PROVINCE OF BRITISH COLUMBIA

Second Report of the

DEPARTMENT OF HEALTH AND WELFARE

(HEALTH BRANCH)

YEAR ENDED DECEMBER 31ST

1947

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OFFICE OF THE MINISTER OF HEALTH AND WELFARE,
VICTORIA, B.C., March 31st, 1948.

To His Honour C. A. BANKS,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1947.

G. S. PEARSON,
Minister of Health and Welfare.

DEPARTMENT OF HEALTH AND WELFARE (HEALTH BRANCH),
VICTORIA, B.C., March 31st, 1948.

The Honourable Geo. S. Pearson,
Minister of Health and Welfare, Victoria, B.C.

SIR,—I have the honour to submit the Second Report of the Department of Health and Welfare (Health Branch) for the year ended December 31st, 1947.

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

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

DEPARTMENT OF HEALTH AND WELFARE (HEALTH BRANCH).

Hon. G. S. PEARSON - - - - - - *Minister of Health and Welfare.*

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Second Report of the Department of Health and Welfare

(Health Branch)

YEAR ENDED DECEMBER 31ST, 1947.

G. F. AMYOT, DEPUTY MINISTER OF HEALTH.

INTRODUCTION.

Although this is the *second* annual report of the Health Branch of the Department of Health and Welfare, it represents the *fifty-first* annual report of public health services in British Columbia. These services began in 1895 and continued under the authority of the Provincial Board of Health, a branch of the Provincial Secretary's Department, until 1946, when the Department of Health and Welfare was formed.

The introduction to the present report deals with certain phases and activities of the Health Branch as a whole. Major accomplishments and problems and suggested solutions for the latter are outlined.

The body of the report consists of eleven sections which have been prepared by the heads of the bureaux, divisions, and services which constitute the Provincial Department of Health.

LOCAL PUBLIC HEALTH SERVICES.

It is gratifying to note that the expansion and stimulation of full-time local public health services continued throughout the year. These may be summarized as follows:—

(*a*) The East Kootenay Health Unit, with headquarters at Cranbrook, was opened in August. This unit serves the areas covered by School Districts Nos. 1, 2, 3, and 5.

(*b*) The North Okanagan Health Unit was extended to include Revelstoke and district.

(*c*) The Okanagan Valley Health Unit was extended southward to the International Boundary to include the villages of Oliver and Osoyoos and the surrounding territory.

(*d*) The Cariboo Health Unit, with headquarters at Prince George, was established and, at the year's end, awaited only the arrival of the new director. It was definitely planned that he would assume control by the middle of January, 1948.

(*e*) Plans are laid for the development of two further health units. These await the availability of trained public health physicians as directors.

Inasmuch as such expansion is made at the request, even the strong and insistent demand, of the local citizens through their official spokesmen, these

developments indicate a continuing and increasing awareness of the value of public health services.

In those areas of the Province where it has not yet been possible to establish health units there was a considerable expansion in the services provided by public health nurses. Six new public health nursing districts were opened, four previously organized districts were extended geographically, and the service in other districts was expanded. The field staff was increased by twenty-six public health nurses and thirteen appointments to supervisory positions were made.

ACCOMMODATIONS.

Overcrowding in the office accommodations of the Provincial Department of Health's headquarters staff in the Parliament Buildings continued throughout the year. The construction of new accommodations was well advanced at the time of writing this report, however. It is planned to allot certain of the new offices to the Division of Environmental Sanitation and the Division of Public Health Education. This will provide these Divisions with much needed space and allow for more efficient functioning on the part of personnel who remain in the Parliament Buildings proper.

Certain of the accommodations used by those Divisions located in Vancouver are far from satisfactory. The Division of Laboratories, in particular, labours under a very considerable handicap because of the poor physical surroundings in which its personnel carry out their duties. The Division of Venereal Disease Control is housed in temporary buildings in which much improvement is indicated. Certain building projects, partly completed at the end of the year, place the Division of Tuberculosis Control in a more advantageous position. In spite of the addition of the Jericho Beach Hospital, however, there is still an urgent need for more hospital beds for tuberculosis patients. Plans are well advanced, however, to provide new and modern accommodations for all Vancouver Divisions of the Provincial Department of Health. These plans, when implemented, should make the efficient performance of duties easier, not only by providing greater and more suitable space, but also by grouping together the three Vancouver Divisions, and by making possible the establishment of branch offices in Vancouver of some of the services now located in Victoria.

MOBILE TUBERCULOSIS SURVEY CLINICS.

During the year suitable arrangements were made with the British Columbia Tuberculosis Society in the matter of planning for and preparing communities to receive the services of the mobile X-ray survey clinics. Although the operating costs of these clinics are borne entirely by the Division of Tuberculosis Control of the Provincial Department of Health, the Tuberculosis Society had rendered a great humanitarian service by providing, through its sales of Christmas Seals, the expensive equipment used in the surveys. It had also accepted the responsibility of planning the itineraries of the mobile clinics and playing a major rôle in organizing the communities where the clinics were to appear. Toward the end of the year the society was given relief from these duties when they were assumed by public health personnel. Under the new

arrangements the planning of itineraries and the formulation of general policy have become the responsibility of the central office staff of the Provincial Department of Health. Education and organization of any community in which the X-ray survey is to be held have become the responsibility of the public health field staff serving that community.

INSTITUTE FOR PUBLIC HEALTH WORKERS.

As in previous years, the Institute for Public Health Workers of British Columbia—an intensive refresher course in all phases of public health—provided activities and discussions which were stimulating to those attending and which materially advanced the cause of public health in the Province. Conducted for four days in April, the sessions were attended by both central office and field staff, as well as representatives of other Provincial organizations interested in public health.

The 1947 meetings were of special significance because Dr. C. E. A. Winslow, Professor Emeritus of Public Health, Yale University, and editor of the Journal of the American Public Health Association, presented a series of eight lectures during the sessions. Dr. Winslow is a world authority on public health. His keen insight, his long experience in science, administration, and teaching, and his command of language make his contribution to any such gathering an experience of outstanding and lasting importance to his listeners.

CANCER.

The formation of the National Institute for Cancer was effected during the early part of 1947. The Deputy Minister of Health for British Columbia has, for many years, given much thought and time to the development of such an organization. He took an active part in the discussions and planning conferences which began in January and ended in May, 1947, with the first aim, the formation of the Institute, realized. This organization will undoubtedly provide for more effective cancer-work, not only in British Columbia but throughout Canada as a whole.

The Provincial Department of Health continued to work in close co-operation with the Cancer Committee of the British Columbia Medical Association, the Provincial Branch of the Canadian Cancer Society, and the British Columbia Cancer Foundation.

Funds to aid the Cancer Institute, operated by the Cancer Foundation, in its work in prevention, diagnosis, and treatment, were again provided.

Follow-up work and education of the public in cancer control were an important part of the duties of the field staff in health units and public health nursing districts.

Again the Welfare Branch of the Provincial Department of Health and Welfare has included persons with cancer among those who have received assistance. Facilities for all types of patients, including those suffering from cancer, have been made available by the Hospital Branch through its aid to general hospitals.

ARTHRITIS.

During 1947, as in previous years, the Provincial Department of Health, especially through its Deputy Minister's relations with the Dominion Council of Health, shared fully in the laying of plans for a national organization for the study of arthritis and its control. Early in the year the Dominion Council passed a resolution calling for a special conference on arthritis. This conference was held in October, and at it specific recommendations for the formation of the national organization were made. Definite plans were also made for a final meeting in January, 1948, when the organization would be consummated. Thus, at the year's end, a national organization for the study of arthritis and its control awaited only one further and imminent meeting to make it a reality.

It is anticipated that this organization will give direction to the logical development of research and co-ordination to the activities of all agencies concerned with the treatment and control of arthritis.

RED CROSS BLOOD TRANSFUSION SERVICE.

This service, which was outlined in last year's Annual Report and whose establishment was predicted at that time, came into effect in January, 1947. The Canadian Red Cross, the Provincial Department of Health, the Department of Veterans' Affairs, the hospitals, and the medical profession have all co-operated closely in this very important public health development.

It must be repeated, however, that this service can be maintained only if the citizens of British Columbia take an active part by serving as blood donors. The people of the Province should bear in mind that the transfusion service is *their* service. In order to use it effectively, they must keep the supply of blood at a high level.

CO-OPERATION WITH OTHER DEPARTMENTS OF GOVERNMENT, PROFESSIONS, AND VOLUNTARY AGENCIES.

In concluding this introduction, the Deputy Minister of Health, on behalf of his co-workers, wishes to express sincere appreciation of the great co-operation and material assistance given during the year by all those departments of government with which the Provincial Department of Health has worked in the interests of the public.

Official lay groups and members of the many professions throughout the Province have given great aid in the advancement of public health. Their help is much appreciated.

Those voluntary agencies interested in public health have, through their splendid efforts in both service and education, simplified the work of the official agencies.

The Deputy Minister of Health also wishes to make special mention of the professional, technical, and clerical personnel who constitute the staff of the Provincial Department of Health. Their loyal and co-operative services have done much to make possible the continued advancement, on a high plane, of public health in British Columbia.

LONGEVITY AND CAUSES OF DEATH IN BRITISH COLUMBIA.

Mortality rates and the causes of death are an important criterion of the state of health in any community. A study of the deaths that occurred in this Province during the year reflects the continuing improvement in the over-all physical condition of the people and the lengthening life-span. However, mortality figures alone do not purport to give a complete account of the health of the people. Extensive data on morbidity—the incidence of sickness and disease of all kinds—would also be required to portray such a picture.

The crude death-rate in British Columbia has not changed over the last two decades. The highest rate during this period occurred in 1943 when it was 11.1 per 1,000 population. Since that time slight decreases in each yearly rate have been effected. Preliminary mortality figures, excluding Indians, for the first eleven months of 1947 indicate that for this year British Columbia experienced a death-rate slightly lower than that of 1946. The provisional death-rate for 1947 was 9.8 per 1,000 population.

An analysis of deaths by age-groups reveals the lengthening life-span of the population and the reduction in deaths in the earlier years of life. The preliminary mortality rates per 1,000 population in specific age-groups for 1947 were 3.6 in the age-group 0–19 years, 2 in the group 20–39 years, 7.7 in group 40–59 years, and 45 in the group 60 years and over. The 1947 death-rate in the age-group 20–39 was only 55 per cent. of the corresponding rate recorded for the year 1921. Considerable decreases were also noted in the rates for the age-groups 0–19 and 40–59 as compared to the corresponding rates only twenty-five years ago. In the age-group 60 years and over, the death-rate per 1,000 population in 1947 was nearly 20 per cent. higher than in 1921. This fact again reflects the increasing longevity of the population. Persons who would have died in the earlier age-groups under the conditions of life only two decades ago are now surviving to a more advanced age, thus increasing the mortality rates in the older age-groups.

There was a slight increase in the infant mortality rate from the previous year. The death-rate for children under 1 year of age increased from 29.5 in 1942 to 34.3 in 1945. This rising trend reversed in 1946 when the rate dropped to 29.9. The infant mortality rate, excluding Indians, for 1947 was 30.6 per 1,000 live births.

The all-time low in maternal mortality rates reached in 1946 was retained in the year 1947. The preliminary maternal death-rate, excluding Indians, for 1947 was 1.2 per 1,000 live births, compared with 1.4 for 1946.

Diseases of the heart and arteries continued to be the leading cause of death for 1947. Statistics for the first eleven months of 1947 reveal that the death-rate for these diseases was slightly higher than in 1946. A preliminary rate of 370 per 100,000 population compares with 366.2 in 1946.

Cancer was the second leading cause of death. The preliminary cancer mortality rate for 1947 was 143.5, whereas in 1946 it was 148.5.

Accidents remained the third leading cause of death in 1947. The rate of accident fatality in 1947 was higher than in 1946. A rate of 78.1 per 100,000 population in 1947 compares with 72.4 per 100,000 population in 1946. Motor-

vehicle accidents accounted for 25.7 per cent. and drownings for 12.2 per cent. of the 728 accidental deaths registered from January to November in 1947. Both of these percentages were higher than the corresponding figures for 1946, which were 21.8 per cent. and 11.8 per cent. respectively.

In 1947 the preliminary mortality rate for communicable diseases among the white population was 50.5 per 100,000 population. This compares with 58.5 per 100,000 population in 1946. Tuberculosis, a major communicable disease and the fourth leading cause of death, had a mortality rate of 37.9 per 100,000 population in 1947, whereas the rate for 1946 was 39.9. From 1944 to 1946, inclusive, there was a slight increase in the tuberculosis mortality rate. Deaths from venereal diseases decreased in 1947. During the first eleven months of 1947 such diseases accounted for 0.6 per cent. of all deaths, compared with 0.8 per cent. in 1946.

Intracranial lesions of vascular origin was the fifth leading cause of death in the non-Indian population, followed by nephritis, pneumonia, diabetes, and suicides.

Although diarrhœa and enteritis is not a major cause of death, a notable decrease in this cause of infant mortality is worthy of mention. From January to November, 1947, there were only forty-one deaths from diarrhœa and enteritis, compared with a total of seventy-one deaths for the year 1946.

BUREAU OF LOCAL HEALTH SERVICES.

It has been mentioned frequently in previous reports of this Department that one of the chief functions of a Provincial Health Department should be the stimulation toward and the development of full-time local health services. The year 1947 has been one of progress in this regard in that several new public health nursing districts were opened, two new health units were organized, and two established health units were extended to take in contiguous territory. In addition, plans are under way for additional health units to be opened during 1948. Unfortunately, the shortage of public health physicians, which has been mentioned in previous reports, still continues to hinder the more rapid development of health units in this Province. Fortunately, the number of available public health nurses has increased somewhat, although the demand for this type of personnel still exceeds the supply. The details concerning developments in public health nursing are dealt with in the report of the Director of Public Health Nursing.

SCHOOL HEALTH SERVICES.

School health services have been carried on effectively during the year by the public health nurses, the part-time School Health Inspectors and the Health Unit Directors. It is of interest to note that approximately 92 per cent. of the population of the Province now receives the benefit of public health nursing service. This means that the majority of the schools now have regular and periodic visits from a public health nurse, who forms not only a valuable liaison between school and home but a person with whom the teacher in the rural areas can discuss the health problems incident to the pupils, the school building, and its environment.

While further detail concerning physical examination by physicians is given in the Medical Inspection of Schools report, it is worth noting that the policy is being continued of having only children in Grades I, IV, VII, and X examined routinely by the School Health Inspector each year. The pupils of the intervening grades are examined by the public health nurse, and any pupils who, in her opinion, require a more detailed examination are referred to the School Health Inspector. In this connection it is reasonable to expect that in the light of current trends and school health practices the time is not far distant when those pupils ready to commence school or those in Grade I will be the only ones examined routinely by the School Health Inspector. The pupils in other grades under such a plan would be screened by the public health nurse in co-operation with the teachers, and only those pupils showing evidence of the need for further checking or examination would be referred to the School Health Inspector.

The school health record cards mentioned in previous reports, and in which the pupils of the various grades are categorized in so far as their health status is concerned, have continued to prove practical, and no serious criticism has been forthcoming. However, in a biological process which involves such complex factors as human growth and nutrition, it is essential for public health authorities to keep constantly abreast of new developments and to be willing to change existing practices and procedures where critical evaluation of new methods has shown them to possess merit in whole or in part. An attempt to carry out such evaluation of new methods is in process at the present time through a survey which is being conducted in the Central Vancouver Island Health Unit district jointly by this Department and the Child and Maternal Health Division of the Department of National Health and Welfare. This has reference to the use and application of the Wetzel Grid in assessing the physical status of the school child.

The Department of National Health and Welfare has very materially contributed to this survey in that it has purchased some 8,000 grids (charts) and has supplied the services of a pædiatrician to supervise the work. This contribution by the Federal Health Department is sincerely appreciated. The Provincial Department has provided clerical assistance and has made available the offices and the services of the staff of the Central Vancouver Island Health Unit.

By way of explanation it can be pointed out that the grid provides a pictorial record of the child's growth as reflected by height and weight. However, what is more important and practical is that it gives a visual demonstration of whether growth is, or is not, progressing satisfactorily, and of the extent to which this is so. This particular type of grid or chart was developed after several years of research and the study of the growth records of hundreds of thousands of children by Dr. N. C. Wetzel, a pædiatrician-mathematician of Cleveland, Ohio.

Experience has shown that when a child deviates from his normal pattern or channel of growth and development, the basic causes fall into three major groups—nutritional, emotional, or pathological (disease). It follows logically that it is the group of children who are showing deviation from their normal and expected growth-pattern to which the school health service should direct its

time and attention, in order to bring these children back to their normal health status as rapidly as possible. When such a child is discovered from the pictorial record of changes in his height and weight, the child is given a thorough physical examination and the situation discussed with the parents and with the family physician where necessary. The interest and co-operation of the parents and physicians has been very gratifying.

The survey was commenced in September and some 8,000 children have now had their records plotted on the grids. The interpretation of the findings is proceeding as rapidly as possible, but it is still too early to hazard an opinion on the new method and its relationship to the procedure in effect in the rest of the Province. Considerable follow-up work must still be carried on, possibly for a period of twelve months, together with statistical analysis of the findings and the results. In next year's report it will be possible to give further details on the survey and perhaps an evaluation of its practicability in comparison with the present school health record cards.

Mention was made in last year's report of an effort to establish school health committees with representation from the local health service and the educational authorities. The purpose of such a committee was to provide a medium for discussion of all phases of school health in order to bring about better integration of health and educational facilities. For various reasons it has not been possible to embark on this programme during the past year, but it is anticipated that School Health Committees will be formed in a number of areas during the coming months.

This Department would again like to take this opportunity to express thanks to the part-time School Health Inspectors throughout the Province for their interest, help, and co-operation during the past year. Without the help of these physicians in areas not served by health units, it would be impossible to bring the benefits of medical advice and opinion to school-teachers and public health nurses in many rural areas with regard to the health of the school child and the sanitary environment of the school building. The immunization which the School Health Inspectors have carried on has played no small part in reducing the incidence of preventable disease in the school population.

NOTIFIABLE DISEASES.

Table I, on page 24, shows the number of reported cases of notifiable diseases. The total number reported—namely, 36,066—represents an increase over the number reported during the previous year. In 1946 the figures showed a total of 27,958 cases reported. This increase is chiefly represented by a large number of individuals having suffered from influenza, whooping-cough, poliomyelitis, or measles during the year.

While the number of individuals who suffered from influenza did not represent any widespread epidemic, nevertheless, in some centres of the Province, the infected individuals represented a very sizeable portion of the total population in the local area. During 1946 there were 1,086 reports on influenza, while there have been 3,522 during the year just ended. Individuals suffering from mumps showed some decrease, there being just over 5,500 cases reported in 1946 and in 1947 just under 4,800 cases.

Whooping-cough cases rose from 167 during 1946 to a little more than 1,500 during last year. However, in spite of the rise, 1947 was not an epidemic year. Nevertheless, it is unfortunate that even this number of individuals should have to suffer from an insidious and often prolonged disease like this when, in the majority of instances, three simple immunizations in the pre-school period will prevent the infection.

The year 1947 was very definitely an epidemic year in so far as poliomyelitis was concerned. All told there were reported some 312 individuals suffering from this infection. It is interesting to note, however, that while there were only 172 reported cases in 1927, that this represents approximately the same number of infected individuals in proportion to the population of the Province at that time, as does this higher figure for 1947 in relationship to population of the Province at present. The first report was received during the first week in January, and reports continued to be received at irregular intervals until the early summer, when new cases were being reported each week. The peak of the epidemic was reached during the week of September 6th, when a report of twenty-five new cases was received. From that time on the number of new cases decreased. However, it was well into November before one week went by without a new case being reported. A special report is being prepared on the epidemic as it existed in British Columbia and will be available in a few months.

Previous reports have made mention of the fact that measles frequently occurs in epidemic cycles of four to five years. This has been fairly generally true in British Columbia, with definite peaks in 1937, 1941, and 1945. However, the intervening years may show a considerably varying incidence and on occasion the usual periodicity may even vary. For example, in 1947 there were approximately 9,300 reported cases of the disease. This is roughly the same incidence as in 1945. However, in other peak years there have been 15,000 or more cases reported. It should be pointed out that these figures give only a general idea of the trend since, as with other of the more common communicable diseases, all of the individuals suffering from the infection are not reported to the local health authorities.

Reported cancer cases reached a total of 2,620 in 1947 compared with 2,521 in the previous year. Again it must be emphasized that this number of reported cases gives no real indication of the actual incidence of this disease, since no very accurate figures are yet available as to the general incidence of cancer in the population.

Cerebrospinal meningitis, chicken-pox, scarlet fever, typhoid fever, salmonellosis—including paratyphoid fever—septic sore throat, and epidemic hepatitis also showed decreases of varying degree from the previous year.

No cases of botulism or tick paralysis were reported.

It is of interest to note that for the first time for several years in this Province two cases of Rocky Mountain spotted fever were reported, one from Quesnel and one from Wells. The first patient died very rapidly from the infection, and information has just been received that the second patient has made a satisfactory recovery.

The number of individuals who developed diphtheria during 1947 was considerably reduced. There were 63 cases reported during 1946 and 34 during the year just ended. However, it is still regrettable that this disease has to occur, when it is realized that it is a preventable disease and can be practically eliminated when parents assume their responsibility in seeing that their children receive the benefits available through immunization from either their family physican or their local health service.

FULL-TIME HEALTH SERVICES.

The full-time local health services in the Province, which include the Greater Vancouver Metropolitan Health Department, the Victoria-Esquimalt Health Department, and the various health units, have continued to make substantial progress during the year. Progressive programmes are in effect. Practices and procedures have been reviewed from time to time and every effort made to provide as effective a health service as possible to the people within the territory served by the local health adminstration. Although an acute shortage of trained and qualified public health personnel still exists, the Department has been extremely fortunate in being able to secure four more public health physicians during the year. This made it possible to open the East Kootenay Health Unit in August. With headquarters at Cranbrook, this unit serves School Districts Nos. 1, 2, 3, and 5 and includes Cranbrook, Fernie, Kimberley, Creston, and the surrounding unorganized territory. This was the only new health unit that it was possible to open in 1947.

Because of the need for a full-time Director in the Division of Venereal Disease Control it was necessary to allocate the Director of the North Okanagan Health Unit to this position. However, with the new public health physicians available it was possible to have one of them assume the Directorship of the North Okanagan Health Unit and thus maintain the continuity of this service.

The Revelstoke area, because of its geographical location, has always been considered to be a logical part of the North Okanagan Health Unit. Because of the interest in full-time local health service in this area it was possible to make arrangements to extend the service of this health unit to Revelstoke and district during the year. This completed the consolidation of the North Okanagan Health Unit, which now serves the entire district in the northern portion of the Okanagan Valley, including Revelstoke in the north-east and Salmon Arm to the north-west and south to, and including, Vernon and Coldstream Municipality.

The consolidation of the area planned for the Okanagan Valley Health Unit was also completed during the year when arrangements were made for this service to extend south to the International Boundary and include the villages of Oliver and Osoyoos and the surrounding unorganized territory. It was also possible to add another public health nurse to the staff of this health unit in order to relieve the heavy load which the two public health nurses in the Kelowna area were carrying. The community housekeeper service, which was commenced in 1946 in the City of Kelowna, has appeared to meet the problems for which it was developed. This organization provided a service for " shut-ins " or hospitalized residents who might require help in the home for varying periods. The service has proven to be of assistance in enabling certain types of patients to leave hospital earlier than they might have otherwise, and has also

allowed other types of patients to remain home who would have required hospitalization if the service were not available. Interest in a similar type of service is being shown by two or three other communities throughout the Province, and it is possible that there may be a number of such plans in operation before long. Experience would indicate that this is a practical type of community plan rather than the development of an expensive bedside nursing service which would not meet as well the type of problem which is present in various communities. In Kelowna the Okanagan Valley Health Unit co-operated in the service through the provision of a limited bedside nursing service. If such a housekeeper service is commenced in other unit areas, it will be possible to work out a co-operative plan whereby the health unit staff in these areas would also provide a limited bedside nursing service.

Last year it was anticipated that it would be possible to provide a Director for the Prince Rupert Health Unit. This became an accomplished fact early in 1947. The staff was also increased by an additional public health nurse. This health unit also serves the district east of Prince Rupert to and including Hazelton, but in view of the interest in full-time local health service in Smithers and district it is now anticipated that it will not be long before this unit is extended to include the Smithers School District, and so will complete the area which was originally planned for this unit.

Requests for health unit service have now been received from all City or Municipal Councils and District School Boards in the area to be served by a Cariboo Health Unit with headquarters at Prince George. Such a health unit will serve the immediate Prince George district and extend south to include Quesnel, Williams Lake, and the Lac la Hache district, somewhat eastward from Prince George, and westward to include Vanderhoof and the surrounding unorganized territory. It is anticipated that this health unit will commence operation early in 1948.

Requests have also been received from most of the official organizations in the Chilliwack area, and it is likely that a health unit will also be established in that section of the Fraser Valley early in 1948. This health unit will serve Chilliwack City, Chilliwack Municipality, Kent Municipality, Harrison Hot Springs as well as the Village of Abbotsford and the Municipalities of Sumas and Matsqui. This will be the first health unit to be established in the Lower Fraser Valley outside of the Greater Vancouver Metropolitan Health Department. It is hoped that it will not be too long before personnel will be available to provide additional full-time local health service for the other municipalities in this part of the Province. Requests for such service have been received from most of the areas, and again shortage of personnel is the major factor in hindering this development. All health units operating in the Province at the present time are now financed on a uniform basis along the lines which were outlined in the report for 1946. As mentioned at that time the local area pays 30 cents *per capita* per annum and the remainder of the finances are provided by the Provincial Health Department. Federal grants to assist in financing local health services have not yet become available, but it is hoped that such financial assistance will become a reality. At the present time the Provincial Health Department provides approximately 70 cents *per capita* per annum toward the support of health unit service.

The population figures which are used for organized territory are a compromise between those of the last census (1941) and the 1944 municipal estimates published by the Department of Municipal Affairs. For unorganized territory the figure used is a compromise between those of the last census and the 1944 estimate of population for the area made by the Division of Vital Statistics. These population figures are corrected every two years, thus making the local cost for health service follow as closely as possible the increase or decrease of population in an area. As a matter of fact the only reasons for a change in the local health cost are, first, increase or decrease in population and, second, the addition of a children's preventive dentistry programme to the already existing service.

Reference has been made in an earlier section of this report to the Annual Institute for Public Health Workers which is held around Easter time each year for a period of three or four days. At the meeting in 1947 it was decided that it would be worth while to have quarterly meetings of the full-time Medical Health Officers of the Province together with the senior medical officers of this Department, such meetings to be held for one or two days in the office of the Deputy Minister of Health. The first of such meetings was held in September for two days and proved to be well worth while. Numerous problems were discussed, both as seen from the view-point of the local health workers and also as seen from the central office of the Department. A much better integration and correlation of services as between the Divisions and the technical consultants of the Department in their relationship to the field health worker has resulted. The next of such meetings will be held in January, 1948, for two or possibly three days, when it is hoped that it may be possible to have the Director of Field Studies of the American Public Health Association present to discuss the question of evaluation of local health services. It is essential that health work and programmes be appraised or evaluated from time to time if one is to avoid a static and routine procedure. In view of the fact that the American Public Health Association has developed a very practical evaluation schedule which this Department plans to use during the coming year, it is felt wise to have the Field Director, who has been responsible for the development of this schedule, consult with the health unit Directors at as early a date as possible.

While this section of the report deals with full-time health services, nevertheless the Department desires to take this opportunity of expressing its appreciation of the work which has been carried out by the many part-time Medical Health Officers throughout the Province. These physicians are to be commended for the time and effort which they have given in the matter of investigations and communicable disease control. Their help has been of very material assistance in the public health programme throughout the Province in the areas where health units are not yet established. Every effort has been made to give them as much help as possible, not only from the public health physicians in the field but also from the central office of the Department, in order to cope with some of the more urgent problems that have occurred. It has again been possible to arrange for senior officials from the Department to visit many local areas and discuss health problems with the Medical Health Officers from time to time.

PREVENTIVE DENTISTRY.

It is anticipated that it may be possible to have a full-time dentist attached to the Department early in 1948. This will assist in a small way in being able to bring the benefits of preventive dentistry to children in some of the rural areas of the Province where there is not a resident dentist. However, it will hardly be scratching the surface of the tremendous health problem which is building up year after year because of the lack of widespread dental care for school and pre-school children throughout many of the rural areas. The dental clinics in Victoria and Greater Vancouver areas have continued to carry on a successful planned programme of preventive dentistry. There is, however, a constantly increasing and urgent need either for a considerable number of dentists to be appointed to the staff of the Department and attached to health units or for numerous local dental clinics to be established throughout the Province. There is still room and need for many additional dentists in the Interior of the Province, because those dentists who are located there at the present time are still too busy with the backlog of work accumulated during the war years to find time for children's clinics. It is to be hoped that new dental graduates will come to realize that this field is uncrowded and presents an excellent opportunity to bring definite benefits and an improved oral health to the citizens of the future.

TABLE I.—TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1947.

	Cancer.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis (Acute).	Diarrhœa (Infectious).	Diphtheria.	Dysentery.	Epidemic Hepatitis.	Equine Encephalitis.	Erysipelas.	Gonorrhœa.	Influenza.	Measles.	Mumps.	Ophthalmia Neonatorum.	Poliomyelitis.	Puerperal Septicæmia.	Rheumatic Fever.	Rocky Mt. Spotted Fever.	Rubella.	Salmonellosis.		Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Vincent's Angina.	Whooping-cough.	Total.
																					Paratyphoid Fever.	Other.												
Abbotsford	.....	.....	68	6	.....	.....	.....	.....	.....	.....	.....	.....	170	66	.....	6	.....	.....	.....	4	.....	.....	9	2	.....	.....	.....	.....	.....	1	.....	83	415
Agassiz	.....	.....	17	.....	.....	.....	.....	.....	.....	2	.....	.....	17	3	.....	.....	.....	.....	.....	.....	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	3	46
Alert Bay	.....	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	117	17	.....	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	3	159
Ashcroft	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31
Beaverdell	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Bella Bella	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	102	.....	53	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	165
Bella Coola	.....	.....	43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	47
Blubber Bay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	1	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	15
Boundary Bay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Britannia Beach	.....	.....	49	.....	.....	.....	.....	.....	.....	.....	.....	.....	44	32	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	127
Burns Lake	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Campbell River	.....	.....	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	125	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	175
Castlegar	.....	.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	47	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	97
Ceepeecee	.....	2	23	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	37
Central Vancouver Island Health Unit	.....	1	255	38	.....	.....	.....	2	.....	1	.....	254	1,026	304	1	11	.....	5	.....	29	.....	8	17	3	.....	.....	.....	.....	1	4	.....	66	2,026
Chilliwack	.....	.....	50	.....	.....	.....	.....	.....	1	.....	.....	.....	61	11	.....	10	.....	.....	.....	2	.....	.....	10	.....	.....	.....	.....	.....	.....	4	.....	11	160
Cloverdale	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Coquitlam	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	1	9	27	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	22	65
Courtenay	.....	1	80	.....	.....	.....	.....	.....	.....	.....	.....	.....	310	174	.....	1	.....	.....	.....	.....	.....	9	7	8	.....	.....	.....	.....	.....	.....	.....	.....	590
Creston	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	2	.....	.....	.....	.....	.....	4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	23
Cumberland	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	24	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	68
East Kootenay Health Unit	.....	.....	32	4	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	7	58
Edgewater	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Fawn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Fernie	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	8	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
Fraser Lake	.....	.....	41	.....	.....	.....	.....	.....	.....	1	.....	.....	50	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	97
Gibsons Landing	.....	.....	77	2	.....	.....	.....	.....	.....	.....	.....	.....	28	45	.....	.....	.....	.....	.....	3	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	7	164
Golden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	14

Grand Forks			7								243	24						2				1							13	290
Greenwood											17	6	2								1	4							11	41
Hammond			1									7	1		1						2								1	13
Hazelton			6			1						9	2																	18
Hedley			6									3	22					4			1									36
Hope			10			1						13	5		1						6	7						1		44
Invermere			10									65	5								2								18	100
James Island						3						4																		7
Kamloops			46			6						117	42		1			1			3								10	226
Kaslo											5		45																	50
Kimberley			22								2,500	11	1					10				8								2,552
Ladner			5									20	91					7		2	12						4		65	206
Langford													2																	2
Lake Buntzen															1															1
Langley Prairie			52			1						87	38		2						1								62	243
Lytton			40					2				42	3								1				1				4	93
McBride			1				2					41	1		1							17								63
Massett																																
Mayne Island			2						1		37	1	5					1												47
Merritt			9								21	3	60																4	97
Michel			1									1																		2
Mission City												98									1	4							35	138
Nakusp				1								11			3							2							3	20
Nelson			54				1				9	13	136					8			3	3						1	5	233
New Denver			4									1	12																	17
New Westminster		5	11						6			111	188		5						4	3		3				97	433
North Okanagan Health Unit			26				10		2			198	43		2			7			12	4					1		23	328
Oak Bay			63									100	27		2			6			2						1			201
100-Mile House															1															1
Okanagan Valley Health Unit		1	265	21		1		13				70	47		15			22			9	5						11	1	12	493
Oliver		2	2	4								2						3			4	2					1			20
Osoyoos											20										1	3							1	25
Peace River Health Unit			139	13								166	5				4	6			1	2							138	474
Pender Harbour			33						1			4	2					1											4	45
Pitt Meadows															1															1
Port Alice			4									35																		39
Port Coquitlam			22									69	54		1												1		25	172
Port Haney			97	1								142	16		1			5			1	6							51	320
Port Moody			5									34	20		1						1								15	76
Powell River			9									74	11		4							7					5		7	117
Premier				1							36	1	1																	39
Prince Rupert Health Unit			46			1	1					52	15					2		1							9		75	202
Prince George			14				1					169	1		32			2			1									220
Princeton			32	20								2	6								13	9								82
Queen Charlotte							22				190	1	2									7							19	241

TABLE I.—TABLE SHOWING RETURN OF CASES OF NOTIFIABLE DISEASE IN THE PROVINCE OF BRITISH COLUMBIA FOR THE YEAR 1947—*Continued.*

	Cancer.	Cerebrospinal Meningitis.	Chicken-pox.	Conjunctivitis (Acute).	Diarrhœa (Infectious).	Diphtheria.	Dysentery.	Epidemic Hepatitis.	Equine Encephalitis.	Erysipelas.	Gonorrhœa.	Influenza.	Measles.	Mumps.	Ophthalmia Neonatorum.	Poliomyelitis.	Puerperal Septicæmia.	Rheumatic Fever.	Rocky Mt. Spotted Fever.	Rubella.	Salmonellosis. Paratyphoid Fever.	Salmonellosis. Other.	Scarlet Fever.	Septic Sore Throat.	Syphilis.	Tetanus.	Trachoma.	Tuberculosis.	Typhoid Fever.	Undulant Fever.	Vincent's Angina.	Whooping-cough.	Total.
Quesnel	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	19	26	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	60
Revelstoke	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	1	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	1	13
Rossland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Saanich and South Vancouver Island Health Unit	.....	.....	267	4	19	1	1	.....	.....	1	.....	.....	518	135	.....	5	.....	.....	.....	20	.....	.....	22	17	.....	.....	.....	.....	1	1	.....	28	1,040
Salmo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Saltspring Island	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	14
Sardis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Slocan City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20
Smithers	.....	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	24	1	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	47
South Shalalth	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	9
Squamish	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	104	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	105
Surrey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Telegraph Creek	.....	.....	29	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	100
Terrace	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	7
Tofino	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	40
Trail	.....	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	5	.....	.....	.....	.....	.....	12	9	1	8	.....	.....	.....	.....	.....	.....	.....	.....	8	62
Greater Vancouver Metropolitan Health Committee	.....	10	1,416	.....	.....	13	10	1	.....	32	.....	1	3,827	2,584	.....	172	.....	.....	.....	68	.....	48	125	.....	.....	.....	.....	.....	3	17	.....	573	8,900
Vanderhoof	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	16	.....	.....	.....	5	.....	1	.....	.....	1	.....	.....	.....	.....	.....	2	.....	2	1	43
Victoria	.....	.....	456	7	52	7	.....	.....	.....	2	.....	4	737	261	.....	10	.....	.....	.....	28	.....	5	36	2	.....	.....	.....	.....	1	.....	1	18	1,627
Wells	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	17	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
Williams Lake	.....	.....	3	.....	.....	.....	.....	.....	.....	1	.....	.....	127	1	.....	.....	.....	.....	.....	3	.....	.....	5	.....	.....	.....	1	.....	.....	.....	.....	.....	141
Woodfibre	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Youbou	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Whole Province—																																	
Cancer	2,620	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,620
Gonorrhœa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,005	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,005
Syphilis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,940	.....	.....	.....	.....	.....	.....	.....	1,940
Tuberculosis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,544	.....	.....	.....	.....	2,544
Totals	2,620	22	4,108	124	71	34	42	29	1	53	4,005	3,522	9,324	4,789	1	312	1	14	2	269	9	75	353	138	1,940	3	5	2,544	19	51	5	1,581	36,066

REPORT OF THE DIRECTOR OF PUBLIC HEALTH NURSING.

DOROTHY E. TATE, DIRECTOR.

INTRODUCTION.

Accomplishment in the past year's activities in public health nursing has repaid public health nurses for the effort expended in reaching new goals. Larger numbers of people in the Province are receiving public health service than in previous years. The services of allied agencies are now being made more easily available to individuals through local public health service. The efficiency and uniformity of the work is making more headway through the efforts of a new group of senior public health nurses.

It is encouraging to note that in the past year the percentage of people receiving public health service has increased to 92 per cent. The increase was made through the organization of public health nursing services in new districts. Requests for service in additional districts have been received and will be filled in the future as qualified public health nurses become available.

The field staff made a very definite contribution during 1947 in interpreting public health services, with the result that thirty-seven public health nurses have been attracted this year to the generalized public health field in British Columbia.

The number of public health nurses joining the staff made it possible to replace the public health nurses who left for further study, to replace those who left to be married, and also to increase the numbers of workers in given areas to conform, in part at least, with population increase. There were sufficient public health nurses to open six new public health nursing districts and to expand in four previously organized districts.

Table II provides the information relative to the number of appointments, the number of positions as compared to the previous four years, and the number of resignations which had to be filled before it was possible to meet the expansion programme.

TABLE II.—COMPARISON OF PROVINCIAL PUBLIC HEALTH NURSING STAFF CHANGES DURING THE FIVE-YEAR PERIOD 1943–47.

	Year.				
	1943.	1944.	1945.	1946.	1947.
Positions available	52	56	64	77	98
Total staff changes	37	33	48	88	65
Percentage staff turnover	71	59	75	117	65
New appointments	17	13	22	42	37
Resignations	12	11	16	27	11
Transfers	8	9	10	19	17

The increased number is only one measure of the growth of a staff. Administration and guidance of larger numbers of members must keep pace with new developments. Thirteen appointments of senior public health nurses have been made. They are working in districts with groups of public health

nurses, helping with the problems as they arise, and devising more efficient methods for carrying on the ever-expanding public health nursing programme.

Such a step not only prevents some problems from occurring, but also improves the speed at which problems are overcome. More concentrated assistance to the staff has already shown good results. Thus, in the case of epidemics, public health procedures have been available more readily to meet emergencies. The people in the districts have seized the opportunities for the service, as it has been timely, effective, and efficient.

STUDENT NURSING PROGRAMME.

The student programme has expanded. There were fifty-four postgraduate public health nurses from the University of British Columbia who gained experience in the rural and semi-urban areas. Undergraduate nursing students from the various training-schools were placed in areas in the Fraser Valley for one week to see public health nurses in action. They gained an appreciation of the work carried on for people in the community. During a series of six lectures given to the nursing students at St. Joseph's Hospital, Victoria, on public health, one day was spent by each student in accompanying a public health nurse in her work. The Royal Inland Hospital students had the advantage of a series of lectures on public health and an opportunity of viewing a public health project.

The awakening of community conscience toward social services has been shown through the frequent requests for new type of health service not previously included in public health work. Attempts to meet the demands have been made by broadening the field of public health nursing duties and in one instance establishing an emergency housekeeping service. The experiment in the centre has proven so successful that investigation as to the feasibility of a similar plan in other centres is under way. Relieving the head of a household of home management, and expanding public health service to supervise and practise home care of the sick, is proving a boon to family groups.

Tools have been made available this last year to assist public health nurses to keep pace with the trends and newer emphasis in public health. Periodic time studies, including public health nursing activities and a review of case loads, provided a measure which showed the need for statistical clerks. The relieving of the public health nurses of clerical duties has enabled them to spend additional hours each week to participate in active public health nursing, for which they are especially trained. Further review of the services of the public health nurse revealed the emphasis given to certain phases of the work and provided some index of the balance of the work in the various phases of the public health nursing programme. For example, the tuberculosis work has outweighed other public health nursing activities because of the concentrated efforts to carry out survey programmes in an attempt to discover and treat the minimal tuberculosis cases. The programme itself is important, but changes are being considered in the organization and management locally so that less time will be required to accomplish the same end.

It can readily be seen that through new scientific discoveries there must always be a flexible public health programme, in order that the people of the

Province may have the benefits. The constant change in approaches to maintain physical and mental health and care for the sick required a staff of people who are adaptable. In the past year, public health nurses demonstrated, as an adaptable group of workers, an effective programme which was made possible through changes in administration.

Now, as a preview is made of activities for 1948, it would appear that many further developments could be made. The active co-operation of allied agencies and the Department in the services offered by the British Columbia Cancer Institute, the British Columbia branch of the Cancer Society, those of the Hospital for Sick and Crippled Children, and the Solarium augurs well for the services in the coming year.

Developments in other related professional fields are anticipated. The public health nurses of the Provincial Department of Health are anxious to co-operate when it is beneficial to the people of the Province.

REPORT OF THE NUTRITION SERVICE.

MISS E. M. YVONNE LOVE AND MISS DORIS L. NOBLE, CONSULTANTS.

INTRODUCTION.

The report of the progress and activities of the Nutrition Service may well be prefaced by a brief résumé of the significance and place of nutrition in the public health programme in British Columbia.

Food is an important environmental factor affecting the health of the individual. Although this fact has long been recognized, continuing research has now proven the importance of adequate food at every age. Within the year, further conclusive evidence of the importance of the food factor has been graphically illustrated in many studies related to maternal and infant mortality, child development, and positive health at all ages.

Nutrition education is recognized as an essential part of the public health programme in this Province. The ultimate objective of the Nutrition Service is to benefit the health of the people by improving their food habits. To attain this objective, nutrition education must reach the people through every phase of the public health programme, because it affects every phase of healthful living. This is exemplified in the programme at present being carried on whereby nutrition education is an integral part of the local public health programme and, therefore, is directed toward the needs of the people in the community. The nutritionists serve as consultants to public health staff of health units, public health nursing areas, and all divisions of the service. The actual programme of the Nutrition Service is developed in close co-operation with the Directors of Public Health Nursing, Public Health Education, Environmental Sanitation, and other Divisions.

During 1947 the Nutrition Service has met increased responsibilities. In addition to consultant service to public health workers, the programme has been further developed to include consultant service to hospitals and institutions. This has been accomplished by reorganization of the duties and responsibilities of the nutritionists, without an increase in personnel. Within the year, as well, current price changes have brought to the fore an important function of the

Nutrition Service—namely, assistance in meeting food costs by guidance in economical choice, purchase, and service of food.

CONSULTANT SERVICE TO LOCAL PUBLIC HEALTH PERSONNEL.

Many health problems encountered by local public health personnel are directly or indirectly affected by nutrition. Because of the importance of adequate food to the promotion and maintenance of health, nutrition education is included as an integral part of the generalized public health programme. Information concerning the wise selection, preparation, and use of foods is therefore correlated with other aspects of health education carried on during home and school visits, clinics, and daily activities of the local health service.

The importance of a nutrition consultant service for the purpose of providing technical assistance to public health personnel with the various nutritional aspects of their programme has been recognized by this Department. This service is therefore being provided to all local public health staff by a consultant in nutrition working under the direction of the Bureau of Local Health Services. The consultant programme is based on meeting the needs and problems relative to nutrition which are encountered by public health workers throughout the Province.

During 1947 the following services have been provided to local health personnel:—

1. Staff Education.

An important responsibility of the nutritionist is that of carrying out a continuous programme of nutrition education for all local public health personnel. During the year this programme has included:—

(*a*) Distribution and interpretation of nutrition reference material, the most important of which was a Nutrition Reference Manual prepared and made available by Dr. E. W. McHenry, Professor of Public Health Nutrition at the School of Hygiene, Toronto. This manual has been distributed to all health unit directors, public health nurses, and sanitarians.

(*b*) Attendance at staff meetings of local health units during field trips of a nutritionist. At this time, reviews of nutrition information and reports on recent developments in public health nutrition suitable for application or emphasis in the community were given during these meetings. Similar discussions were held at study meetings of public health nurses in the Fraser Valley and East Kootenay districts.

(*c*) Preparation of articles on progress and problems in nutrition for publication in "Public Health News and Views," which is distributed to all local public health staff.

Conferences and meeting with local health personnel have been found the most effective method of staff education and therefore worthy of emphasis during the coming year.

2. PROVISION OF TECHNICAL INFORMATION, GUIDANCE, AND ASSISTANCE.

During activities such as home and school visits, clinics, and conferences, the health unit director and public health nurse are meeting with problems such as those related to selection, preparation, and use of basic foods, low-cost meal planning, child and infant feeding. In assisting local workers with special problems encountered, the nutritionists have provided the following technical services during the year:—

(*a*) Compilation of low-cost meal plans and recipes, equipment for school cafeterias, suggestions for food economies, and recommended substitutes for foods difficult to obtain due to price or availability. Recently, material dealing with the selection of food at low cost has been prepared for the guidance of both local public health and welfare personnel.

(*b*) Provision of specific information relative to food dislikes and fallacies, feeding problems, food preservation, and other individual problems.

(*c*) Advice and assistance with nutritional aspects of special projects and studies being carried out by the local health service.

(*d*) Provision of information and assistance with school lunch problems.

Guidance with school lunches is part of the school health programme of the local public health worker. During the year the Nutrition Service has provided information regarding types of school lunch programmes, menu plans, lunch supplements, selection and arrangement of cafeteria equipment for the guidance of public health personnel. Through the local health service, emphasis is given to the importance of developing, in co-operation with teachers and other local groups concerned, a programme suited to the needs and conditions of the school and community in question. In addition to the nutritional aspects of the school lunch, special attention is being directed toward school lunch sanitation.

In order to co-ordinate policies regarding school lunch activities, meetings were held during the year with the Department of Education and Provincial Executive of the Parent-Teacher Federation. During the summer the Parent-Teacher Federation was given assistance in preparing a school lunch questionnaire for the guidance of local parent-teacher groups. This project provided an excellent opportunity to encourage and facilitate the closest co-operation of local teachers, public health personnel, and parent-teacher organizations who are directly concerned with school lunch problems in the community.

Further co-operation was encouraged in school lunch articles prepared for bulletins of the Department of Education, Parent-Teacher Federation, and Women's Institute.

3. PROVISION OF NUTRITION MATERIALS FOR DISTRIBUTION BY THE LOCAL HEALTH SERVICE.

Nutrition pamphlets, posters, films, and exhibits suitable for distribution to the public by local health services have been collected or compiled in collaboration with the Division of Health Education. In an attempt to meet the needs of the local health service for practical nutrition education material, the pamph-

lets and posters in use have been continually revised and evaluated during the year.

Studies carried out through the local health service this year are proving the importance of adequate food to the health of the individual and the need for continuous nutrition education through the local public health programme. Requests from local public health workers for nutrition consultant services have increased progressively during the year. The Nutrition Service has endeavoured to assist with the promotion of better food habits through answering requests from local health services in a practical manner. Due to changes and increase in staff, as well as further development in the field of nutrition research, a continuous programme of staff education in nutrition is recognized as an important requisite to a consistent service for local public health personnel in the future.

CONSULTANT SERVICE TO HOSPITALS AND INSTITUTIONS.

It has been recognized that problems in the field of hospital and institutional food service merit the attention of public health personnel. Each year an estimated 14 per cent. of our population receive hospital services, including acute and long-term cases. In addition to hospitals and aside from day care centres for children, there are in this Province 119 licensed institutions, including orphanages, boarding-homes, and shelters, with a capacity of 1,813. It is important that there be efficient and adequate food service in such establishments for three reasons: First, numbers of persons are affected through one central food service; second, the meals serve as a pattern for an adequate diet; and third, standards of efficient operation can be set up by hospitals and institutions.

Services in this field are now being developed by a nutritionist with training and experience in this work, administered through the Bureau of Special Preventive and Treatment Service and directed through local health service. The service has already involved the following:—

(*a*) Analysis of existing conditions relative to food value and economy of food service.
(*b*) Staff problems in food service.
(*c*) Selection and arrangement of equipment.
(*d*) Adequate space, in relation to the whole institution, for efficient food service.
(*e*) Organization and administration of the food service.
(*f*) The place of food service in relation to other services and the whole hospital or institution.
(*g*) Assistance in developing healthful attitude of staff and patients toward the food service.
(*h*) Suggested adjustments based on analysis of the food service.
(*i*) Assistance in implementing the adjustments in order to change established habits and patterns of procedure.

In the short time in which this service has been available, work has been done in the Vancouver Unit of the Division of Tuberculosis Control, Royal Jubilee Hospital, Oakalla Prison Farm, Newhaven, Queen Alexandra Solarium, and Fairbridge Farm School. The service requested by each institution has

varied with the type of institution and existing conditions. However, the nature of the studies is similar, in that an initial analysis of existing conditions and a report of suggested adjustments followed by discussion of the practical adaptation to the hospital or institution and assistance in implementing the adjustment has been given. Many of the improvements involve considerable time; for example, change of food patterns, established patterns of operation, rearrangement of equipment, and purchase of new equipment. Therefore each of these studies is progressive in nature, and assistance is given for as long a period as necessary.

This service is carried out in line with the general policy of the Department and is co-ordinated with the generalized programme of the local public health staff in the area concerned. Assistance is available on request to local public health personnel, other Divisions of this Department, and other branches and departments of Government. Of the work already under way, advantage has been taken of each of these approaches to provide service to hospitals and institutions.

At the time of writing this report, there are on file other requests from hospitals in which studies will be carried on in the near future. As this service develops, it is possible that a background of information will be made available for all those institutions interested. Although the material may be useful for all establishments serving food, it should be pointed out that the circumstances in each require further individual analysis and adaptation of the material to existing conditions.

CO-ORDINATION.

Nutritionists with this Department, and those with other agencies in this Province, have met together at regular intervals during the year to discuss programmes and to work jointly on special projects. The group has included personnel from the Greater Vancouver Metropolitan Health Department, Extension Service and Department of Home Economics of the University of British Columbia, and dietary departments of hospitals. A major project has been that of compiling an adequate standard for weekly food purchase. The list, based on Canada's Food Rules, will be useful as a general guide in computing requirements and cost of food for families or groups. This information will therefore be of value to public health personnel as well as others directly concerned with the problem of adequate food for families in British Columbia.

During the year there have been opportunities to discuss the nutrition service available through local public health personnel. On several occasions nutritionists have addressed such groups as Junior Red Cross Summer School Course, Welfare Personnel, British Columbia Hospital Association, and university students in public health nursing.

In collaboration with the Division of Public Health Education, assistance has been given to the Department of Education with the revision of the health curriculum for schools. The assistance given by the Nutrition Service has been that of guidance relative to co-ordination of nutrition with all other aspects of health outlined in the curriculum.

Nutritionists employed in Provincial Departments of Health meet with nutritionists from the Federal Department of Health and Welfare at annual

Dominion-Provincial conferences. A nutritionist attended the 1947 meeting of the committee, which was held in May concurrently with that of the Canadian Public Health Association. The exchange of information and discussion of mutual problems has been found to be beneficial in evaluating the programme outlined in this report.

GENERAL COMMENTS AND OBSERVATION.

Consultant service to hospitals and institutions, developed during the year, has been made possible by the fact that Miss Yvonne Love rejoined the staff in June, after completion of a certificate course in public health at the school of Hygiene, University of Toronto. The purpose of the course was to provide a general knowledge of public health, and to afford special advanced training in nutrition. The latter studies were under the direction of Dr. E. W. McHenry, Professor in Public Health Nutrition, who is one of the outstanding authorities in this field. The course stressed the practical application of nutrition research and nutrition principles in the public health programme. Further experience was gained in two months' field-work, in which time there was an opportunity to compare the programme and organization in a number of county and State health departments throughout the Southern and Eastern United States, to observe research projects, and to discuss community nutrition activities with many specialists in the field of public health nutrition.

During 1947 there has been considerable progress as well as further development of the Nutrition Service. This is exemplified by the fact that services have been extended to hospitals and institutions. Through the programme carried out this year it has been possible to evaluate and further to clarify problems and to offer guidance and assistance in their solution. Although many problems remain to be met in the future, it has been possible to foresee methods by which this may be accomplished.

REPORT OF THE DIVISION OF VITAL STATISTICS.

J. D. B. SCOTT, DIRECTOR.

INTRODUCTION.

Generally speaking, the work of the Division increased over the previous year. As in other years Indian and Doukhobor registrations still are among the most difficult of the problems to be met by the Division. Definite progress has been made on the former, but the latter is still virtually unsolved.

A definite advance was made in the redefining of the boundaries of the Vital Statistics Registration Districts. These were drafted in such a way as to coincide as much as possible with the school district boundaries.

The value of inspection was again proved worth while.

A successful trial was made of notification by the District Registrars of births, deaths, and still-births to health units.

The statistical section acted as a workshop for the whole Department of Health in regard to statistical problems, and also supplied considerable data not only to other Government agencies but to the public as well.

The Vital Statistics Council for Canada was most active during the year in prominent vital statistics matters. The most important items are reported hereunder.

The new plastic birth certificate, a wallet-sized card laminated in plastic, was successfully introduced by the Division.

COMPLETENESS OF REGISTRATION.

INDIANS.

Current Registration.

The marked improvement in the number and quality of registrations of Indian births, still-births, marriages, and deaths noted in the latter part of 1946 continued throughout 1947. This condition appears to be largely due to the payment of family allowance to Indians, the increased vigilance regarding vital statistics matters stressed by the administrative officers of the Indian Affairs Branch, and the payment of a commission by the Division to the Indian Agents for each statutory return filed. Due to the increased volume of work being undertaken by the Dominion Government to improve conditions generally for the Indian population, there is every reason to assume that the proper recording of vital statistics will continue to be given priority attention by the Indian Agents. Vital statistics records are so closely related to the other records of every agency that the importance of complete and accurate registration cannot be overlooked.

An excellent liaison exists between the office of the Indian Commissioner for British Columbia and the Division. Results of inspections by officials of both Departments are compared and efforts can be made to remedy many undesirable situations, thus exercising a much better control than heretofore. Inspections were made by the Division in eight of the eighteen agencies during the year.

Many difficulties still confront the Indian Agents in all their efforts to secure completeness of registration, but it is felt that an improvement in transportation and educational facilities will go far to reduce these problems in the future. The nomadic nature of the Indians and their lack of understanding of registration appear to be the basis of the difficulties presently existing.

Documentary Revision.

It had become apparent to the Division that due to a lack of the realization of the importance of Indian registration in the years gone by, many inaccuracies existed in the records, and the only practical way to overcome this awkward situation would be to compare agency copies of registrations with the originals on file in the Division and then to make whatever notations would be necessary to bring the records up to date. This work, which was commenced in January, 1947, involves a tremendous amount of checking, typing, re-indexing, and similar procedures. Owing to the nature of the undertaking, only birth records are being called in at present, thereby reducing to a minimum the time that the agency copies of registrations are required at the central office. Every effort is made to reduce the amount of work as much as possible for the Indian Agents

by completing forms for corrections, making notations, and preparing up-to-date indexes at the central office.

Doukhobors.

Current Registration.

A special field representative of the Division, after completing a two months' course in the central office, commenced work in January, 1947, gathering registrations of Doukhobor vital statistics.

Owing to the religious beliefs of the Doukhobors, it has not been possible to achieve more than a small measure of success. The year was marked by an extraordinary number of outbreaks of violence which led to a full inquiry by a Royal Commission, beginning in October and continuing through November and December. These events had a definite effect in increasing the difficulties in securing registrations.

This remains the most serious problem in accomplishing completeness of registration in the Province. It appears that much depends on the results of the Royal Commission report as to whether or not a solution can be found.

Registration of Births.

Except in the instances mentioned under the heading of Indians and Doukhobors, and in a very small number of other isolated cases, there is no lack of proper birth registration. Though food rationing has ceased, the stimulus of family allowance has proven sufficient to ensure promptness and completeness of registration.

Much appreciation is again extended to the medical practitioners for their co-operation in forwarding notifications of births and still-births to the appropriate District Registrars, thus assisting all concerned to file registrations with a minimum of delay. Likewise, the hospitals have performed a valuable service to the Division in the submission of their monthly returns of births. Gratitude is hereby expressed to the hospital officials for the assistance they have rendered in this connection.

Results of constant checking have indicated that there was no necessity to continue requiring a return from all schools of the Province showing particulars of children attending school for the first time. Consequently, the practice of obtaining such a return was discontinued.

Effect of Family Allowance.

Since the inception of family allowances a most effective check on completeness of birth registration has been automatically in existence due to the desire of parents to obtain the allowance, combined with the vigilance of the officials of the Family Allowance Branch in insisting upon prompt verification of particulars of birth. An excellent liaison exists between the Family Allowance Branch and the Division, thus bringing to light numerous inaccuracies in registration, such as fraudulent records, mis-spelling of names, and incorrect dates of event, in such a manner that those responsible for filing the registrations can be contacted and the errors amended. Gratitude is here expressed for the spirit of co-operation shown at all times by the Family Allowance Branch.

Registration of Deaths.

No difficulty is encountered in obtaining completeness of death registration except amongst Indians and Doukhobors. However, some improvement has been noted among the former people during the past year as Indian Agents have been made more aware of the importance of death registration. Due to expansion in the medical services of the Indian Affairs Branch and the need for statistics on cause of death, a considerable improvement may be expected in the forthcoming year.

Further improvements in a revised form of burial permit were made and the new form was taken into general use in May, 1947. Some of the advantages of the form are as follows:—

(*a*) It reduces the amount of work required of the District Registrar.
(*b*) It is of a size and shape which make it very easy to handle.
(*c*) Each form contains complete instructions as to its own disposition.
(*d*) It provides the cemetery official with proof that registration of death has been made, which service was not heretofore provided.
(*e*) It provides an acknowledgment to the funeral director, clergyman, and cemetery official that registration has been made, in addition to providing an excellent cemetery return; all this is accomplished in one operation.
(*f*) It provides an up-to-date record of all cemeteries in use in the Province.
(*g*) The saving in clerical time far offsets the additional cost of printing as contrasted to that of the previous forms used.

Registration of Marriages.

Registration of marriages has not presented any new problems in 1947. A certain amount of difficulty is encountered in obtaining completeness of registration of marriage of Indians, but steady improvement is being made to rectify the situation. Doukhobors most usually persist in marrying according to their own customs; consequently, in such cases, no record of the event is made. There appears to be no delinquency where the marriage is performed by a clergyman.

Completed marriage registers are checked routinely at the time of issuance of each new register. A number of old registers were located during the year, but there are still some which were issued many years ago and which cannot be located. Efforts will continue to be made to locate as many as possible.

DISTRICT REGISTRARS' OFFICES, ETC.

During the year the boundaries of all districts which were not reviewed in the previous year were given consideration, and as a result certain alterations and consolidations were made to facilitate the handling of registrations. In most cases the boundaries of the vital statistics registration districts now coincide with those of the school districts, which ultimately will be common to the health districts; in the majority of cases where the boundaries differ from

those of the school districts, the variations are not sufficiently great to cause difficulty in compiling statistics for any given district.

An amended map of his own district, indicating the districts immediately surrounding it, was supplied to every District Registrar in the Province and to the offices of the Deputy District Registrars.

Due to the changes involved in the redefinition of boundaries, it was necessary to prepare a revised "Guide to Cities, Villages, and Municipalities in British Columbia." This publication has yet to be printed and distributed to the various persons concerned.

At the close of the year there were seventy-three registration districts under the supervision of a District Registrar, and in addition there were twenty-three sub-offices within these districts. Forty of the District Registrars were Government Agents, thirty-five District Registrars and Deputy District Registrars were members of the British Columbia Police, and the remainder were Mining Recorders, Gold Commissioners, notaries, etc. In addition, there are eighteen Indian Agents acting as District Registrars for Indians.

Twenty-six district offices and sub-offices were inspected during the year, plus the offices of eight Indian Agencies. Although this represents a decrease over last year in the number of offices inspected, this year's programme included many isolated areas, such as the west coast of Vancouver Island, the coastal area north to Prince Rupert, the Queen Charlotte Islands, and Peace River District northward to the British Columbia-Yukon Boundary.

This was the first occasion on which an inspection had been made in any of the offices of the Peace River District and northward. As has been found in other cases at the time of a first inspection, a few details of procedure in handling registrations required correction, and these matters have received attention. The only offices in the Province which have not yet been inspected are Stewart, Telegraph Creek, and Atlin.

Inspections have proven to be very valuable from several points of view. In the first place, records are checked for completeness, and the method of procedure used in securing registrations is reviewed in order to suggest any alterations which may be necessary. In the second place, there are usually various matters which the District Registrars wish to discuss with the Inspector but about which they are reluctant to write to the Division. Many helpful suggestions as to amendments in legislation and in procedure have been implemented as a result of conversations with the District Registrars. Inspections have likewise served to improve the *esprit de corps* between the District Registrars and the central office. Invariably it has been found that where inspections have been made without an excessive lapse of time between them, the work is well handled and its importance is realized.

During the year all index registers, covering the period 1872–1899, inclusive, were recalled to the central office for checking in order to assure agreement between central office records and district office records. Registration of births, deaths, and marriages commenced on September 1st, 1872, but in hardly any instances were copies of records kept in district offices until July, 1899. At the inception of registration a memorandum entry was made by the District Registrar in an index-book, but as returns were only made to the central office after lengthy intervals, it was found in checking the old index-books that a number

of original registrations were not on file. All such registrations have now been properly recorded.

Following inspections, a considerable amount of binding of District Registrars' copies of registrations was undertaken, as experience has shown that where copies are preserved in permanent binding there has been no loss, except through fire, of any records. Practically all outstanding work in this connection has now been completed, so that future work will consist of binding current records only. It has been found preferable to have all registrations sent to the central office for checking prior to binding, rather than have the District Registrar place the records on loose-leaf binders, as many original registrations, which were not on file in the central office, have been discovered in this manner.

VITAL STATISTICS INFORMATION FOR HEALTH UNITS.

In order to provide more rapid notification of births, deaths, and still-births to health units, a new system of reporting by the District Registrars has been evolved. Under this plan a District Registrar will forward to the health unit director a notification slip giving minimum details of the event as soon as the information is in his hands. This method ensures that the health unit director becomes aware of all births, deaths, and still-births in his area within a few days.

This new service was inaugurated in the Central Vancouver Island Health Unit this year on an experimental basis and will be expanded where necessary to include all other health units.

STATISTICAL SERVICES.

One of the major activities of the Division is the compilation of statistical data which stem from its registration functions, and the provision of statistical services for the other Divisions of the Provincial Department of Health. Monthly analyses of vital statistics registrations are made according to city and area of occurrence, and of residence, racial groups, sex, age-group, and according to other breakdowns. Particular attention is given to those facts which reflect the health of the people—namely, the causes of death, the infant and maternal mortality rates, and the incidence of communicable diseases.

The Division carries out the majority of the statistical requirements of the Divisions of Tuberculosis Control and Venereal Disease Control. Monthly morbidity analyses are prepared from the diagnostic reports of these two Divisions, and a continuous up-to-date record is maintained of the current diagnoses of all known cases of tuberculosis. Special tabulations are prepared from time to time, as well as the annual statistical reports for these Divisions. During the year additional requirements for both the Division of Tuberculosis Control and the Division of Venereal Disease Control have been undertaken.

Service is also provided to other Divisions of the Provincial Department of Health. The daily reports of the public health nurses are processed by the punch-card method, the school environment reports of the Division of Environmental Sanitation are summarized and analysed, and a central clearing-house for public health nurses' family records is maintained. The Division is expected to function as a statistical workshop for the entire Department, and as such is prepared to assist the other Divisions whenever required.

The Division has an active campaign aimed at complete reporting of cancer cases and compiles statistics on the incidence of this disease in British Columbia.

Statistical data are provided without charge to both public and private agencies upon request. Special monthly tabulations of vital statistics information on the municipalities of Greater Vancouver are made for the Metropolitan Health Committee. Duplicate punch-cards for deaths in Greater Vancouver are also prepared for this Committee.

MECHANICAL TABULATION.

Continuous use was made of the mechanical equipment of the Division during the year, both for routine monthly tabulations and indexes and for special assignments. The work of retabulating all the birth indexes of the Division by year of occurrence was concluded and the new indexes placed in service. Revision of the death indexes in a like manner was commenced and carried back to 1925. Preliminary work on revision of the marriage indexes was also begun. Considerable use was made of the equipment in connection with the work done for the National Register of Vital Statistics referred to above.

Alphabetical and numerical indexes of known cases of tuberculosis and indexes of tuberculosis dead cases are now revised and retabulated annually for the central office of the Division of Tuberculosis Control. A special index of known cases of tuberculosis amongst the Indian population was prepared for the Department of Indian Affairs, Coqualeetza. Additional requirements of the Division of Tuberculosis Control were met by virtue of the mechanical processing of records. The punch-card method was instituted during the year for the follow-up reports of tuberculosis cases discharged from sanatoria, and statistical analyses will thus be available for this phase of the tuberculosis programme.

VITAL STATISTICS COUNCIL FOR CANADA.

In May the Vital Statistics Council for Canada met in Ottawa for the third time. British Columbia was not represented because of the sudden illness of the Director while en route to attend the Council meeting. The Council is proving to be very worth while, as it permits an opportunity to discuss many matters and tends to keep its members up to date. Definite advances in all aspects of registration of vital statistics have resulted since creation of the Council.

Model Marriage Act.

Considerable discussion followed a report by a committee to study the Marriage Acts of the various Provinces. As a result the committee was instructed to continue its work, with the intention of submitting a proposed draft model Act to the next meeting of the Council.

The International List of Diseases, Injuries, and Causes of Death.

The International Committee for the preparation of the sixth decennial revision of the International List of Diseases, Injuries, and Causes of Death made very definite progress in its recommendations to the Interim Commission of the World Health Organization.

It is expected that the sixth decennial conference will be held in Paris in the spring of 1948. The list, together with an alphabetic index and tabular list of inclusion terms, will be available shortly thereafter.

An excerpt from the report to the Council indicates what the new International List will mean to the Provincial bureaus of vital statistics: "In the first place, those engaged in public health statistics programmes will be able to use one classification list for coding causes of death, causes of illness, causes of still-birth, hospital admission by cause, orthopædic impairments, and other factors such as prophylactic inoculations, blindness, and deafness. Others will find it possible to obtain mortality statistics of greater public health significance, which will have greater comparability with morbidity statistics than was possible in the past. On the other hand, those using the classification for mortality statistics only will find quite a few categories which are important as causes of illness but not of death."

Model Vital Statistics Act.

Discussion indicated that the Provinces of Saskatchewan, Ontario, New Brunswick, Nova Scotia, and Prince Edward Island were contemplating new legislation with regard to vital statistics. For this reason the Council passed a resolution requesting that the Minister of Trade and Commerce be requested to call a joint conference of the Council and the Legislative Counsels of the Provinces in the fall of 1947 for the purpose of studying the provisions of a uniform Vital Statistics Act for the nine Provinces. On December 1st a conference was held in Ottawa. A submission was prepared by the Division and forwarded to be read at the conference. To date the verbatim report has not been received and hence no comments can be made regarding the principles adopted by the conference.

National Register of Vital Statistics.

Details of the plan for the establishment of the National Register of Vital Statistics, and terms of the agreements between this Province and the Dominion Bureau of Statistics effecting this important undertaking, were outlined in the report of the Provincial Board of Health for 1945. The passing of Federal legislation implementing payment of family allowances in Canada from July 1st, 1945, has made the early operation of the proposed National Register of paramount importance. The Register has been functioning during the year for all current registrations received. It is compiled in Ottawa from microfilm copies of the registrations, which are forwarded regularly from the Provinces.

For family allowance purposes it was necessary that the Register include all births and deaths from 1925 onward. One of the major problems that had to be solved concerned the system of allotting to each vital statistics registration filed in the Province since that date a standardized ten-digit identity number, which would be mutually exclusive, yet which would provide an immediate reference to the location of the registration. By the end of 1947 all the difficulties of the numbering sequence had been satisfactorily dealt with, and the entire backlog of birth registrations to 1925 had been microfilmed and sent to Ottawa.

The second phase of the National Register project required that the birth identity number be put on death registrations for all decedents born since 1925.

For such persons born in British Columbia this involved searching the birth records and establishing positive identification of the decedent with the associated birth. For persons born outside the Province it was necessary to request the birth information from the Province concerned or from Ottawa. When this searching was completed and the birth identity numbers entered on the death registrations, it was necessary to punch the required birth information on the Dominion Bureau of Statistics death index-cards, which had been reproduced from the existing British Columbia cards. By the end of the year all the searching was completed and the first four years of completed death index-cards forwarded to Ottawa.

The ultimate aim of the National Register is that it should become in effect the " book of life " for each person enumerated thereon, bringing together the facts of all the vital events of his life. Such a co-ordinated record will be of great value in demographic studies and will provide information essential both to efficient social security measures and to the individual himself.

Plasticized Birth Certificates.

Early in the year laminating equipment was installed and the issuance of plastic birth certificates was commenced. This new service offers the public a plastic certificate in a wallet-sized card which is tamper-proof, durable, and, in particular, very convenient. The new certificates contain a minimum of information sufficient to establish proof of age, which meets all normal requirements for birth certificates. The old-type certificates, showing details of parentage, are still available on request.

Plastic birth certificates are issued routinely by the central office of the Division at Victoria, but due to the equipment required, are not available from any of the District Registrars' offices. The fee is the same as for the old-type certificates.

ADMINISTRATION OF THE " MARRIAGE ACT."

One of the primary duties of the Division is the administration of the " Marriage Act." Responsibilities under this Act include the qualifications of persons for marriage, caveats, adequate proof of divorce, proof of age and consent of parents for minors, presumption of death, and orders for remarriage. The " Marriage Act " further provides that ministers and clergymen must be duly registered with the Division to be eligible to perform marriages in the Province. Considerable investigation as to the background of new religious organizations, their present status and possibility of continued existence, is made before registration is accepted. All marriage registrations are checked to ensure that the marriage has been performed by a duly registered clergyman or a Marriage Commissioner.

GENERAL OFFICE PROCEDURE.

Several improvements in general office routine have been made with a view to simplifying the increasing volume of work. A major change has been made in the cash and accounting system by the installation of an electric cash register which classifies and tabulates each entry and prints receipts. The use of this equipment has eliminated several procedures which were necessary previously.

A new policy in dealing with delayed registrations of birth has been instituted. In the past it has been the practice to insert as a marginal notation on the registration the evidence submitted in support of a delayed registration. In view of the fact that this Province adheres to the accepted standards of minimum proof for delayed registration of birth, and that no registration is accepted without conclusive proof of its accuracy, it has been decided that marginal notations of the evidence submitted will not be made. The fact that a delayed registration has been accepted is prima facie evidence of the validity of the facts thereon.

The microfilming of some 175,000 physician's Notice of Birth cards was undertaken during the year. These physician's notifications, which date back to 1920, have been filmed chronologically under each physician's name. The new microfilm record will facilitate reference to these notifications and will reduce storage-space.

As a service to the Victorian Order of Nurses in Victoria and Esquimalt, weekly birth lists are now compiled from the physician's notices of birth. As these notifications of birth must be submitted within forty-eight hours of the event, the listing provides up-to-date information for use by that organization.

PROBLEMS OUTSTANDING AT THE END OF THE YEAR.

Goal in Registration.

The aim of the Division is to achieve not only the complete registration of every birth, death, and marriage, but also to improve the quality of the registrations. Improvements in the handling of questions, instructions, and the further education of District Registrars in vital statistics work is to be carried on.

Doukhobor registration continues to be a most difficult problem. It is hoped that the Royal Commission on the activities of this group of people will make certain recommendations which will stimulate registration.

Instruction Manuals.

Parts I and III of the Manual of Instructions for District Registrars, Marriage Commissioners, and Issuers of Marriage Licences have been completed relating to the " Vital Statistics Act " and the " Change of Name Act " respectively. Part II regarding the " Marriage Act " is still to be compiled. This part is the most difficult as so many varied questions arise in connection with the " Marriage Act."

Material is also being collected on central office procedures and it is hoped that it will be assembled before the end of the forthcoming year.

Certification.

Considerable thought will have to be given to the development of short-form certificates of marriage and death in order to simplify the work of the Division and yet provide all the necessary generally needed information. Refinements will also have to be developed regarding photographic processes in the Division.

Development of Further Services to the Provincial Department of Health.

The Division has to evaluate constantly its statistical procedures, not only in connection with vital statistics, but also in connection with the statistical programmes carried on for the other divisions and the headquarters office. Further development in statistical services to health units is foreseen. Much basic work needs to be done in classification of boundaries and the assessment of forms capable of application to the punch-card method. The Division must also be able to provide a more useful consultative service to the respective health units.

REPORT OF THE DIVISION OF LABORATORIES.

C. E. Dolman, Director.

INTRODUCTION.

As forecast in the previous Annual Report, the peak of the Division's turnover of tests was reached in the first quarter of 1946, since when the numbers have levelled off at between 20,000 and 22,000 monthly. This year the total of tests performed in the main laboratories in Vancouver will be approximately 270,000, a decrease of 7.5 per cent. over the previous year's total. This decrease, although small, was very welcome, since it would have been impossible to continue coping with the increasing demands which had characterized each of the preceding twelve years of the present Director's association with the Division. The turnover is still far too heavy in relation to the staff and quarters available. It must be emphasized, too, that there is a tendency in well-conducted public health laboratories for more elaborate and time-consuming types of tests to be done. Examples of these will be given in the body of this report.

TESTS RELATING TO VENEREAL DISEASE CONTROL.

In conformity with experience in previous years, roughly three-quarters of all tests related to the diagnosis and control of syphilis and gonorrhœa. During the year the policy was adopted of carrying out quantitative estimations of reagin content on all blood specimens giving a positive Kahn reaction and all cerebrospinal fluid specimens giving a positive complement-fixation (Kolmer-Wasserman) reaction. This procedure has meant much additional work to the section concerned, but has provided physicians with important information about their patients' infections and responses to treatment. The requisition and report forms relating to these tests were improved.

There was a decrease of about 20 per cent. in the numbers of dark-field microscopic examinations for the *Treponema pallidum*, which is a possible indication of a lowered incidence of primary syphilis. The physician's growing awareness of the need for seeking laboratory evidence of an early invasion of the central nervous system in syphilis was indicated by an increase of over 50 per cent. in the numbers of cerebrospinal fluid specimens received for complement-fixation tests, colloidal reactions, etc. In accordance with an agreement reached by the Provincial Laboratory Directors' Conference held in

Ottawa in 1946, the Division ceased to perform the Kahn test on cerebrospinal fluid specimens.

During the first months of the year the main laboratories participated in the third serodiagnostic survey arranged by the Laboratory of Hygiene of the Department of National Health and Welfare. The results of this survey have recently been made available. They show that our standards of performance, as in previous years, were very creditable.

Tests relating to gonorrhœa presented many problems, as in previous years. New methods of treatment have somewhat complicated the classical laboratory criteria for diagnosis of gonococcal infection. The cultural techniques for identification of gonococci stand greatly in need of a co-ordinated research approach by the laboratory worker, the epidemiologist, and the clinician. A helpful step in this direction would be to place under this Division's supervision the laboratory work now being carried out at the Vancouver clinic of the Division of Venereal Disease Control. Some consideration has, in fact, been given to this proposal already. Shortages of trained personnel are at present a handicap, however.

TESTS RELATING TO TUBERCULOSIS CONTROL.

All types of tests for the laboratory diagnosis of tuberculosis increased. Requests for cultural examinations were roughly 40 per cent. higher, and a large proportion of these related to stomach-washings, which entail lengthy preliminary treatment in the laboratory. Guinea-pig inoculations increased slightly. The proper care of these animals is quite impossible in the accommodations now available. The Division was again seriously handicapped by repeated outbreaks of fatal infections, apparently of virus origin, affecting both the normal stock and animals under test. As soon as circumstances permit, it is proposed to compare relative susceptibilities to tuberculous and adventitious infections of the guinea-pig and the hamster. This latter animal is claimed to offer many advantages over the guinea-pig, and several animal breeders in this Province are now developing hamster colonies.

TESTS RELATING TO GASTRO-INTESTINAL INFECTIONS.

Although in 1947 the actual numbers of proven cases of *Salmonella-Shigella* infection in British Columbia will probably be around 170, as compared with a total of 289 during 1946, the types of micro-organisms isolated will cover a broader range than in any previous year. In other words, the variety of strains causing infections of this type, to which the people of this Province are liable to be exposed, is still extending. Whereas in 1944 *S. typhi, S. paratyphi B., S. typhimurium* and *S. newport* were the only *Salmonella* types isolated in this Province, in 1947 the laboratories, in co-operation with the Western Division of the Connaught Medical Research Laboratories, were able to identify no fewer than fourteen *Salmonella* types. One of these types, *S. litchfield,* had not previously been isolated anywhere in Canada. Of special interest was a milk-borne outbreak of paratyphoid A fever, in which seven cases were traced to a healthy carrier operating a dairy farm. *S. paratyphi A* infection has always been rare in Canada. *S. paratyphi A* was also isolated from an Indian of the North Vancouver Reserve.

The reduction in the total numbers of cases and carriers of salmonellosis identified during the year cannot be interpreted as a cause for complacency. It so happened that there was no repetition of the series of outbreaks of acute gastro-enteritis which occurred in the previous year in Vancouver. Several of these were traced to infected food-handlers in public eating places, and the efforts launched by the local Health Department to improve restaurant sanitation may be partly responsible for the lower incidence. The arrangements made with the two main hospitals in Vancouver, whereby stool specimens would be sent to the laboratories from all new admissions to the infants' wards, and also from nurses and food-handlers newly joining their staffs, appear likewise to have been helpful, for there was a marked reduction in the salmonellosis incidence among hospitalized infants. However, there is need for far greater reforms in both restaurant and hospital sanitation; and in view of the enlarging variety of *Salmonella* types which have been recognized in the Greater Vancouver area, further outbreaks, traceable to healthy carriers and mild cases serving as food-handlers in restaurants and hospitals, are to be expected. In 1947 the great majority of cases were apparently examples of intro-familial infection. Sight should not be lost of the possibility that the ultimate source of certain of these *Salmonella* strains may be animal reservoirs; for example, rodents, swine, and fowl.

There is no reason to suppose that the situation respecting salmonellosis is different in the Province at large from that existing in the Greater Vancouver area. The thinly scattered population, and the less intensive investigational work possible outside Vancouver, merely reduces the conclusiveness of the data.

BACTERIOLOGICAL TESTS OF MILK AND WATER SUPPLIES.

Examinations of milk samples showed a further small decline, which reflected the continuing tendency towards consolidation of dairies in the Greater Vancouver area. The implementation of a compulsory pasteurization by-law by the City of Vancouver toward the end of 1946 also had the effect of reducing the numbers of samples examined from this area. On the other hand, there was a significant increase in samples examined from dairies outside Vancouver. The Corporation of Westview continued the custom, established by mutual agreement with this Division a few years ago, of sending in milk samples regularly for examination. The findings of this Division underline the urgent need, repeatedly emphasized in these reports, for more rigid control of the sanitation of milk and milk products in the Province at large.

Water-sample examinations showed an appreciable increase, amounting to roughly 40 per cent., over the previous year's totals. The public is undoubtedly awakening to the basic importance of safe water-supplies.

OTHER TYPES OF TESTS.

Blood agglutination tests for the typhoid-paratyphoid group increased considerably, while similar tests for brucellosis were double the previous year's total. This maintenance of interest by physicians in brucellosis is fully justified, since the disease is still prevalent in various parts of the Province.

Another disease equally difficult to disguise, and of more obscure causation, is infectious mononucleosis. As judged by the increased demands for agglutination tests bearing upon this infection, its incidence may be rising.

There was a welcome reduction in the numbers of throat swabs examined for diphtheria bacilli, paralleling an apparent decline in outbreaks of this disease. A small epidemic occurred in the Interior in December. The Division regrets the decision of the Laboratory of Hygiene at Ottawa to withdraw, for the time being at least, the typing service for *C. diphtheriæ* which it began two years ago.

Ringworm has markedly declined in incidence, judging by the single specimen relating thereto received by the Division. On the other hand, requests for miscroscopic examinations for intestinal parasites almost doubled. Many of these specimens came from veterans who had served overseas. On the whole the incidence of infestation with such parasites has remained surprisingly low in Canada, despite gloomy predictions during the war years.

GENERAL COMMENTS.

The variety and dollar value of biological products distributed by the Division again increased. Over $30,000 worth of antitoxins, vaccines, toxoids, and susceptibility-test materials were released free of charge to practising physicians, health officers, and public health nurses for specific immunization against smallpox, diphtheria, scarlet fever, whooping-cough, typhoid and paratyphoid fever, and measles. The sustained demand for these biological products is indicative of successful efforts by the medical and nursing professions and by health departments to educate the public as to the inestimable value of the protection afforded by specific immunization. The cost entailed is trivial in terms of illness prevented and lives saved.

The branch laboratories at Victoria, Nanaimo, Nelson, and Prince Rupert operated at capacity throughout the year, all showing an increased turnover over the 1946 totals. At Kamloops the retirement of Dr. A. G. Naismith as Director of Pathology for the Royal Inland Hospital deprived the Division of his able supervision of the branch laboratory maintained at that hospital. Pending the appointment of a successor to Dr. Naismith, the public health work at Kamloops has been placed in the charge of Miss J. Craig, a qualified nurse and technician. The Director visited the Kamloops laboratory during the late summer and made arrangements whereby certain types of specimens from the Kamloops area should be transferred to the main laboratories. Miss Craig was also given the opportunity of spending a week with the central laboratory in Vancouver, so that she might be familiarized with some of the latest procedures. Miss B. M. Forcade resigned her position as Bacteriologist at the Kelowna General Hospital early in 1947. To date a suitably qualified successor has not been available. In consequence the work of the branch laboratory at Kelowna has regrettably been temporarily suspended. Public health specimens from the Kelowna district are being sent to Vancouver.

Staff changes continued to be very numerous, adding to problems of internal organization. The most serious loss sustained was the resignation of Miss E. M. Allan, the Division's Serologist, who left to be married after fifteen years

of very efficient service in the Vancouver laboratories. In her place the Division welcomes Miss J. G. McAlpine, who had filled a similar position in the Ottawa Branch Laboratory of the Ontario Department of Health. It is a pleasure to refer to the well-deserved promotion of Miss V. G. Hudson to the rank of Senior Bacteriologist.

During May the Director attended the annual meeting of the Canadian Public Health Association held at Quebec City. Before the epidemiology section he presented a paper, in conjunction with Miss M. Malcolm, Senior Bacteriologist, and Dr. L. E. Ranta, of the Western Division of Connaught Medical Research Laboratories, entitled: "Acute Gastro-enteritis in and around Vancouver." This paper will eventually be published. The Director subsequently attended, also at Quebec City, the annual meeting of the Royal Society of Canada, to whose Fellowship he had been elected earlier in the year.

Publications by members of the staff included the following:—

" Botulism in Canada: With Report of a Type E Outbreak at Nanaimo, B.C." Dolman, C. E., and Kerr, D. E.—Canadian Journal of Public Health (January), 1947, Vol. 38, p. 48.

" Experience with Salmonella Typing in Canada." Ranta, L. E., and Dolman, C. E.—Canadian Journal of Public Health (June), 1947, Vol. 38, p. 286.

" The Place of the Sanitarian in Public Health." (Based on an address to the annual dinner meeting of the Canadian Sanitarians' Institute, British Columbia Branch, held at Vancouver on April 19th, 1947.) Dolman, C. E. — Canadian Journal of Public Health (December), 1947, Vol. 38.

Co-operative relations were maintained with the medical profession, with health units, and with the various Divisions of the National, Provincial, and city departments of health. The customary close and fruitful collaboration continued between the Division, the Department of Bacteriology and Preventive Medicine at the University, and the Western Division of Connaught Medical Research Laboratories.

TABLE III.—STATISTICAL REPORT OF EXAMINATIONS DONE DURING THE YEAR 1947.

Examination.	Out of Town.	Metropolitan Health Area.	Total in 1947.	Total in 1946.
Animal inoculation	201	608	809	766
Blood Agglutination—				
Typhoid-paratyphoid group	2,224	10,340	12,564	9,980
Brucellosis	1,222	3,507	4,729	3,631
Infectious mononucleosis	137	425	562	337
Miscellaneous	26	4	30	11
Cultures—				
M. tuberculosis	510	1,267	1,777	1,317
Typhoid-paratyphoid-dysentery group	978	4,197	5,175	5,172
C. diphtheriæ	1,711	11,127	12,838	15,897
Hæmolytic staphylococci and streptococci	607	2,090	2,697	3,652
Gonococcus	.....	11,219	11,219	12,664
Miscellaneous	329	584	913	1,134
Direct microscopic examination for—				
Gonococcus	3,261	31,328	34,589	34,743
M. tuberculosis (sputum)	5,149	3,735	8,884	7,070
M. tuberculosis (miscellaneous)	510	1,267	1,777	1,317
Treponema pallidum	92	762	854	1,093
Vincent's spirillum	36	326	362	402
Ringworm	1	.....	1	5
Intestinal parasites	112	317	429	292
Serological tests for syphilis—				
Blood—				
Presumptive Kahn	16,172	89,673	105,845	126,766
Standard Kahn	5,195	14,105	19,300	23,645
Quantitative Kahn	915	4,302	5,217	801
Complement fixation	3,971	14,533	18,504	21,387
Cerebrospinal fluid—				
Kahn	.....	.....	.....	2,300
Complement fixation	606	2,703	3,309	2,956
Quantitative complement fixation	38	224	262	53
Cerebrospinal fluid—				
Cell count	389	1,443	1,832	1,844
Protein	501	2,376	2,877	2,327
Colloidal reaction	580	2,669	3,249	2,948
Milk—				
Bacterial count	382	847	1,229	1,408
Coli-ærogenes	382	847	1,229	1,408
Phosphatase test	210	530	740	897
Water—				
Total bacterial count	.....	832	832	631
Coli-ærogenes	3,647	1,593	5,240	3,833
Unclassified tests	76	153	229	312
Totals	50,170	219,933	270,103	292,999

TABLE IV.—NUMBER OF TESTS PERFORMED BY BRANCH LABORATORIES IN 1947.

Examination.	Kamloops.	Kelowna.	Nanaimo.	Nelson.	Prince Rupert.	Victoria.	Total, 1947.	Total, 1946.
Animal inoculation	.....	.....	.....	.....	.....	85	85	30
Blood Agglutination—								
Typhoid-paratyphoid group	169	.....	670	631	66	48	1,584	1,626
Brucellosis	169	.....	352	186	20	114	841	1,442
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	22
Infectious mononucleosis	.....	.....	.....	.....	.....	32	32	23
Cultures—								
M. tuberculosis	.....	.....	.....	.....	.....	103	103	81
Typhoid-paratyphoid-dysentery group	.....	.....	.....	21	.....	282	303	263
C. diphtheriæ	811	.....	52	12	31	1,711	2,617	1,524
Hæmolytic staphylococci and streptococci	43	.....	.....	102	.....	1,656	1,801	1,347
Gonococcus	.....	.....	.....	.....	.....	1,175	1,175	1,442
Miscellaneous	78	.....	.....	6	.....	.....	84	66
Direct microscopic examination for—								
Gonococcus	321	.....	346	407	64	2,332	3,470	5,386
M. tuberculosis (sputum)	337	.....	1,291	1,688	320	3,841	7,477	7,500
M. tuberculosis (miscellaneous)	16	.....	39	16	1	74	146	133
Treponema pallidum	.....	.....	.....	.....	13	51	64	105
Vincent's spirillum	8	.....	21	51	4	85	169	282
Ringworm	.....	.....	.....	4	1	47	52	42
Intestinal parasites	16	.....	.....	58	4	264	342	318
Serological tests for syphilis—								
Blood—								
Presumptive Kahn	.....	.....	.....	.....	.....	15,738	15,738	20,505
Standard Kahn	3,210	.....	4,468	6,428	1,530	2,347	17,983	17,199
Quantitative Kahn	.....	.....	.....	139	.....	1,264	1,403	3
Complement fixation	.....	.....	.....	.....	.....	2,347	2,347	1,928
Cerebrospinal fluid—								
Kahn	59	.....	155	.....	35	60	309	433
Complement fixation	.....	.....	.....	.....	.....	376	376	248
Cerebrospinal fluid—								
Cell count	67	.....	136	56	45	300	604	500
Protein	60	.....	139	.....	21	286	506	361
Colloidal reaction	.....	.....	125	.....	36	304	465	381
Milk—								
Bacterial count	128	.....	62	546	415	894	2,045	1,886
Coli-ærogenes	.....	.....	.....	546	415	941	1,902	1,890
Miscellaneous (phosphatase and reductase)	44	.....	.....	.....	.....	718	762	2,509
Water—								
Total bacterial count	.....	.....	.....	49	.....	978	1,027	360
Coli-ærogenes	73	.....	448	739	441	1,112	2,813	2,490
Unclassified tests	40	.....	.....	9	.....	230	279	187
Totals, 1947	5,649	.....	8,304	11,694	3,462	39,795	68,904	.....
Totals, 1946	5,955	3,755	8,574	8,840	2,983	42,405	.....	72,512

REPORT OF THE DIVISION OF VENEREAL DISEASE CONTROL.

G. R. F. ELLIOT, DIRECTOR.

INTRODUCTION.

Fewer cases of venereal disease were reported in British Columbia in 1947 than in 1946. The number of reported cases rose consistently from 1940 to 1946 and it is heartening to note that a reduction occurred this year. The number of new cases reported in this Province may also be interpreted as a sign of the excellent co-operation given by the medical profession in reporting diseases.

It is felt, therefore, that a very high percentage of all individuals suffering from venereal diseases are reported and are receiving satisfactory treatment. It would appear that this excellent co-operation by the medical profession is largely due to the generous policy of the Department of Health in supplying free drugs, making arrangements for free treatment for the majority of patients, and, finally, to the high calibre of physicians employed on a part-time basis at clinics operated by this Division.

TREATMENT.

The year has been marked by an increasing use of penicillin, particularly in the treatment of syphillis, and the results continue to be most favourable.

The rapid treatment centre being operated by this Division in the Vancouver General Hospital continues in a satisfactory manner. The use of this centre undoubtedly has assured adequate treatment for a far greater percentage of individuals than was possible under the former longer type of treatment. During the poliomyelitis epidemic in July and August, in co-operation with the Medical Officer of Health, City of Vancouver, several rooms were vacated by this Division for use in hospitalization of poliomyelitis patients.

Clinics are now being operated in New Westminster, Vancouver, Victoria, Oakalla Gaol (male and female), Juvenile Detention Home, and Girls' Industrial School. An examination Centre at the Vancouver City Gaol was opened in 1947 and found to be most valuable. The clinic formerly operated at Fort St. John was discontinued as from August 1st, 1947, after which time payment was made in the usual manner to private physicians for the treatment of indigent patients.

EPIDEMIOLOGY.

The public health nurses doing epidemiology work continue to show most encouraging results in case-finding and case-holding. During the year arrangements have been made for the public health nurses in rural areas and public health nurses in Vancouver and Victoria to assume a greater responsibility in this work. With this end in view one of the three rural epidemiology workers of this Division has been withdrawn from the field and greater dependence for case-finding and case-holding is being placed on the public health nurse in the field. The third epidemiology worker now acts as liaison between this Division and the public health nurses on the staff of the Metropolitan Health Committee,

in an attempt to have greater responsibility for venereal disease epidemiology assumed by the local public health authorities.

The presence of a male epidemiology worker on the staff of this Division has been of great value, particularly in Department of Veterans Affairs work. This Division assumed full responsibility for follow-up of members discharged from the armed services who were under surveillance or treatment for venereal disease.

SOCIAL SERVICE.

With the reorganization of the Vancouver police department, new policies for co-operation with this Division had to be worked out by the case-work supervisor as liaison between this Division and the police department. By meetings with the Chief of Police and his senior staff a good working relationship between the members of the clinic staff and the police officers was established.

As a further aid to case-finding, and in co-operation with the Chief of Police and the Medical Health Officer of the City of Vancouver, the examination centre mentioned above was set up at the city gaol. Facilities were provided by the police department and staff, and equipment provided by this Division, so that each morning all women prisoners are examined for venereal disease. The examinations are carried out before Court convenes and, where indicated, the nurse in charge can request an adjournment on medical grounds by arrangement with the City Prosecutor.

During the year there has been an increased emphasis on the function of the case-work supervisor as a consultant in social problems that are found to be complicating the treatment process of problem patients, and more and more patients are being referred by medical and epidemiology staff for help on an individual basis.

The facilitation process as it indicates trouble spots in the community is still the job of the case-work supervisor to analyse and report to the local authorities each month and each quarter. With the exception of reports involving beer-parlours, all types of facilitators have shown a downward trend. The problem of beer-parlours as facilitators is being studied in close co-operation with the Liquor Commissioner and British Columbia Hotels Association executive.

"VENEREAL DISEASES SUPPRESSION ACT."

On April 3rd, 1947, the new "Venereal Diseases Suppression Act" was passed, and the regulations under this Act came into effect on May 2nd, 1947. This Act is intended for use primarily in dealing with problem cases endangering the public health. This Act has been most useful, and its existence has had a most gratifying effect in dealing with many unco-operative individuals.

CO-OPERATION WITH OTHER DEPARTMENTS AND AGENCIES.

This Division has continued to receive excellent co-operation from all other Divisions of the Department of Health and the central office, Victoria. It is felt that particular mention should be made of the Division of Laboratories, which at all times has been most understanding and helpful in the numerous problems that arise relative to the diagnostic tests concerned with venereal diseases.

Relationship with the city and Provincial police departments is good and their co-operation is freely given. In only one area in British Columbia have the authorities failed to take adequate action regarding facilitation or operation of bawdy-houses.

Several meetings have been held with the chairman of the B.C. Liquor Control Commission and the executive of the British Columbia Hotels Association, and once again co-operation has always been most freely given.

The Indians of this Province are a problem of this Division. Because of the migratory habits of many of these people, one cannot be assured that treatment is completed in all instances. Several meetings have been held with the British Columbia Regional Superintendent, Indian Health Services, and one meeting with the Superintendent of Indian Health Services, Department of National Health and Welfare (Federal Government). It appears that a more satisfactory method of treatment will be adopted. It is hoped the situation will improve in 1948.

PUBLICATIONS OF THE DIVISION IN 1947.

" Procedures and Services in Venereal Disease Control "—a manual for physicians—was distributed to all physicians in British Columbia during the year. This booklet was prepared in order to provide the physician with a readily available source of information on policies and procedures in control of venereal disease. The reception by the physicians in the Province has been most satisfactory.

In June at the Vancouver Medical Association summer school a symposium entitled " Gonorrhœa, Syphilis, and Other Venereal Diseases, Highlights of Diagnosis and Treatment " was presented by consultants of this Division. This also was distributed to all physicians in the Province and had an equally gratifying acceptance.

At the fourth Western Venereal Disease Conference held in Winnipeg on May 16th and 17th, Miss Beattie, the senior epidemiology worker of this Division, and Miss E. Wyness, case-work supervisor of the Vancouver clinic, presented two papers, " Tracing Contacts and Defaulters " and " Interprovincial Co-operation " respectively. These were well received and will be published at a later date.

Dr. G. R. F. Elliot, Director of the Division, presented a paper, " Syphilis in Pregnancy," to the Vancouver Medical Association, which also will be published.

EDUCATION.

This most important work is now carried out in conjunction with the Division of Public Health Education of the Department of Health and Welfare.

During the year no concentrated, short-term educational campaign was carried out as has been customary in the past. Rather the programme can be said to be one of continued education, with numerous talks being given and films shown by members of this Division and public health workers in the field.

GENERAL.

The central office of this Division received extensive alterations and repairs this year. This has improved these offices markedly, not only in appearance

but also through the addition of space which has made for greater efficiency. The Vancouver clinic is in need of similar improvements.

An investigation is being made to determine what number of newly reported cases of venereal disease are transient persons, or persons who have been diagnosed elsewhere prior to taking up residence in British Columbia. These figures should be most interesting and should be available early in 1948.

This Division is still suffering from shortage of full-time medical personnel. An additional full-time physician would be of great value. The number of part-time clinical physicians available has improved markedly, and this situation at the clinics is very satisfactory.

Dr. G. R. F. Elliot assumed the position of Director of this Division in July of this year. Prior to this date Dr. J. M. Hershey, Assistant Provincial Health Officer, was responsible for this work, as well as his own work in the office of the Deputy Minister of Health, Victoria. To Dr. Hershey; all members of this Division and in particular, Miss Jean Gilley, branch secretary; Mrs. A. Grant, nurse in charge, Vancouver clinic; Miss Beattie, senior epidemiology worker; and Miss E. Wyness, case-work supervisor, the present Director is most grateful and feels any progress made during the year is due to their unselfish and untiring efforts.

REPORT OF THE DIVISION OF TUBERCULOSIS CONTROL.

W. H. HATFIELD, DIRECTOR.

INTRODUCTION.

The Division of Tuberculosis Control, which has been developing its organization over the last number of years, has reached the point where it is well rounded out in all its facilities except one phase—namely, the number of beds and the necessary facilities to go with these.

In a tuberculosis control programme the first step is the location of cases within the community. To this end the case-finding programme of the Division has expanded to a point where almost one-third of the population over 15 years of age is being X-rayed annually.

During the year new X-ray equipment was added, with a machine for the mobile unit work taking 70-millimetre films, and other equipment for survey and diagnostic work at the stationary clinic in Victoria. There are now three pieces of mobile equipment with which it is possible to give the Province fairly adequate coverage. The present equipment is being used to capacity and to be ideal further mobile equipment would be necessary. As in previous years a large number of new cases was found by this service. The majority of cases diagnosed continue to be in the earlier stages. The volume of work in the stationary survey clinics is tending to increase as community consciousness of the value of routine X-ray examinations increases.

During the year Jericho Beach Hospital was opened, providing ninety additional beds. These beds, which have been sorely needed, do not numerically meet the need but materially help the situation.

It is disappointing that plans for the proposed new sanatorium at Vancouver have not progressed any further. Plans for modernizing existing insti-

tutions, particularly Tranquille, have also been at a standstill. It is hoped that circumstances conducive to building will appear soon, as the facilities as planned are badly needed. One ray of hope in this regard was the gift of an addition to the Vancouver unit by the British Columbia Tuberculosis Society. This new unit will house a fully modern auditorium and completely up-to-date surgical facilities and also provide some space for research. This will make the Vancouver unit a chest institute of a type that will have facilities equal to any such institute on this continent. The end of the year saw construction of this addition under way.

Staff problems in general have been less difficult during the year. An improved scale of wages, with more specific schedules for staff, has greatly aided in improving the general staff situation except in the case of physicians. It has been impossible to get the trained medical staff that the Division requires.

During the year the appointment of a general superintendent of nurses materially improved the correlation of nursing-work among the many units of the Division, both institutions and clinics.

Some change has been made in the liaison work between the Division and the field services. A public health nurse doing this phase of the work has been appointed as a member of the staff of the central office of the Department of Health and allocated to work with this Division. Further, the central office of the Department has taken the responsibility of preparing the itinerary for the mobile survey clinics, the Division taking the responsibility for supplying equipment and staff to take the X-ray films and make the necessary interpretations, and forwarding such reports to local health services who are responsible for developing the survey, giving out the reports, and doing necessary follow-up work.

The regulations applying to tuberculosis under the " Health Act," by which an infectious case may be forcibly isolated, have not been used due to the fact that there is a lack of bed facilities. With the long waiting-list it is impossible to admit even those patients who are willing to accept treatment without having to take on the problem of the recalcitrant case. Further, there are no adequate facilities within the Division to handle such a type of person, special accommodation being required to care for them adequately.

During the year streptomycin has come to play a definite part in the treatment of tuberculosis. A special streptomycin fund was provided by the Government, and in order to assess carefully the results of this new antibiotic a streptomycin committee has been set up within the Division through which all cases are carefully analysed before this new form of treatment is instituted. Careful correlation in studying this therapy has been worked out by the Division with other centres throughout North America. It is recognized that this antibiotic does not replace the fundamental treatment of tuberculosis—namely, rest—but does in certain specific types of case aid in suppressing the disease.

During the year a start was made in the use of B.C.G. vaccine to aid in the control of tuberculosis. This vaccine is being used among student nurses and in addition is advocated wherever there is a group in which tuberculosis rates tend to be higher than average. It will be advocated for use in tuberculosis contacts where there is an open case in the home.

CLINICS.

Clinics operated by the Division during 1947 were as follows:—

Stationary diagnostic clinics: Four—Vancouver, Victoria, New Westminster, and Tranquille.

Stationary survey clinics: Three—Vancouver, Victoria, and New Westminster.

Mobile survey clinics: Three.

Travelling diagnostic clinics: Five.

In addition, the consultation service continues to be used more extensively from year to year. There has been an increase in referred films over the previous year of 40 per cent.

The mobile unit work has been increased by the addition in February of a third unit using 70-millimetre film. During the year all units were equipped with Moran timers which has greatly simplified the taking of films.

In addition to the mobile unit examinations of 155,674 persons, the stationary survey clinics examined 44,196, giving a grand total of 199,870. Of that total 2.15 per cent. were referred to diagnostic clinics. Of the group referred for further study, 692 or 16 per cent. were diagnosed as tuberculous. These tuberculous diagnoses were as follows: Primary, 2.2 per cent.; minimal, 68.1 per cent.; moderately advanced, 24.4 per cent.; far advanced, 5.3 per cent. Thus 0.35 per cent of the total examined were found to be tuberculous. Of those diagnosed 189 required active treatment and of those at the end of the year 91 had been admitted to hospital.

As the work of the survey units increases it automatically increases the work of the diagnostic clinics. The total number of people examined in the diagnostic clinics during the year was 34,188, an increase of 20.62 per cent. over the previous year and an increase of 28.07 per cent over 1945.

The stationary clinics also carry on out-patient treatments and the volume of out-patient pneumothorax treatment was 8,868. This amount of work remains relatively unchanged from the previous year.

The total number of examinations, including all clinics, both survey and diagnostic, was 235,121. This is an increase over the previous year of 34.68 per cent. Including out-patient treatment-work, the total number of patient-visits to all clinics and survey units was 243,579.

The travelling diagnostic clinics continue to operate as previously and are not entirely satisfactory, due to lack of trained physicians to carry out the consulting-work with these clinics. During the year only one such clinic—namely, the Kootenay travelling clinic—was under the direction of a full-time tuberculosis officer. The work of the Island, Coast, Interior, and Fraser Valley was handled in so far as possible by senior physicians from the Victoria, Vancouver, New Westminster, and Tranquille units. In many instances the nurse-technician has made trips single-handed, referring all films to stationary units for diagnosis.

During the year the Victoria clinic was completely reorganized and the building previously used for occupational therapy was taken over, thus making a much more modern clinic. The previous clinic building was converted into quarters for occupational therapy, social service, and the Island travelling clinic. This arrangement made available three extra beds in the pavilion.

INSTITUTIONS.

The limited number of beds available within the Division of Tuberculosis Control still creates an acute situation. As has been mentioned, ninety beds were opened at Jericho Beach Hospital. This provides a temporary alleviation of the situation, reducing the long waiting-list which, however, is not reduced to a point where patients can be readily admitted to hospital. The Division is still forced, because of lack of beds, to carry on a policy of discharging patients from hospital after a relatively short period of treatment. It also continues to admit no cases other than pulmonary tuberculosis. A number of applications was received during the year for admission of suspect cases of tuberculosis. It has been necessary to place the responsibility for diagnosis of certain of these cases on facilities outside the Division of Tuberculosis Control. Such cases requiring hospitalization are admitted to a general hospital until the diagnosis has been definitely established.

There has been some reduction in the number of applications from the Department of Veterans Affairs, and the new policy of that Department of discharging its cases from its own institution has made an earlier discharge from the institutions of the Division of Tuberculosis Control possible. The policy is now to transfer all Department of Veterans Affairs cases after treatment by the Division of Tuberculosis Control to the chest unit at Shaughnessy Hospital. At the end of the year this unit is working at full capacity.

At Tranquille no improvement in buildings has been possible. The much-needed nurses' home and the homes for doctors are still in the blueprint stage. It is also recommended that improved accommodation be provided for visitors to Tranquille. It is hoped that an early start will be made in the long-recommended change from direct to alternating current at that institution.

In the Vancouver unit the top floor of the isolation hospital continues to be used for surgery. As this arrangement is wholly inadequate to meet the demands, those cases requiring surgery are having rather a long wait before the treatment is instituted. The new surgical facilities under construction, provided by the British Columbia Tuberculosis Society, will by the end of 1948 rectify this situation.

St. Joseph's Oriental Hospital is used as previously, and once more the Division must reiterate that the accommodation at that hospital is not considered satisfactory for the treatment of tuberculosis.

The Japanese continue to be treated in the New Denver Sanatorium, which is still operated by the Dominion Government.

NURSING.

The activities of the past year have been diversified. The results of this diversification are becoming increasingly apparent, and the most outstanding is the improvement in the recruitment of nurses for the institutional staffs. The improvement may be attributed largely to the effect of the educational programme for undergraduate students, postgraduate students, and in-service training as carried out by the Division of Tuberculosis Control.

The situation at Tranquille unit, where the problem of nurse shortage was the most acute, has improved to the extent that major surgery, discontinued

due to lack of nursing staff for post-operative cases, can now be resumed on a limited scale. An adequate nursing staff was obtained to open the Jericho Beach unit in June of this year. When one considers that in most centres tuberculosis beds have been closed due to shortage of general staff nurses, it is encouraging to know that the bed capacity of the Division has been utilized to the full extent.

The instruction and supervised experience given to student nurses and graduates is far-reaching in developing a new concept of tuberculosis nursing—a fundamental factor in obtaining well-prepared and interested nurses for all branches of the service. Nurses are becoming increasingly aware of the scope and opportunities in tuberculosis nursing. However, the major problem, as pointed out in the previous report, is the need for reorganization of the nursing service routine in the institutions in order to attract and retain nurses for general staff duty and to enable the professional nursing staffs to participate effectively in the active therapy programme.

Experimentation along these lines has been carried out in the Vancouver unit, whereby many of the routine nursing procedures are assigned to nurse aides under supervision of the professional nurses who function on a modified group nursing plan. The physical set-up of the institution presents some difficulties in the complete implementation of group nursing. Another problem is the instability of the nurse aide group and the wide variation in the experience and preparation of the applicants. Provision for basic training, to be made available through the proposed vocational course in practical nursing recently approved by the Department of Education, should help materially in providing the hospital with prepared personnel.

Another experimental project is centred on the stabilization of the orientation programme for all new personnel in the nursing service, both professional and auxiliary workers. The rapid turnover and instability of the auxiliary workers, such as nurse aides, already referred to in this report, creates a problem in so far as group classes are concerned. A plan for instruction applicable on an individual or group basis has been worked out in the Vancouver unit, with the object of reducing the staff time spent in on-the-job training yet safeguarding the worker with sufficient information and instruction before assignment to ward duties. A simple form is used on which to record instruction and demonstration—also response and ability. This method may be introduced, with minor adaptations, to other institutions in the Division. The correlation of the various services within the Division and with allied services throughout the Province makes this comprehensive plan of orientation possible for all workers associated with the tuberculosis programme, including those in institutions, clinics, and districts. Individual interest and scope are increased through an appreciation of all aspects of the service.

The nursing service occupies a key position among the major services. Therefore, it is extremely gratifying that provision has been made for a centralized administration to function on a Provincial basis for all branches of the nursing service within the Division.

Most of the activities this past year have centred on evaluation and reorganization of the institutional procedures, with a view to achieving uniformity in the various units. While much remains to be done in this field, it should be possible this coming year to direct our efforts toward further improvement and

correlation of the tuberculosis programme with allied services in the districts. The central nursing administration should facilitate greatly any efforts in this regard.

SOCIAL SERVICE.

The work of the social service section has been lightened during the past year by the achievement of a new basis of understanding and co-operative work with the Metropolitan Health Committee and the Vancouver City social service department. For example, many of the routine inquiries formerly made for the public health nurses are now made directly by the nurses, saving the social workers hours of time.

Previously the social workers in the Vancouver unit found new cases in a variety of ways—through the nurses, through the doctors, through the patients themselves, or through relatives. Now the doctors refer all cases they consider are in need of case-work help to the social worker. This has strengthened the understanding and support of the medical staff and has given the social workers more security in their work.

Because of the changes in policy just mentioned, the quality of the work done has improved. In order to further the improvement, a programme of staff development, consisting of case discussions, lectures by medical men, and discussion of professional techniques was started late in the year and will be carried over into 1948.

At the present time the staff consists of one worker at Tranquille, four workers and a supervisor in the Vancouver unit, one worker at Jericho Beach unit, and one worker at Victoria.

STATISTICS.

As heretofore, the Division of Vital Statistics has given close co-operation and continues to aid the Division in the handling of its statistical analysis. The records and statistical system of the Division have become more stabilized and it is now possible to make better comparative analyses from year to year. The preliminary death-rate for the year was 53 per 100,000 for the total population; 34 for whites, 633 for Indians, 250 for Orientals.

LOCAL HEALTH SERVICES.

There has been a further co-ordination of the relation of the Division to local health services. The responsibility of health remains that of the local health services, with the Division acting in a consulting capacity to these services and providing facilities that it would be illogical to expect local services to duplicate. The Division also takes the responsibility for hospitalizing cases of tuberculosis within the limits of its facilities.

BUDGET.

There will be an increase in the budget of the Division in the forthcoming year due to three factors: The opening of the new Jericho Beach Hospital, increase in wages and adjustment of hours of work, and increased commodity prices. Except for the new hospital beds the increases in costs are largely beyond the control of the Division.

Revisions of salaries through the Civil Service Commission have tended to improve the general services throughout the Division.

The creation of the position of business manager of the Division of Tuberculosis Control during the past year has aided greatly in the organization and supervision of costs throughout the many hospitals and clinics of the Division.

CONCLUSION.

In general, all facilities of the Division are taxed to the limit. With the great advance in chest surgery, the addition to the Vancouver unit will materially implement the armamentarium of the Division in its treatment programme. It is felt that the survey and diagnostic work is at a high level, and further progress in the treatment of this disease is dependent upon the provision of further bed facilities and modernization of the present institutions.

REPORT OF THE DIVISION OF PUBLIC HEALTH ENGINEERING.

R. BOWERING, DIRECTOR.

INTRODUCTION.

Public health services are concerned with the adjustment of the relationship between man and his environment for the protection of man against diseases and for the betterment of the general well-being of man. The attainment of this state may be sought through the adjustment of man himself to his environment, or through the adjustment of the environment to better man, or through a combination of both. Public health engineering service is concerned with the adjustment of the environment to man for the betterment of the public well-being and the protection of man from disease organisms which enter his body from without. For this reason the Division of Public Health Engineering is sometimes referred to as the Division of Environmental Sanitation. Included within the scope of the Division of Public Health Engineering are water-supply sanitation, sewage-disposal, milk-plant sanitation, industrial-camp sanitation, shell-fish sanitation, sanitation of eating and drinking places, sanitation of housing and tourist resorts, and the many miscellaneous items which are included in the term environmental sanitation. This report will deal with these various features under specific headings.

WATER-SUPPLY.

One of the oldest and most important responsibilities of the Division of Public Health Engineering lies in the field of water-supply sanitation. There are two sections into which water-supply sanitation may be divided. The first has to do with municipal or public water-supplies, and the second has to do with private water-supplies.

It is estimated that 75 per cent. of the population of British Columbia receive drinking and domestic water through public water-supply systems. The "Health Act" requires that whenever a public water-supply system is constructed, extended, or altered, the plans and specifications governing the

work must be approved by the Minister of Health and Welfare before work may commence. During the year 1947 the Division of Public Health Engineering studied plans and specifications of waterworks construction costing between two and a half and three million dollars. In checking these plans, the source of supply and the layout of the distribution system are carefully checked to see that no public health hazards exist. Where treatment of the water is indicated, the type of treatment is usually discussed with the engineer preparing the plans. British Columbia is unique among the Provinces of Canada in that most of the water used comes from surface sources. Canadian experience with water-borne diseases show that 49 per cent. of water-borne outbreaks occur due to contamination of a surface water-supply source, 7 per cent. result from the contamination of an underground water source, 4 per cent. occur from contamination entering reservoirs, 12 per cent. occur from breakdown of water-purification equipment, 15 per cent. occur as a result of contamination entering the distribution system, 9 per cent. occur from contamination entering the collection or conduit system, and 7 per cent. occur from miscellaneous causes.

In addition to checking the plans of new waterworks construction, sanitary surveys of existing water-supplies are made throughout the year.

In the 1946 Annual Report it was mentioned that a new standard of quality for water-supplies was introduced in the United States by the United States Public Health Service and officially approved by the American Waterworks Association. These standards have not yet been officially adopted in Canada. If they are adopted, however, it will require that a larger number of samples will have to be taken from the various water-supply systems, which will necessitate increases in the staff of the Division of Public Health Engineering and in the capacity of the Division of Laboratories for handling water samples.

The second section dealing with water-supply has to do with private water-supplies, such as wells and springs. The Sanitary Inspectors working in the health units make sanitary surveys and take samples from a large number of private water-supply sources during the course of the year. In this way the sanitary quality of the water used by the rural population is gradually being improved.

In 1947 the facilities of the laboratory of the Division of Public Health Engineering of the Department of National Health and Welfare was made available to the British Columbia Department of Health and Welfare for the making of chemical analyses of water. This has filled a long-felt need.

SEWAGE-DISPOSAL.

The supervision of sewerage and sewage-disposal is another important feature of the work of the Division of Public Health Engineering. As in the case of water-supply systems, sewerage and sewage-disposal falls naturally into two classes—the public sewerage system and the private sewage-disposal system.

Since 1896 it has been a requirement in British Columbia that plans of all new sewerage-works be approved by the Provincial Board of Health of British Columbia (now the Provincial Department of Health). The result of this requirement is that the general quality of sewerage-works in the Province is

good. Also, except for a very few instances, the waters of the Province have been maintained in a reasonably good state as far as public health is concerned.

The larger cities of the Province have sewerage systems, although in many cases these systems do not serve all the residents of the cities in question. Because the larger cities are located on the sea-coast, the most common method of sewage-disposal in British Columbia is by dilution in salt water. This method is generally satisfactory for the prevention of gross nuisances, although in some localities the bathing-beaches have been seriously menaced by contamination from the discharge of raw sewage.

During the year plans and specifications governing the proposed construction of nearly three million dollars worth of sewerage and sewage-disposal works were checked by the Division of Public Health Engineering. Of these, the largest single plan concerned a sewerage system for the Municipality of Saanich.

Standard plans have now been prepared for the construction of septic tanks and private sewage-disposal systems. These have been very widely distributed, principally through local health units and part-time Medical Health Officers. They have been adopted as standard plans by several municipalities, and have been endorsed by the Plumbers' Association. This has resulted in improvements in new installations and has lessened the number of complaints regarding insanitary disposal of sewage in rural areas. Unfortunately, however, there are still a large number of nuisances existing through unsatisfactory disposal of sewage in areas that have become too heavily populated for the satisfactory use of the septic-tank method of sewage-disposal. Where these cases occur in municipalities, the municipality can take action to build proper sewerage systems, provided that it can afford the cost. In unorganized areas there is still no satisfactory solution to the problem of having public sewerage systems constructed. In some parts of the United States this problem has been attacked by the making of State grants-in-aid to municipalities and sewerage districts.

GARBAGE-DISPOSAL.

During the year a number of inspections of garbage-disposal sites was made by officials of the Division of Public Health Engineering. Greater interest is being shown by communities in providing improved arrangements for garbage-disposal for the improvement of community sanitation. Reports from the rodent-plague survey on rat conditions in various municipalities have been forwarded to a number of our municipalities with offers of assistance in providing technical information on rat-control.

MILK SANITATION.

In 1947 the advance in the number of pasteurization plants in the Province continued. It is now possible to buy pasteurized milk in all of the major cities and towns of British Columbia. Milk sanitation in British Columbia is under the jurisdiction of the Department of Agriculture as far as the grading of dairy-farms is concerned. The quality of the milk itself is a responsibility of local health authorities. The work of the Division of Public Health Engineering is mainly a consultant service to the local health services. The day-to-day

sampling and supervision of the milk-supplies is the responsibility of the local Sanitary Inspectors.

Beginning in 1947 the pasteurization of all milk offered for sale was required by by-law in the City of Vancouver. The City of Cranbrook also passed a by-law requiring pasteurization of all milk sold or offered for sale in the city.

There was one milk-borne epidemic investigated in 1947 by the Division of Public Health Engineering. This epidemic, involving nine cases of paratyphoid A, occurred in an Interior city in March.

SHELL-FISH SANITATION.

The Division continued its work on the sanitary surveys of oyster leases. The largest sanitary survey made in 1947 was at Ladysmith Harbour. As a result of this survey, it is now possible to delineate those areas of Ladysmith Harbour that are safe for the taking of market shell-fish. A considerable amount of sanitary survey-work remains to be done in other parts of the Province. It is hoped that with the aid of engineering students this work will be intensified in the summer of 1948. Another feature of shell-fish sanitation which requires more attention is the sanitation of the shucking and marketing of shell-fish.

The collection of samples of clams for testing for toxicity continued throughout 1947. An analysis of the results of this work appears to indicate that the waters on the west coast of Vancouver Island are unsafe for the taking of clams at any time of the year. There is not sufficient information available on the open coast north of Vancouver Island. It is planned that in 1948 the sampling be extended to obtain information on the northern coast-line. The programme for the control of clam and mussel poisoning is a combined effort by the Federal and Provincial Departments of Fisheries and the Federal and Provincial Departments of Health. No deaths from shell-fish poisoning have occurred in British Columbia since 1942.

INDUSTRIAL-CAMP SANITATION.

A new set of regulations dealing with sanitation of industrial camps came into effect on January 1st, 1947. These regulations were widely distributed, and it is believed that the operators of all camps in the Province coming under the regulations have received copies. Along with the new regulations, a new set of inspection forms was issued to the Sanitary Inspectors and local health services. With this new set of forms, the reporting on inspections of industrial camps became more efficient and more uniform. In the health-unit areas, inspection of industrial camps is made by the local Sanitary Inspector. In non-health-unit areas, it has been more difficult to see that all camps were inspected, although the British Columbia Police have rendered valuable assistance in this regard. The effect of the new regulations has been very good, resulting in a general improvement of industrial-camp sanitation in the Province.

The number of fish-canneries at present in operation is considerably less than was the case a few years ago. With the reduction in number of canneries, the sanitary and housing facilities are improving. A considerable amount of

money was spent in 1947 by the cannery operators in improving housing accommodations and other environmental conditions in cannery camps.

A considerable amount of work was done on farm-labour service camps. This work was done in co-operation with the Department of Agriculture. Inspections of a number of farm-labour camps were made and discussions with operators were held. It is believed that this work will result in a better type of housing for seasonal farm-labour.

SANITATION OF TOURIST RESORTS.

Detailed tourist-camp inspections have been carried out during the past two years. The total individual camp inspection reports amount to 503. During the year 1947 many of these were reinspected. The periods between the original inspection and the reinspection varied greatly, from a few months to well over one year. It was most encouraging to note that reinspection showed the majority of operators as being anxious to comply with the suggestions made at the time of the original inspection, consequently improvement over conditions found on earlier inspections was most evident.

There are twenty-two camps, or 4.4 per cent., of the total inspected which this Department has declined to approve. Some of these places have never operated as tourist accommodation, but intend to as soon as approval is received. There are 8.2 per cent. of the camps inspected (in addition to the previously mentioned 4.4 per cent.) in need of a reinspection before the next licensing period. These forty-one camps (8.2 per cent.) were found to have conditions contrary to the "Regulations governing Tourist Camps and Trailers," but it was felt that these faults were not of a nature serious enough to affect their licences if remedied within a reasonable time. Most of these camps will be reinspected before the 1948–49 licensing-year starts on June 1st, 1948. If a reinspection shows that this Department's recommendations have not been followed or that the operator has made no reasonable effort to remedy the particular situation, it may be found advisable to refuse permission for the operation of the camp as tourist accommodation.

Following the two-year period in which this Department has provided a tourist-camp inspection service, it has been found that certain amendments and additions to the regulations should be given consideration. This office supplied the British Columbia Government Travel Bureau with a list of suggested changes in the portion of the regulations enforced by this Department.

The improved transportation facilities made available during the year permitted a better coverage of the camps. It is quite apparent that the operators appreciate the service given, and the many expressions of opinion heard would indicate that they would welcome more frequent inspections. It is felt that with the continued expansion of health unit services the demands for inspections and supervision from Sanitary Inspectors will be met more easily and the standard of the tourist accommodation throughout the Province will be improved accordingly.

SUMMER CAMPS.

Summer camps for children are exempted from the regulations governing tourist camps. They do, however, come under the "Welfare Institutions

Licensing Act." This Act is administered by the Inspector of Hospitals and Institutions. The Division inspected a number of summer camps on behalf of the above agency, and made recommendations regarding the approval of environmental features in connection with the licensing of the camps. In addition to this, a number of consultations was held with the Camping Association in order to better acquaint the operators of these camps with the essential features of good camp sanitation.

ENVIRONMENTAL SANITATION OF SCHOOLS.

The inspection of environmental conditions in and around schools is a responsibility of local health services under the " Public Schools Act." In 1945 the Division prepared a report form for the making of detailed inspections of the structural and sanitary conditions in and around the schools by the local health services. In the first full year of operation of this new service (1945–46) complete reports were obtained on 371 schools. In the 1946–47 school-year complete reports were obtained on 411 schools. Copies of the reports were made available to the School Boards. Using these forms, the School Boards effected a number of improvements and repairs of the schools reported on. The continuance of this service should result in better environmental conditions of the schools of the Province.

SANITATION OF EATING AND DRINKING PLACES.

A new set of regulations governing eating and drinking places was passed in the latter part of 1946. These regulations were widely distributed, and 1947 marked the first full year of their enforcement. One of the main results of the enforcement of these regulations is the improvement in the methods of washing and sterilizing of dishes and utensils.

In addition to the enforcement of the regulations, which were prepared as a guide to operators of eating and drinking places, it is felt that more education of food-handlers is necessary. To this end, in 1947, in co-operation with the Division of Public Health Education, United States Public Health Service, a pamphlet entitled " From Hand to Mouth " was adapted, with permission, for local use and published. In addition to this, a number of the local health units conducted classes for the training of food-handling personnel.

FROZEN FOOD LOCKER PLANTS.

In February, 1947, a set of regulations governing the construction and operation of frozen food locker plants was prepared by the Division of Public Health Engineering and passed by Order in Council on February 21st, 1947. This was the first time in British Columbia that frozen food locker plants as such came under regulation pursuant to the " Health Act." These regulations require that plans and specifications governing the construction of all new frozen food locker plants be approved by the Deputy Minister of Health. In addition, the regulations require that existing locker plants be brought up to the standards within a year after the coming into force of the regulations. Although no new locker-plant construction was approved in 1947, by the end of the year there were some applications pending and it is believed that a number of approvals will be made early in 1948.

GENERAL OBSERVATIONS.

In 1947 the Division of Public Health Engineering had the heaviest year on record as far as approval of water- and sewage-work plans is concerned. During this year it also took more responsibility in the supervision of the technical side of the work of the Sanitary Inspectors in the health units. It prepared a number of new record forms for the use of Sanitary Inspectors in their work. This establishment of a uniform record system will make it possible to transfer Sanitary Inspectors from one district to another with a minimum loss of continuity in the work. In addition, it provides the Division of Public Health Engineering with an improved method of evaluating the programme of the field sanitarians throughout the Province. As the number of health units increases, the supervision of the technical work of Sanitary Inspectors will become a more important part of the work of the Division. With this increase in administrative work, more and more of the Director's time will be required for administrative purposes. For this reason it is recommended that an Assistant Public Health Engineer be appointed in the near future to assist in the public health engineering work. It is also recommended that a Chief Sanitary Inspector be appointed for the better supervision of the work of the Division as it applies to local Sanitary Inspectors.

The Division again wishes to express thanks to the Division of Laboratories for its co-operation in the examination of samples of water, sewage, and milk. The Provincial Police Department deserves mention for its valuable work in the inspection of sanitary complaints and industrial camps in outlying districts. The Division would also like to record its thanks to the officials of the Division of Public Health Engineering of the Department of National Health and Welfare for their whole-hearted co-operation on many public health engineering problems. Other members of the staff of the Provincial Department of Health and Welfare have given invaluable assistance, for which the Division of Public Health Engineering is deeply grateful.

REPORT OF THE DIVISION OF PUBLIC HEALTH EDUCATION.

A. H. CAMERON, DIRECTOR.

INTRODUCTION.

Public health education as a specialized branch, with personnel specifically trained for the activities involved, is perhaps the most recent major development in the broad field of public health work on this continent. Although this is the second annual report of the Division, the field is so new that it is felt that a summary of the development on the continent as a whole, as well as in British Columbia, should be given here.

DEVELOPMENT OF THE FIELD IN NORTH AMERICA.

In recent years public health officials in the United States, recognizing always that education of the public in health matters is a prime function of all public health personnel, saw that there was a need for persons qualified in both

the broad principles of public health and in educational methods. They envisioned that one such person should be added to the staff of each local health department, not to relieve the health officer, the public health nurses, and the sanitary inspectors of their responsibilities in education, but to assist them in this phase of their work, to co-ordinate the educational activities and to make use of modern educational methods.

As these specially qualified persons were gradually added to health department staffs, they came to be known as " health educators." This term is, perhaps, unfortunate. It implies that health education is a definite responsibility of only the " health educator." As stressed in the previous paragraph, this has never been the intention nor practice since the beginning of the movement. The task is one of consultation, guidance, and co-ordination. More appropriate names would, therefore, be " health education consultant " or " health education co-ordinator."

Post graduate training courses have been established in several universities in the United States for the purpose of giving professional training to " health educators." In general, admission to these courses is dependent upon the applicant having studied a certain minimum of sciences in his undergraduate work. Leading to a master's degree in public health, the training is usually of twelve months' duration and includes the following:—

(*a*) Basic public health sciences (epidemiology, bacteriology, parasitology, sanitation, public health problems in industry, venereal disease control, tuberculosis control, nutrition, mental health).
(*b*) Community organization for health education.
(*c*) School health education.
(*d*) Special problems in public health education. (Use of materials like films, posters, and displays; preparation of news releases and radio scripts; preparation of reports; conduct of surveys; planning of workshops; working conferences and staff meetings; and similar tasks.)
(*e*) Field training. (A period of approximately three months, during which the student is attached to a local health department for actual participation in public health work.)

FUNCTIONS IN HEALTH EDUCATION.

The American Public Health Association, which has given great impetus to the movement, has done much to clarify the duties of the health educator. In 1943 the association's Committee on Professional Education prepared a report entitled " The Educational Qualifications of Health Educators." The section of this which refers to the functions in health education is quoted below:—

" The following functions are believed to be essential for carrying out complete community-wide programmes in health education. Such programmes include health education in the schools and health education with the general public. It is recognized that there is an increasingly close relationship between these two phases of health education. Health educators in various positions will be expected to undertake some or all of the following functions or activities which involve the formulation of plans and methods, the application of specific

techniques and skills, the supervision of the work of others, and the maintenance of group relations. A job analysis of existing positions reveals wide variations in their scope.

"The functions of health educators in community-wide programmes of health education are:—

"In accordance with the administrative policy of the health department or other employing agency:—

"(1) To be responsible for assistance in planning and organizing a programme of health education of suitable scope and activities to meet adequately the needs of the community, state, or area to be served. This includes at the outset a study or survey of the needs, the determination of health problems which may be solved, at least in part, by the educational process, and an appraisal of resources.

"(2) To assist the community in organizing itself to find and solve its health problems.

"(3) To assist in establishing and maintaining close co-operative working relationships between all agencies (official and non-official) which may contribute to health education.

"(4) To aid in the planning, development, and conduct of training programmes for employed personnel, in accordance with the policy of the agency involved, for (*a*) health agency personnel, (*b*) school personnel, and (*c*) personnel of other agencies.

"Nearly all public health personnel have important educational opportunities. To increase the effective use of these opportunities is an important function of health education leadership.

"(5) To give aid in accordance with the policy of the institution concerned, in planning the health education aspects of preservice training programmes for professional personnel, including (*a*) public health personnel, (*b*) school personnel, and (*c*) others.

"(6) To provide consultation and guidance to various individuals and groups (such as Parent-Teacher Associations, service clubs, and others) in developing and improving their health education activities.

"(7) To assist in promoting, organizing, and guiding study programmes in the field of health for adult and group-work agencies such as divisions of adult education, Young Men's Christian Associations, and similar groups.

"(8) To contribute to the improvement of the quality of the health education of the school child in accordance with the standards and policies of the school system:—

"(*a*) Through aid in planning school health programmes and curricula of health instruction.

"(*b*) Through conferences with teachers, supervisors, and school administrators.

"(*c*) Through such other activities as the school may desire.

"(9) To organize and operate an informational service to provide answers to inquiries and to supply source materials and source references in answer to requests.

"(10) To be responsible for the preparation, selection, assembly, and distribution of health education materials, using the services of special technicians and health experts as necessary. Such materials include:—

"(*a*) Reports and other printed materials.

"(*b*) Visual aids, such as motion pictures, photographs, graphic materials, exhibits, and posters.

"(*c*) News releases.

"(11) To organize and assist in conducting a speakers' bureau, conferences, meetings, and radio programmes.

"(12) To see that there is established a programme of continuing appraisal of health education methods and materials in order to evaluate the effectiveness of health education procedures."

It should be noted that the American Public Health Association, in preparing this statement of functions, was probably thinking of the health educator attached to the staff of the local health department or health unit. As will be shown later, health educators have not yet been added to local staffs in British Columbia. The functions must, therefore, be adapted for application on a Provincial level by the limited staff of the Division working in the central office in Victoria.

DEVELOPMENT OF THE FIELD IN BRITISH COLUMBIA.

So long as there have been public health workers in British Columbia, there has been a process of public health education. Before 1946, however, there was no one person whose prime responsibility lay in this field. A "health library" had gradually been built up and, for a time, was supervised by a trained librarian. A pamphlet service had been established, but the variety of material was limited.

In 1945 Miss Kathleen McNevin, a graduate in home economics and a high school teacher of that subject, was granted a fellowship by the W. K. Kellogg Foundation to study public health education. Miss McNevin undertook a full year's study in the University of North Carolina's Graduate School of Public Health. After she received the degree of Master of Science in Public Health, she returned to British Columbia in January, 1946, to take up duties as Consultant in Health Education. For more than a year and a half following this time Miss McNiven was the only professionally trained health educator in the Province. The demands upon her time and energy were very great. Working always with a very limited staff and in crowded office accommodations, she was able to establish the Division of Public Health Education on a sound basis and to inaugurate a service which included the central office staff, the public health workers in the field, and, through the latter, schools and voluntary agencies throughout the Province. Among the many tasks she performed should be mentioned the reorganization of the library, the establishment of a health film service, the publication of the monthly Health Bulletin, and the evaluation, ordering, and distribution of health education pamphlets. Although

these by no means represent the full scope of her activities, they serve to show the great variety of tasks performed.

In August, 1946, the Provincial Health Officer, through the W. K. Kellogg Foundation, made available a second fellowship for advanced studies in public health education. This fellowship was granted to A. H. Cameron, a former teacher of science and mathematics in the high schools of British Columbia. Mr. Cameron, like Miss McNiven, chose the University of North Carolina for his postgraduate training and received his master's degree from that institution in August, 1947. When Mr. Cameron returned to the Department on completion of his postgraduate training, he was appointed Director of the Division of Public Health Education.

Two other changes in staff took place during the year. In April, 1947, the Division was fortunate in securing the services of Miss Marion Dundas, a University of British Columbia graduate with much experience in newspaper writing. Since her appointment Miss Dundas has taken a major part in the publication of the Department of Health's widely read monthly Health Bulletin and has given efficient supervision to the Department's news releases.

For the five months from May to September the Division received the temporary services of Miss Joan List, a former teacher who has special qualifications in health and physical education and who is now completing studies for her bachelor's degree at the University of British Columbia. When Miss List has graduated, it is hoped that she will undertake postgraduate training in public health education with a view to joining the staff of the Division on a permanent basis.

ACTIVITIES OF THE DIVISION OF PUBLIC HEALTH EDUCATION DURING 1947.

It is difficult to set down in writing a statement which will give a clear picture of the volume of work undertaken by the Division of Public Health Education. A written statement can provide only by implication an indication of the time and thought required in partaking in the numerous conferences and discussions which are necessary to co-ordinate the educational activities of the public health personnel both in the central office and in the field. It cannot include all the smaller tasks in which members of the Division have been involved.

The remainder of this section will, however, be devoted to the major activities of the Division of Public Health Education during 1947 grouped under suitable headings.

Pre-service Training.

There were three major parts to this phase of the health education programme. During the year five new Medical Health Officers were appointed to the Provincial Department of Health. Before assuming control of their respective health units, each underwent a period of orientation with the Department. It was the task of the Division of Public Health Education to organize and supervise this training. The assembling of study material, the arrangements of interviews, and the preparation of discussion outlines for use during the interviews were part of the work involved. Constructive criticism

was welcomed from each person undergoing orientation, and each successive programme was altered with a view to constant improvement. As a result, it is now felt that a sound programme of orientation has been established.

The senior public health nurse in Kamloops was invited by the officials of the Royal Inland Hospital to present a course of ten lectures on community health and social needs to the student-nurses in training there. At her request the Division of Public Health Education prepared an outline and assembled specific reference materials for use in the lectures. It is felt that the approach to this problem illustrates well one policy of the Division. Consultative service and guidance in educational methods were given, and the material was prepared only after discussions had been held with the Director of the Division of Public Health Nursing and other senior officials in the central office. Again, constructive criticism was invited and received from the user of the outline in Kamloops. This proved valuable when the material was adopted for use by the Director of the East Kootenay Health Unit in a similar lecture series presented to student-nurses in Cranbrook.

Members of the Division of Public Health Education presented three lectures to nursing classes. Two of these were given to the nurses in training at St. Joseph's Hospital in Victoria. The third was given to the senior class in public health nursing at the University of British Columbia. Each was part of a series presented by members of the staff of the Provincial Department of Health to acquaint the nurses with the public health services in British Columbia.

In-service Training.

In this phase of its work the Division is responsible for assisting professional personnel to keep abreast of the latest developments in public health. During 1947 both public health workers and members of the teaching profession received service of this type. Although many activities described later in this report aided in this important matter, four will be mentioned here as being of special interest.

At the request of the Deputy Minister of Health, the Division presented to the senior officials of the central office staff suggestions for the conduct of staff meetings. When these had been discussed and altered for final adoption, the Division assumed its rightful responsibility of organizing and supervising a continuing programme of staff meetings.

The senior public health nurse in Saanich and South Vancouver Island Health Unit requested an outline on the subject of mental health for use by members of her staff in two discussion-group meetings which she planned to conduct on the topic. As in the case of the lecture outline mentioned in the previous section, the Division of Public Health Education consulted with senior officials in the central office in preparing the material. It was the Division's special responsibility to assemble the technical facts, to provide reference material, and to offer suggestions concerning the method of presentation at the meeting.

The Division assisted in the in-service training of the staff of the Victoria City health department. At the request of the Medical Health Officer there, a lecture on the functions in public health education and the work of the Division was presented at a staff meeting of that department.

At the invitation of the Junior Red Cross Society, a member of the Division spoke to teachers who were attending the Summer Teachers' Workshop conducted by the society. Entitled "Community Health Resources," these talks stressed the importance of local public health services and dealt also with the splendid assistance available from voluntary agencies.

School Health.

The school is recognized as being one of the most important media for disseminating public health information. The inculcation of correct living habits and ideals in the school population is a responsibility of all individuals and agencies. It was for this reason that the Division of Public Health Education welcomed the invitation of the Department of Education's School Health Curriculum Revision Committee to assist in the preparation of new curricula for elementary, junior, and senior high schools. Although this project had not been completed by the end of 1947, members of the Division of Public Health Education attended two joint committee meetings in Vancouver. As a result of arrangements made at these meetings, personnel of the Division have spent much time reviewing and constructively criticizing the first draft of the new curricula. The suggestions offered have, of course, been limited to the technical aspects of the materials involved. In addition, the Division has prepared an outline of Provincial public health services and suggestions concerning school health councils. The revision committee proposes to include these in the new curriculum.

A second activity which should affect schools throughout the Province was concerned with first-aid equipment and procedure. At the request of the Department of Education, the Division prepared recommendations for first-aid equipment to be provided to small, medium, and large schools. In addition, it prepared an outline of policies and procedures to be followed in the case of accident or sickness in schools. In this important matter the Division received the assistance of H. G. Henderson-Watts of the public health field staff. Mr. Henderson-Watts' experience and advanced qualifications in first aid made his advice invaluable.

Materials.

The Division of Public Health Education maintains and supervises the Department of Health's library, film service, and supply of health pamphlets and posters. This is far from routine work in that a sound knowledge of public health and educational methods is necessary in order to advise potential users of the materials of their suitability for any particular purpose. This service is made available to all public health workers and, through them, to teachers and other interested groups throughout the Province.

Two monthly publications are released by the Provincial Department of Health. The Division of Public Health Education has the major responsibility in writing and editing the widely read Health Bulletin. This publication has a circulation of almost 2,500. It is distributed to all public health field personnel, private physicians, high schools, and newspapers throughout the Province. The monthly "News and Views" is prepared by the Division of Public Health Nursing for distribution to the field staff. The Division of Public

Health Education has given assistance in the editing of this publication which is so valuable a means of in-service training.

Early in the year the Division of Public Health Education published a new film catalogue. This catalogue lists and describes not only those films available from the Division itself, but also those available from the University of British Columbia, the Department of Education, and the British Columbia Tuberculosis Society.

At the request of the Senior Sanitarian the Division adapted a publication of the United States Public Health Service for distribution to workers in restaurants and other food-handling establishments throughout the Province.

Editing of materials prepared by other staff members is also a responsibility of the Division. A major task of this nature was concerned with the publishing of the Provincial Department of Health's annual report.

Work with Voluntary Agencies.

Voluntary agencies are in such a favourable position to aid in the advancement of public health that every effort is made to maintain co-ordinated working relationships with them. During the year valuable contacts were made, especially with the British Columbia Parent-Teacher Association. The Consultant in Health Education was invited to address the annual convention of the association. The Director of the Division met in conference with the association's Committee of Health Conveners. It is hoped that the coming year will see the further development of such co-operative relationships with this and other voluntary agencies. Mention should also be made of some assistance given to lecturers and discussion leaders appearing before the Y.M.C.A. So-Ed classes. This was of less importance than the work with the Parent-Teacher Association only because it was limited to the Victoria area rather than being Province-wide in scope.

Informational Service.

The ultimate objective of this service is, of course, to provide public health information to the people at large throughout the Province. The Division of Public Health Education makes little, if any, attempt to do this directly. Instead, it provides information and advice only through the public health field staff. Throughout the year the Division has received many requests for information in the form of letters from private individuals. It has been an established policy to refer these persons to their local public health workers. In this way an increasing number of people have been made aware of the services available to them in their own districts. In providing this service, the Division has been rightfully required to maintain a supply of resources material and to perform some research-work for the public health workers themselves. This is obviously related to the in-service training programme previously mentioned.

Press Releases and Radio Programmes.

An important duty of the Division of Public Health Education is to maintain liaison between the Department of Health as a whole and the newspapers. The work of preparing news releases assumed large proportions during the 1947 poliomyelitis epidemic, and in order to keep the public fully and accurately

informed concerning the situation, the Division's specialist in newspaper reporting gave much of her time to this phase of the work when the epidemic was at its height.

In the field of radio-broadcasting the Division has never felt that it was in a position to produce a programme of its own. Such a project would require the full-time services of at least one member of the staff to prepare, rehearse, and finally produce the programme over the air. The Director of one health unit has, however, presented a series of programmes from the station in his district, and the Division has provided him with certain resource material and advice to aid him in the heavy task of programme production. Toward the end of the year definite plans were made with the Canadian Broadcasting Corporation in Vancouver to incorporate a " question and answer " series on prenatal, infant, and child care as part of an already established programme presented by a women's commentator. There is every indication that this programme will serve well as another channel for disseminating public health information.

OBJECTIVES AND PLANS.

The single over-all objective of the Division is to search out and make the most efficient use of means of promoting positive health among the people of British Columbia. Any activity which furthers the attainment of this objective is a legitimate task of the Division.

The foregoing section indicates that a sound foundation in public health education has been laid. It is worthy of note that the activities described follow closely the functions in health education advanced by the American Public Health Association. But it is not sufficient to evaluate a programme merely by comparing the activities undertaken with those in a list prepared by acknowledged leaders in the field.

At the close of the year it was evident that there were opportunities both for establishing new methods of health education and for expanding those which were already in use. In broad terms, plans for 1948 include, in first place, increased consultative service to personnel of the Provincial Department of Health. The provision, especially to the field staff, of carefully chosen materials, together with advice in their use, constitutes a continuing phase of the work to which the greatest attention should be given.

It is hoped that the excellent relations established with the Department of Education may be continued and developed to include projects in addition to those previously mentioned.

More than one voluntary agency has shown a desire to co-operate with the Provincial Department of Health in activities related to public health. The Division plans to give every aid possible to these organizations.

When the most efficient methods for using the radio have been found through experiment, it is hoped that personnel of local health units may be given sound advice which will encourage them to use the stations in their areas without being overburdened with programme production.

CONCLUSION.

The Division of Public Health Education has taken part in many projects of many different types. In almost all of these the work has been conducted

jointly with other persons or groups. Included have been members of the public health field staff, other departments of Government, voluntary agencies, and other officials of the Provincial Department of Health. The Division expresses its sincere thanks to these for the splendid co-operation they have given.

REPORT OF THE PROVINCIAL INFIRMARY.

MRS. MARY LAW, SUPERINTENDENT.

INTRODUCTION.

There are three branches of the Provincial Infirmary: (1) At Marpole, Vancouver, bed capacity 124; (2) at Allco, Haney, 100 beds; and (3) at Mount St. Mary, Victoria, 100 beds under contract. Ambulatory men only are sent to the Allco branch, but a number become bed cases after admission.

During the year there has been an average of approximately 100 persons on the waiting list for admission either to the Marpole or Mount St. Mary branches. The Allco branch has averaged 74 patients per day, varying from a low of 60 to high of 80. The principal demand for care is for bed or potential bed cases which cannot be satisfactorily cared for in the Allco branch.

During the year it has been possible to inaugurate improvements as follows:—

PATIENTS.

1. All patients admitted are first sent to either the Vancouver General Hospital or St. Joseph's Hospital in Victoria, as the case may be, and each patient is given a thorough examination. The organized medical staff of these two hospitals diagnose each case, advise on treatments, set out prognoses, and generally assist the attending physician of each branch. The thanks of the Department is due to these organized medical staffs for this valuable assistance.

2. The capacity of the Marpole branch has been reduced from 144 to 124 patients.

3. Physiotherapy and occupational therapy have been provided or expanded.

4. Chest X-rays have been taken on all patients by the mobile clinic under the Division of Tuberculosis Control.

EMPLOYEES.

A straight shift and a forty-four-hour week were inaugurated on June 1st. Salaries have been adjusted, each employee's work has been analysed and many have been reclassified by the Civil Service Commission.

CONTINUING PROBLEMS.

The most pressing is the need for more infirmary beds. As is well known, with the exception of the Mount St. Mary building, the infirmary branches are all housed in buildings designed for other purposes, and it is difficult to adapt them.

The " Civil Service Act " and the regulations and orders under the Act have resulted in a large turnover of staff, due to difficulties in finding suitable infirmary employees who are under 45 years of age.

Despite these difficulties, there have been practically no complaints from the patients themselves. On the contrary, patients have on more than one occasion expressed their disagreement with and their concern regarding complaints emanating from outside the institution.

INFIRMARY INSTITUTIONS.

MARPOLE.

A physician is in charge of all patients. He visits regularly and is on call at all times.

Vancouver General Hospital out-patient department has assisted by giving examinations of infirmary patients in dermatology, urology, neurology, radiology, etc.

Surgery has been performed in Vancouver General Hospital for five patients.

St. Paul's Hospital has received, and surgery has been performed on, patients.

An eye specialist pays regular visits, and patients are fitted with glasses and given treatment as required.

A dentist visits regularly, and dentures are supplied as needed.

The work of the part-time physiotherapist has proved satisfactory to the institution and to the patients.

The work of the occupational therapist is of increasing value as time passes. The annual display of handicraft this year showed a greater variety and an improved quality in the work of patients. More patients are interesting themselves in this work. Arousing the patients' interest in something creative brings many benefits, including a more cheerful outlook on life on the part of the patient.

This branch enjoys a very active women's auxiliary who are untiring in their interest in the welfare of the patients. A bus has been engaged to take patients for drives each week during the summer and on suitable days in winter. An electric iron, an electric kettle, and a fan have been purchased for use in the occupational therapy room. Books have been added to the library; all patients' requests for books have been met. A new projector has been donated. A pipe band was engaged to entertain at the annual garden party held at the home of Mrs. Clarence Wallace. Special treats and entertainment have been provided on different occasions, and especially at Christmas.

MOUNT ST. MARY.

Specialist services are available in this branch as at the Marpole branch. The occupational therapist from the Marpole branch spends three days a month at Mount St. Mary branch, and this work has increased and improved.

A group of volunteer women have continued visiting the patients throughout the year, and they cater to the patients' special needs in diversions and treats.

The Sisters of St. Ann have provided a station-wagon, and the infirmary patients have been taken for drives.

ALLCO.

In addition to regular medical services, a dental service is given weekly and an eye service is available.

An occupational therapist has been appointed, and his work has helped the patients' morale. A greater variety and a better quality of work has been done. The occupational therapist from the Marpole branch visits once a week.

An infra-red lamp and other treatment and diagnostic aids, including a chiropody set, have been supplied.

There is a fund consisting of voluntary gifts with which special treats, Christmas entertainment, and birthday cards are provided.

CONCLUSION.

The present facilities of the infirmaries are used to provide custodial sympathetic care for persons with incapacitating disabilities. Every care is taken to see that all applicants are thoroughly examined by the best specialist medical skill available. Where there is hope for the saving of lives, or rehabilitation or partial rehabilitation, our larger general hospitals are used, while the infirmary itself does everything to alleviate suffering and to make the lives of the inmates brighter than they otherwise would be.

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