PROVINCE OF BRITISH COLUMBIA

Seventy-eighth Annual Report of the

Public Health Services of British Columbia

HEALTH BRANCH

DEPARTMENT OF HEALTH

YEAR ENDED DECEMBER 31

1974

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1974

DEPARTMENT OF HEALTH
(HEALTH BRANCH)

THE HONOURABLE DENNIS COCKE
Minister of Health

SENIOR PUBLIC HEALTH ADMINISTRATIVE STAFF

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Deputy Minister of Health and Provincial Health Officer

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P. WOLCZUK
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G. D. ZINK
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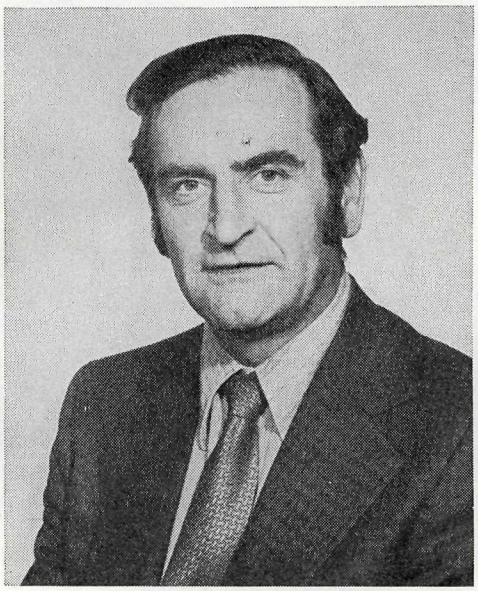
OFFICE OF THE MINISTER OF HEALTH,
VICTORIA, B.C., January 14, 1975

To the Honourable WALTER S. OWEN, Q.C., LL.D.,
Lieutenant-Governor of the Province of British Columbia

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits the Seventy-eighth Annual Report of the Public Health Services of British Columbia for the year ended December 31, 1974.

DENNIS COCKE
Minister of Health



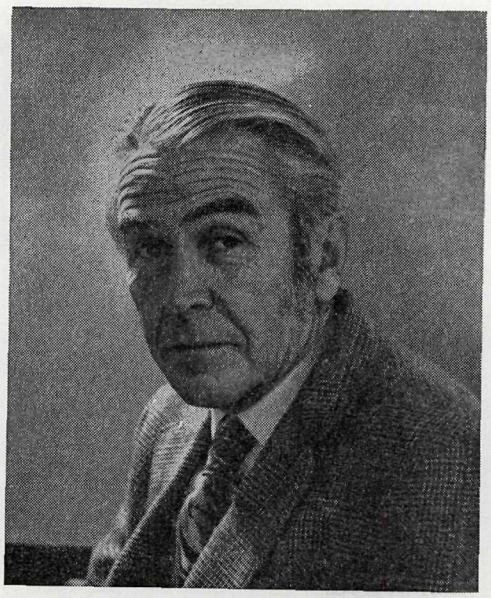
HON. DENNIS COCKE
Minister of Health

DEPARTMENT OF HEALTH (HEALTH BRANCH)
VICTORIA, B.C., January 11, 1975.

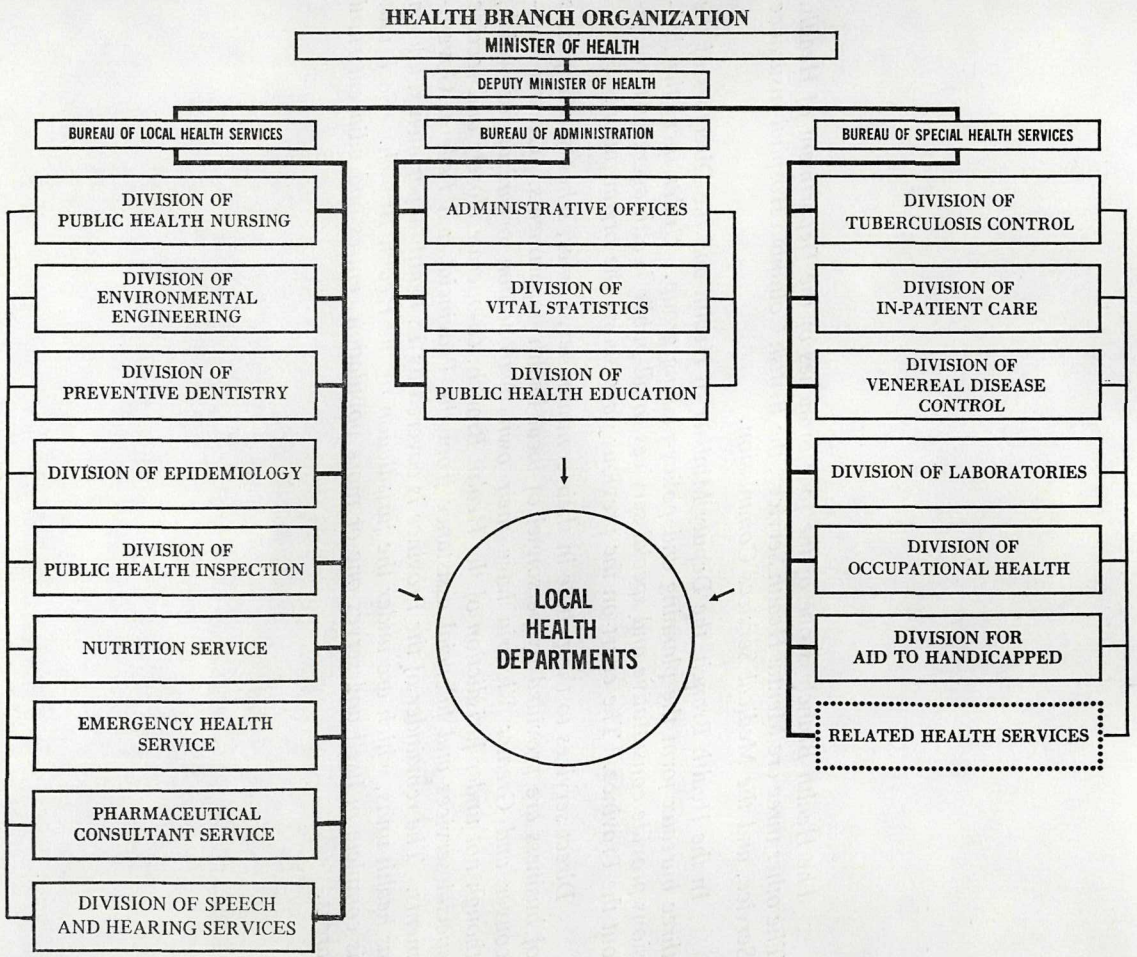
The Honourable Dennis Cocke,
Minister of Health, Victoria, B.C.

SIR: I have the honour to submit the Seventy-eighth Annual Report of the Public Health Services of British Columbia for the year ended December 31, 1974.

G. R. F. ELLIOT, M.D.C.M., D.P.H.,
Deputy Minister of Health



G. R. F. ELLIOT
Deputy Minister of Health and
Provincial Health Officer


HEALTH BRANCH ORGANIZATION
MINISTER OF HEALTH
DEPUTY MINISTER OF HEALTH
BUREAU OF LOCAL HEALTH SERVICES
BUREAU OF ADMINISTRATION
BUREAU OF SPECIAL HEALTH SERVICES
DIVISION OF PUBLIC HEALTH NURSING
DIVISION OF ENVIRONMENTAL ENGINEERING
DIVISION OF PREVENTIVE DENTISTRY
DIVISION OF EPIDEMIOLOGY
DIVISION OF PUBLIC HEALTH INSPECTION
NUTRITION SERVICE
EMERGENCY HEALTH SERVICE
PHARMACEUTICAL CONSULTANT SERVICE
DIVISION OF SPEECH AND HEARING SERVICES
ADMINISTRATIVE OFFICES
DIVISION OF VITAL STATISTICS
DIVISION OF PUBLIC HEALTH EDUCATION
LOCAL HEALTH DEPARTMENTS
DIVISION OF TUBERCULOSIS CONTROL
DIVISION OF IN-PATIENT CARE
DIVISION OF VENEREAL DISEASE CONTROL
DIVISION OF LABORATORIES
DIVISION OF OCCUPATIONAL HEALTH
DIVISION FOR AID TO HANDICAPPED
RELATED HEALTH SERVICES

The Health Branch is one of the four branches of the Department of Health. The other three are Mental Health Services, the British Columbia Hospital Insurance Service, and the Medical Services Commission.

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.

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HEALTH BRANCH

DEPARTMENT OF HEALTH

YEAR ENDED DECEMBER 31, 1974

The provision of a full range of health services to all British Columbians on an equitable, efficient basis is a major concern and commitment of the Government of British Columbia. One of its first acts after assuming office in 1972 was to commission Dr. R. G. Foulkes to carry out a comprehensive study of all aspects of the delivery of health care in the Province and to make recommendations for improving the system. Dr. Foulkes submitted his report in December of 1973 and steps were taken immediately to examine the many far-reaching proposals put forward, with a view to upgrading health services as rapidly as possible. To this end the Minister of Health established three committees, namely, a Management Committee, a Reorganization Committee, and a Legislative Review Committee. These committees, and the working groups established under them, worked throughout the year developing the broad policies, legislative measures, and organizational structure deemed necessary as the framework for a modern health care system responsive to the needs of the people.

Considerable progress was made toward the foregoing objective during the year. The general direction the health programme is to take was determined and the main elements of the administrative organization developed. Key features of the planning and management of Health Services will be consumer participation, regionalization, and decentralization. The development of standards is recognized as an important need which will be pursued vigorously, and high priority will be given to the extension of modern data processing facilities to cover all aspects of the Department's activities.

At the Provincial level, a Health Advisory Council comprised of a cross-section of professional and lay persons will be established to advise the Minister, and a Senior Deputy Minister will oversee the operation of the entire Health Department. The Department will be divided into two main branches, one encompassing medical and hospital programmes, the other community health programmes, with a Deputy Minister in charge of each.

At the second session of the Legislative Assembly an amendment was made to the *Department of Health Act* which enabled the planned restructuring of the Department to proceed.

In the field of dental health, another milestone was reached in February when the Province concluded an agreement with the College of Dental Surgeons of British Columbia to establish a joint study to develop a comprehensive dental programme for children. The expanding programme of the Division of Preventive Dentistry was further evidenced by the appointment of an Assistant Director during the year.

Although there were no major communicable disease outbreaks in 1974, there were disturbing increases in reported cases of diphtheria and of rubella. Increased emphasis is being placed on the importance of immunization against these diseases

and in 1974 the Department extended its free rubella vaccine programme to include women and girls of all ages. A gratifying reduction of 16 per cent occurred from 1972 to 1973 in the number of new cases of tuberculosis reported, while the death rate from this disease in 1973 was the lowest on record.

Gonorrhœa continues to be of major concern, but the rapid increase of recent years abated to only 4 per cent during 1974. A conference on venereal disease was convened in Vancouver to bring together representatives of the medical profession and the community. Recommendations made by this conference are being actively pursued.

The staff and facilities of the Division of Occupational Health were considerably expanded during the year, underlining the Department's conviction that a readily accessible employee health service is mutually advantageous to both employer and employee. The Radiation Protection Service, which this Division operates, was also augmented to provide better monitoring of possible sources of damaging radiation and to give increased consultative service relating to radiation hazards.

Improvements were made in the kidney dialysis service, permitting a larger number of patients to be dialyzed at home and thus allowing the hospital renal units to service other acute cases more effectively.

Additional measures were taken to ensure the well-being of children and adults being cared for in boarding-homes and similar types of accommodations. The activities of the several Government departments involved will henceforth be co-ordinated through two separate licensing boards overseeing facilities on child and adult care respectively.

Special attention was directed at improving the nutritional status of the population through nutrition workshops, field consultations, research projects, and the appointment of additional professional staff.

A major expansion of home care programmes into many of the larger centres in the Province was effected during the year. Physicians are making increased use of this service for their patients, thus freeing valuable hospital beds for more acute cases.

Effective June 1, 1974, the Department of Health assumed financial responsibility for the Victorian Order of Nurses in British Columbia, thereby eliminating any charges to the patients for this service.

When seriously ill or injured persons require transportation by air to a hospital or other treatment centre, "mercy flights" were made, as in previous years, by aircraft of the Canadian Armed Forces, the Provincial Government, the Royal Canadian Mounted Police, the Canadian Coast Guard, and, in some cases, by the United States Coast Guard. In each case a medical assessment of the need was made by a senior medical officer of the Health Branch who, through telephone conferences with the patient's physician, the providers of the aircraft, and the receiving hospital, played a prominent co-ordinating role.

From July 73 to June 1974 the numbers of such "mercy flights" undertaken by several agencies were: Canadian Armed Forces, 148; Provincial Government, 17; Canadian Coast Guard, 3; voluntary aircraft, 2. The co-operation displayed by each of these agencies was of a very high order. Officials of the Health Branch wish to record their deep appreciation.

THE PROVINCE AND ITS PEOPLE

The second largest population increase on record occurred in British Columbia from 1973 to 1974. Eighty thousand people were added to the Province's total, only slightly fewer than the 83,000 increase from 1956 to 1957. The proportionate

increase in population was 3.5, more than double the figure for Canada as a whole, and well above the percentage recorded in all but a few countries of the world. Birth rates in the Province continued their downward trend this year, leaving immigration, the other component of population growth, to make the most substantial contribution. The special topographic, climatic, and economic characteristics of the Province, which have been mentioned in previous reports, combined to encourage heavy concentrations of people to reside in the southwest corner of the Province. Then there have been the attendant problems of providing service to the scattered population in the remaining areas.

Following are some comments on the vital statistics of the population based on preliminary data for 1974:

- The birthrate continued to decline this year, reaching a figure of 14.5 per 1,000 population compared to the rate of 14.8 for 1973. These rates are at the low level of the mid-thirties. For the first time in a decade, illegitimate births during the year made up less than 11 per cent of all births in the Province.
- The rate of marriages per 1,000 population in 1974 was 8.8. This was somewhat below the 1973 figure of 9.2. Although well below the high rates of the 1940's, the 1974 figure remained at a fairly high level and represented a considerable advance over the rates in the early part of the 1960's.
- There was an increase in the deathrate in 1974 over 1973, the figure this year being 8.2 per 1,000 population, compared with 7.8 in 1973. Each of the four leading causes of death contributed to the over-all mortality rate increase.
- The deathrate per 100,000 population for heart disease in 1974 was 270. While this was an increase over the level of the rates for recent years, it was still substantially less than the rates recorded during the 1960's and earlier.
- Over the last few years the cancer deathrate has shown little variation. Except for one year in the last nine, this has been between 150 and 155 per 100,000 population. The exception was a rate of 158 recorded in 1969. The 1974 figure was 155.
- Cerebrovascular disease caused a higher number of deaths per 100,000 population in 1974 than in the previous year—83 compared to 79. However, as was the case for heart disease, this is still well below the level of the rates in the 1960's.
- The accident rate this year attained its highest point since 1943, 90 per 100,000 population. The rate showed a considerable increase over the 1973 figure of 80 which, in turn, was above the 1972 rate of 76. There were proportionately fewer accidental deaths in 1974 caused by automobiles —40 per cent compared to 44 per cent in 1973. Falls caused about 16 per cent of accidental deaths, about the same proportion as reported in 1973. Poisonings caused 10 per cent of accidental deaths, this being down from the 1973 figure of 13 per cent. In 1972, poisonings represented a high 16 per cent of accidental deaths, so that this year's figure disclosed a considerable improvement, even though the level of the number of such deaths was still excessive.
- The suicide rate per 100,000 population in 1974 was 18, this being down slightly from the high rate of 19 for 1973.
- Deaths of infants under 1 year of age this year numbered 19 per 1,000 live births, an increase over the 1973 figure of 17.

- There was a continuation of the increase in diphtheria in the Province which was remarked on last year. This parallels the unexplained similar increases noted in other areas.
- Rubella also increased and as this was noted mainly among older children and young adults, the free immunization programme was extended to cover girls and women, as well as younger children of both sexes.
- Active cases of tuberculosis were reduced in number in 1973 as compared to 1972. General hospitals continue to be the chief reporting source.
- While reportings of gonorrhœa again recorded an increase in 1974, this was proportionately less than the level in recent years. In the past the change was a reflection of the lesser number of visitors to the Province, but in addition, the greater general awareness of the presence of the disease in epidemic form has made efforts to control it more effective.

COMMUNICABLE AND REPORTABLE DISEASE *

DIPHTHERIA

The marked increase in the incidence of diphtheria reported last year has continued. Sixty-nine cases of clinical disease were reported this year and 228 healthy carriers were identified. Most of these cases occurred in Vancouver, Victoria, and around Nanaimo, with only an occasional case being identified in other parts of the Province. There were three deaths from this disease reported.

The increase in diphtheria in the Province parallels the experience of several other provinces and a number of American states. As yet there is no satisfactory explanation for the return of this disease after an almost total absence for more than a decade.

Immunization in infancy, followed by reinforcing immunization during school life, provides good personal protection against the toxin produced by the diphtheria bacillus but does not prevent the carrier state and the spread of this disease in the community. Although the Health Department is taking aggressive steps to contain any outbreak that occurs, protection through immunization is still the best weapon against diphtheria.

RUBELLA VACCINATION PROGRAMME

There was a notable increase in the number of cases of rubella in 1974 despite the fact that an effective vaccine has been available, free of charge, for the past two years. A total of 342 cases of rubella was reported, compared to 77 cases in 1973. In direct contrast to other years, however, most persons infected with rubella this year were older school-aged children and young adults. This would appear to indicate that the infant immunization programme has been effective and that more emphasis should now be placed on the protection of girls and young women in their child-bearing years. Early in the year the Health Department extended the immunization programme and now provides vaccine without cost to all girls and women, as well as to young children of both sexes. A free diagnostic blood test to determine susceptibility (the NI test) is also available to physicians.

BOTULISM

Two cases of botulism were reported this year, both of which were fatal. The major problem in this Province is consumption of contaminated fish eggs by native population. Prepared in the traditional way, these eggs are considered a great delicacy but present a very real hazard to anyone eating them. Warnings and an ongoing educational programme have helped a great deal, but cases of this frequently fatal disease continue to occur.

RHEUMATIC FEVER PROPHYLAXIS

The number of children receiving free antibiotics from the Health Department to prevent recurrences of rheumatic fever now stands at 885. Studies elsewhere have shown that injected penicillin, although many times more expensive, is more

* *See* Table VI.

effective than the oral antibiotics that have been provided in this Province over the past 15 years. It is hoped that it will be possible to offer patients and physicians a choice of oral or injected antibiotics in 1975, if a source of supply at a reasonable cost can be found.

TUBERCULOSIS CONTROL

During 1973 there was a satisfactory reduction in the number of active cases of tuberculosis. This went from 566 in 1972 to 473 in 1973. The chief reporting source of these cases continued to be the general hospital, which indicated that the routine chest X-ray of those admitted to general hospitals continued to be desirable.

The number of tuberculosis patients in hospital has also reduced, the present number being 85 to 90. A year ago the figure stood at 120 to 125. This reduction reflects the smaller number of active cases occurring and the effect of the discharge policy under which a responsible patient can now be discharged once his sputum smears are negative rather than waiting until negative cultures are obtained.

There was no change in the manner in which the clinics operated during the year. The arrangement for having the X-rays for the travelling clinics taken at local hospitals functioned satisfactorily and provided higher quality X-rays.

In keeping with the practice elsewhere in Canada and the United States, the criteria used in the interpretation of the tuberculin skin test has been changed.

The current readings are: Less than 5 mm. in diameter is considered negative, from 5–9 mm. is classified as doubtful, and 10 mm. or larger is positive. Formerly, any reaction of 6 mm. or greater was called positive.

During 1973, 14 deaths were attributed to active tuberculosis and this is the lowest number on record.

VENEREAL DISEASE CONTROL*

There are several diseases which are commonly transmitted by sexual intercourse and which are referred to as sexually transmitted diseases. Of these, five are almost exclusively transmitted by sexual intercourse and by no other means. In British Columbia the most common venereal disease is gonorrhœa, but there are some cases of syphilis and the occasional case of lymphogranuloma venereum. Granuloma inguinale and chancroid are extremely rare. With 5,000 cases of gonorrhœa reported and studies indicating that this is 20 per cent of the actual number of cases, 25,000 cases are estimated to have occurred. In addition, 5,000 cases were seen in the clinic, bringing the total estimated incidence to 30,000 cases.

In order to assess the problem of the control of gonorrhœa, a Venereal Disease Conference was held in Vancouver. Ninety representatives of the professions and community involved with this problem attended. The delegates to the conference made 76 recommendations and the joint sponsoring committee of the Medical Association and Provincial Government narrowed this list to 10 high-priority items. These items included

- public information;
- laboratory services;
- improved contact tracing;
- more extensive clinic facilities;
- a screening examination by physicians.

The incidence of gonorrhœa has increased between 15 and 20 per cent each year from 1969 to 1973, inclusive, but the increase in 1974 was only 4 per cent. One of the reasons for this is that the poor weather early in the summer discouraged

* *See* Table VII.

many visitors. The other reason was that the publicity which attended the epidemic has made physicians and the public more concerned with controlling it.

The problem in venereal disease control is that only some infected people develop manifestations of disease while others show no signs or symptoms yet continue to spread infection.

With gonorrhœa, 95 per cent of men develop symptoms, but 5 per cent do not. The reverse is true with women, with at least 80 per cent not developing any symptoms of the disease. With this disease so widely prevalent, complications are frequently seen, particularly pelvic inflammatory disease with its resulting problem of sterility in a high percentage of those afflicted, and disseminated gonococcal infection, which is a blood spread of the infection to the joints or skin. Many patients either do not know who their sexual contacts are or are unwilling to name them. This inability to control each small epidemic unfortunately leads to the spread of the diseases.

In order to speed the contact tracing of known cases, an arrangement has been made with the Department's laboratory in which the Division is immediately notified each day of all positive tests. These results are telephoned to the local health unit concerned and the nurse is able to contact the physician promptly so that the patient can be interviewed and the contacts treated.

The Department's laboratory introduced the Automated Reagin Test (ART) as a screening test for syphilis on September 1, 1974. This replaces the VDRL test which has been carried out for many years but which was too time-consuming in view of the volume of specimens submitted to the laboratory.

The Microhemagglutination Assay for Treponema pallidum (MHA-Tp) test is performed on all positive screening tests and, if this is negative, the Fluorescent Treponemal Antibody Absorption (FTA-ABS) test is performed because it is the test that will remain positive for life.

Infectious Syphilis

Infectious syphilis is a disease that is being brought into the Province primarily by the male homosexual group who acquire the infection in the cities on the west coast of the United States. These individuals are single and many are mobile. This allows them to lead a more permissive life. The number of infections in seamen and young men returning from abroad is declining. The control of this infection is best effected by considering that each case is the centre of a small epidemic and that the group at risk consists of the sexual contacts of the case and the individuals who have had sexual relationships with these contacts within the incubation period. This small epidemic is controlled by offering all the members of this group adequate treatment.

Latent Syphilis

Many people who acquire syphilis infection have no symptoms of the disease. It is necessary to have a continuing screening programme to find these asymptomatic carriers. The Provincial Laboratory conducts over 600 tests a day on blood from pregnant women, and from people undergoing pre-employment examinations and other routine physical examinations. In addition, the Canadian Red Cross tests all blood donated. By finding people who do not know they have an infection it is possible to offer them treatment and thus prevent later complications.

Gonorrhœa

Gonorrhœa is an infection of the genital tract by the *neisseria gonococcus.* After an incubation period of two to nine days it produces severe symptoms of pain

and discharge in the male but few, if any, symptoms in the female. Those who do not have signs or symptoms of disease unknowingly go on spreading the infection. The disease occurs mainly in young single-status adults with peak incidence at age 20 to 22 years. It is prevalent also in those who lead a permissive sexual life, such as alcoholic women, prostitutes, male homosexuals, and alienated youth.

General

Diagnostic and treatment clinics are maintained in New Westminster, Victoria, Prince Rupert, Prince George, and Kamloops. The main clinic is located at 828 West 10th Avenue and is open each week-day. The Vancouver Health Department operates the Pine Street Clinic at 2333 Pine Street.* During the year the Wednesday evening clinic at Gordon Neighbourhood House and the Monday evening session at the East-end clinic were discontinued. The Oakalla Prison Farm clinic was discontinued because patients were seen at the Vancouver City Gaol and the change in parole policies eliminated the need.

THE PUBLIC HEALTH NURSE AND DISEASE CONTROL

The public health nurse played an active role in the disease control programmes and provided the following services:†

- 549,989 individual immunizations and 32,844 tests were given at neighbourhood clinics, child health conferences, schools, and kindergartens. This represents a 13-per-cent increase over 1973 in immunizations, and a minimum saving to the British Columbia Medical Services Plan of more than $1 million, based on the physician's fee of $2 per injection.‡
- 26,098 visits were made to patients and contacts concerning tuberculosis, venereal disease, and for epidemiological investigation of other communicable diseases. Included are prophylactic injections for infectious hepatitis, and the supervision of children on rheumatic fever prophylaxis. The number of tuberculosis visits were down, while venereal disease visits increased 73 per cent over last year. The over-all services increased by 22 per cent.

HEALTH AND OUR ENVIRONMENT

ENVIRONMENTAL ENGINEERING

Engineers in the Health Department are involved in many phases of health-oriented engineering. The duties of the Division fall into six distinct categories, the highlights of which are as follows:

- *Waterworks*—All community waterworks systems serving more than two dwelling units require approval under the *Health Act,* and 688 certificates were issued during 1974 with appropriate notification being made to health units, Municipal Affairs Department, Highways Department, and the Water Rights Branch.
- *Sewage works*—A large portion of the Division's time was spent in reviewing the entire range of pollution control applications for effluent discharges. Regional Engineers shared this review work with health unit staff.

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* The hours of opening are Monday to Friday from 9.30–11.30 a.m. and 1.30–4.30 p.m.; Monday and Thursday from 7–9 p.m.; and Saturday from 10 a.m.–12 noon.

† *See* Table VIII for details.

‡ *See* Tables X and XI for the immunization status of pre-school and Grade V children. The number of Grade V girls protected against rubella is shown in Table XII.

- *Solid wastes*—The Division's work in this connection was limited to advice to Medical Health Officers and their staff, consulting engineers, and municipalities. All pollution control applications for refuse permits were reviewed by the Division. Direct assistance to municipalities and regional districts was offered throughout the year.
- *Swimming-pools*—The Division was responsible for the review of all new pools and communication was maintained with pool designers and consulting engineers. Because pools are technically complicated, some plans required several reviews before final acceptance. Engineers reviewed and approved 115 swimming-pools during the year.
- *Sanitation*—Engineering aspects of sanitation are prominent in a technological society. The Division was involved in the review of new toilets for travel trailers, prefabricated septic-tank designs, materials used in tile fields, guidelines for individual home package treatment plants, and a number of other items.
- *Operator training*—The engineers were responsible for the training of water and sewerage works operators in British Columbia, with one of the staff acting as co-ordinator of operator training. Environmental Engineers were directly involved with the co-ordination of the annual British Columbia Water and Wastes School.

The Division concluded another successful training programme for swimming-pool operators at seven centres throughout the Province in 1974. Three members of the Division were involved in preparing and presenting lectures to about 300 persons attending the schools.

Service to Health Units

A prime consideration of the Environmental Engineering Division is to offer technical and professional advice to the Medical Health Officers and staff. This year the engineers made 105 visits to the health units, about the same number as in the previous two years. During these visits and at other times, engineers examined 10 subdivisions, 44 swimming-pools, 75 waterworks systems, eight solid-waste disposal areas, 23 sewage-treatment plants, and seven fluoride installations. In addition, 70 miscellaneous visits, such as private sewage-disposal systems, manufacturing plants, etc., were made.

The engineers in Victoria made 48 visits to municipalities and 12 visits to consulting engineers' offices. These visits did not include meetings with municipal officials or consulting engineers at other locations or the visits made by the Regional Engineers.

The placement of four Regional Engineers at Vernon, Surrey, Nanaimo, and Cranbrook did much to provide immediate engineering assistance to Medical Health Officers and staff. The activities of these Regional Engineers was mainly directed toward collection of data relating to waterworks systems, and the inspection of works. Each Regional Engineer is responsible for three or four adjoining health units.

PUBLIC HEALTH INSPECTION

The 86 Provincially employed Public Health Inspectors provide a variety of services which are described in more detail in Table IX. An examination of this table reveals an increasing activity in the areas of food premises, community care, sewage disposal, and land use.

Food Premises

In March the regulations governing the sanitation and operation of food premises were amended to control the quality of food served by voluntary caterers to public functions or gatherings. It is not the intention of the Department to apply those regulations to the small gatherings of service organizations in which the general public is not involved.

Activities With Other Departments

To ensure a consistent and comprehensive approach to environmental control, the Division of Public Health Inspection has continued liaison with

- The Department of Travel Industry regarding camp-sites.
- The Departments of Housing, Municipal Affairs, and Highways on the subject of mobile home living.
- The Environment and Land Use Committee.
- The Pollution Control Branch.
- The Department of Agriculture in regard to the farm vacation programme.

Educational Activities

As a member of the Environmental Technology Advisory Committee, the Director of the Division of Public Health Inspection maintains communication with the British Columbia Institute of Technology. The Health Branch provided field training for 17 student public health inspectors and members of the Health Branch have acted as examiners for the certification of Public Health Inspectors. Fifteen Public Health Inspectors were sponsored for correspondence courses leading to the certificate in advanced environmental health administration through Ryerson Polytechnical Institute. Twenty-three Public Health Inspectors attended a course in communications at the British Columbia Institute of Technology. This is the first of a series of courses planned to extend over a three-year period.

The Director, Consultant, and Public Health Inspectors meet, on frequent occasions, with members of Provincial and community organizations such as the Canadian Restaurant Association; the Motels, Resort and Trailer Parks Association; and ratepayers' associations to obtain the views of the industries and the consumer regarding environmental health matters.

OCCUPATIONAL HEALTH

The Division of Occupational Health experienced a major increase in staff in 1974 and consequently expanded its service function to both the Provincial employees and to other departments of Government. During the year new staff were recruited—one occupational health nurse, one physician, one health physicist, one radiation protection inspector, and one employee counsellor specializing in the field of alcoholism.

An employee health unit has been established in Kamloops during the year and this will serve an increasing population of public servants in the Kamloops geographic area. Health services to public servants in Riverview, Woodlands School, Metropolitan Vancouver, and Metropolitan Victoria are provided through occupational health units in those centres with physician service made available from the main office of the Occupational Health Division. This Division, working in close co-operation with the British Columbia Government Employees' Union and the Public Service Commission, established a policy directed toward employees troubled with alcoholism.

To date, routine medical examination of new public service employees has not been instituted. Selective health questionnaire screening was carried out on some new employees. Particular attention was directed to food-handlers in the major Governmental institutions at Woodlands, Glendale Hospital, and Riverview Hospital.

Occupational health representatives provided consultation service to many other departments of Government and served on many interdepartmental committees. This activity included close liaison with the Pollution Control Branch, the Water Investigations Branch, and the Interdepartmental Pesticide Committee through the Department of Agriculture. The Division also worked closely with the British Columbia Hospital Insurance Services through the Radiological Advisory Council and the Public Service Commission.

A regular monthly meeting is held with Commission representatives to deal with public employees whose job performance has been compromised by medical difficulties. There is every indication that this committee will become increasingly active in the coming years, resulting in improved service to public employees.

Radiation Protection Service

Man is becoming more concerned with the environment in which he must live. Problems are arising with this environment as the population and standard of living increases, and this requires a vastly expanded technology to discover and utilize natural resources to meet the demands of society. Part of this demand has required the increasing use of radiant energy in its several forms, both ionizing and nonionizing, which carries with its development a certain health hazard to man and his environment.

The Radiation Protection Service is aware of this potential radiation hazard and is working to develop an expanded Provincial programme of control, surveillance, and public information.

In 1974 the Radiation Protection Service added a health physicist to the staff. He will lead the development of this expanded programme. A good start has been made in the establishment of an Environmental Radiation Laboratory, ERL, in the Provincial Health Building in Vancouver.

The objectives of the Environmental Radiation Laboratory are

- to improve the surveillance technique for X-ray equipment used in hospitals, clinics, dental offices, and industry;
- to monitor and give advice on the use and production of radioisotopes; for example, the production of radionuclides in the vicinity of particle accelerators or the monitoring of radionuclides released by an accidental spill from a nuclear submarine;
- to evaluate the health hazard associated with nonionizing radiation, such as microwaves and lasers;
- to monitor the presence of background radiation in the geosphere and establish a baseline in the Province; and
- to provide calibration facilities for meters and gauges used in radiation detection.

For its radioactivity studies the laboratory will have the capability of analysing air, liquids, and solids.

The Service has taken on staff an additional radiation protection officer, who will work in the area of the X-ray survey. This additional help has been badly needed, this survey having increased greatly since the Medical Services Commission began its accreditation programme for all medical X-ray installations in the Province, two years ago.

There are about 550 medical X-ray machines in 145 institutions and clinics and about 1,300 dental units in the Province. In addition, there are 250 X-ray machines being used by chiropractors, veterinarians, industry, and research.

This year the Service completed 232 surveys and gave five lectures on X-radiation hazards. The Service also provides extensive consultation services.

In British Columbia there are over 450 licensed radioisotopes varying from small calibration sources to the larger sources used in cancer therapy. In the year under review, 174 surveys and 155 leak tests were completed and 141 water samples analysed for radioisotope content. The water samples are collected during visits of nuclear submarines to the underwater weapons range at Nanoose. There were seven visits.

The microwave survey programme continued throughout the year. Training seminars for Health Unit Inspectors were conducted in six areas. Microwave survey meters were left in the district for Health Inspectors to conduct their own surveys. Over 100 microwave ovens were checked with very few exceeding the recommended radiation levels. In nearly all defective ovens the problem was due to faulty or inadequate servicing after the units had been in use for some time.

Because ultra-sound equipment is proliferating throughout commerce, industry, research, and medicine, with its yet unknown potential for radiation damage to biological processes, the service has developed a questionnaire that has been circulated to all hospitals in the Province. The object of the survey is to determine how many units are being used and for what purpose. The response from the hospitals has been very good and the service is currently assessing the returns.

Three members of the Radiation Protection Service are members of the Radiological Advisory Council and (or) one of its three subcommittees.

The Council acts as advisers to the Government, particularly the Department of Health, on all matters concerned with planning, equipping, and utilization of X-ray equipment in hospitals and diagnostic centres. The Council and its committees met 41 times during the year, this included seven field trips to rural hospitals. The Council reviewed and made recommendations to the B.C. Hospital Insurance Service on 140 applications for capital cost grants toward equipment or renovations.

In summary, the Radiation Protection Service has increased its staff and facilities during 1974 and is providing a better and more informative service to the people of British Columbia.

SPECIALIZED COMMUNITY HEALTH PROGRAMMES

KIDNEY FAILURE CORRECTION PROGRAMME

Hospitals with renal units are located in Vancouver, New Westminster, Victoria, Trail, and Kamloops. In order to accommodate more patients and allow others the freedom of living at home, a home programme was developed. A warehouse is operated from 632 West 10th Avenue to provide all the necessary supplies, and a parts department and pharmacy are located at 828 West 10th Avenue to supply equipment and drugs. Patients receive training in home dialysis at the Vancouver General Hospital and St. Paul's Hospital in Vancouver and the Royal Jubilee Hospital in Victoria. There are 83 patients on hæmodialysis, an increase of eight in 1974. Home hæmodialysis costs an average of $300 per month per patient.

There has been an improvement in peritoneal dialysis technique with the introduction of a collapsible plastic bag which excludes air from the closed system, markedly reducing the risk of infection. This has resulted in an increase in the number of patients at home on peritoneal dialysis from 12 in 1973 to 25 this year. This new technique costs $750 a month to maintain a patient at home. Machines which have been developed to provide greater convenience for the patient and reduce supply costs are undergoing hospital trials and one patient is being maintained at home on a study basis. The trials indicate that the machine is successful and will soon be accepted for placing in patients' homes. Patients are able to live a relatively normal life on home dialysis, but it is a very time-consuming procedure. Most patients require three dialysis runs a week, consuming 30 to 35 hours, including the time spent on dialysis and machine preparation. A new disposable type of dialyser has been developed which will reduce each run from the present eight to ten hours to a standard period of five hours. This method will cost an additional $50 a month for each patient, so that it is not possible to abandon the present equipment at this time.

Many patients have been at home for a prolonged period of time and it is now necessary to ensure that the equipment is properly maintained. A dialysis technician has been employed in order to service and rebuild the equipment.

Not all patients are suitable for home dialysis because of inadequate homes or medical problems, therefore they must continue to dialyse in hospital, and those who have a financial hardship may be aided by subsidies. During the year, 55 people received assistance in obtaining drugs worth $3,000 and with transportation subsidies amounting to $6,000.

In order to increase the number of patients who can be discharged from the hospital unit, a self-care unit consisting of 10 beds is being established outside the hospital. It is intended for patients who are able to build their own artificial kidney, who are in good general health, but who are unable to dialyse at home. It will allow greater freedom in dialysing for these patients and will allow more patients to use the limited space in the hospital renal units.

This service is operated with the assistance of three committees—the first, appointed by the British Columbia Medical Association, is a consultant committee to recommend policy to the Minister of Health; the second is a committee of renal technicians and nurses to recommend on equipment and supplies; and the third is a committee of training hospital social workers to advise on the social needs of patients.

Home visits have been made to the majority of home dialysis patients who live outside the Lower Mainland. However, it is hoped that now the delivery system for shipment of supplies and parts for patients in remoter districts is functioning more independently, a specially trained nurse will be able to make regular visits to those furthest from renal units.

Another programme added in 1974 was the supply of nutritional supplements to growing children on dialysis. These high-calorie, low-potassium, and low-sodium beverages and food products are supplied in the belief that extra calories may prevent the stunting of growth.

POISON CONTROL PROGRAMME

Two more hospitals were provided with poison control information cards this year and the service at the Vancouver General Hospital was improved by the establishment of a second centre there so that telephone calls from the public could be handled more quickly. A total of 59 centres is now in operation.

The establishment of a combined poison control and drug information centre at St. Paul's Hospital, to be financed by the Hospital Insurance Service, was approved. Facilities are now being constructed and a search for a qualified director is under way.

The new Provincial Reference Centre at St. Paul's Hospital will provide specialized consultative services to physicians who are caring for cases of poisoning. The 59 hospitals in the programme will continue to provide service to the public.

HYPOGAMMAGLOBULINÆMIA PROGRAMME

There are now eight children and nine adults receiving free immune serum globulin under this programme. These patients require regular weekly or monthly injections of this expensive medication for the rest of their lives in order to stay well.

The purpose of the programme is to take advantage of the cost saving available through bulk purchase of this product and to provide the patients' physicians with the laboratory service needed to diagnose and treat persons suffering from hypogammaglobulinæmia.

COMMUNITY CARE FACILITIES LICENSING

This has been a busy year for the interdepartmental teams responsible for licensed community care facilities. There has been an increase of 233 licensed child care facilities and 66 adult care facilities, all of which have had to be carefully reviewed. During the year, adult care facilities closed because they did not meet the minimum standards of care required.

Solid progress was made in developing new standards of care for children and adults. A draft of the proposed standards was sent to every agency known to have an interest in either of these fields. Two well-attended full-day seminars sponsored by the Department of Continuing Education, University of British Columbia, were held to discuss the proposed standards with agencies involved. Members of the licensing board also met individually with a number of other agencies, private operators, and nonprofit societies to seek their views.

A decision was made to form two licensing boards, one dealing with child-care facilities and the other with adult care. Three ministerial appointments from the public will be made to each board. The terms of reference of the boards are to be broadened to permit them to function as a co-ordinating group for the Government departments involved and a medium through which Government can obtain expressions of public opinion.

The board's staff of consultants visited most parts of the Province during the year to discuss problems with field staff and operators with a view particularly to assuring the uniform application of the regulations.

The *Community Care Act* was amended to permit the Government to specify the qualifications required of the operators of child and adult care facilities and to certify those who met the required standards. A further amendment now exempts private homes providing residential care to small groups of physically active persons from many of the institutional standards.

PREVENTIVE MEDICINE

This is a new venture developed in the Bureau of Special Health Services, in close co-operation with the Division of Occupational Health. It deals primarily with those aspects of preventive medicine that promote health through

- health assessment of asymptomatic individuals (risk factor analysis and early disease detection);

- life-style or behaviour modification, such as through physical activity, nutrition, and associated factors, as they relate primarily to chronic noncommunicable diseases.

Some of the described activities were initiated prior to June 1, 1974, but have become Departmental functions. Much of the activity was stimulated by, and resulted from, the Department of Health sponsored B.C. Conference on Health and Physical Activity in November 1973, and two National Health and Welfare sponsored conferences—Fitness and Health in December 1972, and the Child in Sport and Physical Activity in May 1973.

ACTION B.C., a nonprofit organization under the *Societies Act* of British Columbia, was funded by the Department of Health in early 1974 to "promote positive health through increased physical activity and good nutrition," by motivating people to communicate with one another, become personally involved, and participate in community action for health promotion.

The Department of Health also provided initial funding to the Multidisciplinary Advisory Board on Exercise (MABE), which was created in November 1973 with encouragement from the College of Physicians and Surgeons of British Columbia. The MABE Progress Report No. 1 (May 8, 1974) recommended research on a proposed Physical Activity Readiness questionnaire ("PAR" Q). This was proposed as an initial screening method to determine the current suitability of adults for activity programmes requiring significant physical exertion, and help to identify those individuals who should be recommended to see their physician first.

The Department of Health sponsored an extensive research project in August 1974 in Victoria to validate the "PAR" questionnaire. This was a combined research and service project called the Health Evaluation Programme. Data analysis is currently in progress, and follow-up for the 1,000 people who took part is being initiated. Two additional features of the programme were

- a health hazard appraisal from the Department of National Health and Welfare, which gives a computerized statistical indication of the risk for developing selected diseases;
- a 24-hour nutrition recall administered by the nutrition consultant to assist in specific nutrition counselling.

In August the Department in large part funded the PNE ACTION B.C./ Department of Health Display, the focal points of which were a children's physical activity obstacle course, and the new Canadian Home Fitness Test for adults being currently developed by Recreation Canada, for ages 15–69 years. This step test, to music, was taken by 1,810 men and 1,446 women, and gave them an approximation of their current cardiopulmonary endurance fitness level ("aerobic" fitness). Research information gleaned will contribute significantly to the final form of this self-test, to be made available nationally in the spring of 1975.

Other projects included

- assisting MABE in the production and distribution of the booklet *Fit Facts;*
- continuation of the B.C. Medical Journal series on preventive medicine, including "Prescription for Fitness", a self-administered fitness programme for "apparently well" adults;
- presentations to the International Committee on Physical Fitness Research, Associated Boards of Health, and Pacific Coast College Health Association;
- preparation of a brief to the Prepaid Service Contract Inquiry (Department of Consumer Services), on behalf of the College of Physicians and Surgeons of British Columbia and MABE;

- participation in the planning of the December 1974 National Conference on Employee Physical Fitness.

SPEECH AND HEARING SERVICES

During the past year the Division's objective to meet the needs of the population suffering from communication disorders demonstrated major progress in several areas:

- The provision of service throughout the Province has continued to increase. The divisional field staff has grown in numbers and space requirements are being satisfactorily met.
- Plans for a Provincial data collection system in speech and hearing are nearing completion.
- The hearing-aid pilot plan is nearing implementation.
- The staff in-service training programme will continue in 1975/76. Additionally, the Minister of Health's Task Force on Communication Disorders completed its recommendations.

Provision of Service

Professional positions have now been established in all Provincial health units in speech pathology and positions in audiology have been increased to five. The audiology positions are located in designated regional centres. In regional centres where speech pathology and audiology services are offered, comprehensive diagnostic and therapeutic, interdisciplinary teams are being developed. Additional speech pathology positions are being considered to meet the needs in the regional areas, and these will be co-ordinated with other community services to ensure greatest effectiveness consistent with economy.

Data Collection

The data collection system in the Division is in the final planning stages prior to implementation. For the first time in Canada, it should be possible to obtain reliable and valid data on hearing programme results. Therefore, these data will be invaluable in providing programme direction. The aim of the programme will be the provision of the best possible hearing health care for people suffering from hearing disorders in the Province. It is expected that a similar system will be introduced in speech pathology.

Hearing-aid Project

A hearing-aid pilot project will be launched in the five regional speech and hearing centres. The objectives of the project are considered in the following outline:

- The Department of Health will plan and design a comprehensive programme for the delivery of health services to the acoustically handicapped population of British Columbia in order to reduce the effect of hearing impairment. Referrals will be through physicians and ongoing public health programming.
- The project will provide each potential candidate for a hearing-aid with a complete auditory examination and assessment audiologically and medically. People in all age-levels in five regions of the Province will be involved. The proposal includes counselling and rehabilitation, and establishes control over technical and professional standards.

The cost of hearing-aids delivered under the project is expected to vary from $25 to $125 per unit, but this is yet to be finally determined.

VISION SERVICES

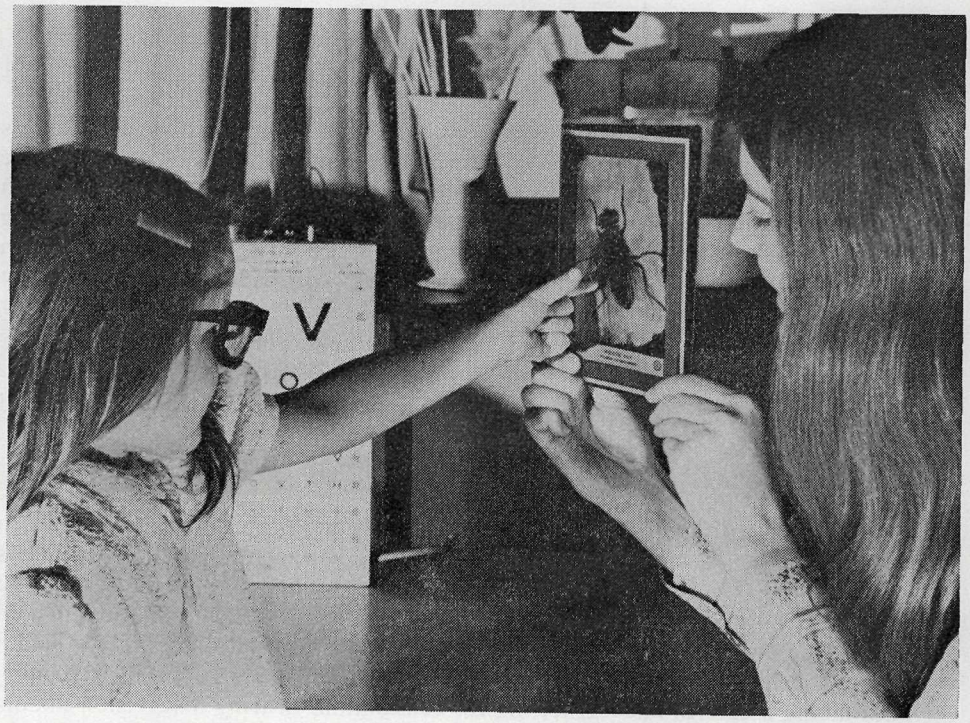
With the addition of an orthoptist to the Local Health Services staff, consultative services were provided to over 200 public health nurses, aides, and summer students. Visits were made to 12 health units and 16 branch offices, with particular stress placed on the detection and management of visual defects in the young child.

Studies and discussions with various related professionals have confirmed that a previously stated figure of 4.5 per cent of children suffer from strabismus of varying degrees.

With this extended educational programme, it is hoped that the detection of strabismus will be more readily recognized in children at an early age. Earlier treatment gives a child a chance to develop some degree of normal binocular function prior to his entering school. A child becomes a visual adult by age 7, after which a functional cure may not be attained.

Pilot studies have been set up in order to determine the earliest age at which visual acuity and stereopsis may be recorded, and what other procedures could be effectively introduced, especially those which would assist in the early detection of strabismus.

Twelve health units have been provided with stereopsis and visual acuity recording sheets to be used for recording results of eye tests on kindergarten and preschoolers. Copies of these results are being requested for the coming year. Statistics will be gathered and evaluated, and should prove to be useful in an effort to



Wearing special Polaroid lenses, this pre-school child demonstrates the appreciation of stereopsis or 3-D by trying to "pinch" the wings of the house fly. The stereopsis test, done successfully and combined with an accurate visual acuity, tells us whether the child is using both eyes together. In the background is the STYCAR vision chart which is often used for testing pre-school visual acuity.

establish recommendations of the most effective testing equipment for general use, as well as referral levels for various age-groups.

It is hoped that by next year, with continued visits and demonstrations of screening methods and equipment by the orthoptist, all health units will be using the Titmus Stereopsis Test as part of routine vision screening for kindergarten and pre-school.

COMMUNITY HEALTH SERVICES

The public health nurse is one of the health professionals delivering health care to the people in her designated community. As a member of an interdisciplinary health team, she brings her unique skills of therapeutic nursing combined with preventive medicine and health promotion to assist in maintaining health at its maximum level. She also co-ordinates the skills of others for the benefit of the individual, family, or "at risk" groups which require a close working relationship with others who have their contribution to make to total health care. Through case-finding methods, early treatment and care can be arranged for persons who are unaware of potential physical or emotional problems. Through individual counselling and group teaching, health problems may be minimized so that both treatment and prevention are combined for the benefit of the over-all health of the community.

MATERNAL AND CHILD HEALTH

Prenatal

The special series of group discussions with expectant mothers and fathers continues to be an important method of informing receptive groups of young people who are anxious to learn how to become good parents. They learn about the growth and development of a new baby, and their responsibilities as parents in the enlarging family setting. These sessions provide a unique opportunity for the public health nurse to foster positive mental health attitudes which will have a permanent effect on total family environment.

- There were 605 series of classes held at 80 health centres during the year.
- 6,686 new mothers and 3,510 new fathers participated with a total attendance of 35,434 at the sessions. More than 50 per cent of the classes had both parents enrolled.

Infant and Pre-school

At this age, case-finding methods such as screening procedures are utilized to locate children "at risk" for certain health problems so that the potential problems may be prevented or cared for, before they become serious and require expensive treatment or institutional care. The public health nurses work in situations where they assess the health of young children, at home visits, special clinics, child health conferences, day care centres, play groups, and kindergartens. Formal screening includes taking a careful history, testing for retardation, hearing loss, vision abnormalities, and general deviation from the normal growth and development patterns. The Denver Development Screening Tests are routinely used to assess motor, language, and social development of infants and pre-school children. Most formal pre-school clinics are for 3 and 4-year-old children. The public health nurses assist

parents whose children show a development lag, so that they can attain the normal level. When indicated, children are referred to specialists through their family physicians.

- 23,241 newborn infants received at least one assessment visit from a public health nurse during the first six weeks of life. This represents about 97 per cent of all babies born in the area served.
- Public health nurses made 18,196 additional visits to homes of the infants for general health assessment, advice, and counselling on child care. Special attention was directed toward children with suspected abnormalities, "at risk" due to unfavourable home conditions, genetic inheritance, possible child abuse, failure to thrive, etc.
- 18,727 infants attended child health conferences where public health nurses offered 59,572 individual counselling, immunization, assessment, and various screening procedures.
- 101,004 individual services of a similar nature were provided to pre-school-aged children in child health conferences.
- 31,431 visits in addition were made on behalf of pre-school children for similar reasons.

FAMILY, ADULT, AND GERIATRIC SERVICES

Public health nurses provide a family health service for all members of the family, regardless of their age. Through family counselling and the provision of health advice, they are in a position to promote attitudinal changes of life-style which can lead to better general health and reduce health care costs. Examples of this include discussion of safety, obesity, exercise, smoking, and understanding of disease and human relationships.

- 239,775 visits of all types were made to homes by public health nurses, which is an increase of 34,962 over the previous year, or just over 17 per cent.
- 84,033 visits were made on behalf of adults for health appraisal, advice, referral, or follow-up health supervision as requested by a physician. This is a 33-percent increase over last year and indicates an increased utilization of the public health nurses in providing continuity of health care in the home. Public health nurses have put forth a special effort this year to improve liaison with physicians in their offices as well as in follow-up of persons discharged from hospitals. (These figures do not include home nursing visits which are shown elsewhere.)
- 144,359 visits were made to adults over 65 years of age, which represents a 55-per-cent increase over the past year. Services include the traditional nursing care, and special geriatric clinic services such as screening tests for hearing, vision, blood pressure, mobility, nutrition, and general health counselling. Visits to homes for the elderly, including personal care facilities where consultation is offered to both operators and residents, are included in this total.
- 274,812 professional services were rendered via telephone by public health nurses, which represents an increase of 19 per cent over the previous year.
- 12,408 services in addition were provided by nursing auxiliaries such as aides, volunteers, and students.

SCHOOL HEALTH

Trends noted in reviewing services for the school-year were an increased enrolment in kindergarten, especially in areas served by the Health Branch. A decrease is noted in individual services to school-aged children, with a corresponding increase in group counselling and health education for both elementary and high school students.

- In the 17 Provincial health units there is an over-all increase of 4,001 children enrolled in kindergarten, 21 per cent higher than the previous year.
- In Greater Vancouver public schools, kindergartens increased by 2,540 (39 per cent).

Enrolments in all other grades showed:

- In the area served by Provincial health units, an increase of 5,953 pupils (1.7 per cent).
- In Greater Vancouver a decrease of 3,658 pupils or a 2.4-per-cent decline in total grade-school enrolment.
- The Capital Region showed very little change in either kindergarten or grade-school enrolment.

It is apparent that a greater proportion of the 5-year-old population are attending kindergarten. This trend enhances the opportunity for early health screening and early detection of health problems, and instigation of remedial service.

This trend, in combination with enriched service by the public health nurses to other pre-school-aged children, helps to ensure that no child will be hampered in his school experience by undetected health problems. However, many recognized physical or emotional handicaps present a serious challenge to school and health personnel alike in their effort to effect change or assist the child to perform at optimum ability.

- 253,754 services were provided to individual pupils, a decrease of 3,910 (1.5 per cent) from the previous year.
- 6,761 planned conferences were held with teachers, an increase of 2,465 (57 per cent).
- 6,008 group sessions were held with students for the purpose of health education and development of positive health habits through the group-discussion process. This was an increase of 1,746 (40 per cent) over the number of group sessions held last year.

These figures suggest an increased emphasis by public health nurses on motivation of students to improved health awareness and greater acceptance of personal responsibility to protect their own health. Where Family Life Education programmes are sponsored by school personnel, the public health nurse provides assistance and consultation as required.

- 39,871 other services, mainly home visits, were carried out by the public health nurses, 947 fewer than in the previous year.

Public health nursing auxiliaries play an important role in performing routine procedures, thus allowing more public health nursing time to be spent in family services. Nursing auxiliaries carried out the following services in schools:

- 59,193 vision-screening procedures;
- 16,278 hearing tests;
- 5,921 other services.

Table XIII shows the number of individual students who received nursing service for a specific health problem, and the number of students whom the nurse referred for further investigation or treatment.

MENTAL HEALTH

Social and cultural values continue to inhibit individuals or families with mild to moderate emotional problems from seeking help. Too often, those who do want help in early stages of depression, anxiety, behavioural and interpersonal problems do not find professionals with both the time and skill necessary to support them in a programme conducive to change.

There is still too little known about the prevention of mental illness beyond prevention of disease or injury which adversely affects the brain or central nervous system. Nevertheless, there is an increasing awareness of the need for "healthy" early emotional experience.

Public health nurses have developed a unique recognition as "health advocates" welcomed into the home. Given the necessary knowledge and skill they have the opportunity to recognize life situations which are emotionally unhealthy for the infant and young child. Many such situations are recognized. The real challenge is to plan necessary corrective action.

In-service education to assist staff in meeting this challenge has been ongoing since 1962. A variety of mental health related courses are planned each year.

Special community programmes in which public health nurses have been involved include

parent effectiveness training.
crisis intervention.
behaviour modification programmes.
marital counselling.
learning disability programmes.
community education.
other parent groups, including prenatal classes.

- 10,051 visits were made to persons who exhibited developing emotional problems, an increase of 14 per cent over the previous year. Slightly over 50 per cent of the visits were on behalf of adults.
- 11,984 visits were made to persons of all ages with a recognized mental illness. There was a 21-per-cent decrease in services to school-aged children in this category, with a slight increase in all other age-groups. Over all, there was a 6-per-cent increase from the 11,265 visits made in the previous year.

The trend indicated is that schools find resources within their own staff to work with these children, while public health nurses spend more time with other age-groups and in primary prevention programmes.

The public health nurse works closely with the staff of the Mental Health Branch and relies upon them for consultation.

HOME CARE PROGRAMMES

CO-ORDINATED PROGRAMMES

At a time when the quality, quantity, and costs of health care are of increasing concern to all, attention is being given to the various alternative types of health care delivery. Home care services provide a service to patients who require active medical, nursing, rehabilitative, and other ancillary services, but do not need the expensive facilities of an acute hospital or other institution. They are a vital part of the continuum of health care services and effect the following benefits:

1. Provide co-ordinated health care services to selected patients at a level appropriate to their needs.
2. Provide this required health care economically and efficiently in the home, thereby
   - (*a*) reducing the length of hospital stay through earlier discharge to home care;
   - (*b*) preventing the unnecessary admission of patients to expensive acute hospital care or other institutional facilities.
3. Maintain the family unit and encourage family involvement and responsibility for the care of the patient.

Home care services, more comprehensive in some areas than others, are available to most of the people in British Columbia. Those areas not receiving home care services are, in the main, isolated districts too far from centres to make such services feasible in relation to staffing, costs, and in some cases, patient safety.

At the present time, there are two types of home care programmes in the Province. Both are financed by the Provincial Department of Health, through Provincial health units and through two metropolitan health agencies. Both types, the Traditional Home Care Services and the Special Home Care Projects, exist within the same areas and in Provincial health units have the same Public Health Nursing Co-ordinator. However, the cost of the service to the patient and criteria for acceptance varies. It is hoped that these will be completely integrated within the next year, and that just one common programme will exist throughout the Province.

Services of the traditional home care programme are available on written request of physicians to persons requiring nursing care in the home.

- Care is available in all areas of the Province within reasonable access of public health offices, i.e., over 90 per cent of the Provincial population.
- It provides professional nursing care to the patient at no cost to himself.
- It is now being extended to include physiotherapy services at no cost.
- Working with the patient's physician, the Public Health Nurse Co-ordinator arranges for ancillary services required by the patient and assumes responsibility for co-ordination of services to the patient and his family.
- Public health unit nurses made 134,784 home nursing visits during the year. This was an increase of 29 per cent over 1973. Over 78 per cent of these visits were to persons over 65 years of age.
- Effective June 1, 1974, the Provincial Department of Health assumed financial responsibility for the Victorian Order of Nurses in British Columbia, thereby eliminating any charge to patients for this service.
- The introduction of Pharmacare and reduced ambulance costs has greatly assisted many chronic patients on care in the home.

SPECIAL HOME CARE PROJECTS

Special Home Care Projects provide co-ordinated care to patients discharged early from acute hospitals and selected patients in lieu of admission to hospitals.

- All services required by the patient, i.e., nursing, physiotherapy, homemaker, meals-on-wheels, medication, supplies, social work, orderly, transportation, laboratory, dietitian, etc., are provided by the project at no cost to the patient.
- Special Home Care Projects, financed completely by the Provincial Government, now operate in Greater Vancouver, the Capital Regional District, New Westminster-Coquitlam, Surrey-Delta, Prince George, Vernon, Kelowna, Nanaimo, Kamloops, Chilliwack, Abbotsford, Maple Ridge, Langley, and Penticton. New projects are also being organized in Courtenay, Duncan, Nelson, Kimberley, and Trail. This service is therefore available in almost all major population areas.
- Over 6,367 patients were served by the Special Home Care Projects.
- These patients received 63,569 nursing visits, 6,048 physiotherapy visits, 20,416 hours of homemaker service, and 2,371 meals. Medications were supplied to 3,523 of the patients and dressings and supplies to 3,198. A further 1,000 services included transportation, dietitian, laboratory, orderly, and other services.
- Average length of stay in the project was 10.9 days per patient.
- Average total cost per patient was $145.25. This cost was covered by the Department.

PHYSIOTHERAPY SERVICES

During the year, one full-time physiotherapist and seven part-time physiotherapists provided consultative services to patients, public health staff, physicians, and personal homes in eight health units. A total of 2,319 visits and 2,024 assessments was made for patients on the traditional home care service. Although the physiotherapist's work has been related mainly to the home care programme, a need has been shown for more service to be provided in other health facilities, and they visited 701 other types of institutions such as community care facilities, schools, etc. Staff education for nurses included 395 group sessions, and 864 individual consultations. The physiotherapist's potential contribution to preventive and educational work has been well demonstrated, and for this reason a senior consultant has been appointed who will be providing consultation to the physiotherapists as their numbers increase, and as they become involved in more health programmes.

PREVENTIVE DENTISTRY

The most significant event in 1974 in the field of dental care for the children of this Province was the agreement reached in February between the Minister of Health and the College of Dental Surgeons of British Columbia to establish a joint study to develop a Comprehensive Dental Programme for the children of British Columbia.

This study was directed to take into account geographic consideration of need; geographic consideration of total dental man-power availability and future supply; costs of education of needed personnel, lags in implementation, and cost-effective-

ness estimates for different personnel mixes; preventive dental programmes to reduce needs and promote early and regular utilization; and the impact of the children's programme on the adult care system.

A well-qualified committee was appointed to supervise the study and appropriate research staff hired. Visits were made to various centres where auxiliary dental personnel were being trained and employed to perform more complex functions than presently authorized in this Province. Consultants from across the continent provided advice and guidance in the study. Throughout, liaison was maintained with, and input received from, the Department of Education and the British Columbia Medical Centre. The report of the Committee was made available to the Minister of Health toward the end of 1974.

The establishment of the Division was increased by the appointment of an Assistant Director and a dentist trainee, the latter being a person not having received graduate training in dental public health. The following additional dental auxiliaries were authorized—supervisor, dental hygiene, 1; dental hygienists, 3; certified dental assistants, 4; noncertified dental assistants, 12; providing a total of 46 positions.

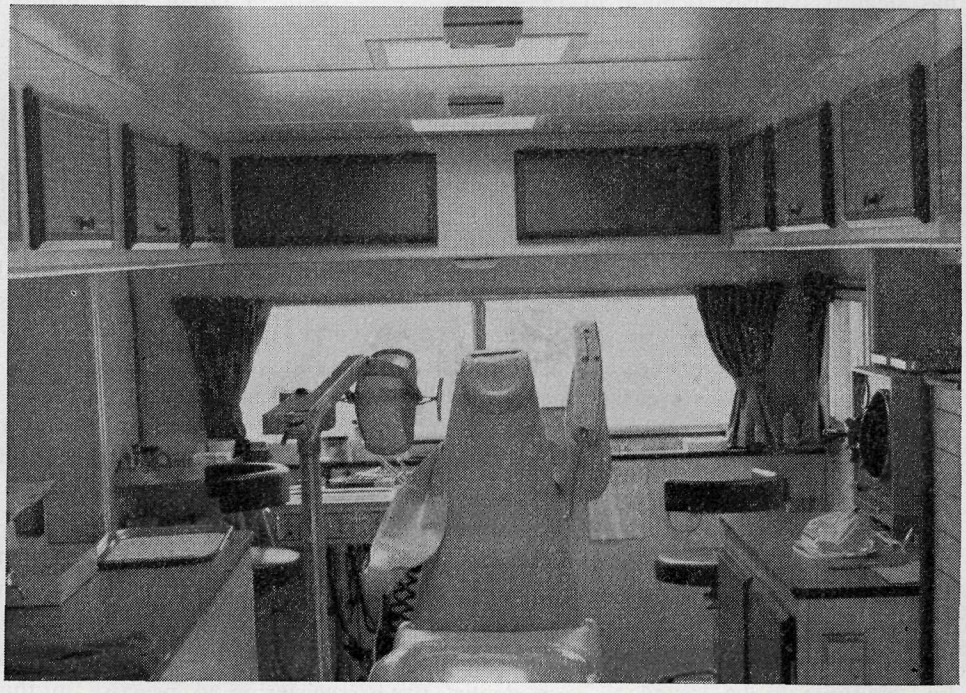
During the year an attractive uniform was designed and made available to all dental auxiliaries. This is worn when visiting schools or working in a clinic setting.

To provide dental service on a fee-for-service basis in communities without a resident dentist, four young graduate dentists were employed during the first six months of 1974 and seven during the latter six-month period. During 1974, more than 30 communities benefited by this service. During the early part of the year, two large motorhome-type vehicles were purchased and equipped as two-chair dental offices with modern dental chairs, units, and X-ray machines. Apart from water and electricity, these vans are entirely self-sufficient with a propane furnace for heating and air-conditioning for the summer months. It is planned that early in 1975 two further such units will be purchased and similarly equipped to be in use in the summer of next year. To supplement this service the College of Dental Surgeons is preparing a pilot programme whereby dentists in practice in the metropolitan areas will provide a continuing service on a rotation basis to two centres on the Queen Charlotte Islands.

In order to provide an incentive for the establishment of a dental practice in communities lacking suitable rental accommodation, the Division, in co-operation with the Department of Public Works, prepared plans and specifications for a large twin mobile home unit which will include living accommodation for the dentist and his wife and two dental operatories, a small laboratory, and waiting area. Arrangements for the establishment of these facilities have been worked out.

In Greater Vancouver, dental health programmes are provided in health units, schools, and a mobile unit by the City of Vancouver, School District No. 41 (Burnaby), and the North Shore Union Board of Health. In Greater Victoria, since 1920, dental health services were provided in the schools by dentists and dental assistants employed by the Board of Trustees of the Greater Victoria School District. In 1973, with funds provided by this Department, these services were extended to the three adjacent school districts. As of April 1, 1974, the responsibility for these services was assumed by the Capital Regional District, which has been successful in attracting two dental hygienists to the staff. With this transfer of authority it will be possible in time to extend the dental health programmes in this region to persons other than students, e.g., to prenatal classes and child health conferences.

Two 27-foot motorhome-type vehicles have been purchased and equipped as dental clinics to provide better service to communities which do not have a resident dentist.



Each mobile dental clinic used by dental public health externs is fully equipped as a modern, self-contained two-chair dental office complete with X-ray unit and autoclave.

Dental programmes in the 17 health units providing services to the remaining population of the Province are initiated and supervised by the five regional dental consultants of this Division.

Assistance is given to public health nurses for the dental component of prenatal classes and for counselling at child health conferences and during home visits.

The 3-year-old dental birthday card programme instituted 10 years ago was continued with marked success. The members of the dental profession are to be commended for continuing this programme since its inception without a change in fees. It was significant that more than 90 per cent of the families involved took advantage of the service where a well-trained dental auxiliary was available for telephone follow-up.

The school dental health programmes now being developed in all regions as dental auxiliary personnel become available are based on those pioneered and proven effective in the Okanagan Region. Visits were made to Grades I, III, V, and VII. On each visit, education and motivation were appropriate to the age-level. Also included were two "Brush-Ins". In addition, motivation was encouraged by newspaper articles, television interviews, and radio spot announcements. At the first visit each year to the school, cards were given to all pupils in the grades visited. The family dentists were requested to sign and return the cards to the local health unit when any necessary treatment was completed if the child was still under regular care. After a reasonable period of time, if the card was not returned, an appropriate follow-up was carried out. At the last visit to a school, all pupils in the grades received a dental inspection, from the results of which the programme was evaluated. For example, when this programme commenced in 1966, in the rural schools of the Kelowna School district, 16.1 per cent of Grade VII students suffered premature extraction of one or more permanent teeth. Over the years this percentage has steadily decreased, until, in 1974, only 6.6 per cent of Grade VII students suffered in this way.

To evaluate the effectiveness of all dental health programmes on a Province-wide basis a methodology was devised in 1955 and field-tested in 1956 and 1957. This system was based on the examination in each of the seven dental regions of random samples of about 250 public school children at the age-levels of 7, 9, 11, 13, and 15 years. Clearly defined criteria were established for the assessment of dental health status. All regions were first surveyed in the period 1958–60 to provide baseline information. The second series of surveys was completed during the years 1961–67 and showed a statistically significant improvement for several dental health indices and an over-all trend toward an improved dental health status at all age-levels. The third series of surveys was commenced in 1965 and completed in 1974. The result of the 1974 survey in the Okanagan Region was tabulated and compared with earlier surveys in 1960 and 1967 and with other regions of the Province. It is interesting to note that, during this period, the total number of permanent teeth of 15-year-olds attacked by dental caries in the Okanagan Region had been reduced by 25 per cent, for 11-year-olds by 34 per cent, and for 7-year-olds by 37 per cent. In 1960, in the Okanagan Region, 54 per cent of the 15-year-olds suffered early extraction of permanent teeth, but this fell to 38 per cent in 1967 and to 26 per cent in 1974. (This approaches the 20 per cent reported in 1973 for the Greater Victoria School District.)

To promote the early detection of cancer in the oral cavity, cancer diagnostic kits continue to be issued to each dentist newly registering to practise in this Province.

At the close of 1974 the ratio of population per dentist in this Province was one dentist to every 2,017 persons. This ratio has gradually improved since 1967 Nevertheless, there is a great disparity between the metropolitan and rural areas. The ratio in Greater Victoria is 1:2,140, whereas 1:2,631 pertains in the north and northwest of the Province. In addition to the 1,148 dentists licensed and resident in British Columbia, there were at the close of 1974, 256 dental hygienists and 552 certified dental assistants also licensed to practise in this Province.

In summary, there was a further expansion in the activities of the Division, and improvements have been made in the dental health status of the children of British Columbia. It is hoped that this benefit will extend into adulthood. Nevertheless, the Province-wide dental health surveys clearly indicate the obvious need for further improvement.

NUTRITION SERVICE

The establishment and evaluation of new and innovative services were the major focus for 1974 in community nutrition as both headquarters consultant staff and field operations personnel increased in number.

HEADQUARTERS CONSULTANT OPERATIONS

Selected components of the community nutrition programme are considered to require a highly sophisticated resource input. Those areas include health promotion, nutrition education and counselling, and food service administration. As a demonstration of the organization and function of such central services, in August 1973 a headquarters consultant was employed to provide service to adult and child community care facilities in food service administration and nutrition education. Questionnaires distributed to a sample of operators of adult facilities had determined that all aspects of quantity food service needed to be stressed.

In 1974 a nutrition workshop format was designed. Seven workshops were organized with the local health units, and conducted in the following areas: Maple Ridge, Kelowna, Nanaimo, Abbotsford, Port Alberni, Chilliwack, and Prince George. Presentations included participation from other members of the health team, including public health nursing, public health inspection, and local nutritionists or dietitians if available. Operators of mental health homes generally attended these workshops as did the staff of selected small hospitals as determined by the dietary consultant with the British Columbia Hospital Insurance Service. Evaluation of the workshops indicated improvement in the nutrition knowledge and attitudes of the operators.

A similar programme with greater emphasis on nutrition education was initiated with operators of child care facilities, conducted in four areas, and evaluated. Both programmes will be offered to additional communities in the future.

Particular benefits of service included its intradepartmental co-ordination, health team involvement, local organizational component, quality resource input, and measurable change in participant performance. As a result, in November of 1974, two additional consultants were added to the headquarters staff in the areas of health promotion in the schools and education in maternal and infant nutrition. It is anticipated that further programme development in these areas will vary with the addition of field personnel.

FIELD OPERATIONS

In September 1973 the first field nutritionist in the Provincial service was assigned to Boundary Health Unit. Several specific objectives were established for this service, with emphasis on

- the provision of information and counselling to nutritionally vulnerable groups such as infants, pre-school children, adolescents, and the elderly, with a direct counselling service for "at risk" pregnant women; and
- the provision of research information, motivation, and guidance to those with direct community contacts.

In 1974, progress toward each specific objective was evaluated. For example, improvement of the nutritional health of pregnant women was considered to be a priority on the basis of Nutrition Canada data. Nutritional status and weight gain of the pregnant woman is related to birth weight of the infant. A programme was evolved whereby pregnant women were urged to attend prenatal classes early in their pregnancy. They received nutrition information and those considered to be at risk, through a screening procedure administered by physicians and public health nursing staff, were referred for individual counselling by the nutritionist. Encounter and evaluative reports maintained on these women indicated that substantial improvements were made in nutrition knowledge, attitude, and food-consumption practices as a result of these counselling sessions. Follow-up indicated that of the seven infants delivered to date none were considered to be of low birth weight.

Other highlights of the health unit nutrition programme included

- preparation and distribution of materials on infant feeding;
- survey of the needs of pre-school parents and day care supervisors with regard to nutrition information;
- weekly consultation with public health staff in health unit suboffices;
- workshop for public health nurses on prenatal nutrition and nutrition education methodologies;
- nutrition education demonstration project for Grade III and IV students in a selected Surrey school;
- input to homemaker training courses;
- provision of advisory services to public health staff regarding standards for food service in community care facilities;
- development of a study to determine information and method of communication which are most appropriately used with low-income families;
- survey of the food-consumption patterns of 170 East Indian families to determine nutritional inadequacies and to provide the basis for the development of nutrition education materials for these new Canadians.

Evaluation of each major component of this programme indicated that expansion of this service was both justified and necessary. In November 1974, recruitment was proceeding for the addition of five field nutritionists to be stationed in health units throughout the Province.

An extensive summer research programme was conducted in Nutrition Services. Some of the projects were

- assessment of the nutrition knowledge, attitudes, and practices of the public health nurses in British Columbia;
- development of nutrition education materials for use in community care facilities;
- survey of the attitudes and practices related to the use of megavitamins in the Greater Vancouver area;

- nutritional assessment and counselling as a component of a health and physical fitness promotion for selected public service personnel;
- investigation of the dietary practices of Chinese Canadians;
- an assessment of the role of dietary folate (a vitamin) in the folate status of women who are pregnant or taking oral contraceptives;
- investigation of the etiology of growth failure as related to small-for-date infants;
- development of audio-visual aids for nutrition programmes;
- production of three nutrition "commercials" directed at pre-schoolers and to be used as public service announcements on television.

The first project was particularly useful in determining the levels of nutrition knowledge, attitudes, and practices of public health nurses as a baseline for evaluation of the over-all impact of the total nutrition programme in-service.

Additional activities of the Nutrition Service included

- production of six half-hour segments of the "Senior Chef" television series designed for senior citizens;
- production of a half-hour film entitled "Let's Buy Better Food" concerned with selecting the most nutritious foods for the food dollar;
- Prenatal Nutrition Education Workshop for public health nurses;
- a number of leaflets and scripted slide shows were produced for public information.

PUBLIC HEALTH EDUCATION

The Division of Public Health Education was established in 1946 to provide for the health education needs of the Health Branch at that time. These needs include library facilities, films, and educational materials.

Important advances have occurred in the health care delivery system in this decade. Health education has encouraged these advances by undertaking an imaginative programme of consultation and technical services. Today, with the appointment of Community Health Educators at the health unit level, further development in the use of the consultation process can occur in carrying out preventive educational work in the community.

Increasingly, the Division of Public Health Education has become a resource centre providing consultant and technical services to health units, to the Department, other departments, agencies, and the general public health and health related programmes.

The Division, in co-operation with other health staff, continues to produce half-inch educational video-tape material in black and white for in-service education and special community health projects. Updating of the audio equipment to broadcast standard has made it possible to produce radio clips on such subjects as immunization and food-handling. The production of pamphlets, leaflets, and posters on health educational matters was undiminished in 1974.

Summer student projects included educational slide series on nutrition, venereal disease, and home care; video-tape production on such subjects as food-handling, Pearson and Glendale Hospitals; a research project on health education as it is being performed by educators in the health field within the Province.

During the year, divisional staff were involved in a number of specific projects:

- Working with ACTION B.C. in mounting a special exhibit at the PNE.
- Recording the activities associated with the fitness programme for public servants.
- Participation in the Province-wide distribution of educational material to pharmacies. This work was undertaken primarily by the Pharmaceutical Association of British Columbia, assisted by the National Department of Health and Welfare and this Division, and will be completed in 1975.

The Division continued its projected three-year programme to replace worn-out audio-visual projectors located at health unit offices throughout the Province, and has implemented a dubbing service for audio and video tapes for health units and other departments of Government.

Library services to the Department, health units, and the public has expanded with the appointment of a full-time librarian, who will now be responsible for the book, slide, transparency, and video-tape libraries.

VITAL STATISTICS

The Division of Vital Statistics continued to undertake the wide variety of duties involved in administering the *Vital Statistics Act,* the *Marriage Act,* the *Change of Name Act,* and Part II of the *Wills Act.* These duties are carried out through the main office in Victoria, a branch office in Vancouver, and 103 district offices and suboffices throughout the Province.

In addition, the Division provides a centralized statistical service to the Health Branch and to certain other Government departments and voluntary health agencies. These services are provided through the Division's Research Section in Victoria and a research office in Vancouver.

REGISTRATION SERVICES

Table XIV, which indicates the volume of documents processed under the above-mentioned Acts in 1972 and 1973, reflects the following main features:

- The total volume of vital registrations accepted and certificates issued continued to increase, although the number of livebirth registrations remained about the same as in 1973.
- The continued steady upward trend in the number of registration of wills notices under the *Wills Act* reflects the growing public awareness and utilization of this service, which was introduced in 1945.
- There was a further marked increase in the number of applications for changes of name under the *Change of Name Act,* which resulted partly from the broadening of the application of the Act in 1972.

Revised vital statistics registration forms for births, deaths, marriages, and stillbirths were introduced in February. The revisions were based on model forms developed over several years by the Vital Statistics Council of Canada.

BIOSTATISTICAL SERVICES

The Registry for Handicapped Children and Adults continued to receive registrations of handicapping conditions at the rate of about 250 registrations monthly. In addition, about 200 reports of congenital anomalies were received each month.

A paper entitled "The Use of a Registry Caseload Survey in Predicting Trends in Rehabilitative Needs for the Handicapped" was prepared and presented for publication. Another paper entitled "The Amount of Hereditary Disease in Human Populations" was accepted for publication in the *Annals of Human Genetics*.

During the year the consultants to the Registry presented papers or addresses based on Registry material at the Canadian Cleft Palate Commission in Toronto, the International Congress of Pædiatricians in Buenos Aires, the meeting of the American Society of Genetics in Portland, Ore., and at the Mayo Clinic in New York.

The Cancer Register continued to operate within the general framework of the Registry, and the service was strengthened by the appointment of a part-time consultant during the year.

The Administrator of the Registry attended the annual meeting of the International Association of Cancer Registries in Montecatini, Italy, in October.

Toward the end of the year the name of the Registry was changed to the Health Surveillance Registry, a name which more fittingly reflects the present nature and scope of its activities. The cancer register will be operated as a subregister of the registry.

The Division continued to provide mechanical processing and statistical consultant services to the British Columbia Cancer Institute in connection with the Cytology Screening Programme for cervical cancer. Data on about 400,000 screening tests undertaken during the year were transferred to punch cards, and the records of screenings in the previous year were tabulated and analysed.

Extensive services were rendered to the Director of the Division of Preventive Dentistry in connection with the development of a dental care programme for children in the Province. Besides providing a variety of statistical data to the committee established for this purpose, two members of the Division's Research Section served as consultants to the committee.

The Research Section was also involved in the development of a new methodology for dental health surveys, designed to give greater statistical reliability to the data collected. Sample selection and statistical processing of the data compiled in the Okanagan Region dental health survey were carried out during the year.

Two studies on the caries-inhibiting effects of mouth rinses were completed during the year. The resulting data were processed, and a statistical analysis presented to the sponsoring agency and other interested persons.

A Research Officer was appointed to represent the Department on the Executive Committee of the Perinatal Morbidity and Mortality Programme, which was established by the British Columbia Medical Association in the current year with financial assistance from the Provincial Government. During the year the Committee examined statistics supplied by this Division relating to infant morbidity and mortality, as a basis for formulating their approach to the study in 1975.

Data derived from the Physician's Notice of Live Births or Stillbirths were again analysed and presented in the form of an annual special report entitled "The Newborn." A study of infant and perinatal mortality among registered Indians was undertaken, and the results presented in a special report.

The Division continued to provide information on congenital anomalies, ascertained from multiple sources, to the Department of National Health and Welfare in connection with the continuing national surveillance study of congenital anomalies.

A Research Officer was selected to represent the Health Branch on the Provincial Metric Conversion Committee. This committee was appointed to collaborate

at the Provincial level with the National Committee on Metric Conversion, which is working toward complete conversion to the use of metric units by the year 1980.

The expanding statistical needs of the Community Care Facilities Licensing Board, which is responsible for the licensing of personal care homes for the aged and day care centres for children, were dealt with during the year. Because of the Board's need of up-to-date listings and statistics at short notice, priority has been given to the computerization of these records, and the requisite procedural changes were completed before the end of the year.

There was a considerable expansion in the coverage of the Special Home Care Projects, designed to relieve pressure on acute care hospitals. Individual patient records relating to these projects were processed and statistics supplied to the Division of Public Health Nursing.

Assistance was given to a public health nursing consultant in a study designed to assess the effectiveness of the public health nursing/physician liaison programme which has been in operation for the past few years.

The Division assumed responsibility for processing two new continuing series of survey questionnaires, which were introduced respectively by the Consultant in Public Health Nutrition, and by the Director, Division of Speech and Hearing.

The Research Section maintained statistical services to the Division of Tuberculosis Control, the Division of Venereal Disease Control, the Mental Health Branch, and the G. F. Strong Rehabilitation Centre. These services included the editing and processing of individual records, and the preparation of statistics required for annual reports and to meet special inquiries.

The Mechanical Tabulation Section continued to undertake the editing, coding, punching, and tabulating of all records submitted for processing by the other divisions and agencies served by the Section.

During the year, plans were laid for substituting the Division's out-dated unit record tabulating equipment by a computer terminal connected to the data processing installation of the Computer and Consultant Services Branch of the Department of Transport and Communications. The substantial operation of systems analysis and programming which is involved was commenced during the year and accelerated during the last quarter.

IN-PATIENT CARE

In-patient care for tuberculosis patients is provided at the Willow Chest Centre and at Pearson Hospital, with the latter also caring for persons under the Provincial Extended Care Programme in addition to post-poliomyelitis patients with major residual respiratory disabilities.

The number of patients with tuberculosis at Pearson Hospital has decreased in the past year, resulting in only two wards being required for them—all male. Those at Willow Chest Centre have remained fairly constant in number and both female and male patients are cared for there. Renovations at the centre have continued to be delayed.

In the meantime, one of the four extended-care wards is being used to facilitate floor renovations in the two tuberculosis wards. These repairs will be completed in the near future and will permit utilization of all the extended-care beds, provided sufficient staff are available. Willow Chest Centre patients continue to be transported

to Pearson Hospital dental, ophthalmology, and otorhinolaryngology clinics without any difficulty arising.

With the number of patients at Pearson Hospital remaining at lower levels, there have been slight decreases in the work loads of the laboratory and X-ray services to the tuberculosis wards primarily. However, the extended-care patients have had increased laboratory services which appear to be related to more follow-up tests of acutely ill patients. It is hoped to obtain additional equipment for certain blood chemistry studies to be performed in the laboratory in emergent situations. An automatic film processor was obtained, resulting in more rapid service to the patients.

Changes in personnel have increased to some extent, especially in the Nursing and Activity Services Departments. Most of these have been due to retirement or seeking other employment.

A new position of Executive Housekeeper, combining housekeeping and maintenance services at Pearson Hospital and Willow Chest Centre, was established and filled.

The hospital pharmacist retired after many years of service and a replacement has been appointed.

A major change in personnel management has been the appointment of a Personnel Officer who has been of invaluable assistance in the over-all area of personnel practice.

The Nursing Service has completed a review of its establishment for Pearson Hospital and Willow Chest Centre, resulting in improved supervision of nursing care. This is the first stage of studies of the standards and requirements for patient care, and already benefits are evident. During the year, several nurses successfully completed the Canadian Hospital Association's Nursing Unit Administration course.

In conjunction with the Activity Services Department's physiotherapists and occupational therapists, the nursing staff co-ordinated their related services to the patients, particularly in the activities of daily living. This resulted in improved care.

The Activity Services Department, because of staff shortages for physiotherapy and occupational therapy, has been unable to treat patients as frequently as in the previous year. However, the actual level of patient care has not been proportionately changed, and this is attributable to the concern and industriousness of the staff. A high level of service has been maintained, much to the benefit of patients. The summer student employees were of inestimable value in assisting in the programme.

The Social Service Department maintained its aid to patients at Pearson Hospital and Willow Chest Centre. Alcoholism remains as a problem with many tuberculosis patients and constitutes a significant portion of the staff work load.

Referrals to agencies or associations in the private sector continue to be of assistance to many patients. A number of extended-care patients, for example, are now employed outside the hospital, some to a sufficient degree to merit eventual discharge.

The Dietary Department was busy in its efforts to adjust to rising food costs and at the same time was able to institute more individualized menu service. The following are some of the highlights:

- Considerable time was required in effecting temporary changes necessary for planned renovations to Willow Chest Centre.
- In conjunction with the Public Works Department a recommendation for new facilities for Pearson Hospital food services was submitted.
- Tests were conducted on the use of microwave ovens for patient food reconstitution.

- Improved menus service to Willow Chest Centre patients was provided with the assistance of the Vancouver General Hospital, which supplies the food.
- The dietary staff provided support for the weekly summer barbecues arranged by the Department of Activity Services.

The Business Office provided excellent support for the operations of the various departments.

The staff education programme enabled a number of persons to attend seminars and conferences. Among the latter was the World Federation of Occupational Therapists Congress in Vancouver. In-service educational programmes have progressed well and one for orderlies is now in effect. The role of student-teaching in the community has been expanded and now includes social and case aide workers, food service supervisors, recreational, occupational and physiotherapists, medical record technicians, and licensed practical nurses, whose numbers increased in 1974.

The services of voluntary organizations continued to be of benefit to the patients in the matter of entertainment, visiting, donations for equipment, and beauty parlour services.

AID TO HANDICAPPED

April 1, 1974, marked the 20th anniversary of a programme to provide rehabilitation services to the handicapped of British Columbia through the auspices of the Health Branch. Services were begun in a modest way on April 1, 1954, and have continued at a gradually accelerating pace. The system of delivery has been described in previous annual reports and the only other area in the world which utilizes a somewhat similar system, which is based on the philosophy of community operated and oriented programmes, is Switzerland.

While the expansion was not as great in 1974 as was reported in the previous three years, the Division was able to consolidate services and reorganize one of the regions by creating a South Fraser Region and a North Fraser Region out of the Fraser Valley Region. This provided an improved service on both sides of the Fraser River. In addition, one more region was added and developed during the year. A consultant was appointed and trained and assigned to the Northwestern Region, with headquarters at Terrace. Service is now available to those residing in and around such centres as Prince Rupert, Kitimat, Terrace, and Smithers. The consultant also made contact with the Queen Charlotte Islands, Stewart, and Telegraph Creek. The Province is now divided into nine regions.

A new committee was developed in association with the G. F. Strong Rehabilitation Centre in Vancouver. Through this the Division is able to bridge the transition from rehabilitation in an active treatment centre to rehabilitation in the community, and, through the bridge afforded by the Aid to Handicapped Committees in communities throughout the Province, necessary services can be continued without interruption after the patient returns home.

TRAINING AND ASSESSMENT PROGRAMMES

In the previous Annual Report, mention was made of two new programmes which had been developed with the assistance of personnel of Vancouver Community College (Special Programmes Division), the Department of Manpower, and the Provincial Department of Education. These programmes were related to the

needs of the deaf in vocational orientation and in the development of a training programme for interpreters. This year a further programme to aid the young disabled person with multiple handicaps was arranged with the assistance of the above-mentioned departments and, like the others mentioned above, is housed in Vancouver Community College under the direction of the staff of the Special Programmes Division. In addition to the facilities offered in the college, also utilized are the programmes and the expertise of the staff of the Opportunity Rehabilitation Workshop which provides the milieu for expert pragmatic assessment.

COST BENEFIT ANALYSIS

During the year a cost benefit analysis of the programme in the Upper Island Health Unit was undertaken. The purpose of the study, primarily, was to obtain some information about whether a monetary benefit could be demonstrated as a result of the provision of appropriate rehabilitation services to disabled persons. It has long been a contention of those in the rehabilitation field that properly applied rehabilitation services result in dividends related to relieving the community of certain financial burdens entailed in the support of the disabled. Also, that such services assist the disabled toward a more satisfactory and independent, personal adjustment in the community. The work entailed in the study was undertaken by a private firm of management consultants. The study took 10 months to complete and encompassed the total period of the eight years that the programme for the Division for Aid to Handicapped has been in operation in that particular area of the Province and the results are available for review.

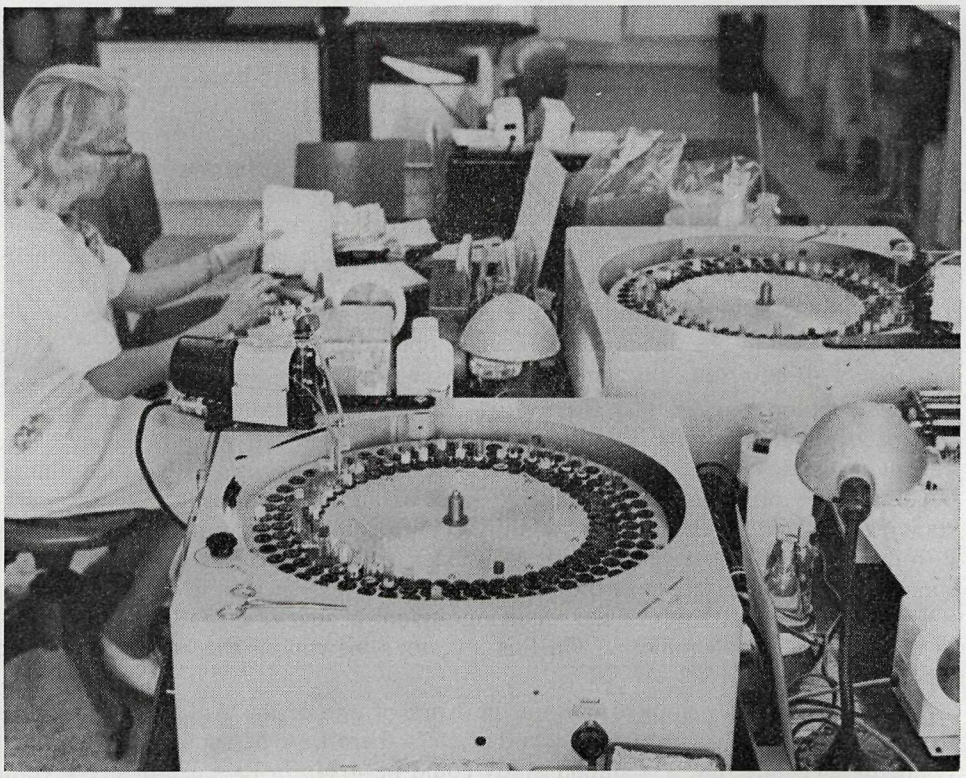
Calculation showed that the average annual expenditure on the disabled in that particular area of the Province was $57,000. The study report states: "The benefit cost ratio of $175,000 over $57,000 annually, i.e. about 3 to 1 is the minimal benefit of this programme. In fact the level of annual administration expense is sufficient to allow for the intake of additional clients, while the annual disbursements postulated at $16,000 a year are not required into perpetuity. From an investment standpoint, the investment in the programme to date is probably in the order of $200,000. Present worth of the recurring annual benefit of $175,000 is probably in the order of $1.75 million. On this investor's viewpoint, the benefit cost ratio would be over 8 to 1."

The above study applied only to the work of one of the Aid to Handicapped Committees in the Province. At the end of 1974 there were 50 such committees. It is fair to speculate that if a similar study could be made in the case of every committee, the results would vary somewhat from the above-quoted study but, in general, a positive and favourable result would be demonstrated. Such being the case, a substantial fiscal return to the community and to the Province is being achieved through the rehabilitation programme of the Division.

LABORATORY SERVICES

During 1974 the work load of the Division of Laboratories increased by nearly 8 per cent from 557,000 tests in 1973 to about 600,000 tests in 1974. The number of tests performed in 1974 at the Main Laboratories and at the Branch Laboratories

in Nelson and in Victoria is compared with the corresponding figures for 1973 in Table XVI. Major increases occurred in cultures for fæcal streptococci in water (a recently introduced test), animal virulence tests for *Corynebacterium diphtheriæ* (147 per cent), cultures of throat swabs (73 per cent), processing and reporting special serological tests performed at reference laboratories (33 per cent), viral serology (33 per cent), examinations for intestinal parasites (15 per cent), and culture of food poisoning specimens (13 per cent). Major decreases occurred in examinations for atypical *Mycobacteria* (21 per cent), cultures of fæces for enteropathogenic *Escherichia coli* (18 per cent), completed coliform tests on water specimens (17 per cent), and examinations for pinworm (15 per cent).



Two autoanalysers perform 750 to 900 screening tests for syphilis per day.

The increase in work load for the diagnosis and control of gonorrhœa and diphtheria reflect the current epidemics in British Columbia of these two communicable diseases. The increased work load in the search for parasites similarly mirrors the demand for laboratory investigation of travellers and immigrants from countries where parasitic and exotic infections are prevalent.

PROJECTS BY SUMMER STUDENTS

For the second year, university students were employed by the Division of Laboratories from May to August, eight under the Innovation '74 Programme and 13 under the Experience '74 Programme. While most students worked on scientific, administrative, or clerical projects, some were employed on supportive duties. All performed useful tasks of benefit both to themselves and to the laboratories.

BACTERIOLOGY SERVICE

Diphtheria

In the year under review, 372 virulent strains of *Corynebacterium diphtheriæ* were isolated from 355 persons—a dramatic increase from 132 in 1973. Included were isolations from swabs of throat and of skin lesions. An outbreak of faucial diphtheria due to *C. diphtheriæ intermedius* occurred on Vancouver Island with six cases and 36 carriers. In the Interior of British Columbia, nine carriers of *C. diphtheriæ gravis* were discovered in the Indian population.

Opportunistic Pathogens

Some 1,600 unusual gram negative organisms were isolated from a variety of clinical specimens. These opportunistic pathogens included strains of *Acinetobacter* (455) and of *Pseudomonas æruginosa* (87).

Food Poisoning

The number of specimens cultured for food-poisoning organisms increased to 220 in 1974 from 194 in 1973. Potential food-poisoning agents were isolated in seven incidents—*Staphylococcus aureus* (5) from chicken croquettes, barbecued chicken, Easter egg, home-canned salmon, and turkey meat; *Clostridium perfringens* from liver; and *Streptococcus fæcalis* from hamburger. Botulism, suspected in five incidents of food poisoning, caused the death of two women who ate salmon eggs, subsequently found to contain *Clostridium botulinum* Type E toxin. The other incidents included three cases of carbon monoxide poisoning (two fatal), one case of tick paralysis, and one case of bowel obstruction.

In two potential food-poisoning incidents, the patients remained asymptomatic after eating improperly canned commercial food. No toxin was demonstrable in these foods by laboratory tests.

REFERENCE SERVICES

Tropical and Parasitic Diseases Reference Service

The number of fæcal specimens examined for parasites increased by 15 per cent from 13,700 in 1973 to 15,750 in 1974. This was largely due to increased demand for parasitological examination of immigrants and of travellers returning to British Columbia. The reference service provided advice on preparing for travel in the tropics and on the diagnosis and treatment of tropical and parasitic diseases acquired in the tropics. Exotic drugs, not available commercially in Canada, were supplied for 29 patients during the year.

Botulism Reference Service for Canada

The Service investigated two Canadian incidents of suspected botulism. In one, the diagnosis proved to be alcoholism; in the other, pesticide poisoning, not botulism, was responsible for the death of 25 wild ducks.

On April 1, 1974, the duties and responsibilities of the Botulism Reference Service for Canada were transferred to Health Protection Branch, Ottawa. The British Columbia Provincial Laboratories continued to carry out initial diagnostic tests for botulism and to collect specimens and epidemiological information for the Service in Ottawa from suspected cases in British Columbia.

VIROLOGY

Influenza

The first influenza of 1974 was reported from Courtenay in February. During March, absenteeism reached 20 per cent in schools at Terrace, Grand Forks, Trail, and Surrey. From each of these areas the Virology Service demonstrated influenza virus type B, closely related to influenza B/Hong Kong prevalent in 1973. Symptoms included fever, nausea and vomiting, sore throat, cough, and generalized muscular aches and pains, and sometimes dizziness, ataxia, and photophobia.

Rubella

Since the German measles (rubella) epidemic of 1970/71, and since the introduction of Province-wide immunization in 1970, the Provincial Laboratories diagnosed an average of 14 cases of rubella per year. The estimated number of laboratory-diagnosed cases of rubella rose to 200 in 1974. More than 90 per cent of these patients were 15 years of age or older. From 1970, the immunization programme was directed primarily at pre-school and elementary school children up to 12 years of age. The rubella detected in 1974 occurred in unimmunized adolescents and adults.

The Provincial Laboratories continued to provide the hæmagglutination-inhibition (HI) test for rubella. The number of tests carried out in 1974 was 45 per cent greater than in 1973.

PLANNING

With the establishment of the British Columbia Medical Centre, the Provincial Division of Laboratories will relocate to the Shaughnessy site where it will provide public health laboratory services for the Province. Preparation of the conceptual plan for closely related Provincial Laboratory and clinical microbiology services proceeded in 1974.

EMERGENCY HEALTH SERVICE

In 1966 the Government of Canada entered into a formal agreement with the Government of the Province of British Columbia "to develop and maintain an emergency health service and to establish and maintain within the Province of British Columbia a stock of medical supplies and equipment for use in an emergency." In the agreement the term "emergency health service" was defined as "the organization created and the measures taken by Canada or British Columbia, as the case may be, for the purpose of giving medical care to civilian casualties and for meeting the public health problems that may result from a major natural disaster or an attack by an enemy power." Under the agreement, the Government of Canada has made available to the Province about $3 million worth of emergency health supplies. Although these are owned by the Government of Canada, they have been pre-positioned at over 100 locations in British Columbia for use by Provincial authorities for the special reasons stated above.

It is in this sense that the term "emergency health service" has been used in previous Annual Reports of the Health Branch. The Health Branch role has been co-ordinated closely with that of the Provincial Emergency Programme (formerly known as the Civil Defence Programme). The Provincial Emergency Programme is

authorized by the *Emergency Programme Act,* for which the Provincial Secretary is the responsible Minister.

During 1974 the term "emergency health service" was given an additional meaning. At the spring session, the Legislature passed the *Emergency Health Services Act.* In this Act, "emergency health service" is defined as "the provision of first aid or medical services in emergency situations." (These are not necessarily the result of large-scale disasters. They include situations involving accidents or illnesses encountered daily throughout the Province.) The *Emergency Health Services Act* established a Commission directly responsible to the Minister of Health. It empowered the Commission

- to provide emergency health services;
- to establish emergency health centres;
- to assist hospitals and other health agencies to provide emergency health services;
- to establish or improve the necessary communication systems;
- to make available medically trained persons in those parts of the Province which are not adequately served;
- to recruit, train, and license emergency medical assistants;
- to provide ambulance services.

Because the Emergency Health Services Commission is not, organizationally, a part of the Health Branch, it would not be appropriate to present here a report of the activities of the Commission. However, it should be noted that the Commission's Executive Officer has been appointed Co-ordinator of Emergency Health Services. This has made him responsible for health measures taken at the time of a major natural disaster or an attack by an enemy power, as well as for the health measures taken to cope with daily emergencies.

COUNCIL OF PRACTICAL NURSES

The British Columbia Council of Practical Nurses,* under the authority of the *Practical Nurses Act,* has completed 10 years of its obligations in carrying out its mandate under this Act. In total, 68 meetings of the Council have been held and approximately 11,000 applications for licensing considered. The disposition of these applications is shown in Table XVII at the end of this Report. In addition to the regular meetings of the Council, numerous committee meetings were held, including credentials, education, and financial. Consideration was given to many special cases where additional clasification had to be obtained regarding the previous training of applicants.

While it is the principal function of the Council to assess applications for licences and issue such licences to suitable qualified persons, the Council has also made preliminary assessment by various members in relation to the changing philosophy in health care delivery. One member of Council was appointed to the Educational Planning Committee, Practical Nursing, of the British Columbia Medi-

* The 10 members of the Council are appointed by Order of the Lieutenant-Governor in Council on the basis of nominations by

(*a*) the Minister of Health (two members);
(*b*) the College of Physicians and Surgeons of British Columbia (one member);
(*c*) the Registered Nurses' Association of British Columbia (two members);
(*d*) the Minister of Education (one member);
(*e*) the British Columbia Hospitals' Association (one member);
(*f*) the Licensed Practical Nurses Association of British Columbia (three members).

cal Centre, which has been set up to review the practical nurse training programmes within its jurisdiction.

In an advisory capacity the Council continued to serve the Department of Education in matters relating to the training of the practical nurse orderly. More frequent Council meetings were arranged to cope with the additional matters put forward for consideration.

PUBLICATIONS

Be aware! Beware of botulism, Rx Bulletin, Health Protection Branch, Health and Welfare Canada, *5:*34–35, March-April 1974, by E. J. Bowmer.

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Trichinellosis in British Columbia: Eight incidents traced to pork and bear meat. In TRICHINELLOSIS (Proceedings of the Third International Conference on trichinellosis), ed. C. W. Kim. Intext Educational Publishers. New York (*in press*), by E. J. Bowmer.

A Preschool Screening Programme on Central Vancouver Island: A Two-year Follow-up. Canadian Journal of Public Health, *65:* September-October 1974, by A. Thores and J. Philion.

Strabismus detection: Prospective study. American Journal of Ophthalmology, *77:* February 1974, by L. D. Kornder, Joanne N. Nursey, J. A. Pratt-Johnson, and Alice Beattie.

Strabismus detection: Retrospective study. American Journal of Ophthalmology, *77:* February 1974, by L. D. Kornder, Joanne N. Nursey, J. A. Pratt-Johnson, and Alice Beattie.

The Amount of Hereditary Disease in Human Populations. Annals of Human Genetics, 38: October 1974, by B. K. Trimble, and J. H. Doughty.

Chap. 18, Diseases of the gastrointestinal tract caused by metazoan parasites. In Gastroenterology, pp. 984–1028, ed. A. Bogoch, McGraw-Hill, New York, 1973, by E. J. Bowmer.

Chap. 19, Diseases of the gastrointestinal tract caused by protozoan parasites. In Gastroenterology, pp. 1029–1050, ed. A. Bogoch, McGraw-Hill, New York, 1973, by E. J. Bowmer.

Chap. 21, Food Poisoning. In Gastroenterology, pp. 1087–1112, ed. A. Bogoch, McGraw-Hill, New York, 1973, by E. J. Bowmer.

TABLES

Table I—Approximate Numbers of Health Branch Employees by Major Categories at the End of 1974

Physicians in local health services	17
Physicians in institutional and other employment	19
Nurses in local health services	377
Nurses in institutions	75
Public Health Inspectors	94
Dentists in local health services	6
Laboratory scientists	36
Laboratory technicians	41
Public health engineers	11
Statisticians	8
Others	941
Total	1,625

Table II—Organization and Staff of Health Branch (Location and Approximate Numbers of Persons Employed at End of 1974)

Health Branch headquarters, Legislative Buildings, Victoria	81	
Health Branch office, 828 West 10th Avenue, Vancouver	51	
	—	132
Division of Vital Statistics—		
Headquarters and Victoria office, Legislative Buildings, Victoria	78	
Vancouver office, 828 West 10th Avenue, Vancouver	23	
	—	101
Division of Tuberculosis Control—		
Headquarters, 2647 Willow Street, Vancouver	25	
Willow Chest Centre, Out-patient Care, 2647 Willow Street, Vancouver	27	
Victoria and Island Chest Clinic, 1902 Fort Street, Victoria	11	
New Westminster Chest Clinic, Sixth and Carnarvon, New Westminster	9	
	—	72
Division of In-patient Care—		
Willow Chest Centre, 2647 Willow Street, Vancouver	98	
Pearson Hospital, 700 West 57th Avenue, Vancouver	329	
	—	427
Division of Laboratories—		
Headquarters and Vancouver Laboratory, 828 West 10th Avenue, Vancouver	111	
Nelson Branch Laboratory, Kootenay Lake General Hospital	1	
	—	112
Division of Venereal Disease Control—Headquarters and Vancouver Clinic, 828 West 10th Avenue, Vancouver	26	
	—	26

Division for Aid to Handicapped—

Headquarters, 64 Broadway Centre, 805 West Broadway, Vancouver	19	
Nanaimo	1	
Vernon	1	
Prince George	1	
Surrey	1	
Terrace	1	
Trail	1	
Victoria	1	
	—	26

Local Public Health Services (Health Units, Including Home Care Projects)—

East Kootenay, Cranbrook	33	
Selkirk, Nelson	15	
West Kootenay, Trail	31	
North Okanagan, Vernon	39	
South Okanagan, Kelowna	61	
South Central, Kamloops	49	
Upper Fraser Valley, Chilliwack	46	
Central Fraser Valley, Mission	45	
Boundary Health Unit, Cloverdale	80	
Simon Fraser, Coquitlam	62	
Coast-Garibaldi, Powell River	23	
Central Vancouver Island, Nanaimo	72	
Upper Island, Courtenay	34	
Cariboo, Williams Lake	25	
Skeena, Prince Rupert	34	
Peace River, Dawson Creek	25	
Northern Interior, Prince George	55	
	—	729
Total		1,625

There were also part-time employees in many of the places listed.

Table III—Comparison of Public Health Services Gross Expenditure for the Fiscal Years 1971/72 to 1973/74, Excluding the British Columbia Overall Medical Services Plan.

	Gross Expenditure			Percentage of Gross Expenditure			Percentage Increase or Decrease (—) Over Previous Year
	1971/72	1972/73	1973/74	1971/72	1972/73	1973/74	
	$	$	$				
Local health services	6,689,345	7,531,472	8,349,310	40.5	39.6	36.2	10.9
In-patient care	4,711,304	4,902,690	4,989,879	28.5	25.8	21.6	1.8
Cancer, arthritis, rehabilitation, and research	1,973,397	2,080,058	2,735,681	12.0	10.9	11.8	31.5
General administration and consultative services	1,379,613	1,618,211	2,153,547	8.3	8.5	9.3	33.1
Summer employment programme	*Nil*	*Nil*	1,138,599	*Nil*	*Nil*	4.9	(1)
Division of Laboratories	832,178	996,926	1,052,931	5.0	5.2	4.6	5.6
Prescription Drug Subsidy Plan	*Nil*	544,444	956,344	*Nil*	2.9	4.1	75.7
Alternative care facilities	80,484	300,657	743,306	0.5	1.6	3.2	147.2
Division of Vital Statistics	647,938	686,712	725,830	3.9	3.6	3.2	5.7
Division of Venereal Disease Control	209,138	241,508	260,886	1.3	1.3	1.1	8.0
Health Care Survey	*Nil*	119,666	*Nil*	*Nil*	0.6	*Nil*	(1)
Totals	16,523,397	19,022,344	23,106,313(2)	100.0	100.0	100.0	21.5

1 Not applicable.

2 The total for Public Health Services gross expeoditure in 1973/74 with the inclusion of $89,060,473 for British Columbia Overall Medical Services is $112,166,786.

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 1974—

Master of Science in Audiology (Murray State U., Kentucky)	1
Diploma in Public Health (U. of Toronto School of Hygiene)	1
Total	2

Commenced Training During 1974—

Diploma in Public Health (U. of Toronto School of Hygiene)	2
Bachelor of Science in Nursing (UBC)	1
Bachelor Science in Dentistry (U. of Toronto)	1
Master's Degree in Public Health (U. of North Carolina)	1
Total	5

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

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

A course in Instruction on the Operation of Autoanalyzer Equipment, Technicon Inc., Tarrytown, N.Y. (The Technicon Corp.)	1
Profession Practice Conference, Toronto (Can. Soc. of Hospital Pharmacists)	1
Second Annual Public Health Nurses Nutrition Workshop, Victoria (Prov. Health Dept.)	21
CDA Council of Health Care Conference on Dental Auxiliaries, Banff (Can. Dental Assn.)	3
Principles of Video Production, BCIT (Prov. Health Dept., Interdepartmental Committee on Staff Training and Public Service Commission)	2
IRMA Conference (Industrial Relations Management Assn. of B.C.)	1
Seventeenth Annual Refresher Course (School of Hygiene, U. of Toronto)	4
Habilitation of the Handicapped Child, UBC (G. F. Strong and UBC Health Sciences)	4
Conference on Home Sewage and Water Supply, Columbia, Ohio (Ohio Dept. of Health)	1
Understanding and working with families (UBC)	3
Vancouver Island Regional Institute for Public Health Nurses	6
An Introduction to the Psychology of Aging (Centre for Continuing Ed., UBC)	1
1974 Conference for Directors of Clinical Service Programs in Speech Pathology and Audiology, New Orleans (American Speech and Hearing Association)	1
Infant Toddler Care, Admin. University of North Carolina, Greensboro (North Carolina Centre for Infant/Toddler Care)	2
Health Education Dynamics, Vancouver (B.C. Health Ed. Council)	1
Ryerson Polytechnical Institute Correspondence Course	15
TB.? TODAY?? School of Nursing, Ottawa (U. of Ottawa School of Nursing and Can. TB. & Respiratory Disease Assn.)	1
Maternal Health Nursing (UBC Div. of Continuing Ed.)	3
Venereal Disease Contact Interviewing, Los Angeles (U.S. Public Health Service)	1
CSA Subcommittee on Septic Tank Functional Design, Rexdale, Ont. (Can. Standards Assn.)	1
Workshop on Food Poisoning, Ottawa (Health Protection Branch)	1
Development Seminar, Executive Secretaries, Banff (The Banff Centre, School of Management Studies)	4
Conference of State and Territorial Epidemiologists (Centre for Disease Control, Atlanta)	1
Health Care Evaluation Seminar, Winnipeg	1
Structural Pest Abatement Course (B.C. Dept. of Agriculture)	1
Industrial Medical Association Meeting, Miami	1
7th International Congress of the World Confederation of Physiotherapy (World Confed. for Physical Therapy)	1
AWWA 94th Annual Conference (AWWA)	1
Course in Medical Mycology (McGill U., Montreal)	1
Enterostomal Therapy (St. Paul's Hospital, Vancouver)	1

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

Plaque and Preventive Dietetics, The Dental Office (UBC)	1
Visit Departments in Japan concerned with air pollution and industrial health (Tokyo and Osaka)	1
Building Nursing Practice on Standards of Care, Harrison Hot Springs (UBC Health Sciences Centre)	2
Canadian Orthoptic Society Annual Meeting (Can. Orthoptic Soc.)	1
The Stoma Rehabilitation Clinic	1
Speech and Hearing Mini Institute, Vancouver (Prov. Health Dept.)	13
An Advanced Seminar and Workshop in Techniques of Counselling (UBC)	1
16th Annual Health Physics Course (Radiation Protection Bureau)	1
Continuing Education Course for Pharmacists	1
Early Nutrition and Later Life (UBC)	3
School for Impedance Measurement Technique, Vancouver, B.C. (American Electromedics Corp.)	1
Seminar on Home Care Information, Patient Selection (U. of Ottawa)	1
B.C. Conference on Venereal Disease (BCMA and Prov. Health Dept.)	17
Projection '74 Toronto (Can. Dietetic Assn.)	1
Intra-Oral Course for Dental Assistant Certification (UBC) (B.C. College of Dental Surgeons)	1
Early Childhood Education (U. of Victoria)	1
Northwest Regional Conference, Eugene, Ore. (Child Welfare League of America)	1
Visit Provincial Laboratories, Edmonton Connaught Laboratories, Toronto, and attend seminar in Toronto on Electron Microscopy in Diagnostic Virology, Edmonton and Toronto	1
Workshop in Basic Counselling Skills, Calgary (The Pastoral Institute, Calgary)	1
World of the Heart and Lung, Seattle (Cardio-Pulmonary Research Institute and U. of Washington School of Medicine)	1
Nutrition Education Workshop (UBC School of Home Economics)	1
Meeting of International Association of Cancer Registries, Montecatini, Italy	1
Environmental Marine Biology (U. of Victoria Div. of Continuing Ed.)	1
Four-day workshop on Physical Assessment (UBC, Continuing Ed. in the Health Sciences)	1
29th Annual meeting, International Northwest Conference on Diseases in Nature Communicable to Man, Boise	1
Workshop in Parent Effectiveness Training	1
AWWA Chlorination Seminar, Portland, Ore. (AWWA Ed. Committee)	1
A course in Parasitology, Royal Jubilee Hospital (in co-operation with U.S. Navy Laboratory Services)	4
Topical Symposium on Population Exposures, Knoxville (Health Physics Soc.)	1
Principles of Biohazard and Injury Control in the Biomedical Laboratory, School of Public Health, Minneapolis (National Cancer Inst. of U.S.A.)	1

Speech and Hearing "Mini Institute", Kamloops (Div. of Speech & Hearing) 18
Annual Conference of American Society of Tropical Medicine and Hygiene, Honolulu (to present a paper) 1
Western Canada Water and Sewage Conference, Calgary 1
Community Mental Health Courses for Public Health Nurses 20
Expanded Nursing Roles in Primary Health Care (UBC) 1
Symposium of Western Canadian dialysis personnel, Edmonton (Foothills Hospital, Calgary) 1
Northwest Association of Occupational Medicine, Portland, Ore. 1
Instruction in performance of the radioimmunoassay test for the diagnosis of serum hepatitis (SH); instruction in conducting investigation of *Mycoplasma pneumoniæ;* instruction in conducting investigation of Epstein-Barr virus (California State Laboratories) 1
1974 Canadian Speech and Hearing Association Annual General Meeting and Annual Convention of Ontario Speech and Hearing Association, Toronto (Can. Speech & Hearing Assn. and Ontario Speech & Hearing Assn.) 1
Refresher Course in Radiology of Chest Diseases (U. of Toronto) 1
Study Conference of Council for Childhood Education, Toronto (Council for Childhood Ed.) 1
Defense Medical Association (Ottawa and Toronto) (Ministry of Health) 1
Seminar on Waste Management Technical and Resource Recovery, San Francisco (U.S. Environmental Protection Agency) 1
Occupational Health Nursing Course, New York 1
Family Life and Life Skills course 1
Cross-connection Control Seminar (BCW and WA) 1
First National Conference on Venereal Disease Prevention, Centre for Continuing Education, U. of Chicago (MASHA) 1
Birth Planning (Dept. of Health Care and Epidemiology, UBC) 1
UBC Residency Program for Assistant Directors (Fac. of Graduate Studies, UBC) 2
Industrial First Aid (St. Johns Ambulance and Workers' Compensation) 1
International Association of Water Pollution Research Conference (French Government) 1

Table VI—Reported Communicable Diseases in British Columbia, 1970-74 (Including Indians)

	1970		1971		1972		1973		1974	
	Number of Cases	Rate[1]	Number of Cases	Rate[1]	Number of Cases	Rate[1]	Number of Cases	Rate[1]	Number of Cases	Rate[1]
Amœbiasis	5	0.2	1	0.2	1	0.1	.....	.....	2	0.1
Diarrhœa of the newborn (*E. coli*)	54	2.5	64	2.9	60	2.7	29	1.3	52	2.2
Diphtheria	9	0.4	11	0.5	11	0.5	51	2.2	69	2.9
Dysentery, type unspecified	143	6.7	126	5.7	72	3.2	34	1.5	91	3.8
Food infection—										
Salmonellosis	532	24.9	548	24.9	415	18.5	320	13.9	302	12.6
Unspecified	6	0.3	8	0.4	73	3.2	36	1.6	7	0.3
Food intoxication—										
Staphylococcal	8	0.4	6	0.3	16	0.7	25	1.1	.....	.....
Botulism	2	0.1	.....	.....	5	0.2	.....	.....	2	0.1
Hepatitis—										
Infectious	1,910	89.4	1,954	89.0	1,894	84.3	1,755	75.8	1,381	57.7
Serum	(2)	(2)	(2)	(2)	26	1.2	25	1.1	11	0.5
Leprosy	.....	.....	1	0.1	.....	.....	1	0.1	.....	.....
Meningitis—										
Bacterial	14	0.6	17	0.8	34	1.5	47	2.0	43	1.8
Viral	32	1.5	45	2.0	22	1.0	20	0.9	12	0.5
Pertussis	155	7.2	91	4.2	102	4.5	102	4.4	66	2.8
Poliomyelitis	.....	.....	.....	.....	.....	.....	1	0.1	.....	.....
Q. fever	.....	.....	.....	.....	1	0.1	.....	.....	.....	.....
Rubella	(3)	(3)	1,168	53.2	84	3.7	77	3.3	342	14.3
Rubeola	(3)	(3)	200	9.1	97	4.3	158	6.8	573	23.9
Shigellosis	166	7.8	241	11.0	202	9.0	212	9.2	203	8.5
Streptococcal throat infection and scarlet fever	644	30.1	306	13.9	454	20.2	836	36.1	789	32.9
Trichinosis	.....	.....	.....	.....	.....	.....	1	0.1	.....	.....
Tularæmia	.....	.....	.....	.....	.....	.....	1	0.1	.....	.....
Typhoid and paratyphoid fever	5	0.3	5	0.2	13	0.6	3	0.1	6	0.3
Western equine encephalitis	.....	.....	.....	.....	(4) 7	0.3	.....	.....	.....	.....
Totals	3,685	172.4	4,792	218.2	3,587	159.7	3,734	161.3	3,951	165.0

[1] Rate per 100,000 population.
[2] Infectious and serum hepatitis combined.
[3] Not reportable.
[4] Late notification not shown in previous Report.

Table VII—Reported Infectious Syphilis and Gonorrhœa, British Columbia, 1946, 1951, 1956, 1961, and 1966/74

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
1966	71	3.8	5,415	290.8
1967	72	3.7	4,706	242.0
1968	68	3.4	4,179	208.6
1969	45	2.2	4,780	232.0
1970	76	3.6	6,070	285.2
1971	73	3.4	7,116	325.7
1972	98	4.4	7,921	352.5
1973	101	4.4	8,955	386.6
1974[2]	149	6.2	9,300	388.3

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

Table VIII—Statistical Summary of Selected Activities of Public Health Nurses, September 1972 to August 1974, Inclusive[1]

	1973/74	1972/73
Expectant parents—		
Class attendance by mothers	23,645	20,516
Class attendance by fathers	11,789	12,038
Prenatal home visits	4,119	3,802
Postnatal home visits	22,582	21,110
Child health—		
Infants—		
Conference attendance	59,572	55,152
Nursing visits	41,437	37,135
Services by auxiliaries	1,503	377
Pre-school—		
Conference attendance	101,004	95,716
Nursing visits	31,431	30,424
Services by auxiliaries	19,159	10,857
Home care services—		
Nursing care visits (traditional)	148,141	104,422
Project visits	63,569	14,480
Psysiotherapist visits	4,343	2,791
Project visits	6,048	2,748
School service—		
Directly by nurse	253,754	257,664
Directly by auxiliaries	81,392	82,524
Teacher/nurse conferences	6,761	4,296
Home visits	39,871	40,818
Group sessions with pupils	6,008	4,762
Meetings with staff	2,537	2,052
Conferences with staff	62,559	67,438
Adult health supervision visits	69,531	51,217
Mental health visits	22,035	20,060
Family services—		
Total visits to homes	239,775	204,813
Professional service by telephone	274,812	230,565
Services by auxiliaries	12,408	4,770
Immunizations—		
Smallpox	98,565	92,379
Poliomyelitis	178,273	150,451
Basic series of diphtheria, pertussis, and tetanus	24,896	21,061
Rubella	28,214	27,842
Measles (rubeola)	23,568	21,370
Other (mostly reinforcing doses)	196,473	171,362
Total doses	549,989	484,465

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

Table VIII—Statistical Summary of Selected Activities of Public Health Nurses, September 1972 to August 1974, Inclusive[1]*—Continued*

	1973/74	1972/73
Tests—		
Tuberculin	17,734	16,444
Other	15,110	5,445
Disease control—		
Tuberculin visits	9,236	9,863
Venereal disease visits	6,309	3,643
Communicable disease visits	10,553	7,860

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

Table IX—Statistical Summary of Public Health Inspectors' Activities, 1971–74, for 17 Provincial Health Units

	1971	1972	1973	1974 (Estimate)
Food premises—				
Eating and drinking places	3,952	5,022	9,668	12,257
Food processing	698	(1)	(1)	(1)
Food stores	1,505	1,622	1,962	2,803
Other	448	775	1,064	1,434
Factories	561	337	437	430
Industrial camps	260	260	280	288
Hospitals	86	(2)	(2)	(2)
Community care[3]	690	1,703	2,442	3,169
Schools	753	498	546	852
Summer camps	186	212	274	285
Other institutions	336	(2)	(2)	(2)
Housing	1,437	1,741	1,603	1,659
Mobile-home parks	1,296	1,566	1,946	2,135
Camp-sites	745	1,718	1,567	1,356
Other housing	291	454	418	575
Hairdressing places	487	384	365	426
Farms	369	345	387	363
Parks and beaches	797	366	318	310
Swimming-pools—				
Inspection	1,115	1,298	1,801	2,022
Samples	907	1,343	1,516	741
Surveys (sanitary and other)	767	449	518	638
Waste disposal	861	797	917	1,056
Public water supplies—				
Inspection	1,110	1,305	1,516	1,461
Samples	4,637	4,975	5,716	5,611
Private water supplies—				
Inspection	1,968	2,042	2,431	938
Samples	2,914	2,551	2,692	2,709
Pollution samples—				
Bacteriological	1,603			
Chemical	303	1,003	1,543	638
Field tests	520			
Private sewage disposal	13,614	17,554	22,585	30,212
Municipal outfalls and plants	552	438	528	565
Plumbing	214	399	772	848
Subdivisions	4,881	6,307	5,395	6,039
Site inspections	9,976	10,685	11,719	15,495
Nuisances—				
Sewage	3,927	3,376	3,440	3,528
Garbage and refuse	2,138	1,963	1,870	2,536
Other (pests, etc.)	2,299	2,524	2,740	848
Disease investigation	310	338	314	508
Meetings	3,849	3,109	3,225	3,648
Educational activities	1,139	1,234	1,535	1,568

[1] Included in "other food premises".
[2] Included in "community care".
[3] Includes boarding-homes, youth hostels, day-care centres, hospitals, and other institutions.

The estimates for 1974 do not include the services provided by student Public Health Inspectors and a considerable number of students employed under the Summer Employment Project.

Table X—Number and per Cent of Children Receiving Basic Immunization Prior to Entry to Kindergarten (September 1973)

	Greater Vancouver[1]		Capital Region		Remainder of Province[2]		Total	
Total children enrolled in Kindergarten	7,957		2,513		19,659		30,129	
Type of Immunization	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Smallpox	4,623	58.1	641	25.5	11,603	59.0	16,867	56.0
Diphtheria, pertussis, and tetanus	5,605	70.4	1,860	74.0	13,760	70.0	21,225	70.4
Polio	4,880	61.3	1,737	69.1	12,702	64.6	19,319	64.1
Rubella	4,119	51.8	1,682	66.9	12,217	62.1	18,018	59.8

[1] Figures for Richmond not available (School District No. 38).
[2] Figures for New Westminster and Coquitlam (School Districts Nos. 40 and 43) not available.

Table XI—Number and per Cent of Pupils Immunized at End of Grade V (June 1974)

	Greater Vancouver[1]		Capital Region		Remainder of Province[2]		Total	
Total pupils in Grade V	10,449		4,231		30,788		45,468	
Type of Immunization	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Smallpox	7,794	74.6	3,266	77.2	23,360	75.9	34,420	75.7
Diphtheria, pertussis, and tetanus	8,776	84.0	3,814	90.1	26,386	85.7	38,976	85.7
Polio	6,407	61.3	4,010	94.8	25,401	82.5	35,818	78.8
Rubeola	5,660	54.2	1,536	36.3	9,721	31.6	16,917	37.2

[1] Figures for Richmond not available (School District No. 38).
[2] Figures for New Westminster and Coquitlam (School Districts Nos. 40 and 43) not available.

Table XII—Number and per Cent of Girls Immunized for Rubella at End of Grade V (June 1974)

	Greater Vancouver[1]	Capital Region	Remainder of Province[2]	Total
Total girls enrolled in Grade V	4,845	1,817	14,698	21,360
Immunized for rubella	4,348	1,642	12,201	18,191
Percentage immunized	89.7	90.4	83.0	85.2

[1] Figures for Richmond not available (School District No. 38).
[2] Figures for New Westminster and Coquitlam (School Districts Nos. 40 and 43) not available.

Table XIII—Pupils Referred for Health Services

Reason for Referral	Capital Region[1]		Area Served by Health Branch[2]	
	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	2,099	1,291	21,147	12,862
Hearing	1,031	487	9,168	2,579
Speech	243	143	1,486	780
Emotional	688	242	5,443	2,443
Skin conditions	1,045	483	5,062	1,894
Other	2,491	1,084	13,900	4,487
Totals	7,597	3,730	56,206	25,039
Per cent of enrolment	16.0	7.9	15.3	6.8

[1] Total enrolment, 47,492. [2] Total enrolment, 367,899.

Table XIV—Registrations Accepted Under Various Acts and Materials Issued

	1973	1974 (Preliminary)
Registrations accepted under *Vital Statistics Act*—		
Birth registrations	34,211	35,420
Death registrations	17,717	19,780
Marriage registrations	21,251	21,640
Stillbirth registrations	365	320
Adoption orders	1,839	1,750
Divorce orders	5,412	6,320
Delayed registrations of birth	446	390
Registrations of wills notices accepted under *Wills Act*	27,233	34,570
Total registrations accepted	108,474	120,190
Legitimations of birth effected under *Vital Statistics Act*	227	250
Alterations of given name effected under *Vital Statistics Act*	251	280
Changes of name under *Change of Name Act*	1,555	1,640
Materials issued by the Central Office—		
Birth certificates	75,043	78,190
Death certificates	8,465	9,080
Marriage certificates	8,592	8,220
Baptismal certificates	22	3
Change of name certificates	1,697	1,880
Divorce certificates	303	260
Photographic copies	9,124	10,140
Wills notice certification	11,621	12,610
Total items issued	114,867	120,383
Nonrevenue searches for Government departments by the Central Office	12,244	11,940
Total revenue	$463,556	$488,600

Table XV—Case Load of the Division for Aid to Handicapped, January 1 to December 31, 1974

Cases currently under assessment or receiving services, January 1, 1974		1,306
New cases referred to Aid to Handicapped Committees outside Vancouver Metropolitan Region	781	
New cases referred to Aid to Handicapped Committees in Vancouver Metropolitan Region—		
Vancouver	317	
Vancouver General Hospital	30	
Richmond	14	
New Westminster	24	
Total	385	
New cases referred from other sources	54	
Cases reopened (all regions)	273	
Total new referrals considered for services, January 1, 1974, to December 31, 1974		1,493
Total cases provided with service in 1974		2,799

Analysis of Closed Cases

Rehabilitated—		
Employment placement made—		
Canada Manpower	83	
Division for Aid to Handicapped	22	
Other	376	
Total	481	
Job placements not feasible—restorative services completed	50	
Not rehabilitated—		
Severity of disability	121	
No disability	4	
Unable to locate clients	62	
No vocational handicap	17	
Other	131	
Total	335	
Other—		
Transferred	117	
Deceased	12	
Total	995	
Cases assessed and found not capable of benefiting from services	688	
Total cases closed in 1974		1,683
Cases remaining in assessment or receiving services		1,116
Grand total		2,799

Table XVI—Statistical Report of Tests Performed in 1973 and 1974, Main Laboratory, Nelson Branch Laboratory, and Victoria Branch Laboratory

Item	1973			1974		
	Main	Nelson	Victoria	Main	Nelson	Victoria
Bacteriology Service						
Enteric Section—						
Cultures—						
Salmonella/Shigella	14,331	272	5,108	14,431	340	4,746
Enteropathogenic *E. coli*	3,855	.....	1,538	3,159	.....	1,102
Food poisoning	194	.....	22	219	.....	8
Miscellaneous Section—						
Cultures—						
C. diphtheriæ	6,283	74	5,085	6,942	139	7,666
Hæmolytic Staph/Strep.	.....	617	8	4,309	426	.....
Miscellaneous	11,514	305	30	17,440	253	54
Fungus	3,125	.....	.....	3,437	.....	.....
N. gonorrhœæ	14,755	.....	6,763	15,709	.....	7,145
Smears—*N. gonorrhœæ*	97,347	1,956	1,392	105,353	2,396	955
Animal virulence	194	.....	17	480	.....	20
Tuberculosis Section—						
Cultures—*M. tuberculosis*	31,691	.....	2,209	29,992	.....	2,219
Smears—*M. tuberculosis*	21,812	6	1,803	22,157	6	2,185
Sensitivity tests	1,167	.....	.....	1,099	.....	.....
Atypical mycobacteria	374	.....	.....	295	.....	.....
Animal inoculation	532	.....	3	568	.....	2
Parasites—						
Fæces	13,692	.....	2,414	15,749	.....	2,706
Pinworm swabs	1,326	51	.....	1,125	42	.....
Water Microbiology Section—						
Presumptive/Confirmed coliform test	28,947	3,392	4,192	28,694	3,382	3,820
Completed coliform test	2,863	370	168	2,385	496	96
Fæcal coliform test	6,893	.....	471	7,251	.....	609
Fæcal streptococcal test	40	.....	.....	376	.....	.....
Standard plate count	2,668	.....	46	2,819	.....	18
Other tests (algæ, shellfish)	12	.....	.....	4	.....	.....
Serology Section—						
Syphilis—						
Screening	174,583	5,498	15,890	181,292	2,126	17,349
Confirmatory	7,532	.....	.....	9,285	.....	.....
ASTO	8,389	.....	824	8,958	.....	908
Widal, Brucella, Paul-Bunnell	5,223	335	707	5,315	189	693
Immunofluorescence	.....	.....	.....	1,973	.....	.....
Toxoplasmosis	.....	.....	.....	248	.....	.....
Virology Service						
Virus isolation—						
Tissue culture	1,930	.....	.....	2,091	.....	.....
Rubella	208	.....	.....	140	.....	.....
Embryonated egg	287	.....	.....	210	.....	.....
Hæmadsorption	341	.....	.....	126	.....	.....
Serological identification—						
Hæmagglutination inhibition—						
Rubella	24,660	.....	.....	35,831	.....	.....
Other viruses	1,498	.....	.....	2,091	.....	.....
Complement fixation	2,623	.....	.....	4,406	.....	.....
Neutralization	4,475	.....	.....	2,124	.....	.....
Totals	495,364	12,876	48,690	538,083	9,795	52,251
Combined totals		556,930			600,129	

Table XVII—Licensing of Practical Nurses

(Disposition of applications received since inception of programme in 1965 to December 31, 1974)

Received			11,070
Approved—			
On the basis of formal training	6,635		
On the basis of experience only—			
Full licence	396		
Partial licence	875		
	1,271		
		7,906	
Rejected		1,589	
Deferred pending further training, etc		1,158	
Deferred pending receipt of further information from applicants		214	
Awaiting assessment at December 31, 1974		203	
			11,070
Number of licences issued to December 31, 1974			7,192
Number of practical nurses holding currently valid licences at December 31, 1974			5,738

[1] Report subject to updating.

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