocational rehabilitation of the handicapped but now provides assistance to handicapped individuals without particular reference to a vocational resettlement. However, the Division still believes that the goal for most disabled people is gainful employment, and it is toward this end that services are directed.

Over the past 10 years, the Division has developed a method of delivering services designed to provide maximum benefit for each handicapped person. This method is based on a practical application of the idea that handicapped persons require a variety of services skilfully offered in proper sequence by a number of disciplines in a co-ordinated way. To accomplish this the Division endeavours to make full use of the various resources available within the Province.

Initially in British Columbia, personnel resources included a well-developed network of public health services and social services. The then National Employment Service, with offices throughout the Province, offered considerable expertise in vocational counselling, job training, and job placement. It was obvious that the three basic elements required were available, but more co-ordination of these was required.

There are now 33 Aid to Handicapped Committees operating in the Province. In this picture a group at Trail is shown in conference.

It was felt, therefore, that this Division should attempt to ensure that a co-ordinated approach to the problems of the handicapped was developed at the local level using existing personnel and programme resources. To test this theory, in 1960/61 the Health Branch launched an experimental programme using the City of Nanaimo and environs as a test location with the co-operation of the then Department of Social Welfare and the National Employment Service. A year was spent in selecting patients, devising methods of operation, and providing services to develop a system which could be utilized in other areas of the Province, and the first Rehabilitation Committee in the Province was formed. The Committee consisted of the Medical Officer of Health as Chairman and medical consultant, the Supervisor of the Social Welfare Department, and the Senior Placement Officer of the National Employment Service. The responsibility for providing and developing a rehabilitation programme for the individual rested jointly with all members of the Committee.

Subsequently, similar committees were developed in Chilliwack and Prince George.

The committees are now called Aid to Handicapped Committees and the members are the Medical Officer of Health as medical consultant, the Supervisor of the local office of the Department of Rehabilitation and Social Improvement, the Senior Counsellor of the Canada Manpower Centre, and the Consultant from the Division for Aid to Handicapped. At the end of this year 38 committees were active, serving a total of 1,989 handicapped citizens in the Province. This expansion of services has been made possible with completion of recruitment to provide a full complement of staff. Appointments of consultants for the Division for Aid to Handicapped have been made in the east and west Kootenays with headquarters in Nelson, and in the metropolitan area of Greater Victoria. Services in the Okanagan have been hampered for a portion of the year due to the illness and subsequent resignation of the consultant. He has been succeeded by a well-trained consultant with considerable experience in the field.

During the year, the Division increased its financial assistance to selected rehabilitation agencies. According to a policy established some years ago, the funds were designated specifically to assist in the employment of professional staff. As a result, there has been a considerable improvement in the ability of the agencies to deliver better services to a greater number of disabled persons, services which otherwise would have to be provided by the Division.

An increase in funds for vocational training was provided which enabled the Division to provide such training for a greater number of handicapped and to increase living and other allowances to meet the rising cost of living, books, materials, and fees. Advantage was taken of almost every resource through which training for gainful employment can be obtained. An important example of this type of activity is the Division's assistance to 13 graduates of the Jericho Hill School for the Deaf in their current further training at Gallaudet College, Washington, D.C.

The Division has received assistance from other departments of the Government of British Columbia, notably the Departments of Education, Labour, and Rehabilitation and Social Improvement. Canada Manpower has also assisted the Division, as have the many voluntary agencies in the Province.

Table XVII shows an analysis of cases closed during 1971.

LABORATORY SERVICES

PUBLIC HEALTH LABORATORY SERVICES

After transfer of the Chemistry Service from the Health Branch to the Water Resources Service of the Department of Lands, Forests, and Water Resources on April 1, 1971, the Provincial Laboratories continued to provide expanding service in the fields of bacteriology, mycology, parasitology, and virology.

In Table XVIII, the number of tests performed in the main laboratory, the Nelson branch laboratory, and the Victoria branch laboratory in 1971 are compared with corresponding figures for 1970. The work load increased from more than 454,000 tests in 1970, to nearly 498,000 tests in 1971. The work load showed the following increases: Smears and cultures for *Neisseria gonorrhœæ,* 22 per cent; examination for intestinal parasites, 37 per cent; fluorescent microscopy examination for diagnosis of syphilis, 167 per cent; and hæmagglutination-inhibition test for rubella, 240 per cent. The only appreciable decrease was in the agglutination tests for febrile illnesses, 50 per cent.

In 1970 and 1971, a comparative study of the fæcal coliform and total coliform tests was conducted on bathing beach water samples. It was recommended that the total coliform test be replaced by the fæcal coliform test as the standard for classifying the quality of beaches for recreational purposes.

Laboratory Services—The Health Branch maintains an extensive laboratory service and in this photograph, laboratory technicians prepare cultures for identification of bacteriological diseases.

The outbreak of rubella, which began in the spring of 1970, continued into 1971. In more than 300 cases the diagnosis was proved by virus isolation, by serological identification, or by both methods.

In June 1971, in association with the Department of National Health and Welfare, the Canadian Botulism Reference Service was established in the Provincial Laboratories to replace the service previously provided at the University of British Columbia under the direction of Dr. C. E. Dolman.

The depot for exotic drugs continued to provide drugs and consultative services for the diagnosis and treatment of parasitic and exotic diseases imported into British Columbia by immigrants, and by Canadians returning from overseas.

EMERGENCY HEALTH SERVICE

The objective of the British Columbia Emergency Health Service is the provision of mass casualty care and emergency public health service.

PRE-POSITIONING OF EMERGENCY HEALTH SUPPLIES

Pre-positioning and maintenance of emergency medical units is still an active programme as basic industries and populations move into new areas or expand in existing areas. The programme, still incomplete, includes methodical marking and cataloguing of supplies and equipment in the Advanced Treatment Centres and Hospital Training Units. This work absorbs the greater portion of the annual budget.

- The following emergency health supplies were pre-positioned during 1971:

Emergency Hospital	1
Advanced Treatment Centres	5
Casualty Collecting Units	7

- 33 hospitals in the Province provide storage space for Emergency Hospitals, Advanced Treatment Centres, and Casualty Collecting Units. There are now 183 units in 109 storage locations in 73 municipalities.*
- It has been suggested that a small cadre of personnel be highly trained in the setting-up and repacking of emergency health supplies, and that arrangements be made for their services to be available anywhere in the Province on short notice. In a disaster situation they would provide the direction and leadership for local volunteers to put an emergency medical unit into operation.
- Following a conference with the St. John Ambulance organization concerning Casualty Collecting Units a unit has been placed in the St. John Ambulance building in Vancouver.

COMMUNITY AND HOSPITAL DISASTER PLANNING

The following are the developments in this section:

- Hospital disaster planning was discussed with a number of hospital administrators, particularly those in small hospitals. All are aware that accreditation depends upon the formulation of an acceptable hospital disaster plan.
- Due to improved communication facilities of ambulance and police services, the Lower Mainland Medical Disaster Plan has been revised and will be exercised in the near future.
- A Regional Disaster Medical Plan for Victoria, the second in British Columbia, was prepared and exercised in September 1971.
- Provincial Emergency Health Services supported community disaster exercises with items for casualty simulation and training supplies for use by first aid personnel.

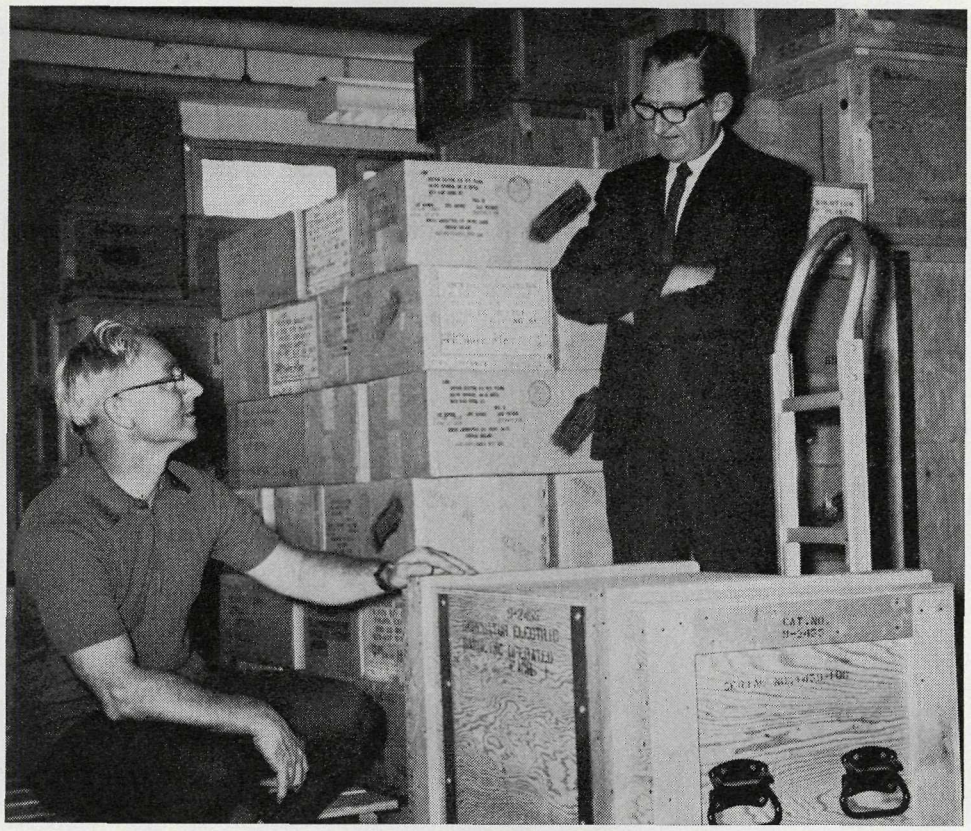
TRAINING

The Emergency Health Services Co-ordinator has been active in several fields:

- Five sessions on disaster nursing were conducted by the nursing schools of the Royal Jubilee Hospital and St. Joseph's Hospital in Victoria, with the assistance of the Co-ordinator. About 30 nurses attended each course.

---

* *See* Table XIX for total units pre-positioned.



Emergency Health Services—Looking over pre-packaged emergency hospital supplies at Creston Valley Hospital is the Provincial Co-ordinator of Emergency Health Services (left) and the Hospital Administrator. Units are located at strategic points in the Province, and may be called into use when local authorities need help with an emergency.

—Picture courtesy of Creston Valley Advance.

- Six pharmacists attended a two-and-one-half-day course for health supplies officers conducted by the Co-ordinator. This was the last health supplies officers' course conducted separately for them. Pharmacists are now included in the Provincial community emergency health planning courses.
- Provincial Emergency Health Services supported a course jointly conducted by the Continuing Health Science Centre, University of British Columbia, and the Vancouver General Hospital. The course, Primary Care for the Emergency Patient, was well attended by ambulance personnel, industrial first aid personnel, and hospital emergency department staff.
- Provincial Emergency Health Services conducted a series of seminars in the Okanagan Valley region. There were two full-day sessions for general attendance and two evening sessions designed particularly for pharmacists. From the results, it was evident that the action is at the local level, whether for training purposes or an actual disaster, and the result in either instance will be in direct proportion to the interest of the citizens of the community.
- A successful display of Emergency Health Services materials and literature was set up at the annual meeting of the British Columbia Hospitals Association.

- A display panel was made available by the British Columbia Hospital Insurance Service, for use by Provincial Emergency Health Services in the health section of the Provincial building at the Pacific National Exhibition grounds. The display shows the location of 200-bed Emergency Hospitals in the Province.
- Special displays were on view at the annual meeting of the Union of British Columbia Municipalities, and the Abbotsford Air Show.
- Casualty simulation has become an integral part of community disaster exercises and 13 candidates attended a casualty simulation course in June.
- 13 candidates from hospital staffs attended a two-and-one-half-day Provincial community emergency health planning course.

PHARMACEUTICAL CONSULTANT SERVICE

The Consultant in Pharmacy provides advice to the Minister and Deputy Minister and, upon request, to other departments of Government.

A Drug Advisory Committee commissioned by the Minister of Health Services and Hospital Insurance and composed of representatives of the B.C. Medical Association, B.C. Pharmaceutical Association, and Faculties of Medicine and Pharmaceutical Sciences, University of British Columbia, is chaired by the Pharmaceutical Consultant.

The Committee's terms of reference include investigation of drug prices, product selection, labelling of products, advertising of brand-name products and generic equivalents and the pharmacist's fees for dispensing prescriptions. The Committee is also requested to make recommendations concerning action that might be taken to reduce the cost of drugs to the elderly, the poor, and those people requiring expensive drugs over a long period of time.

Based on experience elsewhere, it is becoming recognized that there is an advantage to be gained when a pharmacist maintains an individual or family prescription drug profile record system. A report of the Commission on Pharmaceutical Services states that a more active and critical discharge of the monitoring function represents one of the most useful ways in which pharmacists can bring their specialized knowledge to more effective use.

The Pharmaceutical Consultant maintained close interest in developments in pharmaceutical matters and attended a number of conferences appropriate to hospital pharmacy and Emergency Health Services.

COUNCIL OF PRACTICAL NURSES

The Council of Practical Nurses operates by the authority of the *Practical Nurses Act* and the regulations made under the Act. There are 10 members appointed by order of the Lieutenant-Governor in Council on the basis of nominations submitted by the Minister of Health Services and Hospital Insurance, the College of Physicians and Surgeons of British Columbia, the Registered Nurses' Association of British Columbia, the Minister of Education, the British Columbia Hospitals' Association, and the Licensed Practical Nurses' Association of British Columbia.

The main function of Council is the licensing of persons who are qualified. The first applications for licences were issued in 1965 and, to the end of 1971, approximately 4,800 licences have been issued. Table XX shows the disposition of applications received since the inception of the programme.

During 1971, there were six regular meetings and two special meetings of the Council as a whole. This brought to 46 the number of meetings held since the beginning of the licensing programme.

The Chairman, with the approval of Council, appoints committees from time to time to study and report on specific matters. During the year these committees held numerous meetings. Of special importance was the work of the Committee on Credentials which serves on a continuing basis. Its function is to assess the qualifications of applicants and to submit to the Council recommendations concerning their acceptability.

Many of the applicants are graduates of training schools operated under the authority of the *Public Schools Act* of British Columbia. Because of this, the Council works in close co-operation with the Department of Education. The liaison is provided by the member of the Council who is nominated by the Minister of Education.

PUBLICATIONS, 1971

The Expanded Role of the Public Health Nurse, Canadian Journal of Public Health 62:147, March/April 1971, by Monica M. Green.

The Effects of Various Persuasive Communications in Community Dental Health, Canadian Journal of Public Health 62:105, March/April 1971, by K. E. Barnes, Donna Gunther, Irene Jordan, and A. S. Gray.

A Simplified Method of Determining a Population's Needs for Dental Treatment, J. Public Health Dent. 31:84, Spring 1971, by J. M. Conchie, K. I. Scott, and J. J. Philion.

The Role of Radiographs in Clinical Studies of Caries and Inhibitory Agents, J. Public Health Dent. 31:158, Summer 1971, by A. S. Richardson, L. W. Hole, and J. F. Williams.

Ion Exchange Water Softeners and Their Effect on Private Sewage Systems, Environmental Health Review 15:2, Summer 1971, by G. A. Duffield.

Tuberculosis Among Patients With Various Radiological Abnormalities Followed by the Tuberculosis Chest Clinic Service, American Review of Respiratory Diseases 104:4, October 1971, by S. Gryzbowski, H. Fishaut, J. Rowe, and Ann Brown.

Prevalence of Cleft Uvula in British Columbia, The Angle Orthodontist 41:336, October 1971, by John M. Crewe and Frank McCombie.

British Columbia Flash Floods, Emergency Measures Organization National Digest, December 1971, by N. Schmitt, H. B. Catlin, K. W. G. Saunders, and E. J. Bowmer.

Pesticide Residues in Mother's Milk, British Columbia Medical Journal, May 1971, by A. A. Larsen, D. A. Clarke, A. S. Arneil, M. R. Smart, N. Schmitt, and E. L. Devlin.

Pesticide Residues in Mother's Milk and Human Fat From Intensive Use of Soil Insecticides, Health Services and Mental Health Administration Health Reports, May 1971, by A. A. Larsen, J. M. Robinson, N. Schmitt, and L. W. Hole.

Lead Poisoning in Horses—Environmental Health Hazard, Archives of Environmental Health, September 1971, by N. Schmitt, G. Brown, E. L. Devlin, A. A. Larsen, E. D. Causeland, and J. Maxwell.

Relative Frequency of the Hurlers' and Hunters' Syndrome, New England Journal of Medicine 284:221–222, January 28, 1971, by R. B. Lowry and D. H. D. Renwick.

TABLES

Table I—Approximate Numbers of Health Branch Employees by Major Categories at the End of 1971

Physicians in local health services	20
Physicians in institutional and other employment	18
Nurses in local health services	322
Nurses in institutions	87
Public health inspectors	61
Dentists in local health services	5
Laboratory scientists	25
Laboratory technicians	25
Public health engineers	6
Statisticians	7
Others	741
Total	1,317

Table II—Organization and Staff of Health Branch (Location and Approximate Numbers of Persons Employed at End of 1971)

Health Branch headquarters, Legislative Buildings, Victoria	51	
Health Branch office, 828 West Tenth Avenue, Vancouver	31	
		82
Division of Vital Statistics—		
Headquarters and Victoria office, Legislative Buildings, Victoria	68	
Vancouver office, 828 West Tenth Avenue, Vancouver	20	
		88
Division of Tuberculosis Control—		
Headquarters, 2647 Willow Street, Vancouver	10	
Willow Chest Centre, 2647 Willow Street, Vancouver	121	
Pearson Hospital, 700 West 57th Avenue, Vancouver	333	
Victoria and Island Chest Clinic, 1902 Fort Street, Victoria	11	
New Westminster Chest Clinic, Sixth and Carnarvon, New Westminster	6	
Travelling clinics, 2647 Willow Street, Vancouver	19	
		500
Division of Laboratories—		
Headquarters and Vancouver Laboratory, 828 West Tenth Avenue, Vancouver	80	
Nelson Branch Laboratory, Kootenay Lake General Hospital	1	
Victoria Branch Laboratory, Royal Jubilee Hospital[1]	-----	
		81

[1] Services are purchased from the Royal Jubilee Hospital, which uses its own staff to perform the tests.

Table II—Organization and Staff of Health Branch (Location and Approximate Numbers of Persons Employed at End of 1971)—Continued

Division of Venereal Disease Control—Headquarters and Vancouver Clinic, 828 West Tenth Avenue, Vancouver		19
Division for Aid to Handicapped—		
Headquarters, 828 West Tenth Avenue, Vancouver	9	
Nanaimo	1	
Vernon	1	
Prince George	1	
Surrey	1	
Nelson	1	
		14
Local Public Health Services (Health Units)—		
East Kootenay, Cranbrook	28	
Selkirk, Nelson	14	
West Kootenay, Trail	22	
North Okanagan, Vernon	25	
South Okanagan, Kelowna	38	
South Central, Kamloops	30	
Upper Fraser Valley, Chilliwack	28	
Central Fraser Valley, Mission	27	
Boundary, Cloverdale	53	
Simon Fraser, Coquitlam	34	
Coast-Garibaldi, Powell River	17	
Saanich and South Vancouver Island, 780 Vernon Avenue, Victoria	43	
Central Vancouver Island, Nanaimo	54	
Upper Island, Courtenay	22	
Cariboo, Williams Lake	16	
Skeena, Prince Rupert	28	
Peace River, Dawson Creek	19	
Northern Interior, Prince George	35	
		533
Total		1,317

There were also part-time employees in many of the places listed. The part-time employees serving on a continuous basis totalled the equivalent of approximately 66 full-time employees.

Table III—Comparison of Public Health Services Gross Expenditures for the Fiscal Years 1968/69 to 1970/71

	Gross Expenditure			Percentage of Gross Expenditure			Percentage Increase or Decrease (—) Over Previous Year
	1968/69	1969/70	1970/71	1968/69	1969/70	1970/71	
Patient care	$3,765,566	$4,200,358	$4,335,945	26.6	27.5	28.4	+3.2
Local Health Services	5,467,761	5,924,284	6,235,726	38.7	38.8	40.9	+5.3
Cancer, arthritis, rehabilitation and research	2,639,181	2,637,205	1,774,510	18.7	17.3	11.6	—32.7[1]
General administrative and consultative services	929,735	899,100	1,205,622	6.6	5.9	7.9	+34.1[1]
Division of Laboratories	638,210	860,196	923,546	4.5	5.6	6.1	+7.4
Division of Vital Statistics	521,397	560,231	599,684	3.7	3.7	3.9	+7.0
Division of Venereal Disease Control	173,225	176,973	189,188	1.2	1.2	1.2	+6.9
Totals	$14,135,075	$15,258,347	$15,264,221	100.0	100.0	100.0	+0.04

[1] The sources of financial assistance for the Cancer Cytology Laboratory and the G. F. Strong Rehabilitation Centre were transferred from the Public Health Branch to the British Columbia Hospital Insurance Service, and the cost of the Kidney Failure Correction Programme was transferred from "Cancer, arthritis, rehabilitation, and research" to "General administrative and consultative services." These transfers resulted in the relatively large percentage changes in these two categories.

Table IV—Training of Health Branch Staff Proceeding Toward a Diploma or Degree in a Public Health Specialty

(Types of training, universities or other training centres attended, and numbers trained)

Completed training during 1971—

Canadian Hospitals' Association's Medical Records Clerk Course (correspondence)	2
Master's Degree in Speech Pathology (Oregon)	1
Diploma in Public Health Nursing (University of British Columbia	3
Diploma in Public Health Nursing (University of Ottawa)	1
Diploma in Public Health (Toronto)	2
Diploma in Dental Public Health (Toronto)	1
Bachelor of Science in Nursing (McGill University)	1
Bachelor of Science in Nursing (University of Washington)	1
Total	12

Commenced training during 1971—

Bachelor of Science in Nursing (Dalhousie University)	1
Diploma in Public Health Nursing (University of British Columbia)	2
Diploma in Public Health Nursing Supervision (Dalhousie University)	1
Total	4

Table V—Training of Health Branch Staff by Means of Short Courses

(Types of training, universities or other training centres, and numbers trained)

Cross Connection Control Course (University of Southern California)	1
The Prevention of Periodontal Disease and Dental Caries (University of Washington)	1
Workshop for Public Health Nurses (The Woodlands School for Retarded, Vancouver)	8
Mercury in Man's Environment (Royal Canadian Society Special Symposium, Ottawa)	1
Fourteenth Annual Refresher Course for Medical Health Officers (University of Toronto)	3
Occupational Health Nurse Course (University of Toronto)	1
Canadian Communicable Disease Centre and Ontario Provincial Public Health Laboratories	1
Diagnosis and Management of Family Problems (University of British Columbia, Vancouver)	8
New Research in Dental Caries (University of Washington)	2
Anticipatory Guidance and the Concept of Loss (University of British Columbia)	4
Care of the Dying Patient and His Family (University of British Columbia)	1
Seminar on Drugs (Washington State Society of Hospital Pharmacists, Seattle)	1
Kidneys—What Turns 'em on and off (University of Washington)	1
Infectious Diseases—Advanced Course in Pædiatrics (University of British Columbia)	1
One Million Children Conference (Provincial Association of Teachers of Special Education, Vernon)	1
Extended Care Nursing (University of British Columbia)	2
Institute on Rehabilitation Workshop (University of British Columbia)	5
Annual Seminar (Hospital Administrators' Association of British Columbia)	1
Maternity Guidance (University of British Columbia)	1
Psychological Needs of the Patient (Sponsored by University of British Columbia and Registered Nurses' Association of British Columbia)	1
Theoretical and Applied Statistics (correspondence course conducted by Institute of Statisticians, London)	1

Table V—Training of Health Branch Staff by Means of Short Courses—Continued

Nursing Service Administration (School of Nursing, University of British Columbia)	1
Exceptional Child—Today and Tomorrow (seminar conducted in Prince George)	1
Nutrition in Pregnancy (University of British Columbia)	3
Visits to the Ontario Health Branch, University of Toronto, and Hospital for Sick Children	1
Supervisor's Training Course in Accident Prevention (University of British Columbia)	1
Noise and the Environment (University of British Columbia)	2
Water Quality Studies (U.S. Department of the Interior, Corvallis, Oregon)	1
Population and Birth Control—Before and After the Fact (University of British Columbia)	1
Group Skills Development Workshop (University of British Columbia)	20
Development and Control of New Drug Products Symposium (University of British Columbia)	1
Pharmacy Continuing Education (Holy Family Hospital, Vancouver)	1
Community Mental Health Workshop (Provincial Mental Health Services, Vancouver)	9

Table VI—Reported Communicable Diseases in British Columbia, 1967–71 (Including Indians)

(Rate per 100,000 population)

Reported Disease	1967		1968		1969		1970		1971	
	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate	Number of Cases	Rate
Amœbiasis	2	0.1	4	0.2	12	0.6	5	0.2	1	0.1
Brucellosis	1	0.1	-------	-------	1	0.1	-------	-------	-------	-------
Diarrhœa of the newborn (*E. coli*)	16	0.8	19	0.9	23	1.1	54	2.5	64	2.9
Diphtheria	1	0.1	8	0.4	14	0.7	9	0.4	11	0.5
Dysentery, type unspecified	489	25.1	165	8.2	209	10.1	143	6.7	126	5.7
Food infection—										
Salmonellosis	256	13.1	165	8.2	400	19.3	532	24.9	548	24.9
Unspecified	24	1.2	311	15.5	19	0.9	6	0.3	8	0.4
Food intoxication—										
Staphylococcal	9	0.5	9	0.4	29	1.4	8	0.4	6	0.3
Botulism	1	0.1	2	0.1	8	0.4	2	0.1	-------	-------
Hepatitis, infectious	1,664	85.4	2,032	101.3	2,139	103.3	1,910	89.4	1,954	89.0
Leprosy	1	0.1	-------	-------	-------	-------	-------	-------	1	0.1
Meningitis—										
Bacterial	12	0.6	17	0.8	13	0.6	14	0.6	17	0.8
Viral	40	2.1	43	2.2	22	1.1	32	1.5	45	2.0
Pertussis	264	13.5	136	6.8	59	2.9	155	7.2	91	4.1
Rubella	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1,168	53.2
Rubeola	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	200	9.1
Shigellosis	138	7.1	276	13.8	64	3.1	166	7.8	241	11.0
Streptococcal throat infection and scarlet fever	2,477	127.1	1,020	50.9	1,236	59.7	644	30.1	306	13.9
Tetanus	3	0.2	-------	-------	2	0.1	-------	-------	-------	-------
Trichinosis	1	0.1	-------	-------	-------	-------	-------	-------	-------	-------
Typhoid and paratyphoid fever	14	0.7	5	0.2	5	0.2	5	0.3	5	0.2
Total	5,413	278.0	4,212	209.9	4,255	205.6	3,685	172.4	4,792	218.2

* Not reportable.

Table VII—Reported Infectious Syphilis and Gonorrhœa, British Columbia, 1946, 1951, 1956, 1961, 1964–71

Year	Infectious Syphilis		Gonorrhœa	
	Number	Rate[1]	Number	Rate[1]
1946	834	83.0	4,618	460.4
1951	36	3.1	3,336	286.4
1956	11	0.8	3,425	244.9
1961	64	3.9	3,670	225.3
1964	304	17.5	5,821	344.9
1965	165	9.2	6,005	335.7
1966	71	3.8	5,415	290.8
1967	72	3.7	4,706	241.7
1968	68	3.4	4,179	208.2
1969	45	2.2	4,780	231.2
1970	76	3.6	6,070	284.0
1971	80[2]	3.9	6,700	290.0[2]

[1] Rate per 100,000 population. [2] Preliminary.

Table VIII—Statistical Summary of Selected Activities of Public Health Nurses, September 1970 to August 1971, Inclusive[1]

School service—	
Directly by nurse	267,245
Directly by aides	61,973
Teacher/Nurse conferences	6,409
Home visits	44,217
Group sessions with pupils	4,574
Meetings with staff	2,126
Conferences with staff	60,445
Expectant parents—	
Class attendance by mothers	18,822
Class attendance by fathers	5,720
Prenatal home visits	4,447
Postnatal visits	20,123
Child health—	
Infants—	
Conference attendance	55,040
Home visits	34,006
Pre-school—	
Conference attendance	88,613
Home visits	29,746
Home Care—	
Nursing care visits	82,296
Physiotherapist assessments	1,826
Adult health supervision visits	45,987
Mental health visits	18,028
Disease control—	
Tuberculosis visits	7,777
Venereal disease visits	4,779
Communicable disease visits	6,578
Immunizations—	
Smallpox	97,524
Poliomyelitis	144,534
Basic series	19,880
Rubella	187,660
Measles (rubeola)	20,969
Other	152,668
Total doses	623,235
Tests—	
Tuberculin	15,552
Other	2,953
Total visits to homes	169,450
Professional services by telephone	206,618

[1] Services provided by public health nurses under the jurisdiction of the Health Branch, but does not include service provided by Greater Vancouver, Victoria, Esquimalt, Oak Bay, and New Westminster.

Table IX—Public Health Inspectors' Time-study

	Per Cent of Time	
	1970	1971
Food premises	3.5	2.8
Industrial camps and factories	0.6	0.6
Hospitals and community care (includes summer camps)	0.7	0.7
Housing	1.0	0.8
Mobile home and camp-sites	1.6	1.6
Barber shops and beauty parlours	0.2	0.2
Offensive trade, farms	0.6	0.2
Air pollution	0.2	*Nil*
Fairs, parks, restrooms (other)	0.3	0.5
Sewage	6.0	6.2
Subdivision and site inspection	7.1	6.8
Common carrier and Indian reserves	0.2	0.2
Surveys	0.8	0.8
Waste disposal	0.7	0.5
Schools	0.2	*Nil*
Water supplies	2.1	2.3
Swimming-pools	0.5	1.5
Water quality (samples)	0.6	0.3
Nuisances (refuse, sewage, pests, and others)	4.0	3.4
Consultations with Health and allied local personnel	9.1	7.1
Meetings(staff, other)	3.2	6.3
Supervision (senior public health inspectors)	1.0	0.6
Educational activities	2.0	2.4
Other activities	4.2	4.4
Travel time	21.3	20.7
Office, professional—		
Letters and reports	7.6	7.0
Review of plans	2.5	2.7
Telephone consultations	5.3	6.0
Public inquiries	6.1	5.5
Other	4.5	6.2
Office, nonprofessional—		
Filing and recording	1.3	1.7

Table X—Statistical Summary of Public Health Inspectors' Activities, 1969–71, for 17 Provincial Health Units

	1969	1970	1971[1] (Estimate)
Food Premises—			
Eating and drinking places	4,390	4,718	3,876
Food processing	765	751	756
Food stores	1,558	1,516	1,394
Other	410	408	424
Factories	748	714	580
Industrial camps	375	416	277
Hospitals	119	88	86
Boarding homes	374	397	414
Schools	956	723	414
Summer camps	179	179	250
Other institutions	197	251	244
Housing	1,721	1,856	1,864
Mobile-home parks	1,287	1,550	1,403
Camp-sites	779	837	874
Other housing	(2)	262	270
Hairdressing places	682	501	536
Farms	339	440	406
Fairs	37	52	50
Parks and beaches	692	915	1,078
Swimming-pools—			
Inspection	1,505	1,232	1,642
Samples	1,122	1,207	1,330
Surveys (sanitary and other)	876	768	798
Waste disposal	1,057	1,270	948
Public water supplies—			
Inspection	1,108	1,150	1,150
Sample	5,044	5,302	4,954
Private water supplies—			
Inspection	2,172	2,068	1,894
Sample	3,353	3,422	3,078
Pollution samples—			
Bacteriological	2,379	1,685	1,966
Chemical	1,251	864	278
Field tests	682	406	592
Private sewage disposal	11,130	11,808	12,918
Municipal outfalls and plants	888	836	580
Plumbing	211	211	262
Subdivisions	4,195	4,305	4,604
Site inspections	8,084	8,833	10,594
Nuisances—			
Sewage	3,886	3,707	4,655
Garbage and refuse	2,536	2,364	2,366
Other (pests, etc.)	2,059	2,338	2,386
Disease investigation	310	308	248
Meetings	3,287	3,502	4,110
Educational activities	1,253	1,139	1,298

[1] These are estimated figures only.
[2] Not classified in 1969.

Table XI—Report of Direct Service by Auxiliary Workers to Public Health Nursing Programme, September 1970 to August 1971

	For Infants, Number of Vision Tests	For Pre-school Children			For School Children			Adult Services	
		Number of Tests for		Other Service	Number of Tests for		Other Service	Under 65 Years	65 Years and Over
		Vision	Hearing		Vision	Hearing			
Health Unit aide	26	3,519	3,134	224	34,831	6,284	812	56	24
Incentive trainee	3	519	425	.....	10,030	2,739	323	5	557
Volunteers	....	2,331	2,366	662	3,978	1,183	1,793	5	.....
Total	29	6,369	5,925	886	48,839	10,206	2,928	66	581

Table XII—Summary of Service Provided in Three Areas by Employees' Health Services Staff, 1971

Service Rendered	Provincial Mental Hospitals	Vancouver Area	Victoria Area
Health counselling and (or) examination—			
Occupational health nurse[1]	762	913	726
Physician[1]	303	125	49
Immunizations administered (including tetanus, diphtheria, polio, influenza, and smallpox)	1,530[2]	982	2,599
Medical and surgical treatments	946	525	1,702

[1] An occupational health nurse provides full-time service in each area. A physician is available on request, in the Vancouver area, for two days a month in the Provincial Mental Hospital, and one or two days a month in the Victoria area.

[2] Includes 431 staff and 1,099 patients.

Table XIII—Enrolment in Public and Private Schools in British Columbia, June 1971

	Grade Schools	Kindergartens	Schools for Retarded Children	Total
Greater Vancouver—				
Public	144,067	7,370	317	151,754
Private	7,844	(1)	122	7,966
Greater Victoria—				
Public	43,096	2,474	122	45,692
Private	1,801	310	.....	2,111
Remainder of Province—				
Public	316,759	11,212	689	328,660
Private	9,693	5,685	376	15,754
Totals—				
Public	503,922	21,056	1,128	526,106
Private	19,338	5,995	498	25,831
Grand totals	523,260	27,051	1,626	551,937

[1] Figure not available.

Table XIV—Number of Pupils Receiving Basic Immunization Prior to Entering Grade I, September 1970

	Greater Vancouver	Greater Victoria	Remainder of Province
Total pupils enrolled	11,557	3,282	26,953
Smallpox	8,696 (75.2%)	2,364 (72.0%)	19,035 (70.6%)
Diphtheria, pertussis, and tetanus	9,546 (82.6%)	2,493 (76.0%)	20,723 (76.9%)
Poliomyelitis	6,215 (53.8%)	1,745 (53.2%)	16,054 (59.6%)
Measles	5,235 (45.3%)	1,611 (49.1%)	10,134 (37.6%)

Table XV—Pupils Referred for Health Service

	Greater Victoria		Province[1]	
	Referred to Public Health Nurse	Referred by Public Health Nurse for Further Care	Referred to Public Health Nurse	Referred by Public Health Nurse for Further Care
Vision	2,514	1,532	20,427	12,898
Hearing	780	363	6,523	2,367
Speech	195	93	1,447	628
Emotional	605	341	5,428	2,507
Skin conditions	803	461	4,649	2,049
Other	2,599	1,105	13,862	5,166
Totals	7,496	3,895	52,336	25,615
Per cent of enrolment	15.7	8.1	15.2	7.5

[1] Excluding Greater Vancouver and Greater Victoria.

Table XVI—Registrations Accepted Under Various Acts

	1970	1971
Registrations accepted under *Vital Statistics Act*—		
Birth registrations	36,684	35,470
Death registrations	17,104	17,830
Marriage registrations	20,364	20,600
Stillbirth registrations	419	420
Adoption orders	2,939	2,720
Divorce orders	5,266	5,070
Delayed registrations of birth	434	371
Registrations of wills notices accepted under *Wills Act*	17,682	19,286
Total registrations accepted	100,892	101,767
Legitimations of birth affected under *Vital Statistics Act*	250	219
Alterations of given name effected under *Vital Statistics Act*	187	185
Changes of name under *Change of Name Act*	830	780
Materials issued—		
Birth certificates	60,861	58,915
Death certificates	8,750	8,283
Marriage certificates	6,817	7,204
Baptismal certificates	12	17
Change of name certificates	992	1,001
Divorce certificates	234	239
Photographic copies	7,181	7,240
Wills notice certification	10,020	10,610
Total certificates issued	94,867	93,509
Nonrevenue searches for Government departments	12,085	12,530
Total revenue	$347,694	$385,282

Table XVII—Case Load of the Division for Aid to Handicapped, January 1 to December 31, 1971

Accepted cases active at January 1, 1971		972
New cases referred to Aid to Handicapped Committees	585	
New cases referred from other sources	313	
Cases reopened	119	
Total referrals considered for services, January 1, 1971, to December 31, 1971		1,017
Total		1,989

Analysis of Closed Cases From January 1 to December 31, 1971

Employment placements made—		
Canada Manpower Centres	27	
Division for Aid to Handicapped Staff	8	
Placements on graduation from training	160	
		195
Resumed former activities		6
Job placements not feasible (physical restoration only)		26
Deceased		1
Awaiting job placement (training completed)		7
Other (unable to locate clients, moved from Province, lack of motivation, etc.)	114	
		349
Cases assessed and found not capable of benefiting from services		538
Cases currently under assessment or receiving services		1,102
Total		1,989

Table XVIII—Statistical Report of Tests Performed in 1970 and 1971, Main Laboratory, Nelson Branch Laboratory, and Victoria Branch Laboratory

	1970			1971		
	Main	Nelson	Victoria	Main	Nelson	Victoria
Bacteriology Service						
Enteric Section—						
Cultures—						
Salmonella-Shigella	18,670	295	4,356	16,999	212	3,936
Enteropathogenic *E. coli*	3,444	----------	1,101	3,938	----------	1,361
Food poisoning	123	----------	24	135	----------	53
Miscellaneous Section—						
Cultures—						
C. diphtheriæ	1,296	105	220	5,666	36	942
Hæmolytic staph./strep.	4,822	924	5,463	----------	335	1,105
Miscellaneous	4,222	826	23	4,534	496	34
Fungus	6,099	----------	2,177	3,443	----------	1,087
N. gonorrhœæ	9,965	----------	1,998	12,840	----------	2,394
Smears, *N. gonorrhœæ*	55,057	534	2,133	66,663	821	2,535
Animal virulence	53	----------	1	105	----------	----------
Tuberculosis Section—						
Cultures, *M. tuberculosis*	29,592	----------	2,113	29,663	----------	2,089
Smears, *M. tuberculosis*	18,875	102	1,594	19,852	46	1,730
Sensitivity tests	1,059	----------	----------	932	----------	----------
Atypical mycobacteria	269	----------	----------	248	----------	----------
Animal inoculation	677	----------	22	420	----------	20
Parasites—						
Fæces*	7,298	75	1,649	8,490	49	1,683
Pinworm swabs	----------	----------	----------	1,516	----------	----------
Water Microbiology Section—						
Presumptive/Confirmed coliform test	22,407	2,901	2,958	23,848	2,687	6,721
Completed coliform test	2,222	118	295	2,015	199	1,182
Fæcal coliform test	3,770	----------	349	5,127	----------	1,523
Fæcal streptococcal test	120	----------	----------	16	----------	----------
Standard plate count	2,337	----------	398	2,416	----------	239
Other tests (algæ, shellfish)	20	----------	----------	18	----------	----------
Serology Section—						
VDRL, blood (qualitative)	164,856	4,170	10,198	172,055	4,188	10,475
VDRL, blood (quantitative)	2,163	11	60	2,053	17	52
VDRL, CSF	3,120	----------	708	2,951	----------	693
FTA-ABS	2,747	----------	----------	7,347	----------	----------
Darkfield	137	----------	3	149	----------	6
Agglutinations—						
Widal, Brucella, Paul-Bunnell, other	12,970	352	966	6,480	350	640
ASTO	8,884	----------	429	8,954	----------	531
Virology Service						
Virus Isolation—						
Tissue culture	1,642	----------	----------	2,424	----------	----------
Rubella	261	----------	----------	1,107	----------	----------
Embryonated egg	393	----------	----------	348	----------	----------
Hæmadsorption	278	----------	----------	255	----------	----------
Serological Identification—						
Hæmagglutination inhibition—						
Rubella	6,602	----------	----------	22,515	----------	----------
Other viruses	1,820	----------	----------	3,185	----------	----------
Complement fixation	2,875	----------	----------	4,665	----------	----------
Neutralization	3,636	----------	----------	3,894	----------	----------
Totals	404,781	10,413	39,238	447,266	9,436	40,941
Combined totals	454,432			497,643		

* Includes pinworm swabs in 1970.

Table XIX—Emergency Health Service Medical Units Pre-positioned Throughout British Columbia

Emergency hospitals	15
Advanced treatment centres	43
Casualty collecting units	64
Hospital disaster supplies units	236
Blood donor packs	22

Table XX—Licensing of Practical Nurses

(Disposition of applications received since inception of programme in 1965 to December 31, 1971)

Received				7,365
Approved—				
On the basis of formal training		4,159		
On the basis of experience only—				
Full licence	396			
Partial licence	875			
		1,271		
			5,430	
Rejected			1,035	
Deferred pending further training, etc.			651	
Deferred pending receipt of further information from applicants			69	
Awaiting assessment at December 31, 1971			180	
Total				7,365
Number of licences issued to December 31, 1971				4,808[1]
Number of practical nurses holding currently valid licences at December 31, 1971				3,994[2]

[1] The number of licences issued (4,808) is less than the number of applications approved (5,430) because some persons whose applications were approved did not take the final action of paying their fees.

[2] The number of currently valid licences (3,994) is less than the total number of licences issued (4,808) because some persons who have received licences at some time had not requested the annual renewal.

Printed by K. M. MacDonald, Printer to the Queen's Most Excellent Majesty in right of the Province of British Columbia.
1972

780-1271-9282