Annual report of the Department of Public Health of the Province of Saskatchewan.

PUBLIC HEALTH

Annual Report

Report of the Department of Public Health
for the fiscal year April 1, 1959
to March 31, 1960

PROVINCE OF SASKATCHEWAN

Province of Saskatchewan

ANNUAL REPORT
of the
DEPARTMENT OF PUBLIC HEALTH

1959-60

Report of the Department of Public Health for the fiscal year April 1, 1959 to March 31, 1960

REGINA, SASKATCHEWAN:
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1961.
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The annual reports of the Saskatchewan Hospital Services Plan, the Division of Vital Statistics, the Division of Hospital Administration and Standards, the Saskatchewan Cancer Commission, the Saskatchewan Anti-Tuberculosis League and the organized public health regions are printed separately and may be obtained on request.

DEPARTMENT OF PUBLIC HEALTH.
REGINA, *October 1, 1960.*

TO THE HONOURABLE F. L. BASTEDO,
Lieutenant Governor of Saskatchewan.

MAY IT PLEASE YOUR HONOUR:

I beg to present herewith, for your consideration, the annual report of the Department of Public Health for the fiscal year ending March 31, 1960.

Respectfully submitted,

J. WALTER ERB,
Minister of Public Health.

DEPARTMENT OF PUBLIC HEALTH,
REGINA, *August 1, 1960.*

TO THE HONOURABLE J. WALTER ERB,
Minister of Public Health.

SIR:

I have the honour to present herewith the annual report of the Department of Public Health for the fiscal year ending March 31, 1960.

Respectfully submitted,

F. B. ROTH, M.D.,
Deputy Minister of Public Health.

DEPARTMENT OF PUBLIC HEALTH

at March 31, 1960

Hon. J. Walter Erb, Minister of Public Health

F. B. Roth, M.D., Deputy Minister of Public Health

M. S. Acker, M.D., D.P.H.
Director, Regional Health Services Branch

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Director, Division of Child Health

D. N. Campbell,
Supervisor, Air Ambulance Service

A. E. Chegwin, D.D.S., D.D.P.H.
Director, Division of Dental Health

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Administrative Director, Division of Physical Restoration

E. D. Donaldson
Administrative Director, Medical Services Division

M. P. Edwards, Reg. N., B.N.
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R. G. Ellis, L.L.B.
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C. P. Feader
Director, Administrative Services Branch

B. H. Haaland
Executive Director, Saskatchewan Hospital Services Plan
Director, Co-ordination and Planning Branch

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Acting Director, Division of Hospital Administration and Standards

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Doreen E. Kerr, B.Sc. (H.E.)
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F. S. Lawson, M.D.
Director, Psychiatric Services

V. L. Matthews, M.D., D.P.H.
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R. C. Merifield, M.D.
Medical Director, Medical Services Division

J. D. Ramsay, M.B., Ch.B., D.P.H.
Director, Research and Statistics Branch

W. C. N. Reed
Director, Division of Vital Statistics

H. E. Robertson, Ph.D.
Director, Provincial Laboratories

J. G. Schaeffer, B.Sc., M.A.Sc.
Director, Division of Sanitation

Christian Smith
Director, Division of Health Education

George Townshend
Assistant to the Deputy Minister

N. Williams, M.B., B.S., D.P.H., D.I.H.
Director, Occupational Health Branch

Note: At March 31, the position of Director of Co-ordination and Planning was vacant.

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NOTATION

The following notations have been used throughout this report

Item not applicable (three dots)	. . .
Quantity zero, in frequency, rate or per cent tables (one dash)	—
Rate or percentage is more than zero but less than 0.05	0.0
Data not available (three dashes)	— — —
Less than one cent	0.00

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INTRODUCTION

A series of major advances in type, quality and quantity of services rendered by the Department of Public Health have necessitated and have been the result of improved and expanded knowledge and physical facilities. Such advances have been realized as the result of a determined effort to achieve the basic aims of this type of organization, the anticipation of, and the employment of the proper and most effective means of control of disease. To facilitate the work of the department, a new plant, constructed at a cost of some two and three quarter million dollars, was placed at its disposal during the current year. This building can be regarded as an indication of the earnest concern of the people of Saskatchewan where such an important factor as public health is involved.

A noticeable change in the nature of the approach to the problem of accidental and violent deaths was effectuated when a shift in emphasis from the absolute number of deaths, as the area of major concern, was replaced by a concern for the number of life-years lost. The most shocking fact that was revealed by this shift of concern from one area of interest to another, was that the number of life-years lost as the result of accidental deaths was larger than the number of life-years lost as the result of such leading causes of deaths as cancer, heart disease or vascular lesions affecting the central nervous system (strokes).

With the advancement of technology in the varied industries sited in the province, it is a well recognized fact that there has been an increase in the number, and a resulting more varied nature of the hazards to which people are exposed. Many of these hazards are recognized but have not produced a statistically measurable effect as yet. The people of the province have realized that some of these dangers cannot be eliminated in total via the process of legislation. Positive thinking is required of the population if the maximum effort is to be exerted throughout the province in an attempt to reduce these hazards to a minimum. This type of attitude is necessary to ensure full participation in, and co-operation with the government sponsored schemes as worked out by its many agencies.

Fluoridation of the water supply is such a government sponsored scheme, usually a local government with assistance from the provincial government. A considerable effort has been exerted throughout the province to provide fluoridation facilities with the result being that some 14 cities and towns, representing 20.2 per cent of the population of the province, have or are preparing for water fluoridation programs.

When comparing Saskatchewan's accomplishments in the field of water fluoridation, it becomes evident that we as a province, have done exceptionally well. Ranking second only to Manitoba in terms of the percentage of the people receiving fluoridated water, the province can console itself by realizing that the major reason for Manitoba's lead is that metropolitan Winnipeg, which accounts for nearly 50 per cent of the population of that province, has a water fluoridation program. It should be pointed out that a major advance is still realizable in the province, for the city of Regina, the largest urban area in the province, has not as yet accepted fluoridation as a dental care measure. If a Regina

city program were implemented, there would result an 11.3 per cent increase in coverage of the population, with Saskatchewan remaining second to Manitoba in terms of total population covered.

Reference has already been made to the need for a positive thinking population where health programs are concerned. The creation of this state of mind can now be regarded as the area most likely to foster any significant improvements in the level of public health. This is assuming that no major technological discoveries are realized in furthering the prevention and cure of certain diseases.

Several programs that were carried on during the year very strongly support the previous statements. The poliomyelitis vaccination campaign is particularly significant in illustrating the need for creating an enlightened public. Many people in the province have failed to benefit from the availability of Salk vaccine and have adopted what could be regarded as a fatalistic attitude toward the disease. The concentration of the occurrence of this disease in the non-immunized sector of the population should provide enough evidence to dispel this attitude and to encourage immunization. It is relative to such matters that an enlightened public is greatly desirable.

The other of the two programs referred to above is that of the prenatal classes sponsored and conducted by the department of public health field staff. The regional health programs have adopted the class method for providing expectant mothers with information regarding care of self and the preparation for childbirth. In some cases the fathers-to-be are given some instructions, and tours of hospital case-wards may be arranged for both parents. This serves to dispel a fear of childbirth and to make the parents-to-be more manageable at time of delivery.

A special program was introduced in Regina where, Regina city and the Regina Rural Health Region co-operated in presenting these classes to those couples who were referred to the clinics by the family doctors.

In addition to the class method of creating an enlightened public, the department has at its disposal such advertising media as radio, television, billboards and the press. The problem encountered in this area is that of making such programs sufficiently attractive to obtain and hold the attention of the consumer for a long enough period of time so as to be beneficial to him.

The regional health program has advanced one step further in the current year with the establishment of the Humboldt-Wadena Health Region No. 9, as of February 1, 1960. There now remains only one region of the province, that surrounding Saskatoon city, which is not as yet organized and benefitting from the regional health programs.

The frequency of occurrence of infectious hepatitis, a communicable disease which has, in many provinces, become notifiable, has produced an awareness of the nature of the disease. This disease is often encountered in areas where sanitation facilities are inadequate, hence it is not extremely surprising that Saskatchewan, an agricultural community which is hampered by difficulty of establishing adequate sanitation facilities, has experienced infectious hepatitis epidemics. The most effective way of reducing the frequency of occurrence of the disease, assuming that no other method of control is developed than that already known, is that of encouraging the establishment of conditions which will not be favorable to the occurrence of the disease. Such could be considered the aim of the

present administration in its supporting a program which would enable the agricultural sector of the population to develop adequate sanitation facilities, e.g. water supply and sewerage systems for rural residents.

Tuberculosis has been relegated to a position of less concern in so far as the general public is concerned. A very effective campaign to wipe out tuberculosis has resulted in an ever diminishing occurrence of cases of tuberculosis. The success has been so extensive that a new type of problem has been created for the Anti-Tuberculosis League and the Department of Public Health. The problem is presently under review and consists of determining what should be done with the empty beds in the sanatoria. The issue at hand is that of determining whether or not some of the physical facilities at the disposal of the Anti-Tuberculosis League should be shut down. Any decisions, because of their permanency, require a great deal of study, and some move should be made at some time in the future.

This success of the anti-tuberculosis campaign does in no way suggest that the tuberculosis problem is entirely solved. It is a continuing thing and it necessitates a constant vigil against a sudden resurgence of the disease. The success of the League simply indicates the effectiveness of the detective, preventive and curative measures being employed.

An estimated population of 902,000 as of June 1, brought Saskatchewan's population over the high mark for the 1940's. Assuming that the present upward trend continues at a relatively constant rate, it is safe to expect that Saskatchewan should have a population in excess of the highest population recorded for the area by the mid 1960's. It must be remembered, however, that the nature of the population is considerably changed. The average age in 1959 is 30.2 years as compared with 27.5 years in 1936, a rise of 2.7 years. This is attributable in part to the fact that from 1936 to 1959 the number of people 65 years of age and over increased by 213.3 per cent—from 38,200 to 81,500—while the total population decreased by 3.2 per cent from 931,500 to 902,000.

This relative increase in the aged together with a lengthening life span, has pointed up the need for an increased interest on the part of society generally in the needs of this older segment of our population.

In collaboration with other governmental and non-governmental agencies the Department of Public Health has been laying plans for a comprehensive study of the complex problem of ageing and the associated long-term illnesses. Out of this study will come a better understanding of the many-faceted problems and more adequate plans can be laid to provide needed facilities and services.

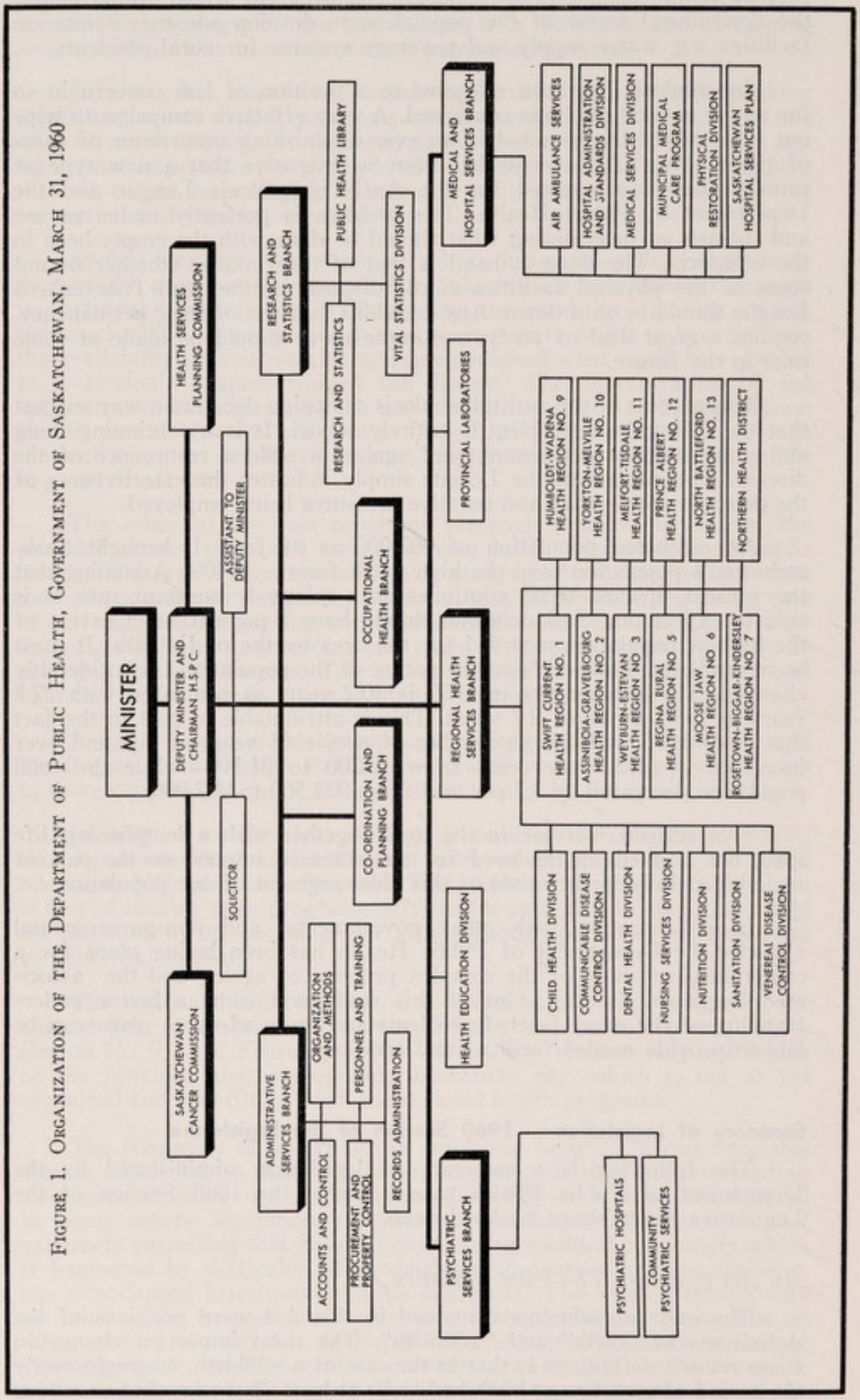
Summary of Legislation — 1960 Session of the Legislature

The following is a summary of legislation administered by the Department of Public Health passed during the 1960 Session of the Legislative Assembly of Saskatchewan.

An Act to amend The Vital Statistics Act

The only amendments contained in this Act were revisions of the definitions of "birth" and "stillbirth". The most important change in these revised definitions is that in the case of a stillbirth, where formerly the period of gestation at birth had to be at least 28 weeks, that occurring

FIGURE 1. ORGANIZATION OF THE DEPARTMENT OF PUBLIC HEALTH, GOVERNMENT OF SASKATCHEWAN, MARCH 31, 1960



after at least 20 weeks now has to be registered. This amendment will permit more information to be obtained concerning the cause and fact of foetal deaths.

These amendments were also enacted for the sake of uniformity and tend to facilitate the comparison of vital statistics records in each country or area of jurisdiction. The principles contained in these amendments had been adopted by the World Health Organization and recommended for acceptance by each member country, then adopted by the Vital Statistics Council of Canada and recommended to each province for enactment. This Act comes into force January 1, 1961.

The following enactments are not administered by the Department of Public Health, but are of interest to the department:

An Act to amend The Tuberculosis Sanatoria and Hospitals Act

The Act had authorized the Government of Saskatchewan to pay a grant of $2 per patient day to the Saskatchewan Anti-Tuberculosis League to assist in financing the operating cost of the three tuberculosis sanatoria operated by the League. The total of the patient days was computed by taking into account all patients actually admitted to each of the sanatoria.

An amendment increased this grant to $4 per patient day, with the total of patient days to be computed by taking into account all patients admitted to each sanatoria other than those whose care and treatment in the sanatorium is paid for by the Government of Canada.

The Act had previously provided that a person could not be admitted to a sanatorium for care and treatment of tuberculosis unless he had resided within the province for at least six months prior to application for admission. An amendment repealed this provision but authorized charges to be made to patients for care and treatment provided within a sanatorium when they had resided within the province for less than six months prior to admission. This Act came into force April 1, 1960.

The Dental Technicians Act, 1960

This Act provides for the incorporation of an association of dental technicians known as the "Dental Technicians Association of Saskatchewan".

No person may carry on the business of a dental technician or hold himself out to the public as being a registered dental technician or a dental technician unless he is registered as a dental technician with the Dental Technicians Association of Saskatchewan. Examinations required to be passed by applicants for registration are under the control of the University of Saskatchewan.

An Act to amend The Dental Profession Act, 1959

The definition of "dentistry" or "dental surgery" was amended by adding to the meaning of this expression the manufacture and fitting of dentures and other prosthetic appliances.

Subsection (1) of section 50 had provided, in part, that any person not having a licence to practice dentistry or dental surgery under the Act and who manufactured, fitted or supplied, a denture, bridge, appliance or thing, for a patient, without a certificate of oral health from a medical physician or dentist respecting the patient, was guilty of an

offence and liable on summary conviction to the penalties specified therein. This subsection was revised so that any person practicing dentistry (including manufacturing, fitting, and supplying of dentures, bridges, appliances or things) while not in possession of a licence to practice dentistry or dental surgery, would be guilty of an offence and liable to the penalties specified therein. The provision regarding the certificate of oral health was deleted since no one other than a licensed dentist would be authorized to work in this field of dentistry.

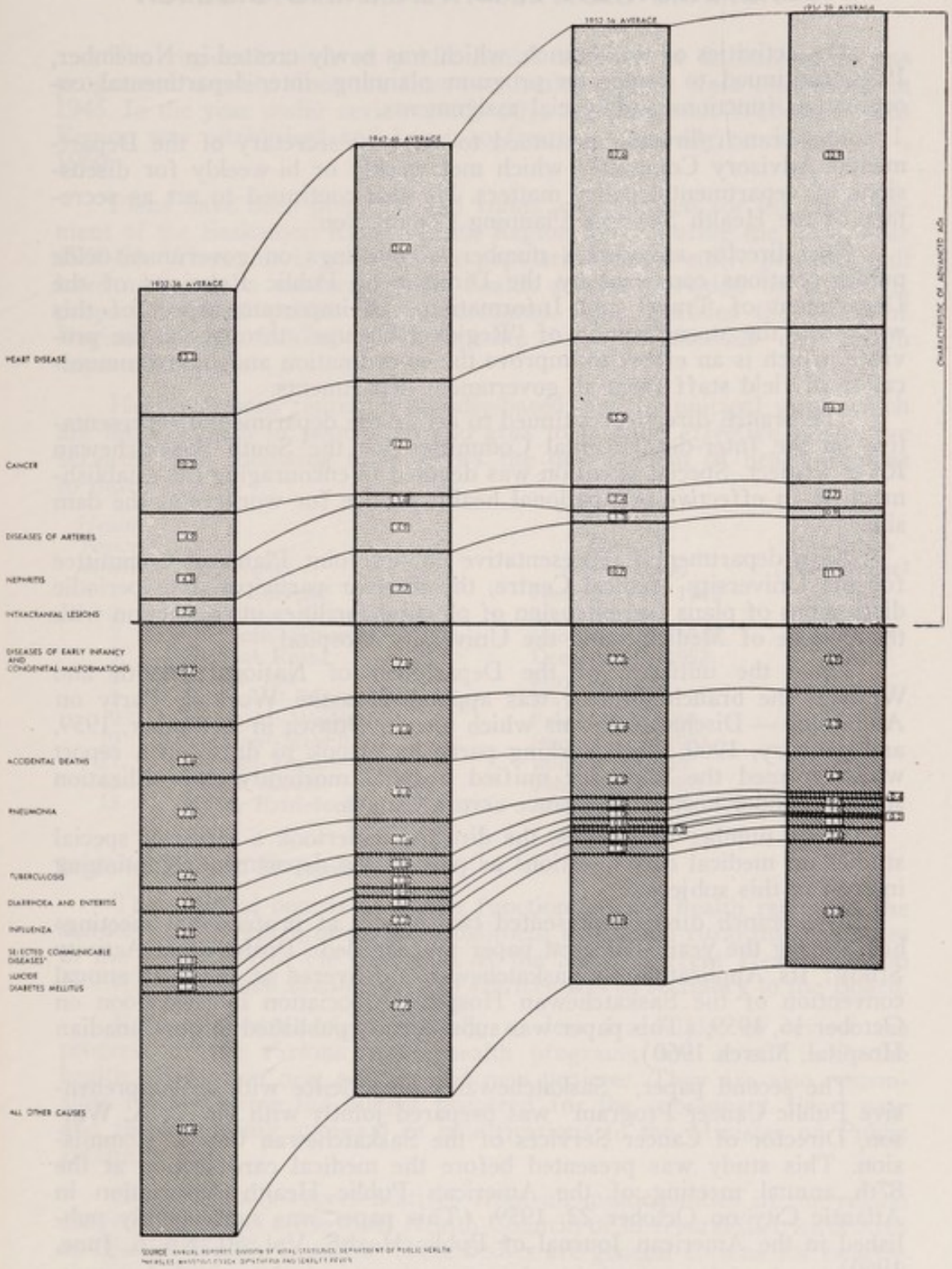
A new section requires the attending dentist to furnish the dental technician with a written prescription concerning any work he wishes him to do and, where necessary, a design, impression or cast.

Another new section states that any work done by a dental technician pursuant to a prescription from a dentist does not constitute an offence under section 50.

Another new section states that the making of minor repairs to any prosthetic denture by any person registered under The Dental Technicians Act, 1960, shall not be deemed to be a contravention of section 50. The Council of the Dental Surgeons of Saskatchewan is authorized to define "minor repairs" for the purpose of this provision.

This Act is to come into force upon a date to be fixed by proclamation of the Lieutenant Governor in Council.

FIGURE 2. PERCENTAGE DISTRIBUTION OF PRINCIPAL CAUSES OF DEATH, SASKATCHEWAN, 1932 TO 1936, 1942 TO 1946, 1952 TO 1956 AND 1957 TO 1959, AVERAGES COMPARED



SOURCE: ANNUAL REPORT, DIVISION OF VITAL STATISTICS, DEPARTMENT OF PUBLIC HEALTH

CO-ORDINATION AND PLANNING BRANCH

The activities of this branch, which was newly created in November, 1958, continued to centre on program planning, inter-departmental co-ordination functions and special assignments.

The branch director continued to serve as secretary of the Departmental Advisory Committee which met weekly or bi-weekly for discussions of departmental policy matters. He also continued to act as secretary of the Health Services Planning Commission.

The director attended a number of meetings on government-wide public relations convened by the Director of Public Relations of the Department of Travel and Information. An important aspect of this work was the strengthening of "Regional Groups" throughout the province, which is an effort to improve the co-ordination and intercommunication of field staff from all government departments.

The branch director continued to act as the departmental representative on the Inter-departmental Committee for the South Saskatchewan River Project. Special attention was devoted to encouraging the establishment of an effective occupational health service for workers at the dam site.

As a departmental representative on the Joint Planning Committee for the University Medical Centre, the director participated in periodic discussions of plans for extension of physical facilities in connection with the College of Medicine and the University Hospital.

Upon the initiative of the Department of National Health and Welfare, the branch director was appointed to the Working Party on Admission — Discharge Forms which met in Ottawa in December, 1959, and January, 1960. This working party undertook to draw up a report which formed the basis for unified hospital morbidity and utilization statistics under hospital insurance across Canada.

For a number of months, the director undertook a series of special studies on medical care questions as part of the department's continuing interest in this subject.

The branch director presented two papers at professional meetings held during the year. The first paper was entitled "Professional Activity Study: Its Application to Saskatchewan", delivered at the 41st annual convention of the Saskatchewan Hospital Association in Saskatoon on October 16, 1959. (This paper was subsequently published in the Canadian Hospital, March 1960).

The second paper, "Saskatchewan's Experience with a Comprehensive Public Cancer Program" was prepared jointly with Dr. T. A. Watson, Director of Cancer Services of the Saskatchewan Cancer Commission. This study was presented before the medical care section at the 87th annual meeting of the American Public Health Association in Atlantic City on October 22, 1959. (This paper was subsequently published in the American Journal of Public Health, Vol. 50, No. 6, June, 1960).

The director of this branch, Dr. M. S. Acker, was appointed Director of Regional Health Services Branch in February, 1960. He was subsequently replaced by Dr. J. D. Hosking as director of the Co-ordination and Planning Branch.

REGIONAL HEALTH SERVICES BRANCH

The regionalization of public health services in Saskatchewan has progressed steadily since the first two health regions were established in 1945. In the year under review (1959-60), the Humboldt-Wadena Health Region was established and began to function officially on February 1, 1960.

Plans have been prepared and funds appropriated for the establishment of the Saskatoon Rural Health Region No. 8 during the fiscal year 1960-61. When this is achieved the population of the entire province will have access to a modern, public health service provided by full-time, properly trained public health personnel. This includes the cities of Regina and Saskatoon which operate fully autonomous city health departments.

Health regions represent broadly-based, multi-municipal units which are large enough in population and area to provide effective preventive services. The following table shows the development of health regions to date:

Health region number	*Name*	*Date of establishment*	*Population (1956 census)*
1	Swift Current[1]	December 11, 1945	54,716
2	Assiniboia[1]-Gravelbourg	May 26, 1947	27,850
3	Weyburn[1]-Estevan	December 11, 1945	56,194
5	Regina[1] Rural	December 1, 1952	77,578
6	Moose Jaw[1]	May 16, 1946	53,311
7	Rosetown[1]-Biggar-Kindersley	May 1, 1957	52,966
9	Humbold[1]-Wadena	February 1, 1960	47,527
10	Yorkton[1]-Melville	December 1, 1957	83,587
11	Melfort-Tisdale[1]	January 1, 1959	53,530
12	Prince Albert[1]	February 1, 1951	67,083
13	North Battleford[1]	August 9, 1947	76,603

Regional Boards of Health

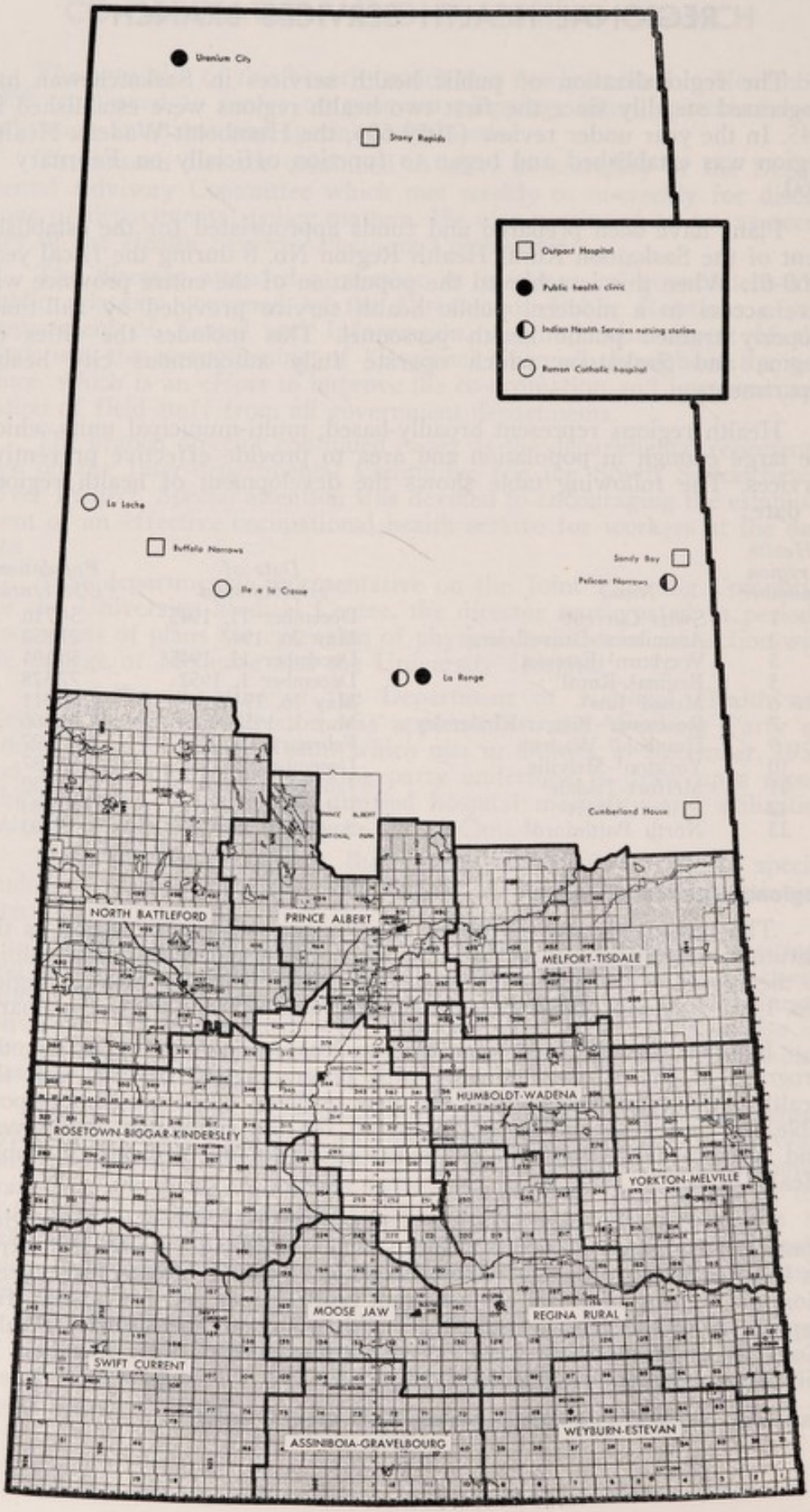
The regional boards of health function in each health region as the statutory body representing the constituent urban and rural municipalities in the region. With the exception of the Swift Current Health Region No. 1, the Regional Medical Health Officer acts as secretary to the Board.

Regional boards meet monthly, or less frequently, to review the progress of the various public health programs and consult with the health officers on new policies and new projects. They are also responsible for reviewing the budget prepared for the subsequent fiscal year and recommending approval or modifications to the Minister of Public Health.

Once annually representatives from all municipalities in the region convene jointly as a Regional Health Council, or in several district centres as District Health Councils. These bodies are general forums for expression and sharing of views on important health issues and for hearing full reports from the regional medical health officers. The District Health Councils are responsible for electing one or more of their members to fill vacant positions on regional boards.

[1] Represents the city or town where the Regional Health Centre is located.

FIGURE 3. ORGANIZED HEALTH REGIONS AND PUBLIC HEALTH SERVICES IN NORTHERN AREAS, SASKATCHEWAN, AT MARCH 31, 1960



Public Health Personnel

The success of an expanding health program rests largely upon the presence of a capable and well-trained public health team. Under the director and over-all leadership of the Regional Medical Health Officer, each region is working towards an accepted range of staff members including public health nurses, sanitary officers, a nutritionist, teacher psychologist, health educator, dental hygienist, dental hygienist assistant, public health fieldman and the necessary clerical staff.

This public health team is brought together to provide, with an efficient sharing of tasks, a wide scope of community public health and personal preventive services. They are all able to draw freely upon the consultant technical services made available by expert staff in the central divisions of the department.

The recruitment of professional staff has improved steadily in recent years. More physicians with postgraduate training in public health are becoming available for the directorship of health regions. Moreover, public health nurses with advanced postgraduate education (at the Bachelor's or Master's level) and with many years experience are coming forward to assume supervisory positions in the regions.

Table 1 shows the classification of public health staff members employed in the health regions at March 31, 1960. Part of the unevenness is due to a lag in creating establishment for certain professional categories; in other cases, gaps exist due to unfilled vacancies.

Table 1(a) shows the comparison between the vacancies and established positions for all regions combined. Of a total staff of 279 (including 13 on leave), 35 positions (12.5 per cent) remained unfilled at March 31, 1960.

Public Health Nurses: Community Need vs. Staff Complement

The largest measure of public health activity — especially personal preventive services — is fulfilled by public health nurses. They represent the "basic core" of the public health team.

Two importnat trends are being observed in regard to public health nursing activities:

First, the total volume of services in traditional areas of activity— maternal and child health service, immunization, school health and the like — continues to increase. This reflects in large part the increasing acceptance by, and demand for basic nursing services by the people.

Second, the variety and scope of services is expanding. The public health service continues to identify health problems that require community action, and the increased tempo of scientific advance places new measures in the hands of health workers who translate them into practical programs.

A comparative analysis of public health activities over the most recent three-year period is shown in Table 2. Part of the increase in each succeeding year is due to the formation of new health regions although a significant proportion represents increased demand and public acceptance. Thus for 1959-60 as Table 2 demonstrates, the number of home calls for all reasons represents an increase of 30 per cent over the preceding year; classroom visits — an increase of 50 per cent; and attendance at prenatal classes, an increase of 95 per cent over 1958-59.

As this province looks ahead to expanded health service in the field of medical care, public health nurses will inevitably be called upon to meet needs for home care and those services which link with the hospital, clinic and physician's office.

It is apparent, under current conditions, that the ratio of one public health nurse to 5,000 population — established in 1945 — is entirely unrealistic. In the near future a radical revision of this ratio will be essential if the "basic core" of personal preventive service in the communities is to be consolidated and extended.

Major Developments During the Year

In February, based upon supporting resolutions from many municipalities, the Minister established the Humboldt-Wadena Health Region No. 9. This newest region includes a population of 47,527 (according to the 1956 census) and a total area in excess of 7,000 square miles.

Exclusive of the cities of Regina and Saskatoon, and the Northern Health District (with almost 18,000 population) the 11 established health regions encompass a total population of 650,945.

Prenatal Services

The greatly increased demand for this service in 1959-60 represents an important gain in public and professional understanding. A total of 599 classes were held with a total attendance of 3,679 mothers — an almost two-fold increase over the preceding year.

This service represents the only truly effective method of promoting a heightened understanding of the principles of maternal health amongst expectant mothers. It suitably complements the basic medical prenatal care provided by general practitioners and obstetricians. All mothers enrolled in prenatal classes are obliged to obtain medical prenatal care before they are enrolled in organized classes.

The co-operation of the physicians of the province as well as hospital personnel with this service has been generally very good. In some prenatal classes the local physician and the matron of the community hospital have participated in class teaching.

After some years' experience, it will be of considerable value to measure through epidemiological studies the impact of these classes upon maternal morbidity and perinatal mortality.

Child Health Conferences

The child health conference continues to represent the important setting where basic preventive care is available for infants and preschool children. This essential service continued to grow during the year under review; in all organized health regions a total of 10,884 conferences or clinics were held with the total attendance reaching 123,460. In terms of nursing resources alone, this service required 5,442 days of nursing time.

Immunization Services

In Saskatchewan, mass immunization is carried out in all health regions as well as in the major cities of Regina and Saskatoon. The

widely accepted measures of protection against smallpox, diphtheria, whooping cough (pertussis), tetanus, and poliomyelitis are being maintained and extended.

During 1959, a major effort was made to extend poliomyelitis vaccination both among children and adults. This was undertaken in view of the relatively high incidence of paralytic poliomyelitis across Canada in that year.

As a result of this immunization program the following province-wide vaccination status was achieved as measured at December, 1959:

	Number vaccinated with	
Age group	*2 doses only*	*3 doses or more*
0-16	8,606	298,404
17-40	14,367	172,228
	Per cent vaccinated with	
	2 doses only	*3 doses or more*
0-16	2.6	90.1
17-40	5.3	63.3

Notwithstanding a Canadian case incidence rate of 10.7 per 100,000 in 1959 (the highest since the epidemic year of 1953), Saskatchewan ended the year with 46 cases of paralytic poliomyelitis or a rate of 5.1 per 100,000. The vaccination program undoubtedly prevented the onset of a great many more cases.

Control of Streptococcal Disease and Rheumatic Fever Prophylaxis

During the winter of 1959-60 many Saskatchewan communities experienced an upsurge of streptococcal disease in its many manifestations. The data for the calendar year 1959 showed a total of 1,780 reported cases of this disease, a major proportion being diagnosed as scarlet fever. Many of the outbreaks occurred among school children, with mild cases continuing to attend school, resulting in classroom spread.

Oral penicillin (4 to 6 million units of penicillin G ammonium taken over 10 days) for all school children in outbreak situations who gave positive haemolytic streptococci throat culture, succeeded in rapidly overcoming these outbreaks.

During 1959, a total of 370,445 tablets of oral penicillin (200,000 international units each) were provided by the department on free issue for the control of streptococcal disease.

The program for the prevention of heart damage amongst cases of rheumatic fever continued to extend during 1959. Penicillin G ammonium was distributed by public health nurses to all cases which had been reviewed by regional rheumatic fever prophylaxis committees and recommended for the prophylactic regime. At March 31, 1960, a total of 479 rheumatic fever patients in eight health regions and the city of Saskatoon were being maintained on a continued course of oral penecillin.

Waterworks and Sewerage

Progress in developing and improving waterworks and sewerage systems for smaller towns and villages was maintained.

The failure of several municipalities to find adequate ground water after diligent search, assisted by the Saskatchewan Research Council, has

caused the Council to conclude that a program of test drilling will be necessary. This is discussed elsewhere in this report.

General Sanitation

With the formation of the Humboldt-Wadena Health Region, the Division of Sanitation has jurisdiction of the environmental sanitation of only the Saskatoon rural area. There has been an increase in the division's activities in relation to sanitary engineering, with 17 preliminary studies, in connection with waterworks and sewerage systems, having been made for municipalities during the year.

Preventive Dental Services

The program for the improvement of dental health depends on education, prevention and treatment care.

Five of the 11 health regions have dental hygienists to conduct education and prevention programs in child health clinics and schools. Two of these regions also provide dental care services for children.

There has been good progress in the fluoridation of community water supplies and 156,700 people now have this cheap and valuable dental caries preventative.

The great problem remains of the shortage of dental hygienists to educate the public and of dentists to provide treatment care.

Nutrition Services

The shortage of regional nutritionists has again handicapped the nutrition division in promulgating to the public the role of good nutrition in the well-being of the individual of any age. In order to keep the regional programs alive, the director of the division has visited those regions who have no nutritionist in order to advise nurses of the services offered by the division.

Consultant services to government departments and agencies other than the Public Health Department have increased. New activities included a radio talk series over 11 radio stations, three television programs and lectures on "Weight Reduction and Diets" to various groups of women.

Fuller details of activities are included elsewhere in this report.

Northern Health District

The district covers approximately the northern half of the province and although nearly 119,000 square miles in area, almost one-quarter is under water. The estimated population for 1959 was 19,258 with slightly over 5,000 Treaty Indians, approximately the same number Metis and the balance being White. In spite of the extremely low population density, the fairly recent introduction of centralized health, education, trading and occupational facilities and opportunities, has resulted in considerable urbanization.

Prince Albert serves as the headquarters for this division and is a logical choice since it is a base for two air services, the headquarters of the Radio Division operated by the Department of Natural Resources, and

the few roads leading into the area begin there. From Prince Albert, the medical health officer, nursing supervisor and senior sanitary officer make periodic visits over the entire area. A physician is employed by the department and is stationed at Ile a la Crosse, from where he makes frequent visits to neighboring settlements. The remaining nursing and ancillary staff are stationed at six widely separated centres, so that few areas are left entirely without some service.

In addition to the usual preventive, sanitation and health educational services provided in a health region, this division provides directly many basic treatment services for residents of the Northern Saskatchewan Administration District. Minor illnesses, accidents and uncomplicated maternity cases are cared for at the four outpost hospitals and at St. Martin's Hospital at La Loche. Slightly more complicated conditions are treated at St. Joseph's Hospital at Ile a la Crosse, at the Municipal Hospital in Uranium City and at the La Ronge Hospital, but the serious cases from the entire area are transported to outside medical centres with the arrangements in the majority of cases being made through the Prince Albert office. Further information concerning services for medically indigent non-Treaty patients will be found in the Medical Services Division section of this report.

Outpost hospitals are operated in the following settlements:

1. *Buffalo Narrows* — was opened in 1947 and as a result of increased activity, a nurse's aide was added to the staff in 1957. Due to increasing population, all facilities are inadequate and plans are underway to enlarge the building.

2. *Cumberland House* — is the first outpost hospital and was opened in 1941. The renovation program for this log building has continued.

3. *Sandy Bay* — is the newest outpost hospital and was opened in 1950. Services for this area continue at a moderate level.

4. *Stony Rapids* — was opened in 1948 and serves principally Treaty Indians. Although increasing each year, services are at a low level when compared with the other outpost hospitals.

In addition, there are Public Health Clinics in two centres:

1. *Uranium City* — excellent accommodation is rented in the Municipal Hospital although shared with Indian Health Services, this agency no longer has a full-time nurse stationed there. The nurses from both agencies work together closely in provinding services not only in the Municipal Corporation of Uranium City and District but to neighboring settlements such as Camsell Portage and Fond du Lac.

2. *La Ronge* — is a busy centre and the public health nurse stationed there covers the central and northeastern part of the Northern Health District. On many of her trips, she travels with the Indian Health Services nurse. The establishing of a private practitioner in La Ronge in the fall of 1958 and the construciton and opening of a hospital during the current fiscal year, have met long awaited needs.

Hospital facilities and their locations in the Northern Health District as at March 31, 1960 were as follows:

Settlement	*Estimated population in area*	*Name of hospital*	*Ownership*	*Bed capacity*	*Physician supply*	*Nurse supply*
Buffalo Narrows	850	Outpost[1]	Department	3	—	1
Cumberland House	750	Outpost	Department	2	—	1
Ile a la Crosse	1,500	St. Joseph's[2]	Roman Catholic	35	1	8
La Loche	900	St. Martin's	Roman Catholic	9	—	2
La Ronge	1,600	Nursing Station[3]	Indian Health Services	4	—	2
		La Ronge Hospital[4]	Department	25	1	6
Pelican Narrows	500	Nursing Station	Indian Health Services	4	—	2
Sandy Bay	550	Outpost	Department	3	—	1
Stony Rapids	350	Outpost	Department	3	—	1
Uranium City	3,000	Municipal	Municipal Corporation	26	2	7
		Gunnar	Gunnar Mines Ltd.	7	1	3

[1] Outposts are small hospitals owned by the Department of Public Health, with nurse-midwives in charge.

[2] New 35-bed brick hospital officially opened on August 20, 1958.

[3] Nursing station closed on February 22, 1960.

[4] This new hospital constructed jointly by the federal and provincial governments is operated locally by the Lac la Ronge Hospital Association and the first patients were admitted on February 22, 1960.

TABLE 1. PUBLIC HEALTH STAFF EMPLOYED IN HEALTH REGIONS AND NORTHERN HEALTH DISTRICT BY TYPE OF STAFF, SASKATCHEWAN, MARCH 31, 1960

Staff	Provincial total	Health region											
		Swift Current No. 1	Assiniboia Gravelbourg No. 2	Weyburn-Estevan No. 3	Regina Rural No. 5	Moose Jaw No. 6	Rosetown-Biggar-Kindersley No. 7	Humboldt-Wadena No. 9	Yorkton-Melville No. 10	Melfort-Tisdale No. 11	Prince Albert No. 12	North Battleford No. 13	Northern Health District
Total staff	261	23	8	27	34	21	18	9	26	18	27	29	21
Regional medical health officer	10	1	....	1	1	1	1	1	....	1	1	1	1
Assistant regional medical health officer	2	....	....	....	1	....	....	....	....	....	....	1	....
Medical officer	1	....	....	....	....	....	....	....	....	....	....	....	1
Senior sanitary officer	12	1	1	1	1	1	1	1	1	1	1	1	1
Sanitary officer	40	3	1	4	5	4	3	3	5	3	4	5	....
Regional nursing supervisor	12	1	1	1	1	1	1	1	1	1	1	1	1
Public health nurse II	8	1	....	1	1	1	1	....	1	....	1	1	....
Public health nurse I	103	9	3	10	14	7	8	2	13	8	12	14	3
Supervisor, outpost hospital	4	....	....	....	....	....	....	....	....	....	....	....	4
Nurse attendant	1	....	....	....	....	....	....	....	....	....	....	....	1
Health educator	3	....	....	1	....	....	....	....	1	....	....	1	....
Nutritionist	4	....	....	1	1	....	....	....	....	....	1	1	....
Teacher psychologist	7	1	....	1	1	1	1	....	1	....	1	....	....
Dental hygienist	6	1	....	1	2	1	....	....	....	....	1	....	....
Dental assistant	5	1	....	1	2	1	....	....	....	....	....	....	....
Health region fieldman	5	1	....	1	1	....	....	....	....	1	1	....	....
Clerical staff	30	3	2	3	3	3	2	1	3	3	3	3	1
Domestic staff	8	....	....	....	....	....	....	....	....	....	....	....	8

TABLE 1(a). PUBLIC HEALTH STAFF ESTABLISHMENT AND VACANCIES IN HEALTH REGIONS AND NORTHERN HEALTH DISTRICT, SASKATCHEWAN, MARCH 31, 1960

Staff	Provincial total	
	Establishment	Vacancies
Total staff	295	34
Regional medical health officer	12	2
Assistant regional medical health officer	3	1
Medical officer	2	1
Senior sanitary officer	12	....
Sanitary officer	41	1
Regional nursing supervisor	12	....
Public health nurse II	10	2
Public health nurse I	117	14
Supervisor, outpost hospital	4	....
Nurse attendant	1	....
Health educator	5	2
Nutritionist	6	2
Teacher psychologist	8	1
Dental hygienist	6	....
Dental assistant	6	1
Health region fieldman	6	1
Clerical staff	36	6
Domestic staff	8	....

TABLE 2. PUBLIC HEALTH NURSING PROGRAMS BY SELECTED SERVICES FOR SASKATCHEWAN HEALTH REGIONS, FISCAL YEARS 1957-58 TO 1959-60

Services	Fiscal year		
	1957-58	1958-59	1959-60
Home visits	21,210	25,344	32,727
Prenatal	1,107	1,325	3,460
Postnatal	4,542	5,406	6,688
Other	15,561	18,613	22,579
Attendance at child health conferences	105,272	119,056	123,460
Number of visits to classrooms	2,901	6,186	9,333
Prenatal classes			
Number of classes	270	337	599
Attendance	2,018	1,885	3,679
Immunization (number of inoculations)	83,454	290,717	209,484
Calls on doctors, school officials, etc.	12,911	14,571	14,694
Group education meetings	*	649	848

* Not available.

TABLE 3. PUBLIC HEALTH NURSING SERVICES IN THE ORGANIZED HEALTH REGIONS AND IN NURSING SERVICES DISTRICTS, SASKATCHEWAN, FISCAL YEAR 1959-60

Type of service	Provincial total	Regional total	Health region										Nursing services district
			Swift Current	Assiniboia Gravelbourg	Weyburn-Estevan	Regina Rural	Moose Jaw	Rosetown-Biggar-Kindersley	Yorkton-Melville	Melfort Tisdale	Prince Albert	North Battleford	
Visits													
Total home visits	33,258	32,727	3,488	1,158	2,492	3,906	2,814	2,956	5,174	1,223	5,166	4,350	531
Child health conferences	11,230	10,884	1,185	373	998	1,972	549	1,216	1,111	749	1,187	1,544	346
Prenatal program													
Mothers seen in home	2,729	2,704	281	204	178	523	107	217	199	25	538	432	25
Prenatal home visits	3,486	3,460	381	205	239	689	130	292	245	30	631	618	26
Prenatal classes	602	599	117	.....	18	142	60	42	18	18	84	100	3
Aggregate attendances	3,710	3,679	777	.....	129	661	588	324	213	180	313	494	31
Postnatal program													
Home visits	6,707	6,688	861	480	419	333	1,351	347	299	74	1,348	1,176	19
Infant child health services													
Infants registered at a Child Health Centre	17,997	17,417	1,837	797	1,826	2,202	1,688	1,960	1,887	908	2,001	2,311	580
Aggregate attendances	55,905	54,019	6,540	2,275	5,308	6,894	4,781	6,468	5,696	2,587	6,263	7,207	1,886
Preschool child services													
Children registered at a Child Health Centre	30,198	29,256	2,892	592	3,554	3,797	2,157	3,728	2,789	1,965	3,759	4,023	942
Aggregate attendances	72,290	69,441	7,982	1,520	6,148	8,669	4,855	8,422	8,490	5,352	9,310	8,693	2,849
School child services													
Classroom visits	9,596	9,333	902	562	411	973	737	572	653	1,294	2,170	1,059	263
Medical school conferences with R.M.H.O.	181	181	1	2	4	103	6	.....	20	36	8	1	.....
Miscellaneous services													
Calls on officials, doctors, etc.	15,380	14,694	1,441	256	873	2,397	961	1,347	2,043	1,347	2,651	1,378	686
Home visits to cases of mental illness	477	451	57	48	20	38	17	69	43	32	49	78	26
Home visits to the physically handicapped	1,419	1,396	127	11	66	76	105	66	376	135	277	157	23
Group education services													
Meetings attended	872	848	60	8	43	166	188	92	65	73	71	82	24

Immunization

Smallpox-primary	23,701	21,208	1,446	2,020	1,151	1,951	2,320	3,088	2,028	4,058	1,573	1,573	2,493
Smallpox-revaccination	25,113	23,240	1,755	3,812	3,643	2,610	491	3,052	1,098	3,396	2,363	1,020	1,873
Diphtheria-pertussis-tetanus-poliomeylitis													
First dose	17,485	15,902	1,754	696	1,747	1,723	1,557	1,500	1,559	989	2,064	2,313	1,583
Second dose	15,486	14,245	1,581	606	1,585	1,722	1,379	1,304	1,401	853	1,707	2,107	1,241
Third dose	13,881	12,767	1,374	510	1,525	1,645	1,237	1,128	1,331	643	1,402	1,972	1,114
Booster dose	39,812	37,805	3,740	793	5,203	7,255	3,588	5,232	3,097	1,232	3,955	3,710	2,007
Diphtheria-pertussis-tetanus													
First dose	5,173	4,208	188	52	95	88	283	551	344	2,037	325	245	965
Second dose	6,056	4,873	216	143	190	104	253	607	763	1,793	462	342	1,183
Third dose	7,543	6,312	334	225	342	225	371	698	1,329	1,457	746	585	1,231
Booster dose	18,610	17,337	1,154	558	910	311	1,604	1,301	1,574	6,813	1,742	1,370	1,273
Poliomyelitis													
First dose	15,916	13,970	1,587	380	1,016	952	1,294	958	1,180	3,889	1,585	1,129	1,946
Second dose	16,727	14,290	1,574	435	1,027	1,154	1,269	1,192	1,455	3,058	1,770	1,356	2,437
Third dose	25,440	20,191	2,679	788	1,440	1,905	2,173	2,003	2,269	1,382	3,269	2,283	5,249
Booster dose	1,140	1,103	104	7	26	12	33	60	30	403	387	41	37
Diphtheria and tetanus	7	7	....	.....	.....	2	....	.....	.....	....	5	....	.....
Tetanus	5	5	....	.....	.....	5	....	.....	.....	....	....	....	.....
Cholera	17	17	....	.....	.....	6	....	.....	.....	....	11	....	.....
Gamma Globulin	1,197	1,197	....	.....	.....	841	....	.....	.....	....	356	....	.....
Typhoid	785	785	....	.....	.....	671	....	.....	.....	....	114	....	.....
Typhus	3	3	....	.....	.....	2	....	.....	.....	....	1	....	.....
Typhoid A and B and tetanus	8	8	....	.....	.....	1	....	.....	.....	....	7	....	.....
Diphtheria-pertussis-tetanus	6	6	....	.....	.....	....	....	.....	.....	....	6	....	.....
Diphtheria-tetanus booster	3	3	....	.....	.....	....	....	.....	.....	....	3	....	.....

Note: Humboldt-Wadena Health Region No. 9 was established February 1, 1960.

TABLE 4. SANITATION SERVICES, SASKATCHEWAN, FISCAL YEARS 1957-58 TO 1959-60

Type of service	Fiscal year		
	1957-58	1958-59	1959-60
All inspections	62,465	69,025	77,634
Water supplies			
Municipal waterworks systems	307	506	577
Municipal water supplies	2,147	2,452	2,707
Private and other supplies	1,876	2,322	2,598
Milk supplies			
Producers	943	633	462
Producer-distributors	561	673	557
Pasteurizing plants	731	673	856
Food stores and slaughter houses			
Slaughter houses	513	481	519
Food stores	3,713	4,863	4,939
Public places			
Eating establishments	8,949	10,047	11,166
Hotels	1,500	1,580	1,762
Licensed premises	2,340	2,557	3,079
Barber shops	724	911	1,312
Waste disposal			
Municipal sewerage systems	243	262	425
Outdoor privies-private	6,249	5,846	6,820
Public rest rooms (municipal responsibility)	829	891	1,187
Other public rest rooms	1,863	2,036	2,498
Municipal garbage collection	1,403	1,510	1,502
Waste disposal grounds	1,713	1,839	1,964
Camps, resorts and swimming pools			
Tourist camps	670	698	576
Summer resorts	128	280	326
Other camps	158	206	259
Swimming pools	204	178	238
Schools and institutions			
Schools	745	1,230	1,425
Hospital and social care	213	222	271
Communicable disease control			
Investigations	305	197	155
Miscellaneous			
Plumbing inspections	5,909	7,171	9,098
Nuisance inspections	2,880	2,930	3,825
General	13,799	15,099	15,696
Surveys	850	732	835
Other activities			
Public meetings	224	199	277
Council meetings	217	280	271
Samples submitted			
Milk-ring tests	792	793	454
Milk-routine	2,824	3,131	3,935
Water	4,103	5,304	5,689
Field tests	22,176	26,304	24,503
Water	1,455	2,252	2,731
Milk sediment	2,218	2,210	2,145
Resazurin	2,310	2,924	3,049
Swab	16,193	18,918	16,578

TABLE 5. EXPENDITURES FOR PUBLIC HEALTH SERVICES BY HEALTH REGIONS, SASKATCHEWAN, 1959-60

Health region	Total expenditures	Expenditure by source			Per capita expenditure
		Provincial	Regional	National health grant	
All health regions	$ 1,328,582.26	$ 877,975.17	$ 284,471.37	$ 166,135.72	$2.20
Swift Current No. 1	140,543.31	94,833.87	25,375.65	20,333.79	2.57
Assiniboia-Gravelbourg No. 2	46,263.01	33,580.72	12,682.29	.....	1.66
Weyburn-Estevan No. 3	139,412.56	98,985.14	25,588.29	14,839.13	2.48
Regina Rural No. 5	200,018.50	98,164.12	37,208.94	64,645.44	2.58
Moose Jaw No. 6	116,079.38	77,300.72	25,315.51	13,463.15	2.18
Rosetown-Biggar-Kindersley No. 7	106,310.43	83,167.43	23,143.00	.....	2.01
Humboldt-Wadena No. 9	23,835.96	23,835.96	*	.....	†
Yorkton-Melville No. 10	157,890.53	111,074.15	41,626.06	5,190.32	1.89
Melfort-Tisdale No. 11	90,615.97	64,769.02	25,846.95	.....	1.69
Prince Albert No. 12	138,882.80	66,001.38	31,879.06	41,002.36	2.06
North Battleford No. 13	168,729.81	126,262.66	35,805.62	6,661.53	2.20

Note: Per capita expenditure based upon population data of 1956 census of Canada.

* No levy made for fiscal year 1959-60 as health region not established until February 1, 1960. Levy for 1959-60 fiscal year will be included with levy for 1960-61 fiscal year.

† Excluded from per capita table as not in operation for full fiscal year 1959-60.

CHILD AND MATERNAL HEALTH SERVICES

In 1948, the Department of Public Health established a special consulting division of child health to give special emphasis to the physical, mental, and social well-being of mothers and children. Figure 4 sets out the number of deaths in Saskatchewan amongst Indians and non-Indians and graphically portrays the inequalities of over-all service as shown in the considerable differences in the numbers of deaths in the various age groups. The inequality of service and the unique nature of the early childhood years is even clearer in Figure 5 showing death rates per 1,000 population in 1958. Death rates are uniquely high in the first year of life in particular but also in the first decade. This is particularly true of Indian children in contrast to non-Indian children. Not until adults reach something like 50 years of age do they again run the risk of mortality rates as high as those in early childhood. The Indian death rate was 74.2 infants (1959) per 1,000 live births, and the non-Indian rate was 23.2. Over 600 infants died as reflected in these rates. However, the over-all infant mortality rate is steadily falling and for 1959 was 25.7. Thirty-five years ago (1924) the infant mortality rate in Saskatchewan was 75.9. The stillbirth rate in 1959 reached a new low of 10.0. In giving birth to over 24,000 live births about a dozen mothers lost their lives. The maternal mortality rate was 0.4 per 1,000 live births. The large majority of these deaths are amongst rural residents.

Besides measures of mortality as a gauge on child and maternal health services, and indeed general public health and other services, one can measure the volume of various kinds of illness. Or one can measure the numbers of marriages as an index of young people starting up families; or the proportion of the population in the childhood years. In the year some 13,000 young people were married, with a rate of 7.1 per 1,000 population. Of the babies born 98.5 per cent were born in hospital and in some of the cities the figure is 100 per cent. Children in the age groups 0 to 14 years make up more than a third of the entire provincial population. The age group 0 to 19 years make up 41.3 per cent of the entire population.

Liaison

Many agencies, both government and voluntary, in the community are concerned with a broad child and maternal health and welfare program. This division employs a paediatrician, an obstetrician, and a nursing consultant to help set standards, to teach and give consultation, to co-ordinate services, and to develop new programs.

College of Physicians and Surgeons

Some one score deaths of women in the childbearing years taking place during pregnancy or within one year of pregnancy were carefully studied by the division. Clinical details were presented anonymously to the College committee and about one half of these deaths were rated as truly obstetrical. The obstetrician worked on the request of the obstetrical section of the College for a model prenatal record for office use and this has been drafted. The intensive perinatal mortality study with 17 co-operating hospitals has resulted in 100 per cent returns in 1959.

Moreover, a special study has been started with the Research and Statistics Branch of the Department for matched stillbirth and infant death events for a full year including maternal details, period of gestation and birth weights.

Regina and District Medical Society

The Regina Medical Society requested the organization of prenatal classes by the local health department. Together with the City Health Department and the Regina Rural Health Region this division devoted much time to the organization of model classes and the supplying of standard equipment. Regardless of place of residence both Regina town and country women may attend classes in either the City Health Centre or Regina Rural Centre and be taught either by city nurses or rural region

FIGURE 4. NUMBER OF DEATHS, SASKATCHEWAN, 1958

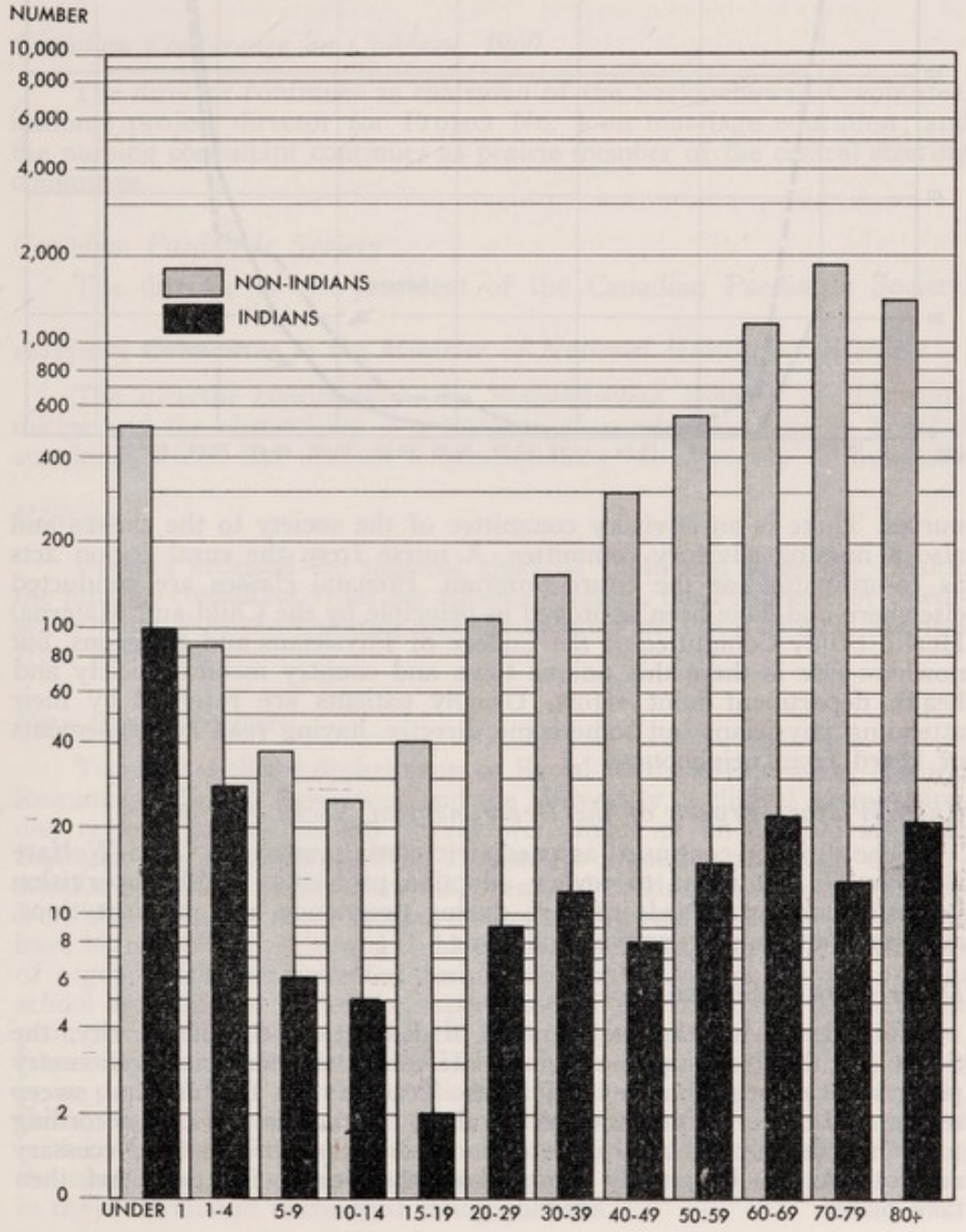
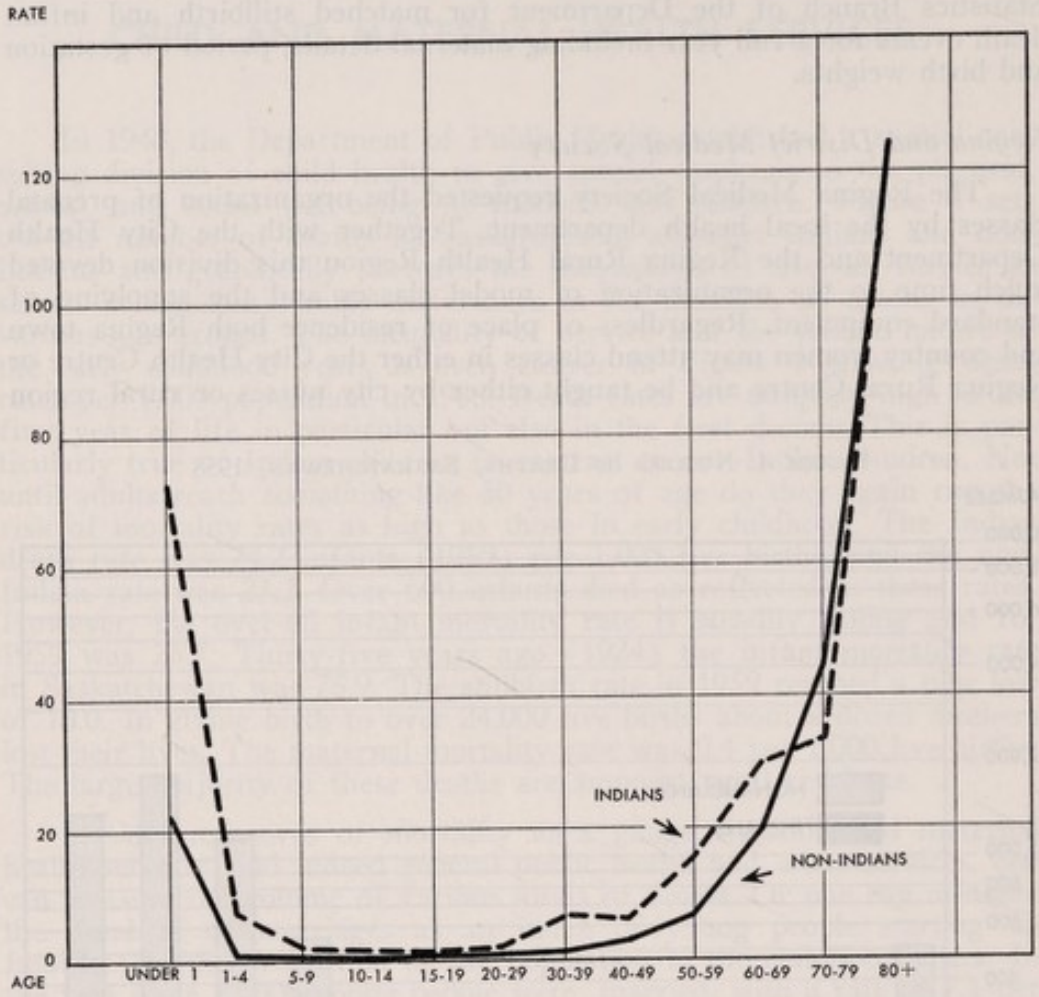


FIGURE 5. DEATH RATES PER 1,000 POPULATION, SASKATCHEWAN, 1958



nurses. There is an advisory committee of the society to the classes and also a nursing advisory committee. A nurse from the rural region acts as co-ordinator for the entire program. Prenatal classes are conducted elsewhere and have been approved in principle by the Child and Maternal Health Study Committee of the College of Physicians and Surgeons, but nowhere else is there this unique town and country medical society and health department joint effort. Usually patients are referred by their attending physicians but some come directly, having read advertisements or heard from neighbours.

Child Welfare Branch of the Department of Social Welfare

The director continued as paediatric consultant to the Child Welfare Branch. He continued to review adoption problems, health supervision in institutions, standards of care during pregnancy and in institutions, and make appropriate recommendations.

Department of Education

Together with the Department of Education, the University, the School for the Deaf, and the regional officers a trial combined audiometry program was begun in several areas. Teachers do the original sweep testing and make the necessary referrals to the medical officers according to standards set out by this department and the University. Necessary referrals to the University Hospital or the School for the Deaf then take place.

University of Saskatchewan College of Medicine

The director continues the teaching of fundamentals of child and maternal health for the School of Nursing and has been appointed a lecturer in the Department of Social and Preventive Medicine of the faculty of medicine.

Saskatchewan Registered Nurses' Association

The nursing consultant has been asked for help on child and maternal health nursing sections in a special review of a basic nursing curriculum for the entire province.

Saskatchewan Council for Crippled Children and Adults

The director continued as a member of the Medical Advisory Committee.

Canadian Conference on Children, 1960

The director continues as chairman of the Saskatchewan Committee, national project director for Project No. 1 on marriage education; and the nursing consultant continues as prairie member of the central steering committee.

Canadian Paediatric Society

The director is vice-president of the Canadian Paediatric Society.

Advisory Committee to the Minister of National Health and Welfare

The director continues as the Saskatchewan member of this committee and the obstetrician is a member of a sub-committee on hospital standards which has drafted a questionnaire for a survey of hospitals.

Visitors

Visitors included the national chief of Child and Maternal Health, the nursing consultant from the Alberta division, the Professor of Paediatrics from Western Ontario, and the director of Local Health Services from Manitoba.

Pine House Project

Together with the departments of Social Welfare, Education, Natural Resources, Mineral Resources, and the University, a clinical examination, diet review, and community survey were made of an isolated northern Saskatchewan community, Pine House. As a control and with the permission of Indian Health Services, preschool children at Pelican Narrows were also examined and a similar dietary survey made. The initial findings have been published. Using a child and maternal health grant the elements of a good basic diet were fed during one meal at school for one year to school age children under the supervision of the classroom teacher. The project has now been completed with follow-up clinical examination, laboratory work, diet inventory and community appraisal. A final report is in press. The Federal Nutrition Division did the serologic analysis. Great improvement has taken place in the interest of the community and in the over-all hygiene and cleanliness of individuals and housing. During the same trial period the control community showed increased infections in the children and unchanged eating patterns.

Regina Marriage Preparation Course

These courses are sponsored by a voluntary committee made up of all medical, legal, social, and church agencies in the community and the local and provincial health department. The courses have been put on a permanent basis taking place in Saskatchewan House, operated by the department of education's adult education division. A professional co-ordinator is in charge, the speakers' panels have been enlarged, and referral from the course to professional people or agencies — be they medical, legal, social, or church — are beginning to take place. Much of this added impetus was because of a special seminar on marriage guidance financed through this division using a national child and maternal health grant.

Co-operative Nursery School in Regina

A Co-operative Nursery School with two well qualified nursery school teachers, and with mothers helping, was started at the Y.W.C.A. The division has been consulted about developing comprehensive health supervision, and demonstration and teaching to undergraduate nurses, teachers, internes, public health nurses and others.

Education

All members of the division carry on a steady program of education and consultation with schools of nursing, health regions, divisions in the department such as Hospital Administration and Standards, Nursing Services, and Nutrition. They also share in public education by speaking to provincial conventions such as Homemakers, Home Economics Association, and in radio and T.V. programs. Professional education included that of nurses and internes, staff and parents at the Regina Physical Restoration Centre, and refresher courses for doctors including a paediatric and obstetric refresher course at the University Hospital, and an intensive seminar for paediatricians on resuscitation of the newborn. A new departure was a seminar for professional people interested in children with mental retardation and their families. This was sponsored by the Saskatchewan Association for Mental Retardation and funds for two prominent United States speakers were provided through this division from the child and maternal health grant. Special contributions by the nursing consultant were regular visits to regions, leadership in special studying of normal growth and development, rewriting sections of the public health nurses' manual, and preparing library material for staff training. Special teaching by the medical consultant in maternal health included staff training in regions, the proper recording of disposal of products of conception which are not legally registerable, and principles of hospital planning.

Special Studies

Alleged Salk Vaccine Failures

Together with the Division of Laboratories 19 patients were studied because of alleged Salk vaccine failure. Eleven of the 19 had true paralytic poliomyelitis. Two of these had been fully immunized with Salk vaccine.

Co-ordination

The director is a member of the Crippled Children's Registry Committee of the Saskatchewan Paediatric Society and also of a committee made up of three paediatricians to establish a registry for the new Co-ordinating Council on Rehabilitation.

Child and Maternal Health Grant

Child and maternal health grant money has been used for refresher courses for doctors, and professional people working with retarded children, for both long and short postgraduate training courses for nurses, for an obstetrician and a nursing consultant in the child and maternal health division, for postgraduate training in child and maternal health for the obstetrician, for the Pine House demonstration project, for the new combined prenatal classes in Regina town and country, and for Salk vaccine, either alone, or combined in a four-fold D.P.T.-poliomyelitis preparation.

TABLE 6. AGE SPECIFIC DEATH RATES PER 1,000 POPULATION, SASKATCHEWAN, 1958

Age group	Population		Deaths		Death rate per 1,000 population	
	Non-Indian	Indian	Non-Indian	Indian	Non-Indian	Indian
Total	865,871	22,129	6,238	245	7.2	11.1
Under 1	22,581	1,454	512	104	22.7	71.5
1-4	86,386	3,460	87	28	1.0	8.1
5-9	95,230	3,305	37	6	0.4	1.8
10-14	82,322	2,662	25	5	0.3	1.9
15-19	65,588	2,137	40	2	0.6	0.9
20-29	107,356	3,193	118	9	1.1	2.8
30-39	114,573	2,089	153	12	1.3	5.7
40-49	102,437	1,496	296	8	2.9	5.3
50-59	76,028	1,056	553	15	7.3	14.2
60-69	61,149	721	1,154	22	18.9	30.5
70-79	40,842	384	1,869	13	45.8	33.9
80+	11,379	172	1,394	21	122.5	122.1

COMMUNICABLE DISEASE CONTROL

The Division of Communicable Disease Control maintains a record of notifiable communicable diseases, acts as an information centre for doctors and health officers in the field, and transmits epidemiological data to the federal authorities.

The division provides the necessary administrative machinery for the free distribution of certain vaccines and sera to health regions and private physicians.

The division also administers the regulations governing the care of the dead.

Administration of Regulations

As in the past this division continued to operate under the Regulations governing Control, Notification, Prevention and Treatment of Communicable Disease. Only important communicable diseases are now reported but health officers are expected to notify the occurrence of unusual disease epidemics of all communicable disease.

Under reported cases it will be noted from the table that streptococcal infections, including scarlet fever, heads the list with a total of 1,780 in 1959 (370 in 1958). Included in this total were 1,306 cases of scarlet fever (240 in 1958). Thus, the resurgence which occurred in 1958 continued into 1959.

A decline in the reported incidence of infectious hepatitis occurred in 1959 during which year 672 cases were reported compared with 943 cases in 1958.

Reported staphylococcal infections in hospitals declined in 1959, there being 271 cases as compared with 358 in 1958.

Tuberculosis

Once again, in 1959, the reported incidence of this disease reflected a decline, there being 242 cases compared with 307 in 1958. However, reported deaths in 1959 were 28, whereas in 1958 only 23 deaths were reported.

Gastro-intestinal Infections

Death toll from this disease increased in 1959, there being 63 deaths reported. In 1958 45 deaths were reported. As there were only 42 cases reported in 1959 (63 deaths), it can be readily seen that the reporting of this infectious disease leaves much to be desired.

Typhoid Fever

Seven cases of this disease were reported in 1959 compared with ten in 1958. No deaths were reported in either year.

Salmonellae, Bacillary Dysentery, Shigellae Infections

Twenty-nine cases of the above diseases were reported in 1959. No deaths were reported.

Influenza

In 1959 there were 396 cases including "Asian like" strain. Reported deaths during 1959 were 84.

Poliomyelitis

There occurred an increase in the incidence of poliomyelitis in 1959, a total of 57 cases being reported. These included 46 paralytic poliomyelitis and 11 unspecified or viral aseptic meningitis cases. Ten deaths were reported during 1959.

In 1958 there was one paralytic poliomyelitis case reported and during this year there were no deaths reported.

Poliomyelitis Vaccine Immunization

This was continued in 1959. Quantities of this vaccine issued are shown in Table 9.

Rarely Occurring Diseases

There were no cases of anthrax or brucellosis reported in 1959 (1958—1 case anthrax, 1 case brucellosis). Two cases of psittacosis were reported in 1959 compared with one case in 1958.

Diphtheria

There were two cases of this disease reported in 1959 compared with three cases in 1958. No deaths were reported in 1959. In 1958 one death from this disease was reported.

Rheumatic Fever Control Program

Code	*Description*	*Number of tablets*	*Number of units*	*Cost*
Total		.....	74,089,100,000	$10,577.98
Oral Pentids	12x200,000 unit tablets	40,812	8,162,400,000	$ 3,227.40
P.G.A.	100x444,250 unit tablets	148,400	65,926,700,000	$ 7,173.70
Parenteral Penicillin	1x2 c.c. disposable syringe	.....	88 (vials)	$ 176.88

TABLE 7. POTENTIAL NUMBER OF PERSONS IMMUNIZED AGAINST CERTAIN SELECTED COMMUNICABLE DISEASES, SASKATCHEWAN, 1955-1959

Disease	Five year totals	1955	1956	1957	1958	1959
Diphtheria*	277,309	49,905	65,288	44,987	54,398	62,731
Pertussis*	253,874	43,690	57,107	43,277	49,823	59,977
Scarlet fever	4,086	2,539	1,547	.....	.....	.....
Smallpox	472,150	77,450	80,510	78,120	114,360	121,710
Tetanus*	283,825	48,261	63,688	47,708	57,548	66,620
Typhoid fever and typhoid paratyphoid fever*	29,620	6,856	6,099	5,958	6,651	4,056
Poliomyelitis vaccine—with DPT	32,580	.....	.....	.....	.....	32,580†

* Aggregate constituent parts of several combined antigens in terms of full-course immunization.
† Estimated number of persons; 99,740 c.c. issued.

TABLE 8. REPORTED CASES* AND DEATHS FROM SELECTED NOTIFIABLE COMMUNICABLE

Diseases	1950		1951		1952		1953	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Anthrax	....	....	....	....	....	....	....	....
Brucellosis	8	....	3	....	3	....	2	....
Diphtheria	15	3	16	2	7	....	5	....
Diphtheria carriers	7	....	1	....	1	....	....	....
Dysentery-amoebic	....	....	2	....	2	....	3	....
Dysentery-bacillary	6	1	60	....	41	....	49	....
Encephalomyelitis	12	2	17	2	13	2	12	2
Food poisoning	....	....	....	....	....	....	....	....
Gastro-enteritis	4	44	22	43	79	39	188	85
Hepatitis-infectious	5	....	18	4	99	5	328	2
Influenza	27	75	3,748	139	134	72	48	63
Meningococcal meningitis	14	4	16	4	25	7	39	8
Meningitis, viral or aseptic —other and unspecified	....	....	....	....	....	....	....	....
Pertussis	146	2	459	14	623	21	387	6
Poliomyelitis	115	8	91	12	1,223	90	1,187	70
Psittacosis	....	....	....	....	....	....	....	....
Salmonella	....	....	....	....	....	....	....	....
Staphylococcal infections	....	....	....	....	....	....	....	....
Streptococcal infections	387	4	1,118	5	1,691	2	1,149	3
Trichinosis	1	....	....	....	....	....	....	....
Tuberculosis	537	153	451	156	463	104	574	87
Typhoid and paratyphoid fevers	21	1	12	2	19	1	10	....
Typhoid carriers	1	....	2	....	3	....	2	....
Anthrax	....	....	....	....	....	....	....	....
Brucellosis	0.9	....	0.3	....	0.3	....	0.2	....
Diphtheria	1.8	0.4	1.9	0.2	0.8	....	0.6	....
Diphtheria carriers	0.8	....	0.1	....	0.1	....	....	....
Dysentery-amoebic	....	....	0.2	....	0.2	....	0.3	....
Dysentery-bacillary	....	0.1	7.2	....	4.9	....	5.7	....
Encephalomyelitis	1.4	0.2	2.0	0.2	1.5	0.2	1.4	0.2
Food poisoning	....	....	....	....	....	....	....	....
Gastro-enteritis	0.5	5.3	2.6	5.2	9.4	4.6	21.8	9.9
Hepatitis-infectious	0.6	....	2.2	0.5	11.7	0.6	38.1	0.2
Influenza	3.2	9.0	450.5	16.7	15.9	8.5	5.6	7.3
Meningococcal meningitis	1.7	0.5	1.9	0.5	3.0	0.8	4.5	0.9
Meningitis, viral or aseptic —other and unspecified	....	....	....	....	....	....	....	....
Pertussis	17.5	0.2	55.2	1.7	74.0	2.5	44.8	0.7
Poliomyelitis	13.8	1.0	10.9	1.4	145.1	10.7	137.8	8.1
Psittacosis	....	....	....	....	....	....	....	....
Salmonella	....	....	....	....	....	....	....	....
Staphylococcal infections	....	....	....	....	....	....	....	....
Streptococcal infections	46.5	0.5	134.4	0.7	200.6	0.2	133.4	0.3
Trichinosis	0.1	....	....	....	....	....	....	....
Tuberculosis	64.5	18.4	54.2	18.7	55.0	12.3	67.7	10.1
Typhoid and paratyphoid fevers	2.5	0.1	1.4	0.2	2.3	....	1.2	....
Typhoid carriers	0.1	....	0.2	....	0.3	....	0.2	....

* Incomplete reporting indicated where deaths from a specific disease exceed cases reported.

DISEASES, WITH ANNUAL RATES PER 100,000 POPULATION, SASKATCHEWAN, 1950-1959

1954		1955		1956		1957		1958		1959	
Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Yearly distribution											
....	....	....	....	....	....	....	....	1	....	....	....
7	....	7	....	1	....	1	....	1	....	....	....
11	....	11	3	15	....	....	....	3	1	2	....
7	....	14	....	1	....	....	....	....	....	....	....
1	1	....	....	....	....	....	....	....	....	....	....
54	1	31	....	48	....	36	....	28	....	14	....
18	2	13	1	6	3	3	1	7	1	4	3
....	....	....	....	....	....	....	....	....	....	37	1
165	77	199	40	133	45	123	33	55	45	42	63
683	3	926	4	1,020	11	929	1	943	6	672	3
15	32	461	69	23	20	985	90	....	....	396	84
17	1	22	6	12	3	4	4	8	3	7	1
....	....	....	....	....	....	....	....	....	....	11	7
163	....	653	3	368	8	107	3	82	3	88	....
196	8	72	5	21	3	31	4	3	....	46	3
....	....	....	....	....	....	....	....	....	....	2	3
....	....	4	....	7	....	7	1	20	....	15	....
....	....	....	....	....	....	477	....	358	2	271	6
660	1	403	....	240	3	160	3	370	....	1,780	1
....	....	....	....	....	....	....	....	11	....	1	....
561	42	449	57	355	46	344	31	307	23	242	28
20	....	26	1	11	....	7	1	10	....	7	....
....	....	1	....	3	....	1	....	2	....	3	....
Annual rate per 100,000 population											
....	....	....	....	....	....	....	....	0.1	....	....	....
0.8	....	0.8	....	0.1	....	0.1	....	0.1	....	....	....
1.3	....	1.3	0.3	1.7	....	....	....	0.3	0.1	0.2	....
0.8	....	1.6	....	0.1	....	....	....	....	....	....	....
0.1	0.1	....	....	....	....	....	....	....	....	....	....
6.2	0.1	3.5	....	5.5	....	4.1	....	3.2	....	1.6	....
2.1	0.2	1.5	0.1	0.7	0.3	0.3	0.1	0.8	0.1	0.4	0.3
....	....	....	....	....	....	....	....	....	....	4.1	0.1
18.9	8.8	22.7	4.6	15.1	5.1	14.0	3.8	6.2	5.1	4.7	7.0
78.3	0.3	105.6	0.5	115.8	1.2	105.7	0.1	106.3	0.7	74.5	0.3
1.7	3.7	52.5	7.9	2.6	2.3	112.1	10.2	....	....	43.9	9.3
1.9	0.1	2.5	0.7	1.4	0.3	0.5	0.5	0.9	0.3	0.8	0.1
....	....	....	....	....	....	....	....	....	....	1.2	0.8
18.7	....	74.4	0.3	41.8	0.9	12.2	0.3	9.2	0.3	9.8	....
22.5	0.9	8.2	0.6	2.4	0.3	3.5	0.5	0.3	....	5.1	0.3
....	....	....	....	....	....	....	....	....	....	0.2	0.3
....	....	0.5	....	0.8	....	0.8	0.1	2.3	....	1.7	....
....	....	....	....	....	....	54.3	....	40.3	0.2	30.0	0.7
75.6	0.1	45.9	....	27.3	0.3	18.2	0.3	41.7	....	197.3	0.1
....	....	....	....	....	....	....	....	1.2	....	0.1	....
64.3	4.8	51.1	6.5	40.3	5.2	39.1	3.5	34.6	2.6	26.8	3.1
2.3	....	3.0	0.1	1.2	....	0.8	0.1	1.1	....	0.8	....
....	....	0.1	....	0.3	....	0.1	....	....	....	0.3	....

TABLE 9. AMOUNT AND COSTS OF VACCINE, SERA AND CERTAIN DRUGS ISSUED IN SASKATCHEWAN, 1955-1959

Product	Year of service									
	1955		1956		1957		1958		1959	
	Amount*	Cost	Amount*	Cost	Amount*	Cost	Amount*	Cost	Amount*	Cost
Total		$51,532.67		$62,537.45		$50,421.09		$66,740.52		$56,953.58
Anti-measles serum	1,578	2,059.20	3,252	4,227.60	2,576	3,348.80	2,176	2,828.80	1,703	2,213.90
Cholera vaccine	62	37.20	101	60.60	93	55.80	103	63.42	71	46.86
Diphtheria antitoxin (units)	7,756,000	1,429.20	8,781,000	1,623.90	4,652,000	853.20	5,723,000	1,031.70	4,781,000	827.50
Diphtheria toxin for schick test	23,850	343.44	21,125	304.20	14,100	203.04	17,800	270.88	18,625	298.00
Diphtheria toxoid	1,717	499.14	4,300	997.50	870	315.42	2,024	523.74	619	259.98
Diphtheria toxoid and tetanus toxoid (comb.)	5,014	2,693.68	4,309	2,422.96	1,139	720.58	2,950	1,567.80	2,275	1,320.48
Diphtheria toxoid and pertussis vaccine (comb.)	2,588	1,552.04	744	628.58	289	254.32	344	287.22	116	90.48
Diphtheria toxoid and pertussis vaccine and tetanus toxoid (comb.)	40,586	25,753.84	55,935	34,998.12	42,742	25,694.80	49,080	29,029.50	27,041	17,066.84
Pertussis vaccine	516	371.52	428	308.16	246	177.12	399	280.40	240	153.60
Rabies vaccine (14x2 c.c. vials)	15	120.00	15	120.00	6	48.00	5	40.00	11	88.00
Scarlet fever toxin	2,539	909.34	1,547	594.82	.....	.....	.....	.....	.....	.....
Scarlet fever toxin for Dick test	4,440	159.84	3,650	131.40	610	21.96	.....	.....	.....	.....
Smallpox vaccine	77,450	4,979.84	80,510	5,152.64	78,120	4,999.68	114,360	7,319.04	121,710	8,958.04
Solution silver nitrate 1% (capsules)	5,496	325.18	10,152	710.64	6,696	468.72	6,192	505.80	4,056	344.76
Staphylococcus antitoxin (units)	.....	.....	.....	.....	100,000	33.30	.....	.....	.....	.....
Staphyloccocus toxoid (2x2 c.c. vial pkgs.)	.....	.....	115	115.00	95	95.00	.....	.....	.....	.....
Tetanus antitoxin (units)	12,474,500	2,679.42	12,756,000	2,740.66	16,177,500	3,301.80	13,975,500	3,098.71	11,488,500	3,049.63
Tetanus toxoid	716	537.00	1,268	951.00	1,444	1,083.00	2,969	1,539.00	2,558	1,687.50
T.A.B.T. vaccine	1,919	562.95	2,176	651.60	2,383	696.15	2,549	779.85	2,166	690.30
T.A.B.T.D. vaccine	.....	.....	.....	.....	.....	.....	.....	.....	116	245.00
Typhoid-paratyphoid vaccine	4,937	1,040.25	3,923	884.25	3,575	815.10	4,102	961.50	1,890	449.55
Typhus vaccine	81	60.75	97	72.75	113	84.75	118	88.50	116	87.00
Penicillin—oral (units)	15,213,575,000	4,305.56	22,823,275,000	4,495.61	27,448,150,000	4,315.52	40,579,450,000	5,748.42	74,089,100,000	10,401.10
Penicillin—parenteral (units)	1,504,000.000	583.84	.....	.....	.....	.....	.....	.....	.....	.....
Penicillin—parenteral	.....	474.98†	.....	.....	.....	.....	.....	.....	.....	.....
Penicillin—parenteral (disposable syringes)	100	169.22	182	301.96	184	367.78	194	389.94	88	176.88
Gamma globulin (2 c.c. vials)	240	835.20	58	43.50	783	587.25	2,106	2,889.90	375	1,012.50
Gamma globulin (5 c.c. vials)	1,432	.....	1,740	.....	2,189	1,880.00	2,249	7,452.25	1,665	7,074.50
Sodium fluoride (number of 2.21 mgs. tablets)	.....	.....	.....	.....	.....	.....	1,240	2.48	124,776	11.55
Sulfadiazine (0.5 gm. tablets)	.....	.....	.....	.....	.....	.....	1,700	41.67	3,300	69.63
Poliomyelitis vaccine—plain (number of c.c.)	102,504	.....	246,552	.....	828,576	.....	352,178	.....	115,020‡	.....
Poliomyelitis vaccine with D.P.T. (number of c.c.)	.....	.....	.....	.....	.....	.....	.....	.....	99,740‡	.....
Asian influenza vaccine	.....	.....	.....	.....	29,520	.....	1,320	.....	3,190‡	.....
Grifulvin tablets (number of tablets)	.....	.....	.....	.....	.....	.....	.....	.....	3,000	330.00

* Number of persons unless otherwise indicated.

† Credit.

‡ Individual costs of these items either unknown to this office or not chargeable to vaccine and sera vote.

TABLE 10. MONTHLY DISTRIBUTION OF REPORTED COMMUNICABLE DISEASE, SASKATCHEWAN, 1959

Disease	Total	Month of notification											
		January	February	March	April	May	June	July	August	September	October	November	December
Brucellosis	....	....	....	....	....	....	....	....	....	....	....	....	....
Chickenpox*	4	....	....	....	1	....	3	....	....	....	....	....	....
Diphtheria	2	....	....	....	1	....	....	....	....	....	1	....	....
Dysentery-bacillary	14	1	....	....	1	1	4	1	1	....	5	....	....
Encephalomyelitis	4	....	....	....	....	....	....	....	....	2	2	....	....
Erysipelas	7	....	....	....	1	....	....	....	....	....	....	1	5
Food poisoning	37	....	37	....	....	....	....	....	....	....	....	....	....
Gastro-enteritis	42	....	....	1	2	4	....	....	....	....	7	9	19
Hepatitis-infectious	672	72	87	121	54	51	20	20	58	26	42	47	74
Influenza	396	....	....	....	157	224	....	7	....	....	8	....	....
Measles (rubeola)*	9	....	....	4	1	....	....	....	4	....	....	....	....
Meningococcal meningitis	7	....	....	1	....	2	1	1	....	....	....	2	....
Meningitis, viral or aseptic—other and unspecified	11	....	....	....	....	....	1	1	3	6	....	....	....
Mumps*	3	....	1	....	1	....	....	....	....	....	1	....	....
Paratyphoid fever	3	....	....	....	....	1	....	1	1	....	....	....	....
Pertussis	88	2	7	16	2	6	3	3	3	10	8	16	12
Poliomyelitis—acute	46	....	....	....	....	....	1	3	9	7	9	6	11
Psittacosis	2	....	2	....	....	....	....	....	....	....	....	....	....
Puerperal septicaemia	3	....	....	....	....	....	....	....	....	....	1	....	2
Ringworm*	2	....	2	....	....	....	....	....	....	....	....	....	....
Rubella (German measles)*	3	....	....	....	....	....	....	....	....	....	....	....	3
Salmonellosis	15	....	....	2	1	....	1	1	....	1	1	6	2
Staphyloccocal infections—arising in hospitals	271	31	26	16	21	33	19	22	25	15	20	23	20
Streptococcal infections:	1,780	102	150	133	69	160	68	28	33	42	162	381	452
(scarlet fever)	1,306	77	132	104	52	126	54	25	20	26	141	272	277
(streptococcic sore throat)	474	25	18	29	17	34	14	3	13	16	21	109	175
Trichinosis	1	....	....	....	....	....	....	....	....	....	1	....	....
Tuberculosis:													
(1) pulmonary	182	9	12	6	2	11	5	21	17	10	25	5	59
(2) other forms	60	3	4	7	2	5	1	4	8	7	9	....	10
Tularaemia	1	....	....	....	....	....	....	....	....	....	1	....	....
Typhoid fever	4	....	....	....	1	1	....	....	1	....	1	....	....
Typhoid carrier	3	....	....	....	1	2	....	....	....	....	....	....	....
Total cases reported	3,672	220	328	307	318	501	127	113	163	126	304	496	669
Less cases not reportable*	21	....	3	4	3	....	3	....	4	....	1	....	3
Net number cases notifiable to Dominion Bureau of Statistics	3,651	220	325	303	315	501	124	113	159	126	303	496	666

* Cases not reportable to Dominion Bureau of Statistics.

DENTAL HEALTH SERVICES

In this, the 10th annual report of a Department of Public Health division which has had only a very short history and little precedent to go by, only the highlights can be noted. There is no "black or white" answer to the question as to whether or not recognizable progress has been made. It is necessary to evaluate progress from two widely divergent viewpoints i.e. that of the trained public health person and that of the public at large.

The improvement of the dental health of the public from the standpoint of dental public health involves (a) education, (b) prevention and, (c) treatment-care, in that order. The public on the other hand poorly understands or accepts dental education or prevention, but quite well understands treatment. In dentistry, treatment-care does not cure disease, it corrects, more or less successfully, the results of disease. In this respect the services of a dentist do not correspond too closely to those rendered by a physician.

Dental care in the absence of pain, from a conservation standpoint is either disregarded entirely, or reluctantly accepted when irreparable damage has often already taken place. Because of this public attitude, dental services have developed in terms of training, location and numbers of dentists, on what has come to be known as a "demand" basis which has no relation to need. Prior to 1945 only one province had recognized the problem by the establishment of a dental division. Now all provinces, and the federal government, include an agency specifically directed to the improvement of dental health as a legitimate function of a health department.

This explains in large part the continuing shortage of dentists in Saskatchewan. There has been a constant decline in the number of dentists since 1939, when the peak was reached. Excepting the war years, and the depression which preceded it, the dentist-population ratio declined, because of economic fluctuations affecting the demand for dental care. The present dentist-population ratio of 1 dentist to approximately 4,700 of the population, although somewhat similar to some of the maritime provinces, can be compared to a ratio of 1 to 3,000 for all Canada or 1 to 2,400 for Ontario or British Columbia. Provinces with larger urban populations are generally better off, as for instance Alberta with 1 dentist to 2,880 (Alberta has a dental school) and Manitoba with 1 to 3,100.

The over-all Canada ratio worsened in 1959 and is expected to continue to do so for some years, largely because of the increase in the birth rate plus high immigration into Canada. There is also the factor of increased longevity of the population, which is of concern due to services, including dentistry, being made available to old age pensioners, by government action.

With the foregoing as background, the future of dental service programs for children, which it cannot be denied is the area of greatest need and in fact of greatest value in terms of the future, is black indeed. Better dental health for the next generation must depend on more adequate availability and distribution of curative services as early as

possible in life. All dental surveys indicate the period of greatest neglect, and consequent premature tooth loss, to be in the ages 3 - 12 years.

Two regional health dental programs for children have been kept in operation by superhuman effort. It has not been possible to expand service programs in other regions which now number eleven. Even the two city programs which were preventive primarily, but did provide some curative services, had to be abandoned in 1959 due to lack of personnel to carry on (Regina and Saskatoon).

The two regional dental programs (Swift Current and Assiniboia) provided dental care services during the fiscal year for 14,084 children, totalling in all 30,200 separate services. It is noteworthy that the rate of extractions of teeth is much below that usually encountered in similar age groups where no specific children's program exists. Such as there is, can be attributed to the movement of people in and out of the regions.

Figures are not available for Regina or Saskatoon cities.

Dentists employed—Swift Current Health Region—3 full-time.
Assiniboia-Gravelbourg Health Region—2 full-time, 1 part-time.

Public assistance dental services under the Social Aid Act continue to provide basic dental health care for a variety of public assistance categories. The serious limiting factors for this group continue to be maldistribution of dentists and competition for the dentists' time. An increase in the fee schedule effective April 1, 1960, may help to eliminate the competitive factor, although dental man-hours available to the public will remain the same, or may become less.

One of the characteristics common to all public or prepaid dental programs, is the failure of those covered to take full advantage, in a preventive sense, of the services available. Attempts continue to be made to motivate the parents of the children in the public assistance program to seek early care. This has to be done largely by mail, which is not too effective. It is discouraging, when services are available at no cost, to see numerous accounts for the extraction of teeth which could have been saved if treatment had been sought a few months before.

If experience elsewhere is any guide, only a regular school dental inspection will overcome the problem over a period of years.

The city of Toronto, which has had a school program for over 40 years is an example—with a ratio of 1 dentist to approximately 800 of the population and an across-the-board per capita income probably little above the national average, there must be some explanation for a demand rate sufficiently high to support such a ratio.

Education of the public to a higher level of dental health appreciation is an important facet in the task of improving the dental health of a population by the treatment approach. Enough dentists must be available to cope with any such increase in demand, and at a cost to the public which is acceptable. At the moment the latter consideration appears to be secondary to the shortage of dentists with which Saskatchewan is presently confronted.

One bright spot in an otherwise sombre picture was that the legislature in 1959 provided assistance in the form of bursaries in an endeavor to attract 4th year students back to the province after graduation. It was hoped that this scheme would be increased annually for a few years in order to reach down into the earlier undergraduate years. This did not

happen, but at least there is something to offer the 1961 graduates who quite frequently are financially embarrassed by the expense of the dental course.

Dental students originating from Saskatchewan declined from a high of 60 in 1952 to 42 in 1959-60.

Turning to prevention a much brighter picture can be presented although maximum results will not be attainable for some years. At no time is prevention as spectacular as treatment and cure. In dentistry, the public has become oriented to payment of fees for restorative services including replacements of lost teeth. Preventive treatment of apparently healthy teeth is not so readily accepted when a fee is involved. Apparently it is preferable to pay for treatment of disease rather than to pay less and prevent it.

The six dental hygienists presently on the staff of Regina Rural, Weyburn-Estevan, Swift Current, Moose Jaw and Prince Albert health regions, primarily conduct programs of prevention and dental health education.

Topical fluoride applications, accepted as being about 40 per cent effective in reducing dental decay, are offered to the children in two age groups i. e. 3 and 7 years. During the fiscal year in all regions 7,250 children received this service together with counselling of parents in dental health. There are indications that parents are requesting this service for children outside of the two age groups covered. As dental hygienists can provide such a service to only a limited number of children in any one year, ways and means must be found to increase the number of hygienists or the public must look to the dental profession to provide this service. Either way it would appear more sensible to prevent dental decay than to attempt to cope with it later by treatment methods when it is known that tooth decay is occurring at a much faster rate than the present supply of dentists can possibly care for it.

In addition to topical fluoride, dental hygienists participate in the promotion of dental health education on a group basis and as time will permit health regions with urban centres employing fluoridation, utilize staff hygienists, at the request of school authorities, to conduct school dental inspections. This has served in at least one instance, to increase the demand for dental treatment care, which in the absence of a public program, has been done by private practitioners. Regular school dental inspections by trained dental personnel are a recognized means of stimulating dental care for children at a time when most good can be obtained from conservative dentistry. Saskatchewan lags behind many other provinces in this respect.

Turning to community methods for prevention of dental decay, encouraging progress is reported. The number of urban centres adopting fluoridation increased by five during the fiscal year, (involving a total population of 51,100). These communities were Kamsack, Kindersley, Prince Albert, Melville and the city of Estevan. Estevan approved the measure during municipal elections, but has not as yet completed installation. Excluding Estevan, 156,700 Saskatchewan residents are now consuming fluoridated water at a level of 1 p.p.m. This is the most beneficial and most easily applicable public health preventive measure available in the fight against dental disease. Although ten years are required to achieve maximum value, no effort is required of the individual nor is a personal service involved. The cost is minimal in terms of future

benefits and does not exceed 15 cents per capita per year, excluding capital costs of equipment installation.

Only three of the larger cities viz. Regina, Yorkton and North Battleford prevent Saskatchewan from achieving practically 100 per cent adoption of fluoridation in all urban centres with communal water systems. In terms of the numbers of such centres in proportion to the total, Saskatchewan is the leading province in Canada.

Information from research sources indicate increasing acceptance of the view that fluoride in specific amounts is an essential item for human well-being. Alternative methods of supplying fluoride, other than by means of the water supply are being employed and more and more referred to in the literature, including that emanating from the World Health Organization.

As a large proportion of Saskatchewan's population does not have access to a communal water supply, a program of supplying fluoride in tablet form, in the proper daily dosage was introduced in August, 1959, limited for a beginning to expectant mothers attending regional prenatal clinics. With the only publicity attending this program being that provided by regional staff at prenatal clinics, it is gratifying to report that by the end of March nearly 1,200 expectant mothers were enrolled in this program voluntarily, and with the approval of their physicians.

Where fluoride is deficient in the food or water intake of the child during the total period of tooth development, supplementing by any method has to be carried out over this entire period i. e. from 6 months before birth to 14 or 15 years of age. Consequently, a daily tablet presents a problem not encountered where a water supply can be used as the vehicle for the fluoride. Nevertheless, the tablet is the answer for the rural family, provided the parents are made fully aware of the importance of this extra chore.

The 1960-61 budget contained an item for provision of tablets on a larger scale, and plans are under way to extend this provision to preschool children not on piped water supplies, thus equalizing the opportunity of rural children to benefit from fluoride as do children in fluoridating urban communities.

Early in the year a five year follow-up dental survey of some 1,200 children in Moose Jaw, which commenced fluoridation in 1953, was completed and summarized. Results indicate an over-all improvement paralleling those obtained elsewhere in the same period of time i. e.—(a) an increase in the number of children entirely carries-free and, (b) a satisfactory reduction in the over-all caries rate as indicated by the D.M.F. index. By the end of ten years, when nearly all permanently residing public school children will have had fluoride during most of the tooth development period, the results are expected to approximate those of the classical Canadian study involving Brantford, Sarnia and Stratford.

It is also interesting to note that some of the local dental societies are initiating dental surveys with the commencement of fluoridation in their respective centres. Every community concerned with health should establish a dental index comparable to other health statistics, and strive as individual communities to improve on the situation.

As dental health is directly related to food, the division works in close co-operation with the provincial nutritionist. A joint project has been undertaken involving home visits in a small number of cases of

Moose Jaw children, revealed by the dental survey to have extraordinary high rates of decay of teeth. Although the final report is not yet completed, it is apparent that many parents are not yet aware of any relationship between dental health and the family diet. Brushing teeth after meals seems to be the exception rather than the rule in spite of constant teaching that modern food, retained around the teeth, is a prime cause of high rates of decay. Parental example and a daily school reminder by teachers, could make a tremendous contribution towards improving dental hygiene practices.

The activities of dental hygienists and public health nurses in promoting dental health cannot be evaluated in concrete terms but the enthusiasm with which the fluoride tablet program was received is evidence of the concern which public health workers have had about the dental conditions of children. The prevention and treatment of so obvious and wide-spread an ailment appeared to be hopeless with the advent of each new generation of children with teeth no better and often worse than those who preceded them.

Sufficient is now known to bring dental disease (dental decay) under control in the foreseeable future. A great deal of this knowledge has to be put into practice by the individual; parents in the case of children. As this is not being done on any wide scale, a major job of education still remains to be done. Some way or other the public must learn that prevention of dental disease rests in its own hands and cannot be delegated to someone else. There are indications of a much greater interest in dental health but little evidence that this interest is directed to self-help, rather than to help from some outside source. Dental health education still has a long way to go and should always have a top priority for the individual and for a health department.

Definite progress has been made, as illustrated by the wide acceptance of fluoridation in this province. Being but a partial preventive and confined to oncoming generations, there remains the residual, plus the problem of the remaining older generations. The provision of adequate dental services for this remaining large group seems still to resist any reasonable solution under existing practice arrangements. A ray of hope may be reported in that the National Dental Association is now committed to a policy of training and admitting to practice auxiliary dental personnel. This will provide in some measure, the extra hands required to extend services to more people. The dental division is exploring the possibility of expediting this process. With understanding, and the necessary financial support, developments along this line may be expected shortly.

This report would be incomplete without some reference to the need for a dental training institution. There is a probability that adjoining provinces with dental schools, will require their full capacity for training auxiliaries along with dentists. If this does happen there will be increased difficulty for students from Saskatchewan, in securing acceptance by outside schools.

It is suggested that this problem will have to be faced in the very near future, and therefore should receive very serious consideration now, in view of the length of time required to develop a dental training course of any kind.

PUBLIC HEALTH NURSING SERVICES

The public health nursing division is part of the regional health services branch. Its function is the development and maintenance of a high standard of public health nursing service, as directed by departmental policy. In following this policy the director and consultants work with the branch director, and in co-operation with other divisions and departments. A consultant service is provided to regional medical health officers and to regional nursing supervisors. Direction is given to nurses in the one remaining area not yet in a health region.

The division keeps in touch with general nursing interests through its activities with the Saskatchewan Registered Nurses' Association, the schools of nursing in hospitals and the university.

Nursing Services in Health Regions

The organization of the Humboldt-Wadena Health Region is very gratifying. This means that another large section of the province will soon be receiving the services that are only possible under a regional program. Although at present there is a very small staff, we expect to have all nursing positions filled within six months.

Examination of the reports of the regions shows considerable program development. An increase has been noted in:

1. The demand for prenatal classes.
2. The number of home visits concerned with provision of fluoride tablets to expectant mothers.
3. The number of home visits to supervise the rheumatic fever prophylaxis program.

There appears to be no limit to the demands for public health nursing services. Unless the number of nurses can be increased, much that could be included in the program will have to be left undone.

Nursing Services in Northern Health District

The nursing services in this area are carried out under the direction of the nursing supervisor who has wide experience of public health in the province and many years of experience in the north. Under her guidance four nurses with special training, serve in outpost hospitals and two skilled public health nurses work in other areas. The circumstances they work under are often very difficult, even hazardous, and we are proud of what has been accomplished. Particulars can be found in the report of the regional medical health officer of the Northern Health District.

Nursing Services in Areas Outside Health Regions

This area has a population of approximately 34,312. There are now five public health nurses working in this area. For the greater part of the year there were only four. The major service given is immunization, with poliomyelitis vaccine being offered in the entire district.

The statistical report of the immunization and other services will be found under the general report for regional health services branch.

Recruitment

We are pleased to report some increase in the number of nurses and also a slight increase in the proportion of appointments to resignations.

We have been able to increase the number of Public Health Nurses II from five to eight, with the prospect of increasing the number by two in the next few months. These nurses act as assistant to the regional nursing supervisors and do a great deal to relieve the supervisor in staff training and in providing experience for university students.

The main problem in providing staff is still most difficult for those positions with headquarters in small towns. It is in these areas that staff changes are most frequent. We have nothing to offer the nurse to compensate her for the loss of the attractions of the larger centres.

Allocation of Staff as of March 31, 1960

Total	152
Nursing Division	
Director	1
Consultants	2
Public health nurses in areas outside regions	5
Public health nurse I—temporary office assistant	1
Northern Health District	
Supervisor of Northern Health District	1
Supervisiors of outposts	4
Public health nurses I	2
Health regions	
Regional nursing supervisors—public health nurses III	11
Assistant to regional nursing supervisors—public health nurses II	8
Public health nurses I	101
University leave	10
Other leave	6

Qualifications of Staff

During the past year the number of nurses with qualifications has increased. Of the total staff we find that there are 78 with professional qualifications other than the registered nurse diploma. There is an increase from four to nine in the number of nurses with the degree of Bachelor of Nursing. The number of nurses with certificate in public health has also increased.

The qualifications of the staff including those on leave, March 31, 1960 were as follows:

Total	152
Masters degree in public health nursing	1
Bachelor of Science (major in public health nursing)	9
Bachelor of Nursing and certificate in public health	1
Bachelor of Nursing, certificates in public health and nurse-midwifery	2
Bachelor of Nursing and certificate in administration	1
Bachelor of Arts and certificate in public health nursing	1
Certificate in public health nursing and administration	3
Certificate in public health nursing and nurse-midwifery certificate	1
Certificate in public health nursing	46
Health visitor and nurse-midwifery certificates	2
Teaching and supervision diploma	3
Queen's nurse and nurse-midwifery certificates	3
Nurse-midwifery certificate	5
Registered nurses without special training	74

University Training under Dominion-Provincial Grant

Nine nurses completed university courses in June of 1959 and returned to positions.

Twelve nurses are at university now and will return to positions following completion of the courses which are as follows:

Masters degree in public health nursing. Ann Arbor, Michigan	1
Bachelor of Science in Nursing, McGill University	1
Bachelor of Science in Nursing, University of Saskatchewan	1
Certificate in public health nursing, University of Saskatchewan	9

Administrative and Supervisory Report

All regions received several visits from consultants or the director during the year.

Assistance was given by the consultants in training new staff nurses, at staff conferences and in helping regional nursing supervisors with general problems.

One consultant took charge of the poliomyelitis vaccine program in an area outside of health regions and achieved very satisfactory results.

Assistance in the central office was obtained, on a temporary basis, by taking on a nurse with considerable ability and experience in public health. With her help we were able to make studies of nursing service, equipment costs and time. She also assisted with the lectures in schools of nursing.

Community Health Lectures

All of the schools of nursing except the one connected with the university were given classes. Consultants and several regional nursing supervisors shared in this program. One hospital now has a public health nurse on staff and in this instance one class only was provided by our nurses.

Field Experience for University Students

Field work experience in health regions is provided each fall and spring for nurses enrolled in the public health course at the University of Saskatchewan. Twenty students received a total of 72 weeks of field work. The organization, supervision and evaluation of this program is the responsibility of one of the consultants of this division. This entails work with the university staff, regional nursing supervisors, and field guides, and requires at least two visits to each region concerned.

Several students from one of the schools of nursing in Regina were each given two days of field experience in Regina Rural Health Region.

In-Service Education

1. In Health Regions

We have been very pleased at the excellent programs of study on child growth and development produced with several regions. These were given at staff conferences under the guidance of the regional nursing supervisor and the public health nurse II. These studies were initiated in each instance by the consultant in maternal and child health with the entire nursing staff of the region participating.

2. *Workshops and Conferences held at Headquarters*

A workshop on supervision was held in February under the direction of the public health nursing consultants, assisted by the consultant in child and maternal health. Guest lecturer was one of the teacher-psychologists. All of the regional nursing supervisors participated and found it to be very helpful.

A conference for assistant supervisors and guide nurses was held in Regina and Saskatoon in March, under the combined direction of one of the consultants and the associate professor of public health nursing of the university. It was designed to help the guide nurses in the problems of providing field experience for the students.

Two conferences with regional nursing supervisors were held during the year; in April, following the Canadian Public Health Association meeting, and in September. Almost all the nursing staff attended the Canadian Public Health Association meeting in Regina, following which a whole day was devoted to the public health nursing section. One of the items was a presentation by nurses from the regions who had studied child development. In this they showed the various methods by which they had conducted the studies. This presentation was organized by the consultant in maternal and child health.

Both consultants of this division attended the annual meeting of the Canadian Public Health Association in Montreal in June.

This year had a full share of challenge. That much was accomplished is due to the devoted work of the entire staff. To all of them we extend our grateful thanks.

NUTRITION SERVICES

The Nutrition Division is primarily a consultant service whose aim is to make the population recognize the role good nutrition can play in the well-being of individuals of all ages. This is being achieved through regional nutritionists who carry out various programs, planned to meet the needs of the people in an area. In order to reach as many people as possible, mass media such as radio, television and newspapers are used as much as possible and group situations are stressed.

To accomplish this aim, the director of the division works closely with other members of the public health staff, various government departments and other agencies.

Staff

In past years it has become increasingly difficult to recruit qualified personnel for the positions of regional nutritionists due to reduced classes at the university level. The basic qualifications for the position are a degree in Home Economics and some teacher training or a dietetic interneship. Further to this an orientation program is arranged within the department, which has proven to be very advantageous. Recruiting efforts are being continually made. It is the aim of the division to provide each health region with a nutritionist, so that the services can be more concentrated and the population as a whole can be made more aware of good nutrition practices.

During this fiscal year five out of the ten health regions in the province had the services of a regional nutritionist at some time. These regions are Prince Albert, North Battleford, Swift Current, Weyburn-Estevan and Regina Rural. Marriage claimed the resignation of four nutritionists, two of which returned to the service at a later date and to other regions. Two new regional nutritionists were recruited and orientated.

Public Health Staff

In order to consult directly with the regional nutritionists, medical health officers, regional nursing supervisors or other personnel with regard to the regional nutrition programs being carried out, and to initiate new programs and discuss problems, the director made 34 visits to health regions and districts during the year under review.

The weight reduction clubs for women continued to be one of the most successful regional programs and there was an increase in the number of groups organized. A program for summer camps was initiated. Details and accounts of other programs which were carried out by the regional nutritionists can be found in their respective regional reports.

In regions where there is no regional nutritionist a limited amount of service was given by the director. Six conferences were planned and presented to nurses. A considerable number of nurses were given orientation with regard to services offered by this division, the use of teaching aids, and new materials. Requests for nutrition information, talks and literature were also handled by the division for regions who

do not have a nutritionist. A television program was prepared and presented for the Regina Rural Health Region. A reference file continued to be maintained for the use of the staff.

The division also worked on a consultive basis with other divisions within the department, especially with the Division of Health Education, Nursing Services, Child and Maternal Health, and Dental Health.

Other Government Departments and Agencies

The aim of this division is to provide consultant services beyond the public health staff to other government departments and agencies. This area of the program continued to increase. The radio talk series was continued for the Department of Agriculture and these talks were used by 11 radio stations throughout the province. They were also used by the Department of Travel and Information as releases to all newspapers in the province. Assistance was given with the planning and presentation of a television program for the Department of Agriculture. In co-operation with Women's Services, the "Healthful Eating" project continued to be offered to homemaker groups throughout the province. Assistance was given in supplying these groups with reference materials and information for other programs. The Department of Social Welfare and Rehabilitation was assisted in this way.

The Department of Education was assisted indirectly through the schools. Animal feeding experiments continued to be promoted and arrangements were made for an increased number to be carried out. The number of requests from schools for materials continued to increase. The director participated at a meeting of Home Economics teachers in Regina and problems in teaching nutrition were discussed.

Federal government agencies that were assisted are the Directorate of Indian and Northern Health Services and the Department of Fisheries. The Old Age Security Division was given assistance with the planning and presentation of a television program.

At the University of Saskatchewan, the School of Home Economics continued to be consulted, and lectures on meal planning and preparation were presented to the postgraduate class of the School of Nursing. A 10-hour course on normal nutrition was given to 136 student nurses of the Centralized Teaching Program at Regina College. Other student nurses were given orientation regarding nutrition services as part of their training in public health. Assistance was given to the Teachers' College is planning their nutrition course.

Eight lectures were presented to various groups on "weight reduction and diet" at the request of the YWCA. Lectures were also presented to a Red Cross Home Nursing Class. At the request of the Canadian Association of Consumers, a television program was prepared and presented. Talks were given to a Farmer Women's group and a Home and School Association.

In co-operation with the local newspaper and the food industry an attempt was made to tie in with the "Better Meals Build Better Families" campaign. Two displays were arranged, a series of six newspaper columns were prepared and a television showing of the film "Mystery in the Kitchen" was arranged.

The Boy Scout Association was given assistance in menu planning for their jamboree which will involve 1,000 boys. An increasing number of representatives from commercial organizations and individuals consulted with the division.

Nutrition Materials

The following materials were prepared and distributed by the division during the fiscal year; a set of "Nutrition Charts", the pamphlet, "Send a Good Lunch" and a reference booklet on "Commonly Used Vitamin D Products with Approximate Prices for Daily Requirements" for public health personnel. The nutrition section of the prenatal outline was revised and a new food record sheet prepared. Several films were previewed and other teaching aids were reviewed.

Surveys

The nutrition survey on the school of Metis children at Pine House and of the school children at Pelican Narrows, both in the Northern Health District started in 1958, was continued and will be completed in 1960. A trip was made to both settlements by the original team who initiated this survey. Further examinations were made by the doctors and blood samples taken for analysis. A five-day food record was planned and completed by the children of Pine House and was analyzed. A one-day food record was obtained from the mothers of the children at Pelican Narrows by personal interviews.

A second phase to the dental survey conducted on the school children of Moose Jaw in June of 1959 was planned and will be carried out in May, 1960. To learn about the nutritional background of selected groups of children included in the original survey, personal interviews will be arranged with the parents.

A survey was conducted to find out what the actual situation is in the province with regard to school lunches and to show what factors need emphasis in this phase of our teaching. A statistical report was compiled and distributed. This survey is being continued and similar reports will be prepared and comparisons made.

Conferences

A conference for the regional nutritionists was planned and other conferences and meetings of a professional nature were attended.

SANITATION SERVICES

One of the original and major responsibilities of the division was the control of general environmental sanitation. The establishment of health regions from time to time has resulted in diminishing the area over which the division has jurisdiction. During the fiscal year under review the Humboldt-Wadena Health Region went into operation. The area now remaining to the division consists of the Saskatoon rural region, and when it is established it will terminate a division activity which was commenced in 1910.

With the shrinking of the area of general environmental sanitation, there has been a concurrent expansion in the field of sanitary engineering as it relates to public waterworks and sewerage systems. An accelerated urban modernization program has placed an increased emphasis on this particular activity of the division.

Personnel

The staff remained much the same as for the previous fiscal year except that one less sanitary officer was employed. It consisted of three sanitary officers, four milk sanitarians, two civil engineers, two clerk-stenographers and the director. As in the past, one of the engineers and three of the milk sanitarians were employed under a federal health grant.

Training Program

During the year in-service training of six sanitary officers was completed and all were successful in their qualifying examinations. However, unlike previous years, the allotted establishment of sanitary officers was finally met and no new trainees were recruited. The sanitary officer training was conducted as a project under a federal health grant.

A new venture in sanitary officer training was introduced during the fiscal year. This consisted of a one-month refresher course for certified sanitary officers and was conducted at the Saskatchewan University by the Department of Social and Preventive Medicine. Twelve sanitary officers, one of whom was attached to the Saskatoon City Health Department, attended the course. Members of various departments of the University as well as from the Provincial Health Department participated in lectures and discussion periods. The reaction to this new program was favourable and it is likely that the course will be repeated in the next fiscal year.

The annual training school for water plant operators was continued and classes were conducted during the month of March. The total attendance was 42. This school was also a project under federal health grants.

In the previous fiscal year training schools were conducted for milk plant operators. Although these courses appeared to be well received, the response in the current fiscal year was such that it was decided not to proceed further.

Waterworks and Sewerage

Construction Activity

The number of approval certificates issued in connection with the installation of, or extension to waterworks and sewerage systems totalled 221. Although this number is considerably greater than the figure for the 1958-59 fiscal year, which was 198, the value of the construction work was less. It totalled $11,890,000 whereas in the previous fiscal year the value of the projects was $15,760,000. The larger amount for the 1958-59 fiscal year is explained by the fact that there were a number of major projects for some of the cities which helped to swell the dollar value in spite of the fewer construction "starts".

Fourteen provisional certificates were also issued for a construction value of $1,860,000 which was somewhat higher than the value for 1958-59. Provisional certificates are issued for proposed work only and do not authorize construction. However, they involve the same extensive scrutiny and procedure as do the final approval certificates.

Although the waterworks system for the town of Grenfell was completed in the previous fiscal year, it did not go into operation until the year under review because it was necessary to wait for the spring run-off to fill the water storage reservoir. A waterworks and sewerage system was installed for the town of Rosthern, and a waterworks system was provided at Carnduff where a sewerage system was built in the summer of 1957. Herbert constructed a sewerage system but has had a partial waterworks system in operation since 1932.

The following towns installed a sewerage system:

Foam Lake	Broadview	Luseland
Star City	Central Butte	Wadena
Bengough	Kyle	Rouleau

With the exception of Rouleau none of these municipalities has a waterworks system. The waterworks system at Rouleau was constructed in 1912.

As at the end of the calendar year 1959, there were 54 municipalities operating a waterworks and a sewerage system and 7 which have a waterworks system only. Sixteen municipalities have a sewerage system but no waterworks.

Water Supply Problems

The finding and development of adequate urban water supplies continues to be a problem and, to a large extent, is reflected by the number of municipalities which operate a sewerage system without benefit of a waterworks system. In the previous fiscal year the total was 11 such municipalities, but by the end of the 1959-60 fiscal year the total had risen to 16. In the meantime, several municipalities have made a diligent search for ground water without success. The Saskatchewan Research Council has intensified its ground water research program in an effort to assist municipalities. However, in the final analysis a program of test drilling is essential. In many instances, municipalities are reluctant to spend any sizable sum for this purpose because if water is not found there is no possibility of recovering the money spent. The cost must be taken out of current revenue. Small municipalities with a low assessment may find that the general mill rate must be increased 25 per cent or more, simply to take care of the cost of what turned out to be a failure.

Because of the acuteness of the problem, and as reported last year, the government engaged a number of private consulting engineering firms to study the situation. A report was submitted early in the fiscal year but the engineers were unable to recommend long distance transportation of water by pipeline, for the time being at least. They could recommend no alternative except a test drilling program. They also suggested that serious consideration be given to the possibility of demineralization. of water.

Urban Modernization Program

As a result of the engineers' reports referred to in the preceding paragraph, the government instituted a policy of providing money grants to municipalities undertaking a program of waterworks and sewerage installation and for assisting municipalities in major improvements to existing waterworks and sewerage systems. This program is to go into effect in the 1960-61 fiscal year. It was hoped that some assistance could be given toward test drilling for specific municipalities but monies available were insufficient to include this provision before about 1961-62. This program will be an added stimulus to small municipalities and should result in considerable activity.

Engineering Services

As in the past the division received numerous requests from municipalities for preliminary engineering studies in connection with waterworks and/or sewerage systems. Seventeen surveys were completed in the fiscal year. They included the following municipalities:

Harris	Neville	Ituna
Carrot River	Saltcoats	Avonlea
Perdue	Midale	Pense
Invermay	Quill Lake	Fillmore
Sturgis	Turtleford	Semans
Sintaluta	Chaplin	

The engineering studies include a field investigation, topographical survey, preliminary design, cost estimates and a comprehensive report. The report contains data relative to probable operating costs and annual revenue as well as guidance to council in methods and procedure for further action if so desired.

Fluoridation

There are now 11 towns where artificial fluoridation of public water supplies is in operation. These are—Assiniboia, Eston, Kamsack, Kindersley, Melville, Moose Jaw, Prince Albert, Saskatoon, Swift Current, Weyburn and Wynyard. Two other municipalities have purchased fluoride feeding equipment and it is expected these will be in operation in the immediate future.

The population now receiving the benefit of fluoridated water is approximately 170,000.

Water Analyses and Laboratory Tests

All water analyses conducted by the Provincial Laboratories are scrutinized by the engineers of the division who provide an interpretation service. The number of water opinions provided by the division is still increasing. The total for the year under review was 11,154 as compared with 9,797 in 1958-59. A great deal of time is required to process these analyses.

The laboratory space provided in the Provincial Laboratories for the use of the engineers of the division has been found very helpful. Numerous screening tests have been conducted and the laboratory has provided an opportunity to study water treatment problems encountered by various municipalities.

During the summer of 1959 there was a greater than usual growth of algae in various lakes in the province patronized for recreational purposes. An area particularly affected was the chain of lakes in the Qu'Appelle River below Lumsden. Not only was there the normal complaint of objectionable odors from decaying algae and the unsightly appearance of bathing areas, but there were numerous reports of animals dying as a result of drinking lake water. There was little or no run-off in the spring of the year and this, together with extremely hot weather, probably accounted for the prolific algae growth. A survey disclosed that the predominant species were members of the blue-green family including a species known to produce toxic elements detrimental to animals. A certain amount of illness in humans was attributed to bathing in infested recreational areas. An inter-departmental committee was established for the purpose of instituting control measures during the 1960 summer period.

Milk Quality Control

Field Activities

There were 40 milk pasteurizing plants in operation at the beginning of the fiscal year but the number was reduced to 39 by the end of the year. The plant at Indian Head was closed. A total of 675 plant inspections were made by the milk sanitarians. Although reported as inspections, these visits are more in the nature of consultative services. Inspections are conducted for the purpose of determining, if and where, defects exist. This enables the milk sanitarian to judge the standard of operation. He is then in a position to advise the operator regarding faulty procedures or equipment, if any, and how best to institute corrective measures for high quality milk production. He is also in a position to discuss and advise on plant or operating problems which may arise from time to time.

Dairy farm inspections and tests on raw milk serve the same purpose as do the inspections of processing plants. They provide the milk sanitarian with the information required to judge the merits of each individual operation and clarifies his approach to operating problems where they exist. Advice is freely given and the dairymen frequently approach our field staff for assistance. Requests for assistance and advice cover all phases of milk production. During the fiscal year 10,911 field tests on raw milk were made by the sanitarians and the dairy farm inspections totalled 1,217.

Several times each year all milk sanitarians either arrange or make themselves available for meetings of one day duration or less for the milk producers in a given milk shed. At these meetings one or more subjects concerning some aspect of milk production is discussed and followed by a question period.

Quality Milk Competition

The program of weekly sampling of pasteurized milk from each processing plant in the province was continued. The program is gradually being extended to milk products other than butter. The grading of pro-

cessing plants was also continued and the awards for top honors were won by the Purity Dairy Company at Prince Albert for Section 1, and Wolseley Dairy at Wolseley for Section 2. The runner-up in Section 1 was Palm Dairies Limited at Moose Jaw and in Section 2 was the Saskatchewan Co-operative Creamery at Canora. The latter received a cash award whereas the winners received a trophy in addition to a cash prize.

Surveys in connection with antibiotics in milk as well as certain species of bacteria were again conducted during the year. The results indicated very little change during the year in either the antibiotic situation or species of bacteria. However, it confirms the observation that the mastitic milk problem is still with us and shows no sign of improvement.

Urban and Rural Sanitation

As stated in the early part of this report the Humboldt-Wadena Health Region went into operation during the fiscal year leaving only the Saskatoon rural area for direct supervision by this division. The headquarters for this area is in the city of Saskatoon.

The sanitary officers made a total of 5,543 inspections:

Total	5,543
Water, milk and food supplies	1,252
Public places	1,941
Waste disposal	1,765
Camps, resorts and swimming pools	29
Schools and institutions	146
Communicable disease	1
Miscellaneous	409

General

A total of 374 plumbing permits were issued and the value of permit fees was $1,932. Plumbing inspections made by the division staff totalled 671.

During the year 104 butcher and 5 beef ring slaughter house licenses were issued. The amount of fees collected was $530.

Other activities include the granting of public eating establishment certificates and tourist camp permits.

The milk sanitarians and district sanitary officers addressed a total of 157 municipal and public meetings.

Regulations with which the division is directly concerned are those governing sanitation, plumbing, milk production and distribution, public eating establishments, hotels and rooming houses, tourist camps, construction and mining camps, barber shops, bake shops, apartment blocks, swimming pools and fumigation with hydrocyanic acid gas.

VENEREAL DISEASE CONTROL SERVICES

A program, similar to that of previous years was conducted by the Saskatchewan Division of Venereal Disease Control during 1959, the objective being to limit the spread of venereal disease through the following:

1. Provision of diagnostic and treatment facilities for persons suffering from, or exposed to, venereal disease.

2. Compilation of statistical data on various phases of venereal disease in order that a comprehensive picture may be obtained, thus enabling the program to be shaped accordingly.

3. Provision of current information to the medical profession on diagnosis and treatment pertaining to venereal disease and, through the co-operation of the Division of Health Education, the supplying of educational material, including films, to the general public.

Incidence of Venereal Disease in Canada

For the year 1959, Canada, according to recent statistical data supplied by federal authorities, had a reported incidence of 16,904 cases of venereal disease (2,128 syphilis; 14,768 gonorrhoea and 8 others). This is an increase of 50 cases, or 0.3 per cent over the previous year 1958, when 16,854 cases were reported (2,010 syphilis; 14,836 gonorrhoea and 8 other). This was the highest incidence since 1954 when 18,056 were reported.

The foregoing figures for gonorrhoea reflected a decrease in reported incidence, for 1959, the rate per 100,000 population per annum decreasing from 87.0 in 1958 to 84.7 in 1959.

The reported incidence of syphilis (all types), however, reflected an increase of 118, or 5.9 per cent in 1959 from 1958.

Early syphilis (primary and secondary) showed an increase of 189 cases in 1959 (94.5 per cent). The rate per 100,000 population increased 1.2 in 1958 to 2.2 in 1959.

Syphilis (all stages)		*Syphilis (primary and secondary)*		*Gonorrhoea*	
1958	*1959*	*1958*	*1959*	1958	1959
11.8	12.2	1.2	2.2	87.0	84.7

Incidence of Venereal Disease in Saskatchewan

A total of 1,538 cases of venereal disease was reported in Saskatchewan during 1959. This compares with 1,530 cases reported in 1958, an increase of 8 cases or 0.5 per cent. This increase, although not large. is significant as the small increase in total incidence is due mainly to the decline in the incidence of syphilis: the reported incidence of gonorrhoea for 1959 reflects an increase of 24 cases or 1.7 per cent over the year 1958.

Comparative rates for syphilis and gonorrhoea, per 100,000 population, in Saskatchewan for 1958 and 1959 are as follows:

Syphilis (all stages)		*Syphilis (primary and secondary)*		*Gonorrhoea*	
1958	*1959*	*1958*	*1959*	*1958*	*1959*
11.8	10.0	3.5	2.9	160.4	160.5

Syphilis

A total of 90 cases of syphilis (all stages) were reported during 1959, compared with 105 cases in 1958, a decrease of 15 cases or 14.3 per cent.

Twenty-seven cases of early syphilis (16 primary and 11 secondary) were reported during 1959 compared with 31 cases in 1958 (19 primary and 12 secondary) a decrease of 4 or approximately 12.9 per cent.

There were no reported cases of prenatal congenital syphilis (newborns) reported in 1959 or 1958.

A decrease in late and latent syphilis for 1959 will be noted, there being 74 cases reported in 1958 and only 63 cases in 1959, a decrease of 11 or approximately 14.9 per cent.

Gonorrhoea

The reported incidence of this disease for 1959 showed only a slight upward trend, despite the increase reported in many other parts of the world. A greater increase, it is considered, would have occurred had it not been for the emphasis again placed on epidemiological procedures (case-holding and case-finding) with consequent increased reporting of cases, by private physicians. An indication of this increased participation by private physicians in the reporting of venereal disease is borne out by the fact that 272 physicians reported in 1959, an increase of 24 over 1958 when 248 physicians reported.

During 1959, a total of 1,448 cases of gonorrhoea, including one case of ophthalmia neonatorum were reported, compared with 1,424 cases, including one case of ophthalmia neonatorum, reported in 1958. This represents an increase of 24 or 1.7 per cent.

Preventive Measures

Epidemiology

As previously indicated the spread of venereal disease has been limited, at least to some degree, we consider, through the effectiveness of our case-finding procedures plus the assistance and co-operation of private practitioners and other medical agencies.

Current and specific antibiotics continue to aid in the prevention of the spread of venereal disease through their ability to render an infected patient non-infective in a very short period of time.

Information supplied by physicians in 1959 made possible the locating of 285 contacts to venereal disease. Other medical agencies, including venereal disease clinics, supplied information which brought about the locating of an additional 528 contacts, thus 813 contacts were located and examined. The results of the examination of these contacts follows: positive—535 (syphilis 10, gonorrhoea—525); non-specific infection—19; negative findings—259; total 813.

Of a total of 12,687 premarital serological tests, 11 exhibited positive reactions and of these, 4 were in connection with previously reported cases of syphilis; 7 were connected with newly reported cases of syphilis, in the latent stage. The diagnosis in connection with 3 of these cases was confirmed through the Treponema Pallidum Immobilization test.

Twenty-seven cases of syphilis, previously unreported, were discovered through the investigation and follow-up of persons exhibiting positive serologic reactions during 1959. These cases included 1 early syphilis (secondary), 20 classified as latent, 2 cardiovascular, 3 neurosyphilis and 1 other tertiary. The diagnosis in 10 of these cases was confirmed through the Treponema Pallidum Immobilization test.

The follow-up and investigation of persons with positive tests for gonorrhoea resulted in the reporting of 95 cases of gonorrhoea on notification cards. These cases had previously been unreported.

It is gratifying to note that again an increase occurred in the number of physicians reporting venereal disease in 1959. In 1958 a total of 248 physicians reported cases, of which 53 were either new to the province or had not previously reported. During 1959, a total of 272 physicians reported cases and of these 56 had either newly arrived in this province or had not previously reported.

Consultant Services

Consultative services were made available in 1959, as in previous years, advice being given by telephone and correspondence regarding diagnosis, treatment and post-treatment care in connection with venereal diseases. Included in these consultations were recommendations concerning the use of the Treponema Pallidum Immobilization test (T.P.I.), many requests for advice and information regarding this special diagnostic test having been received from physicians and other medical agencies.

Statistical data regarding this test may be found under "Diagnosis and Treatment".

Education

Following the custom of former years, information of special interest, concerning diagnosis and treatment was available to medical personnel.

New physicians entering the province to practise were supplied with information and materials concerning venereal disease control procedure as well as with special articles of interest on diagnosis and treatment, including information pertaining to the Treponema Pallidum Immobilization test.

Lectures were given to nursing students and trainee health educators during 1959. These were supplemented by films and pamphlets.

The Division of Health Education, in co-operation with the Division of Venereal Disease Control, continued to conduct a venereal disease education program among the public. Letters requesting literature and information have been received by this division, these being referred to the Division of Health Education for attention. In addition, letters of enquiry regarding venereal disease and treatment have been replied to from the division.

Diagnosis and Treatment

Clinical Services

Full-time venereal disease clinics were maintained in Saskatchewan during 1959 as in previous years, one being located in each of the four major cities (Regina, Saskatoon, Prince Albert and Moose Jaw). At these clinics, each of which is staffed by a part-time medical director and a full-time nurse, examination and treatment were made available free of charge.

In connection with these clinics, there was a total of 1,526 admissions and 3,162 visits during 1959 compared with 1,414 admissions and 2,826 visits in 1958.

Total cost of operation in connection with these clinics amounted to approximately $21,000.

In addition to the four major clinics, clinic facilities were made available to the Prince Albert jails and the Regina jail.

During 1959, in connection with the Prince Albert jails, which are serviced by provincial health department venereal disease nursing personnel, there were 1,492 admissions and 1,694 visits as compared with 1,416 admissions and 1,563 visits, in 1958.

Additional Services

As in 1958, free examination and treatment were again made available to the residents of Green Lake and area where some 250 natives reside. The Red Cross Outpost at Green Lake was used as a treatment centre, thus continuing the arrangements made in July 1954 whereby services were made available to the population of Green Lake, situated 30 miles from the nearest physician.

This particular service to a remote area of the province has proven, and is proving, satisfactory and the plan has the approval of the medical health officer for the area involved.

Special Diagnostic Procedures

The facilities for the T.P.I. test continued to be made available by the Laboratory of Hygiene, Department of National Health and Welfare, Ottawa, and were utilized by this division for diagnostic purposes. This test is designed for differentiating between a biological (false) positive and a specific luetic reaction.

The purpose and availability of this test is becoming more widely known among the physicians of this province. Consequently, it is being utilized to a greater extent in those instances where a diagnosis of syphilis is in doubt, positive or doubtful reactions from standard tests of serology being the only criterion of possible infection.

Ninety-eight specimens from selected patients were forwarded to Ottawa during 1959 and of these one was broken in transit and two gave no demonstrable results (toxic) thus a balance of 95 specimens remained.

Examination of the 95 specimens revealed 60 negative and 35 positive reactions. From these results will be seen, as in previous years that 50

per cent or more of the examinations resulted in negative findings, indicating that there does occur a considerable number of false positive reactions from standard tests of serology, these reactions being due to a variety of causes, other than syphilitic infection. This emphasizes the real diagnostic value of the Treponema Pallidum Immobilization test.

The following is a breakdown of the 35 positive T.P.I. reports:

Total	35
Previously reported cases of syphilis	7 (20%)
Previously unreported cases of syphilis	28 (80%)

Drugs

Procaine penicillin, both aqueous and oil suspension types have been issued during 1959. These currently are the therapy of choice in the treatment of venereal disease and are also practically the only medications used in the treatment of venereal disease with the exception of the following antibiotics, chloramphenical, oxytetracycline, chlortetracycline, dihydrostreptomycin combinations, which are used in the rare instances of penicillin-resistance and/or chronic cases of gonorrhoea and non-specific urethritis.

The cost of drugs of all types distributed in 1959 amounted to $947.15, an increase over 1958 during which year $890.81 was expended. Particulars of drug issuance and cost are shown in Table 15.

Hospitalization

Costs for the hospitalization of venereal disease patients during 1959 amounted to $414.49, there being two patients whose hospitalization was considered necessary. In 1958, one patient was hospitalized at a cost of $69.

There was no expenditure in 1959 in connection with fluid examinations (cell counts); $3 was expended in 1958 for this purpose.

Payment for Treatment of Cases and Examination of Contacts

The policy of reimbursing physicians, initiated in 1948 with the aid of national health grants was continued in 1959.

Payments amounting to $1,161.25 were made to physicians for examination and treatment of 127 cases residing outside areas where free government clinics were maintained and who were unable to bear costs themselves.

Under a similar plan, payments amounting to $178 were made to physicians for the examination of 32 reported contacts to reported cases of venereal disease, residing outside free clinic areas and regardless of their financial status.

An amount of $15 was paid to the Canadian Red Cross Society for the treatment of 11 cases resident in Green Lake, with patients involved being treated at the Red Cross Outpost, Green Lake, Saskatchewan.

The policy of payment to physicians and other agencies together with the operation of venereal disease clinics in the major cities of the province makes possible medical care for all residents of the province who may contract venereal disease or be exposed to same.

Expenditures for Venereal Disease Control

Costs of the venereal disease program for 1958-59 amounted to $68,705.53 and of this amount, $29,285 was provided through the national health grants. This latter amount was the maximum grant available.

For the fiscal year 1959-60 an amount of $67,653.45 was expended and of this amount $28,858 was provided through the national health grants for venereal disease control, again the maximum grant available.

TABLE 11. REPORTED CASES OF VENEREAL DISEASE BY TYPE AND STAGE OF VENEREAL DISEASE, REPORTING AGENCY, AND SEX OF PATIENT, SASKATCHEWAN, 1959

Type of venereal disease	All agencies			Reporting agency											
				Physicians			Clinics			Institutions			Armed forces		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All venereal diseases	1,538	1,055	483	736	521	215	686	466	220	101	53	48	15	15	....
All syphilis	90	59	31	70	44	26	11	6	5	7	7	....	2	2	....
Acquired early	27	20	7	16	12	4	8	5	3	2	2	....	1	1	....
Primary	16	14	2	8	8	....	6	4	2	1	1	....	1	1	....
Secondary	11	6	5	8	4	4	2	1	1	1	1	....	....	....	....
Acquired latent and late	63	39	24	54	32	22	3	1	2	5	5	....	1	1	....
Cardiovascular	3	3	....	3	3	....	....	....	....	....	....	....	....	....	....
Neurosyphilis	6	6	....	5	5	....	....	....	....	....	....	....	1	1	....
Latent	53	29	24	45	23	22	3	1	2	5	5	....	....	....	....
Tertiary, other	1	1	....	1	1	....	....	....	....	....	....	....	....	....	....
Type undetermined	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Prenatal congenital	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chancroid	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Gonorrhoea	1,448	996	452	666	477	189	675	460	215	94	46	48	13	13	....
Ophthalmia neonatorum	1	....	1	1	....	1	....	....	....	....	....	....	....	....	....
Other	1,447	996	451	665	477	188	675	460	215	94	46	48	13	13	....

TABLE 12. REPORTED CASES OF VENEREAL DISEASE BY TYPE AND STAGE OF VENEREAL DISEASE, AND AGE GROUP OF PATIENT, SASKATCHEWAN, 1959

Type of venereal disease	All ages			Age group																				
				Under 1 year			1-4			5-14			15-19			20-29			30 and over			Not stated		
	Both sexes	Male	Female	Both sexes	M	F	Both sexes	M	F	Both sexes	M	F	Both sexes	M	F	Both sexes	M	F	Both sexes	M	F	Both sexes	M	F
All venereal diseases	1,538	1,055	483	2	....	2	1	....	1	9	....	9	249	104	145	738	542	196	442	340	102	97	69	28
All syphilis	90	59	31	....	....	....	....	....	....	....	....	....	4	3	1	25	16	9	50	32	18	11	8	3
Acquired early	27	20	7	....	....	....	....	....	....	....	....	....	2	2	....	14	12	2	9	5	4	2	1	1
Primary	16	14	2	....	....	....	....	....	....	....	....	....	2	2	....	9	8	1	5	4	1	....	....	....
Secondary	11	6	5	....	....	....	....	....	....	....	....	....	....	....	....	5	4	1	4	1	3	2	1	1
Acquired latent and late	63	39	24	....	....	....	....	....	....	....	....	....	2	1	1	11	4	7	41	27	14	9	7	2
Cardiovascular	3	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	2	....	1	1	....
Neurosyphilis	6	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	4	....	2	2	....
Latent	53	29	24	....	....	....	....	....	....	....	....	....	2	1	1	11	4	7	35	21	14	5	3	2
Tertiary, other	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....
Type undetermined	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Prenatal congenital	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chancroid	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Gonorrhoea	1,448	996	452	2	....	2	1	....	1	9	....	9	245	101	144	713	526	187	392	308	84	86	61	25
Ophthalmia neonatorum	1	....	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other	1,447	996	451	1	....	1	1	....	1	9	....	9	245	101	144	713	526	187	392	308	84	86	61	25

TABLE 13. REPORTED CASES OF SYPHILIS AND GONORRHOEA AND ANNUAL RATES PER 100,000 POPULATION, SASKATCHEWAN, 1955-1959

Type of venereal disease	1955	1956	1957	1958	1959
	Number of cases				
Both venereal diseases	1,331	1,266	1,387	1,529	1,538
Syphilis	200	108	115	105	90
Early (primary and secondary)	18	29	35	31	27
Latent and late	168	76	78	74	63
Prenatal congenital	14	3	2	....	....
Gonorrhoea	1,131	1,158	1,272	1,424	1,448
	Annual rate per 100,000 population				
Both venereal diseases	151.6	143.8	157.7	172.2	170.5
Syphilis	22.8	12.3	13.1	11.8	10.0
Early (primary and secondary)	2.0	3.3	4.0	3.5	3.0
Latent and late	19.2	8.6	8.9	8.3	7.0
Prenatal congenital	1.6	0.3	0.2	.....	.....
Gonorrhoea	128.8	131.5	144.6	160.4	160.5

TABLE 14. ANALYSIS OF THE EXAMINATION OF VENEREAL DISEASE CONTACTS, SASKATCHEWAN, 1957-1959

Item	1957	1958	1959
Total contacts examined	659	814	813
Sources of information re: contacts			
Physicians	241	297	285
Clinics	313	407	414
Institutions	14	5	....
Health regions	2	2	2
Public health nurses	60	57	41
Armed forces	3	7	5
Other agencies	21	31	40
Indian health services	5	8	25
Venereal disease control	....	....	1
Contacts located by:			
Physicians	108	137	112
Clinics	63	63	171
Public health nurses	86	67	58
City medical health officers	121	208	133
Health regions	185	197	191
Armed forces	....	....	1
Other agencies	41	53	51
Venereal disease control	10	21	8
Indian health services	45	68	88
Institutions	....	....	....
Results of examination:			
Syphilis	22	19	10
Gonorrhoea	436	547	525
Non-specific	11	10	19
Negative	190	238	259

TABLE 15. AMOUNTS OF DRUGS DISTRIBUTED IN SASKATCHEWAN FOR VENEREAL DISEASE PATIENTS, AND COSTS, 1958 AND 1959

Type of drug	Amount		Cost	
	1958	1959	1958	1959
All drugs			$ 890.81	$ 947.15
Arsenicals (amps.)	.....	.....	.....	.....
Bismuth (c.c.'s)	.....	.....	.....	.....
Procaine penicillin in oil (units)	80,100,000	70,200.000	73.96	100.62
Aqueous procaine penicillin (units)	1,320,000,000	1,286,400,000	295.12	304.29
Chloromycetin (.25 gm. capsules)	240	640	76.65	204.00
Sulphathiazole (7½ grs.)	2,600	7,000	12.79	52.92
Distilled water (10 c.c. amps.)	.....	.....	.....	.....
Distilled water (50 c.c. bottles)	.....	.....	.....	.....
Penplus (c.c.'s)	810	990	89.10	106.92
Aureomycin (.25 gm. capsules)	864	128	275.40	40.00
Terramycin (.25 gm. capsules)	144	272	40.14	86.70
Crystamycin (c.c.'s)	66	140	14.85	31.50
Rubbing alcohol (gals.)	.....	4	.....	11.00
Miscellaneous drugs	.....	.....	12.80	9.20

TABLE 16. PLACES OF MEETING AND EXPOSURE FOR 658 CASES OF VENEREAL DISEASE, SASKATCHEWAN, 1959

Place of meeting	Meeting place only		Meeting and exposure (including marital)		Place of exposure only	
	Number of cases	Per cent	Number of cases	Per cent	Number of cases	Per cent
Total	658	100.00	205	100.00	658	100.00
Hotels and motels	57	8.66	30	14.63	99	15.05
Cafes	94	14.29	....	....	1	0.15
Dance halls	35	5.32	....	....	....	....
Rooming houses and apartments	12	1.83	10	4.88	43	6.53
Pickup—street, etc	208	31.61	2	0.98	2	0.30
Pickup—automobiles including taxis	....	....	....	....	181	27.51
Marital	....	....	106	51.71	....	....
Marital (common-law)	....	....	29	14.14	....	....
Other (including private dwellings)	68	10.33	28	13.66	196	29.79
Not stated	184	27.96	....	....	136	20.67

PROVINCIAL LABORATORIES

The Provincial Laboratories are a service arm of the Department of Public Health. They provide examinations to other units of the health department seeking to prevent the spread of disease and at the same time provide tests on specimens submitted by physicians seeking to diagnose or treat diseases that already exist. Approximately one half of the specimens for diagnostic purposes come from patients in physicians' offices, the other half from patients in hospitals. The Provincial Laboratories tries to supplement whatever examinations are available on the local level so that all residents of the province may have access to a broad diagnostic laboratory service. In addition, the Laboratory serves as a reference and standards laboratory for clinic and hospital laboratories in the province. Whenever technical difficulties arise in their procedures they may refer the problem specimens to the Provincial Laboratory for assistance or for a check on their findings. In this way, the laboratory participates in the general effort to extend the variety and improve the quality of laboratory services available throughout the province.

A particular effort is made to provide a useful laboratory service to physicians practising in small centres where laboratory facilities are limited or nonexistent. Containers, mailing outfits, and requisitions are provided for ready use. The laboratory operates on a six day week and on all statutory holidays that there may be a minimum of physician-patient waiting time between mailing of specimens and receipt of report. Three mail collections are made each day. The majority of the 500 or more specimens received each day are examined and reported the same day. Transit time of specimens and reports has shown a favourable decline in the past two years as postal services have improved markedly with the advent of highway mail service. All services of the laboratory are provided without charge with the exception of three for which deterrent charges are deemed necessary.

An effort is also made to provide related technical services to other departments of government whenever our specialized facilities permit. By contract with the Department of Agriculture, daily samples of butter are received from each active commercial churn for examinations to guide the manufacture of butters of excellent keeping quality. Seized gasolines are checked for the Treasury Department for possible content of purple dye marker used to identify tax-free motor fuels. Liquors seized by law-enforcement agencies are assayed for alcohol content. Much effort is expended on medicolegal examinations of internal organs submitted from people who have died under suspicious circumstances and where the coroner suspects drugs or poisons may have been involved.

Over the years, there has been a steady increase in both the number of specimens referred each year and the amount of work required on each specimen. This trend continued in 1959-60 when the number of specimens submitted was 11.7 per cent greater than the previous year and the number of examinations required was 16.8 per cent greater. Approximately 77.5 per cent of the specimens received were submitted to aid the diagnosis of clinical illness. A comparison with the previous year of the demand for various services is shown in the following table. (A com-

parison of the scores of conventional ten minute work units is not shown because the assigned values for some bulk procedures were markedly reduced late in 1958-59, with the result comparable scores are not available.)

Examinations and services	*Specimens*		*Examinations*	
	1958-59	*1959-60*	*1958-59*	*1959-60*
Total	159,035	177,651	248,873	290,627
Infectious diseases	101,191	114,298	125,815	151,725
Haematology	1,871	1,189	2,284	1,614
Chemistry	19,302	22,237	30,424	32,840
Sanitary—milk and water	16,730	19,338	58,986	66,107
Dairy	9,080	8,355	10,672	15,845
Animal diseases	10,861	12,234	20,692	22,496

Examinations for Infectious Diseases

The prevention or treatment of diseases caused by infectious agents is more readily accomplished when the identity and habits of the attacking microbe are known. Specimens of body fluids, tissues, and excreta from such patients are submitted by physicians in the hope that the laboratory may be able to identify the agent responsible for the illness. When disease-causing bacteria are recovered from these specimens, the bacteria are tested for their unpredictable vulnerability to each of a variety of antibiotics. The resulting information enables the physician to select an effective antibiotic or combination of antibiotics which may be needed. Findings on critically ill patients are often telephoned. In addition to disease-producing bacteria, search may be made for fungi, parasites or viruses that may also cause disease. A review of the search for infectious disease agents appears below.

Infectious diseases	*Specimens*	*Examinations*	*Units*
Total	114,298	151,725	315,562
Syphilis	76,642	93,792	67,476
Gonorrhea	5,988	5,993	6,665
Nasopharynx	9,129	9,131	45,685
Tuberculosis	481	1,042	5,426
Pyogenic and systemic infections	9,574	17,937	61,807
Bacterial dysentery	5,834	11,931	35,710
Bacterial meningitis	154	288	988
Mycotic infections	1,410	2,209	18,030
Parasitic infections	340	348	1,077
Virus infections and related serology	4,746	9,054	72,698

Syphilis Serology

Laboratory tests constitute the most reliable means of detecting syphilis which can provoke a wide variety of symptoms or inapparent infections. A total of 93,792 examinations were made for this purpose in the past year as compared to 89,392 examinations the previous year. Again, about one-sixth of these examinations were on pre-marital specimens submitted in compliance with The Marriage Health Act which requires a certificate that the parties entering marriage do not suffer from syphilis in a communicable form. The Laboratories continued to employ the presumptive Kahn test as a screen test. Any specimens showing a reaction in this test are submitted to a quantitative Kahn test and a complement fixation test. All reagents used are supplied and standardized by the Laboratory of Hygiene. Suspected false positives are evaluated by submitting a further specimen to a more specific test, the Treponema Pallidum Immobilization test performed by the Laboratory of Hygiene, Department of National Health and Welfare.

Gonorrhea

There is every reason to believe that the incidence of this disease is steadily increasing. Positive findings were obtained on 801 of the 5,988 specimens received as compared to 732 positives on 5,413 specimens in 1958-59. Although many cases are treated without diagnosis and never reported, the number of cases reported to the department increased from 1,424 in 1958 to 1,448 in 1959. The months of July and August produced the greatest number of specimens and positive findings.

Nasopharynx

Saskatchewan, like many other parts of this continent, experienced a sharp increase in 1959 in the number of cases of streptococcal sore throat and scarlet fever. As usual, the incidence was greatest in late winter. In the period from April 1st to October 1st, 1,479 throat swabs were received which yielded 154 isolations of Beta hemolytic streptococci. In the period between October 1959 and March 1960, 7,835 swabs were received which yielded 1,493 isolations for a confirmation rate of 17.2 per cent. The Laboratories co-operated with Regina Rural Health Region in an effort to abort such outbreaks among school children by examining throat swabs from all students to detect cases or carriers of Beta hemolytic streptococci. All cases or carriers were then treated with oral penicillin tablets. Some 22 outbreaks were tackled in this manner and the number of cases in each case swiftly subsided after oral penicillin had been started. No sequelae of nephritis or rheumatic fever were observed in the treated children although some complications did develop in untreated children. Final tally of complications in the untreated group has not been computed. Further studies to evaluate this approach are being planned.

Only one case of diphtheria occured in the year but the source of infection could not be determined. There were no other cases and the patient made a satisfactory recovery.

Tuberculosis

The majority of specimens from patients with typical symptoms of tuberculosis are sent directly to the Sanatoria for examination. Specimens from cases with less typical symptoms are often sent to the Provincial Laboratory. A total of 481 specimens of sputa, spinal fluids, joint fluids, urine, and tissues were received which yielded 31 isolations of tubercle bacilli. Ten of these isolations afforded the first evidence of tuberculous infection in an equal number of patients. Three of the new cases were infections of the urinary tract.

Pyogenic Infections

Staphylococci continued to provoke occasional infections in hospitalized patients as well as non-hospitalized patients. A total of 9,574 specimens of pus from abscesses or other lesions were received for the identification of causative organisms and indication of effective antibiotic. Many of these specimens came from patients who had suffered for many months from such infections. As has been the practice since 1955, the Provincial Laboratories manufactured and supplied, upon physician request, a polyvalent staphylococcal vaccine. The vaccine is made up of many strains of staphylococci of differing phage patterns that have been recovered from recent infections in residents of the province. Some 396 patient-doses of this vaccine were requisitioned by physicians for the treatment of stubborn staphylococcal infections. Questionnaires sent out

with the vaccines record that 80.1 per cent of the cases obtained full and permanent cure, and another 13.4 per cent were improved by application of this vaccine and adoption of improved personal hygiene. Some 6.5 per cent of the cases did not appear to benefit.

Bacterial Dysentery

A total of 5,834 specimens were received from patients suffering from diarrhoea and dysentery. There were 228 isolations of Salmonella and Shigella from 104 patients. There was one isolation of Alkalescens dispar and 39 isolations of pathogenic E. coli. Three new cases of typhoid fever were reported and surveillance carried out on six known typhoid carriers. *Salmonella blockley* and *Salmonella rubislaw* were isolated for the first time from patients in Saskatchewan. One patient only was known to be infected in each case. There were two outbreaks of Salmonella para B infections, one involving three members of a family and the other involving four members of another family. No secondary cases occured and it was not possible to discover the source of the infections.

The smoldering epidemic of Shigella dysentery in the Moose Jaw Training School accounted for a large number of the specimens received as a determined effort was made to locate the carriers and sources of infection. All carriers found were vigorously treated with a new drug "Mexaform" (a combination of enterovioform and amebicide). The results of treatment were evaluated by successive laboratory examinations. Following such treatment, the number of known carriers was reduced from 17 in January to nil in March, 1960. It is hoped that the incidence of carriers may now remain at or near the nil level.

As in previous years, antigens and antisera for conduct of Widal tests were supplied to the nine larger hospitals in the province. A total of 8,350 milliliters of antigen and 1,950 milliliters of antisera were distributed during the fiscal year.

The following table records the enteric pathogens isolated in the past year.

Salmonella

S. typhi C_1 3	S. typhimurium 15	S. oranienburg 1
S. typhi E_4 1	S. tennessee 6	S. newport 2
S. typhi phage type 34 1	S. paratyphi B 9	S. thompson 3
S. typhi C_4 1	S. heidelberg 5	S. rubislaw 1
S. typhi F_1 1	S. blockley 1	S. bareilly 5

Shigella

Sh. flexneri 3a 7	Sh. flexneri 3b 16
Sh. flexneri 2a 18	Sh. flexneri 3 2
Sh. flexneri y 2	Sh. sonnei 9

Alkalescens

Alkalescens dispar 01 1

Escherichi

E. coli 0119:B14 20	E. coli 026:B6 7
E. coli 0111:B4 2	E coli 086:B7 3
E coli 0127:B8 6	E coli 055:B5 1

Mycotic Infections

This small but important service examined more specimens in 1959-60 than in the previous year. A total of 1,410 specimens of skin, hair or nails were received and examined. A large part of the increase was due to efforts to control the outbreak of ringworm of the scalp that occured in children in the southeast corner of the province. The epidemic began in

the summer of 1958 and, despite all conventional preventive and therapeutic measures, had spread to involve 121 cases by midsummer 1959. A therapeutic trial of the new fungistatic drug, Griseofulvin, was carried out on 20 severely infected children. The results were so encouraging that the Department of Public Health purchased and donated a supply sufficient for the long-term treatment of all remaining cases. All cases and contacts were screened by repeated laboratory examinations. The venture was very successful for by February no additional cases had occurred, and all treated cases had become negative for Microsporum audouini in laboratory tests and by clinical inspection. Prior to advent of this drug, epidemics of this sort were generally unmanageable and would spread until all susceptible children were infected.

The Laboratories received requests for and supplied a number of the skin test antigens, coccidiodin and histoplasmin. Reports received indicated the tests were all negative.

Parasitic Infections

A total of 340 feces specimens were received for examination for the presence of intestinal parasites. These examinations enabled the diagnosis to be made of 3 cases of round-worm infection (Ascaris lumbricoides), 2 cases of fish tape-worm (Diphyllobothrium latum), 5 cases of pinworm infection (Enterobius vermicularis) and 8 cases of Giardia lamblia. In response to physician requests, the Laboratory supplied a small number of hydatid fluid, toxoplasmin, and trichinella skin test antigens. No positive findings were reported.

Virus Infections

The Provincial Laboratories maintain relatively complete facilities for the isolation and/or identification of viruses causing human illness. Provided with proper specimens, a diagnosis may thus be established in many cases of non-bacterial infections. The information allows the physician in some cases to confidently reassure the patient or make a prognosis, allows an estimate to be made of the risk that the patient may be to his contacts, and in time of threatened epidemic, may allow the distribution of a suitable vaccine to reduce the incidence of new cases.

A vigorous effort is made to recover the virus from suitable specimens collected during the acute phase of illness. Extracts with added antibiotics to restrain any bacteria, are inoculated into some combinations of tissue cultures, developing chick embryo, or small laboratory animals. Specimens of blood obtained from patients early in their illness are reserved for antibody testing alongside a repeat blood from the same patient some weeks later. Demonstration of a four-fold or greater increase in antibody to a virus is accepted as indicative of recent infection by that virus.

The following table lists the viruses isolated from the 800 specimens submitted for such attempts.

Virus	*Case isolations*	*Virus*	*Case isolations*
Poliomyelitis		Adenovirus	
type 1	44	type 3	1
type 2	0	type 7	1
type 3	0	Influenza "A" (Asian)	26
Coxsacki		Herpes simplex	1
A-9	9	Unidentified	8
A-18	1		
A-23	8		
B-3	1		
B-5	2		

It was remarkable that the poliomyelitis viruses recovered from 44 patients were all type 1. There was a minor epidemic of Asian influenza in the spring of 1959. Specimens of throat-washings from 26 patients yielded influenza "A" virus. A great many more patients provided serological evidence of recent infection by this agent.

Sera from all patients with suspect meningo-encephalitis are routinely tested for antibodies to western equine encephalitis. This practice provided evidence of past infections in 3 patients. However the specimens were received too late in the patients' illness to demonstrate a diagnostically significant increase in specific antibody.

Haematology

This section provides examination of blood smears submitted by rural physicians or technicians wishing to have a check on their findings. Other procedures such as complete blood counts, sedimentation rates, etc., must be carried out within a few hours of collection of the specimen and so cannot be safely attempted on a mailed specimen. The laboratory continued to provide blood-grouping and Rh factor determination for recruits of the armed forces.

Sanitary Examinations

Samples of public supplies of milk and drinking water are regularly tested to determine if they are as clean and safe to drink as health regulations require. Drinking waters from distribution systems are cultured for evidence of any bacteria that might have been associated with man or warm-blooded animals and hence might be accompanied by disease-producing agents. The findings indicate the adequacy of chlorination. Somewhat similar tests are carried out on samples of milk, cream and other dairy products to determine the adequacy of pasteurization and sanitary packaging operations.

Sanitary examinations of water and dairy products

Waters	*Specimens*	*Examinations*	*Milk, cream and ice cream*	*Specimens*	*Examinations*
Total	12,102	37,812	Total	7,236	28,295
Coliforms		16,356	Coliforms		5,965
Total dissolved solids		9,598	Plate count		6,213
Nitrates		8,990	Phosphatase		4,479
Fluorides		1,793	Specific gravity		3,234
Hardness and alkalinity		423	Total solids		3,232
Iron		253	Butterfat		4,149
Manganese		188	Milk fat		1,023
Chlorides		87			
Other chemicals		124			

In addition to samples of water from municipal supplies, a great many samples are accepted from private rural water supplies to determine if such waters be safe to drink. Rural well waters are routinely tested for content of nitrate and fluoride ion so that newborn infants may escape the risk of excessive nitrates or inadequate fluorides. Many of the wells in rural Saskatchewan yield waters which contain more nitrates than can be safely tolerated in the formulae of infants less than six months of age. Physicians commonly recommend that expectant mothers have their water supply tested before the baby is born, that, if needed, a safe water may be available for making formulae. There were no reports of water-

induced methaemaglobinaemia in 1959-60, although 915 of the 8,705 rural waters tested contained amounts of nitrate considered dangerous for infant feeding.

Many fluoride assays are required to meet the needs of the department's program to enable newborns to develop decay-resistant teeth. The department encourages expectant mothers to take an optimal amount of fluoride in their drinking water. Those using fluoride-deficient waters may qualify for department supplied one milligram tablets. Some 1,139 water supplies of expectant mothers were analyzed to detect those that were deficient. Only 91 of these contained as much as 0.70 parts per million of fluoride, and none contained more than 1.50 parts per million. The analytical service for fluorides also provides weekly control assays on all 14 distribution systems where fluoride supplementation is practised.

The Laboratories provide sterile swabs and vials of culture media for sanitary officers to demonstrate to operators of public eating establishments the need for good hygiene. Approximately 50,000 such outfits were prepared and distributed in the year under review.

Chemistry Section

The chemistry section makes a determined effort to provide any chemical assays that a physician thinks would be of value for diagnosing or managing illness in a patient. Such tests commonly serve to aid the diagnosis of diabetes, hepatitis, nephritis, cardiac disorders, hormone imbalance, or evidence of other metabolic trouble. (All tests are free of charge except for three expensive, abuse-prone tests—protein bound iodine $5, Follicle Stimulating Hormone $15, fat in feces $4.) The appreciation given this service was attested by the receipt of 22,237 specimens in 1959-60 representing an increase of 15 per cent above the previous year. A total of 22,237 specimens were received for 32,840 examinations. The greatest increase was in demand for protein bound iodine. This clinically very useful test for evaluating thyroid function is one of the three tests for which a charge is levied. Some 7,078 such assays were provided compared to 5,095 the previous year.

Chemical tests which may provide evidence for legal actions are carried out by the provincial analyst. Most common of these are examinations of human organs referred from coroner-required autopsies of people who have died under suspicious circumstances. Search is made for drugs or poisons that might have been involved. Specimens from more than 100 autopsies were submitted during the year. Other important tests are those for alcohol in blood or in police-seized beverages, and purple dye used to mark tax-free motor fuels.

An outline of the chemical examinations provided is set out in the following table.

All examinations	32,840
Blood	
Amylase	343
Bilirubin	1,075
Calcium	387
Carbon monoxide	70
Cephalin cholesterol	1,236
Chloride	205
Cholesterol	2,307
Cholesterol esters	29
Creatinine	143
Glucose	2,618
Iron	32
Lactic dehydrogenase	116
Methaemoglobin	38
Non-protein-nitrogen	1,156
Urine	
Catechol amines	32
Follicle-stimulating hormones	45
Heavy metals	23
Lactic dehydrogenase	83
Porphyrins	57
Pregnandiol	25

Cerebrospinal fluids	
Proteins	223
Chlorides	163
Glucose	124
Breast milk glucose	111
Faeces	
Fat	157
Urobilinogen	26
Other	28
Phosphatase—acid	838
Phosphatase—alkaline	1,480
Potassium	490
Phosphates	330
Protein bound iodine	7,078
Protein (total)	32
Protein (fractions)	1,054
Sodium	393
Thymol turbidity	1,078
Transaminase	434
Urea	880
Uric acid	549
Van den Bergh	77
Miscellaneous	182
Steroids—17 keto	362
17 hydroxy	125
ketogenic	30
Routine chemical and microscopic	2,139
Miscellaneous	147
Gastric analysis	85
Medicolegal—Provincial Analyst	
Tissues for poison	3,907
Alcohol	237
Gasoline for purple dye	61

Dairy Section

The Department of Agriculture contracts with the Provincial Laboratories for the latter to provide tests of dairy products related to production of marketing needs. Each day a sample of butter may be received from each commercial churn operating, that objectionable yeasts or molds may be swiftly detected and source eliminated. Such yeasts and molds, if uncontrolled, might produce off-flavors in stored butter and so impair the excellent keeping quality of Saskatchewan butter. Some 7,245 pats of butter were examined in this program. Another 1,027 samples of butter were tested for alkalinity or acidity. Determinations of butterfat in the milk from individual cows in production-competitions required 1,023 tests of butterfat. The dairy section also carries out the sanitary examinations of dairy products as detailed in an earlier table.

Animal Diseases

A National Health Grant supports a laboratory service to aid the diagnosis of infectious diseases of animals and birds which might constitute a reservoir of infection for man. In order to obtain such information, specimens are accepted from veterinarians, milk sanitarians, wild-life conservation officers and farmers. Excellent co-operation is enjoyed with the animal pathologist of the Department of Agriculture stationed in an adjacent laboratory so the combined intelligence service meets the needs of both the Department of Public Health and the Department of Agriculture.

As in previous years, a major effort was directed to aid the detection of mastitis in dairy cattle, and to point the way to better control. A high proportion of raw milks contain objectionably great numbers of staphylococci, leucocytes, and antibiotic residues residual to intramammary treatment. Several province-wide checks for these adulterants are made each year of the pooled milk from each commercial shipper. Tests for evidence of brucellosis and Q fever are also made on the same samples. The survey in February indicated that 38 per cent of the 1,044 herd milks gave evidence of staphylococcal mastitis in the donor herds, 1 per cent gave evidence of streptococcal mastitis, and 11.8 per cent evidence of residual antibiotics. The first evidence in the province of Q fever in dairy cattle came from a positive test of milk from one herd. Thereupon, effort was placed and the organisms were cultured from the milk. The same herd milk was negative to the same test one year earlier. The infection is

believed to have been acquired when the infected animals were exhibited alongside a presumed-infected herd from out-of-province. Two other Saskatchewan herds subsequently developed the infection from the same contact as the first herd. Serological evidence of Q fever in humans was found in two attendants of one herd, and in a child of the owner of another herd. All human cases were very mild. The appearance of Q fever organisms in Saskatchewan raw milk provides one more strong argument for pasteurized milk. Frequent testing for Q fever is now carried out on the raw milks being distributed in 168 small communities by local producers.

In addition to monitoring the above hazards, the laboratory provides a great many examinations of raw milk designed to guide remedial action on the part of the herdsman. Where herdsmen are making a determined effort to follow the recommendations of the milk sanitarians or veterinarians, the laboratory accepts for examination quarter-samples from suspect cows to identify infected quarters, the organisms causing the infection, and specific antibiotics that offer a good prospect for eradication of the infection. The same type of tests are also frequently used to pinpoint the ways whereby the infection may be spread in the herd. Some 7,590 quarter-samples of milk were examined for this purpose.

The services provided by this section are detailed below:

Service	*Specimens*	*Examinations*
Total	12,234	22,496
Milk quality survey	2,246	
Leucocytes		1,878
Culture and sensitivity		2,272
Ring test (brucellosis)		2,246
Antibiotic residues		2,272
Q fever		1,066
Veterinary services	7,590	
Milk—leucocytes		1,699
culture		6,985
Ring test		788
Q fever		298
Other specimens for culture	1,284	1,797
Bloods for Q fever (luoto test)	752	752

Special Services of Provincial Laboratories

Emergency Services

Because of accessibility over weekends and holidays, the Laboratory undertook to maintain a small supply of special antiserums or antitoxins for issue to specific emergencies. Multiple depots in hospitals are not always practical because such serums are infrequently requested, hard to produce, expensive, and perishable. Distribution is accordingly restricted to specific cases and then on a replacement charge basis. A few patient-doses are stocked of snake-bite serum, gas gangrene polyvalent antitoxin, rabies antiserum, and staphylococcus antitoxin. The service from this depot may have saved lives, as it filled six calls for gas gangrene antitoxin, five calls for rabies antiserum, and one request for staphylococcus antitoxin. In this respect it should be recorded that all of the biting-animals proved non-rabid and no case of animal rabies was discovered in Saskatchewan in 1959-60.

Algae in Resort Lakes

There was an unusually heavy growth of the toxic blue-green algae that manifests itself in late June as a foul-smelling blue-green scum on the surface of some lakes, dugouts, and sloughs. Animals that drank from such slimy waters died within a few hours. Fatalities occurred in domestic geese, 29 dogs, several cattle and many fish. The predominant species of algae were *Microcystis aeruginosa, Anabaena flosaquae,* and *Aphanezomenon flosaquae.* Laboratory studies on the toxic properties of these algae confirmed that the poison was present both in the algae and in the water from which dying algae were removed. Because such algae were very prevalent for a time on Buffalo Pound Lake which serves as a water source for Regina and Moose Jaw, tests were made which confirmed that filtration-chlorination practises in use were destroying the toxic factor. At least two human cases of gastro-enteritis were positively linked to taking a few mouthfuls of algae-laden water while bathing. The Laboratory provided an algae identification service on submitted specimens for the guidance of medical health officers.

Associated Laboratories

The laboratories of the Saskatchewan mental hospitals at Weyburn and North Battleford are administratively responsible to the respective hospitals but they provide sufficient regional and local public health examinations to warrant inclusion here of their reports. A considerable volume of milk and water examinations are made for residents of the northwest part of the province from the North Battleford hospital. These examinations and other emergency bacteriological services are made available with the assistance of a national health grant. An outline of the work of the two laboratories is set out below.

Type of examination	*Saskatchewan Hospital North Battleford*	*Saskatchewan Hospital Weyburn*
All examinations	21,090	13,338
Haematology	10,138	6,977
Biochemistry (blood, spinal fluid)	2,091	3,181
Clinical bacteriology	573	12
Urine analysis	2,515	2,569
Sanitary examinations of water	3,081	94
Sanitary examinations of milk	2,692	505

PSYCHIATRIC SERVICES

The Year in Review

The Psychiatric Services Branch is charged with the responsibility of dealing with the problem of mental disorder throughout the province.

The facilities under the direction of the branch to cope with this problem at the beginning of the year were the mental hospitals at North Battleford and Weyburn, the training school for the mentally retarded at Moose Jaw, two psychiatric wards in general hospitals, four full-time mental health clinics and ten part-time mental health clinics. One part-time clinic became a full-time clinic during the year and six new part-time clinics were opened. At the end of the year there were five full-time and fifteen part-time clinics.

The psychiatric ward and out-patient clinic at the University Hospital, Saskatoon, supported by, but not under the direction of the branch, also contributed to the services available.

In 1959-60 the daily average in-patient population was 4,480 and the mental health clinics investigated or treated 3,224 patients. A staff of over 1,900 were employed in providing this service to the people of the province.

Admissions to the two mental hospitals increased by 6.5 per cent over the previous year but the number of patients in hospital decreased by almost 2 per cent. Admissions to the psychiatric wards increased materially and the number of patients seen at the mental health clinics increased by almost 20 per cent.

The in-patient treatment programs have continued to change. Psychosurgery insulin shock and electro-therapy are giving way to milieu therapy and various drug therapies. The importance of the therapeutic effect of the psychiatric nurse on the patient is becoming increasingly recognized and utilized.

The training course for psychiatric nurses at the three institutions was continued and the number of graduates since the course started approximates 1,100. The curriculum is revised annually but gradually so as to maintain continuity as it is kept up to date.

During the year increasing attention has been paid to co-ordinating the activities of all the facilities under the branch. The mental health clinics have assumed the responsibility in their areas for supporting and rehabilitating patients discharged from the in-patient accommodations. They have also become more involved in the investigation of prospective patients and in securing the confidence of these people so that they enter the institutions as voluntary rather than compulsory admissions.

The public is becoming increasingly aware of the problems of mental disorder and there appears to be increased acceptance of psychiatric illness as similar to physical illness. The activities of the Saskatchewan Division of the Canadian Mental Health Association have been of inestimable help to the branch in educating the public, organizing groups of visitors to the institutions and providing rehabilitation centres at strategic locations for discharged patients.

The Psychiatric Research Unit has continued to progress with its investigations. In its primary field of investigation, schizophrenia, minor successes have been achieved which at any time may result in a major success.

The Future

Towards the end of 1959 authorization was given for the construction of the first regional psychiatric centre to be located at Yorkton. There will be approximately 150 beds and provisions for an out-patient department and for community service. When this is completed it should make it possible to put into practice modern methods of psychiatric treatment without the artificial impediments imposed by obsolete buildings in isolated locations.

The trend today appears to be toward earlier and ever increasing demand for both in-patient and out-patient services accompanied by an acceptance by more and more people of the fact that mental illness and physical illness are similar and there should be no greater stigma attached to one than the other.

COMMUNITY PSYCHIATRIC SERVICES

Psychiatric Wards

There are three psychiatric wards in Saskatchewan's general hospitals. All come under the scope of the Saskatchewan Hospital Services Plan. The professional staffs of the Munroe Wing, Regina General Hospital and the Psychiatric Ward, Union Hospital, Moose Jaw are directly under the jurisdiction of the Psychiatric Services Branch. The professional staff at the Psychiatric Ward, University Hospital, Saskatoon is paid indirectly through the budget of Psychiatric Services Branch in keeping with the principle of supplying psychiatric care at public expense although the teaching program for undergraduates and graduates is a prime function of this ward.

The psychiatric wards were originally intended to provide intensive care to patients who could be expected to respond quickly to treatment. The trend in 1959 was to take more seriously ill patients who would ordinarily go to crowded mental hospitals further removed from their homes. Elderly people and alcoholics are being treated in larger numbers than in the past. The readmission rate is rising as a consequence of providing the periodic care necessary for those patients whose adjustment to the community is marginal or where community facilities or homes are unable to cope at all times.

All the psychiatric wards provide affiliation training programs for general hospital student nurses. These are of 12 weeks duration during which the students receive lectures and supervised experience in meeting the needs of patients with a wide range of psychiatric disorders. In many ways these needs differ only in degree from those of patients in all hospital wards and therefore the training is structured to provide the student with knowledge which will be of continuing use. Training is also provided to doctors preparing for specialization in psychiatry.

New admissions to the two wards for which the branch is directly responsible increased to 366 from the 326 of 1958. Including the ward at the University Hospital, a total of 693 people received treatment for the first time in psychiatric wards. Readmissions totalled 502.

The Munroe Wing, Regina General Hospital

The integration of the Munroe Wing with the mental health clinic was completed in September when both units were placed under the same director. This has greatly facilitated the continuity of patient care. The clinic functions as both the admission and discharge unit for the Wing and the same professional staff are involved in both areas.

The number of admissions increased by 10 per cent over the previous year, the number of patient-days increased by 10 per cent also and the average stay was 28.7 days. In addition to the regular in-patients, 45 day patients were treated at the Munroe Wing during the year. During the year three doctors were given training in psychiatry and 112 general hospital student nurses were given the affiliation course.

Psychiatric Ward, Union Hospital, Moose Jaw

The program at Moose Jaw continued to be featured by the large scale use of the communities' recreational facilities, churches and shopping centres. The care provided to large numbers of elderly people, within the ward and in the community has been expanded further from the excellent foundation provided in the past. The "open door" philosophy is still being maintained.

The number of admissions increased by 15 per cent over the previous year, the number of patient days increased by 10 per cent and the average stay was reduced to 22.9 days. A new day-patient program was instituted during the year. During the year one doctor was given training in psychiatry and 57 general hospital student nurses were given the affiliation course.

Psychiatric Ward, University Hospital, Saskatoon

The number of patients admitted during the year increased by 10 per cent over those admitted in 1958. The average daily census remained constant at 33.7 patients indicating a further reduction in the average length of stay.

The teaching program continues for both medical undergraduates and graduates and student nurses.

MENTAL HEALTH CLINICS

The services provided to Saskatchewan communities were expanded by the addition of one full-time clinic and five part-time clinics. In the northeastern area, which for many years had been pressing for local psychiatric facilities, a full-time out-patient clinic was established in Prince Albert.

New part-time clinics were established in Nipawin, Tisdale and Melfort in the northeast, Estevan in the south, Davidson centrally and Leader in the southwest of the province.

The year saw a remarkable increase in the utilization of the clinics. The number of people attending the clinics which are the direct responsibility of the branch for the first time in 1959 was 2,153, 20 per cent more than the 1,790 of 1958. In addition, another 671 new patients were seen at the psychiatric out-patient clinic at the University Hospital, 1,071 people who had had previous contact with a clinic also attended in 1959. The grand total of Saskatchewan residents benefitting from out-patient psychiatric services in one year was therefore 4,016.

Mental Health Clinic, Regina

This clinic has the advantage of close association with the Munroe Wing which enables the staff to provide a better continuity of service to the people of the area and makes the clinic more self-sufficient.

The part-time clinics at Yorkton, Fort San and the Indian Hospital at Fort Qu'Appelle have been operated by the clinic staff. Before the full-time clinic was opened at Prince Albert, a part-time clinic there was operated by the staff of this clinic. The clinic speech therapist is still rendering a service to the present Prince Albert Clinic on a once-monthly basis.

The director spends one half day a week interpreting electro-encephalograms at Saskatchewan Training School, Moose Jaw.

The extent of diagnostic and treatment work with children in the Regina district increased sharply during the year.

Consultation has been provided during the year to the Harrow DeGroot School for retarded children and to the Regina public school system.

During the year, 446 new patients were seen and 230 patients returned for further treatment. The total of 676 is an increase of 172 over the previous year.

Mental Health Clinic, Moose Jaw

This clinic has been integrated with the Psychiatric Ward of the Moose Jaw Union Hospital since 1956. During this year more emphasis has been given to closer co-operation with the Saskatchewan Hospital Weyburn in regard to the probated and discharged patients from that institution who are located in the Moose Jaw area. In the evenings, group therapy sessions for up to 20 patients at a time have been used to aid their social rehabilitation and to give support. These sessions have been in addition to the administration of individual out-patient treatments during the regular day. This program has resulted in a definite reduction of readmissions to the mental hospital from the Moose Jaw area. A particularly notable feature here also has been the program for treating aged mentally ill people in the local nursing homes, in the general hospitals and in the patients' homes.

Assistance in the nurse training program of the Saskatchewan Training School, Moose Jaw has been given by the director.

Public relations and education have been well carried out and the co-operation from practising physicians in the area has been excellent.

The part-time clinic at Assiniboia has been continued by the staff and in 1959 a part-time clinic at Davidson was opened.

During the year a total of 651 patients were referred to this clinic. This represents an increase of over 19 per cent in relation to the previous year.

MacNeill Clinic, Saskatoon

The MacNeill Clinic in Saskatoon remains unique through its greater emphasis on the emotional problems of children and their treatment. There is close integration with the school system and other interested agencies. An extensive range of services are provided with psychiatry, psychology, social work, speech therapy, reading therapy and occupational therapy represented. Much assistance is given to groups providing services to the retarded, the physically handicapped and the delinquent.

The assessment and treatment of children is very time-consuming. The number of referrals, both adults and children, is very high. In consequence, and despite long, tightly scheduled hours it has not been possible to keep pace with the work load at the MacNeill clinic.

One doctor is given supervised experience and training towards specialization in psychiatry each year at this clinic.

The director provides instruction in child psychiatry to the undergraduate and graduate medical students. The social worker, reading therapist and speech therapist work closely with the Saskatoon school system and the phychologist does much consultant work with the John Dolan School for the mentally retarded.

The total number of patients seen at this clinic this year was 721 of which 422 were new and 299 were those who had been seen previously.

Mental Health Clinic, Swift Current

The Swift Current region, served by a full-time clinic in that city and part-time clinics at Shaunavon, Maple Creek and Leader, operated by a small although highly mobile staff, completed its second year in operation. The results are of considerable significance since this was an attempt to provide to a sparsely populated large area, the type of service hitherto limited to compact metropolitan areas. The experiment was a notable success. The number of patients from the region admitted to the Saskatchewan Hospital Weyburn decreased, close liaison was developed between the clinic and the hospital when in-patient care in Weyburn or the Moose Jaw Psychiatric Ward was necessary. The tangible results were more effective treatment as a consequence of the availability of more reliable information regarding patients in all three centres, the prevention of desocialization in many cases and more effective rehabilitation in others.

Other notable activities of the clinic included, on behalf of the Training School, home visits to families with retarded children on the waiting list. A social rehabilitation club sponsored and financed by the Canadian Mental Health Association was directed by the clinic social worker. The program was interpreted to a large number of community groups. The co-operation of the local physicians and various welfare groups was excellent and has played a large part in the success of this clinic.

During the year 389 patients were treated at the clinic of which 293 were new and 96 had been seen on previous occasions.

As a result of education of the people in the area the proportion of patients going voluntarily for in-patient treatment from the Swift Current region has increased to 62 percent. This is a desirable development that indicates a trend towards the elimination of the popular fear of mental hospitalization.

Mental Health Clinic, Prince Albert

Services provided to the Prince Albert area are modelled on the Swift Current experience and the early results indicate similar trends.

This clinic provides the staff for the once-monthly diagnostic clinics at Nipawin, Tisdale and Melfort. Patients living within the areas surrounding these towns are able to receive treatment once weekly by attending each of the three centres as well as Prince Albert (more distant) on the fourth week. There is a pressing need for a speech therapist, additional social workers and another psychiatrist to cover this large area.

This clinic is maintaining close liaison with Saskatchewan Hospital North Battleford in regard to prospective patients as well as those probated or discharged to the area. The staff are attempting to see all patients before admission to the mental hospital and all patients leaving the mental hospital are given appointments at the central full-time clinic or the part-time clinics.

Special attention is being given to alcoholics in the area particularly in conjunction with the activities of the six Alcoholics Anonymous groups in the city of Prince Albert.

Good co-operation is being obtained from the practising physicians in the area.

During the five months that the clinic was operating in 1959 there were 173 referred patients seen, all of them for the first time.

Psychiatric Out-Patient Clinic, University Hospital, Saskatoon

This clinic is operated by the same staff as operate the psychiatric Ward of the University Hospital.

As in the case of the ward, it is used as a teaching facility for undergraduates in the medical school and for the training and supervised experience of graduate doctors seeking specialist qualifications in psychiatry.

Because of the MacNeill Clinic's special interest in child psychiatry, there is a greater proportion of adults in this clinic.

During the year 792 patients were referred to the clinic of which 671 were new and 121 had been seen previously.

Part-Time Mental Health Clinics

During 1959 part-time clinics, mainly used for diagnostic formulations in regard to the patients referred and for psychiatric consultations to practising physicians and with only a minimum of short-term treatment possible, were operated by the mental hospital and full-time clinic staffs.

The Saskatchewan Hospital North Battleford staff operated part-time clinics at the city of North Battleford and at Kindersley, Biggar and Rosetown.

The staff of Saskatchewan Hospital Weyburn operated part-time clinics at the city of Weyburn and at Estevan.

The Regina Mental Health Clinic operated the part-time clinic at Prince Albert until it became a full-time operation and also were in charge of the part-time clinic at Yorkton and the consultations at the Fort San and Indian Hospital at Fort Qu'Appelle.

The Mental Health Clinic, Moose Jaw operated the part-time clinics at Assiniboia and Davidson.

The Swift Current Mental Health Clinic operated part-time clinics at Maple Creek, Shaunavon and Leader.

The Prince Albert Mental Health Clinic operated part-time clinics at Nipawin, Tisdale and Melfort.

The part-time clinics, during 1959, had referred to them a total of 850 patients of which 563 were new patients and 287 had been seen previously. This represents an increase of 11.5 percent over the previous year.

INSTITUTIONAL SERVICES

Saskatchewan Hospital North Battleford

The Saskatchewan Hospital North Battleford provides services to the northern half of the province. Despite an unprecedented high rate of admissions, 761 as opposed to 706 in 1958, the average daily population declined to 1,719.12. The average decline in patient population over the past five years has been 36.73 patients. The number of readmissions increased from 260 in 1958 to 306 in 1959. Deaths increased from 171 to 179. Perhaps most significant is the increase in the number of patients boarding out, from 14 to 43. In many cases boarding out has served as a rehabilitative process with the patient ultimately being discharged.

Treatment

The program has been designed to sustain and enhance a therapeutic atmosphere with the continuation of individual and group therapies and rehabilitation and community integration of the patient being the ultimate goal.

Among the physical and pharmacological modes of treatment specific to psychiatry, it is of interest in that psychosurgery has not been used for the last four years, insulin therapy was discontinued during 1959 and there has been a decline in the application of electro-convulsive therapy. These treatments have been replaced by the greater use of psychopharmaceutical drugs. The drugs are the least drastic of all the measures noted above, they are more readily accepted by the patient and are a superior agent for the facilitation of psychological and sociological therapies. They may be continued after the patients' release from hospital.

Volunteers provided through the Saskatchewan Division of the Canadian Mental Health Association come from Prince Albert once monthly, from Saskatoon twice monthly and from North Battleford twice weekly to visit patients. This indication of community interest and the bringing of outside stimulation into the hospital has been of definite therapeutic value

Staff

There was considerable turnover among medical staff largely as a consequence of the residency training program which demands that resident psychiatrists receive a number of different placements during their training years. The close liaison between the hospital and the School of Medicine, Department of Psychiatry was maintained especially through seminars conducted in North Battleford or in Saskatoon for medical students.

The nursing staff has been maintained close to full establishment except for a period toward the end of each winter, when recruitment drops off sharply. But for 11 orderlies and nurses aides, all nursing personnel were either psychiatric nurses or students. The proportion of graduates to students remains high. There have been fewer male applicants in recent years with the result that more female nurses are assigned to the men's service. There are definite advantages to this particularly where elderly patients are concerned. The nursing instructors continue to provide an aggressive program. The block system was introduced for first year students and a ward administration course was provided for supervisors and for senior psychiatric nurses. Twenty-eight students received their diplomas in psychiatric nursing.

Facilities

A considerable number of major and minor repairs have been made by the maintenance staff throughout the hospital. Major modifications will be required in several areas where repairs are no longer a satisfactory solution. Additional office space is a definite requirement as are additional classrooms. Progress has been made in obtaining modern equipment for food service but some structural modernization is required. The trend toward mechanization in housekeeping, laundry and farming operations will have to be continued and preferably at an accelerated rate. One of the major reasons for this is the decline in patient labor with better rehabilitative procedures, another is the increasing proportion of aged patients. Farming operations continued on the whole favorable with livestock and dairy activities producing at optimum levels. Unseasonable weather prevented the harvest of all the fruit and vegetable products but there was an abundance for hospital use.

At the main building site reservoir pumps were installed and the irrigation system for lawns and gardens renovated and improved with vinyl plastic piping. Provision was made for patients' gardens to replace the undesirable location along the river bank.

The Department of Public Works, through its winter works program, tiled the floors on three large wards, renovated one staff building, repaired others and renovated the roof of the pasteurization building. Some of the wards have been improved by new furniture.

Research

The staff at the Saskatchewan Hospital North Battleford have for several years contributed to the psychiatric research program in Sask-

atchewan. However, for the first time in 1959 it was possible to do so through a full-time specialized research staff. Psychiatry, psychology, biochemistry and nursing are represented, permitting a teamwork approach to complex problems in areas co-ordinated by the central research unit in Saskatoon. The major studies in progress deal with the prevention of arteriosclerosis and the biochemistry of schizophrenia. A large number of smaller experiments have been carried out.

Saskatchewan Hospital Weyburn

The Saskatchewan Hospital Weyburn serves the southern half of the province insofar as mental hospital care is concerned. The end of 1959 saw 31 fewer patients in hospital than at December 31, 1958. However, the total on register and the average patient population over the year stayed on a par with the 1958 figures. The difference at the end of the year was attributable to a more agressive boarding-out program and to a larger number of patients on probation.

The number of new admissions increased sharply (by 80) to 398. On the other hand, readmissions dropped by 20 per cent. Deaths increased from 117 in 1958 to 129 in 1959. Discharges increased (by 18) from 498 to 516.

Treatment

The various individual therapies were carried out as in the past with some additional attention paid to new techniques with the alcoholic group. The milieu therapy program described in previous reports received constructive analysis in order that the principles involved might be understood with more clarity. This had led to a scrutiny of interpersonal relationships between nurses and patients and between patients themselves. Much attention was paid to promoting the type of relationship desired over the patient's whole day which meant evolving new techniques and improving facilities. Patient committees contributed a good deal toward the administration of ward programs designed to keep interest and attention active. It is particularly important to the long-stay patient for the daily life within the hospital to be as stimulating as possible because there is relatively little stimulation coming from the outside. There has been a notable reduction in regressive tendencies with the emphasis on the social milieu therapy.

Greater emphasis was placed on the boarding-out program and in the placement of patients back into the community. This was made possible by an increased number of social workers. The ability to provide better rehabilitation services is reflected by the lower readmission rate.

Staff

The percentage of turnover of staff dropped to 25 per cent in 1959 from 36 per cent, 37 per cent and 26 per cent in 1956, 1957 and 1958 respectively. The average number of unfilled positions was 14 as compared to the high 88 in 1957. The ratio of graduate psychiatric nurses to others improved. The establishment for psychiatrists was maintained close to maximum levels throughout the year.

Maintenance and New Construction

All but one of the basement wards has now been renovated. This one ward, in which mentally retarded patients are housed, will receive

attention next. During the year the roof on the southeast wing was removed and new staff quarters and a new 50-bed ward for the male physically ill were constructed there. A new trunk sewer was installed and a complete new cement floor laid throughout the basement of the wing which was then covered with floor tile. Fluorescent light fixtures were installed during the year and this program is nearly completed. Four cottages have been re-wired. An isolation unit is being set up to house patients showing resistant T.B. bacilli.

A new gas-fired boiler was put into action early in May. A second will be installed and that will do away with the long deplored coal and ash gangs.

There was some concern about the water supply during the summer of 1959. However, the heavy rainfall in the autumn replenished the supply in the reservoir.

Modifications in the structure of the food service facilities in the hospital are now nearly complete. There is a great improvement with decentralization and major equipment is in good working condition. There are now 12 ward-food-service-units and three large dining rooms in operation.

The farm and gardens suffered from drought and hail. However, health and management of livestock improved. Milk production is increasing. Landscaping around the buildings progressed but the drought conditions and the shortage of available water militated against efforts.

The laundry continues to give good service but a six-day work-week is necessary. Further automation is required with the decrease in patient help available.

A recent inspection by the Fire Commissioner's office and the city fire chief indicated that the hospital has a very satisfactory fire protection program.

Research

The Weyburn Hospital has been the scene of a good deal of research. Thirteen papers were published by the staff in scientific journals. Much attention was paid to studying the ways in which the mentally ill perceive their environment and in studying their pathological perceptual processes. The effects of all types of institutionalization were studied in detail. A large number of small but practical research projects were carried out to gain more information on the effective utilization of space for the promotion of healthy interpersonal relationships. Floor designs, colour patterns and the like also came under scrutiny.

Saskatchewan Training School, Moose Jaw

The Saskatchewan Training School, Moose Jaw provides accommodation for slightly more than 1,100 mentally retarded people in all age groups. It is the only centre offering in-patient care to the mentally retarded in the province with the exception of a small privately operated community in Rosthern. There are an estimated 27,000 people of deficient intelligence in Saskatchewan. There are over 500 children and adults on the waiting list despite the fact that Saskatchewan provides facilities for proportionately more than other Canadian provinces.

The rate of turnover is slow since only patients of relatively higher intelligence levels can be trained with the objective of rehabilitation into

the community. Those admitted tend to be people of lower intelligence who present very serious problems in the home and community. This further aggravates problems of accommodation.

Separations during the year totalled 40, 12 through deaths, 22 through discharges and six by transfers for more appropriate care at other centres. There were 32 first admissions, four patients re-admitted and six entered the training school by transfers from other provincial institutions. In this latter respect, it might be pointed out that the hospitalized mentally retarded who contract tuberculosis are transferred to the active treatment centre at the Saskatchewan Hospital Weyburn.

Treatment

The training school program for the year was influenced by the factors described above and every effort was made to make room for some of the more urgent cases on the waiting list. The boarding-out program got off to a good start with 11 patients being in family care at the end of the year. A review was made by the social work staff, assisted by the social workers at some of the mental health clinics, of many of the patients on the waiting lists. As a result, it was sometimes possible to modify the priority rankings to meet changing home conditions. A start was made on providing some training for parents so that they will be in a better position to care for retarded children at home. A very active summer camping program permitted some beds to be freed during the summer months and these were made available on a temporary basis to urgent cases on the waiting list to provide a respite for some parents. Proposals were considered for further steps in coming years.

A good start was made in increasing the extent of group activities for patients. One mixed group is in charge of running its own program and has arranged field trips and discussion groups. The members are patients in the later stages of their training program. Volunteer groups continue to give strong active support. The Women's Auxiliary to the school presented paddling pools, conducted handicraft and gardening classes, donated Christmas gifts, and organized "adoptions" for birthdays and Christmas greetings. Volunteers also run Scouts, Cubs, Guides and Brownies. Some of the patients attend regular camps and it is noted that the Guides won the Best Camper Award.

Camps sponsored by the training school cater to approximately 300 patients for 10 days each. A camp counselling program took place in the spring with the help of the recreational division of the Department of Education and members of Camp Easter Seal. The Saskatchewan Association for Retarded Children sent representatives for instruction to assist in starting camping and community day schools.

Academic training continues for those who are able, as does training in technical skills.

Staff

There was a marked improvement in the availability of qualified staff. However, the ratio of student nurses to nursing personnel generally is still heavily weighted on the student side. More social workers, another psychologist, professionally trained adjunctive therapists and a physiotherapist are still required.

The training program for nurses was expanded to provide a post-graduate course in ward administration to ward supervisors and senior

psychiatric nurses. It is expected that this program will be reflected in a higher standard on patient care.

Facilities

Corrective maintenance was carried out on some of the tunnels to provide for better waterproofing and some roofs received similar attention. Heating improvements were carried out on the Parkview and Riverview cottages. The ventilation was improved in the B wing of the hospital and in the administration building. Modifications were completed in the main kitchen area and the Riverview dining areas to provide better facilities and ease of serving. Steady progress has been made with the landscaping.

Research

The psychologist was provided with a set of offices where experiments are now being carried out on the ability of patients of different intellectual levels to put sustained effort into the repetitive tasks so often found in industry. It is expected that the results of the experiment will be of widespread interest. Similarly, space is made available for biochemical research which has been done on a small scale but is expanding now. There is a great field for research to provide better understanding of the causes, treatment and particularly the prevention of several forms of mental deficiency.

PSYCHIATRIC RESEARCH

The provincial psychiatric research program is an extremely active one, well staffed with representatives from many disciplines and well supplied with equipment but lack of space is a serious problem and will remain so until a separate research building is constructed. The central, and major unit is located in the University Hospital. Further space has recently been obtained through the kind offices of the Canadian Mental Health Association, in a house which is directly across the street from the university. There are also research laboratories located at the Saskatchewan Hospital North Battleford and the Saskatchewan Hospital Weyburn. Facilities are now being arranged at the Saskatchewan Training School. Further, some research projects are undertaken from time to time at the clinics and psychiatric wards. In all cases there is co-ordination through a research committee of which the chairman is the director of psychiatric research.

The bulk of the staff, supplies and equipment are supplied by the province. Mental health grants support some research projects and funds are also made available periodically through grants from various foundations.

The research staff have maintained steady progress in exploring the leads which were developed during the preceding years. The four major areas under investigation continue to be schizophrenia, senile states, anxiety and depression, and alcoholism.

Schizophrenia is the major psychiatric problem and its biochemistry has been the principal area of study. Briefly, it is hypothesized that there

is a disturbance in the metabolism of adrenochrome (or a similar compound) which leads to the production of other toxic chemicals. These poison certain brain centres and resulting dysfunction produces the symptom-complex known as schizophrenia. There has been considerable evidence to support this hypothesis and a specific substance has been found constantly in the urine of patients who show many of the symptoms found in schizophrenics. This is present when they are sick and disappears as they recover. It is possible that this may lead to a simple biochemical test. It may, however, require much work to prove this conclusively and even more work to identify this substance and discover its source.

The clinical and psychological studies have yielded more precise information in showing that their perception of the world around us is altered in schizophrenics. Schizophrenics are forced by their disease to live in an apparently unstable, shifting world where shapes, forms, sizes, colors and identities are constantly in flux. This may account for much of their clinical symptomatology.

A review was made of 250 patients who were treated with nicotinic acid as an integral part of their treatment since 1952. The evidence indicates that this vitamin substantially improves the response. Patients receiving nicotinic acid (or nicotinamide) are healthier, relapsed less often and required many fewer admissions to psychiatric hospitals. A new treatment was developed which is helpful for some of the patients who failed to respond to nicotinic acid alone. This consists of a combination of electro-convulsive therapy with nicotinic acid and penicillamine. The results so far are encouraging.

Studies with chronic schizophrenic patients at Weyburn have shown that many current and popular ideas about the "schizophrenic culture" of mental hospitals are misleading. Schizophrenics do not form a culture. They merely exist in mental hospital as a complex of isolates. This and other similar findings are most important and may lead directly to many therapeutic ideas.

Studies with senile states continue, particularly in the sub-unit at the Saskatchewan Hospital North Battleford. The use of nicotinic acid for lowering cholesterol levels in humans has been corroborated by over 50 independent medical reports. Exploration is now being carried out to test its use for inhibiting the onset of senile mental changes. The results are encouraging. It may turn out to be most important to begin the treatment early in the course of the development of senile changes and therefore these studies may be of great value to those concerned with the prevention of disease. Much work has been done in trying to discover why nicotinic acid lowers cholesterol. The answer is still elusive.

The research on anxiety and depression is based upon the hypothesis that tension is due to too much adrenaline and that apathy and some depressions are due to too little adrenaline. An antidote has been developed to the tensions which may result from too much adrenaline. This compound was made in the research laboratory and is now being tested on a large scale in several psychiatric centres. The unit has developed a compound which resembles adrenaline but which is not toxic. It is being tested as a treatment for chronic mild depressions.

The studies with alcoholism continue. LSD-25 is being used as a treatment with very encouraging results and the methods of administration are being tested to determine the most effective procedure.

TABLE 17. MOVEMENT OF PATIENT POPULATION OF THE MUNROE WING, REGINA GENERAL HOSPITAL, THE PSYCHIATRIC WARD, MOOSE JAW UNION HOSPITAL, AND UNIVERSITY HOSPITAL, SASKATOON, SASKATCHEWAN, 1959

Movement of patients	Total			Munroe Wing, Regina			Psychiatric Unit, Moose Jaw			University Hospital, Saskatoon		
	Both sexes	Sex of patient		Both sexes	Sex of patient		Both sexes	Sex of patient		Both sexes	Sex of patient	
		Male	Female		Male	Female		Male	Female		Male	Female
In hospital January 1, 1959	67	27	40	21	8	13	19	9	10	27	10	17
Admissions during 1959	1,196	528	668	389	186	203	257	105	152	550	237	313
First admissions	694	312	382	232	118	114	135	52	83	327	142	185
Readmissions	502	216	286	157	68	89	122	53	69	223	95	128
Discharges during 1959	1,183	523	660	382	180	202	257	107	150	544	236	308
Returned home, improved	896	380	516	298	132	166	203	80	123	395	168	227
Returned home, unimproved	99	48	51	45	24	21	18	10	8	36	14	22
Transferred to general hospitals	47	24	23	14	10	4	12	5	7	21	9	12
Transferred to mental hospitals	119	62	57	22	11	11	22	10	12	75	41	34
Deaths	7	5	2	3	3	....	2	2	....	2	....	2
Other	15	4	11	....	....	....	....	....	....	15	4	11
In hospital December 31, 1959	80	32	48	28	14	14	19	7	12	33	11	22
Total number of patient days	29,081	....	....	10,462	....	....	6,320	....	....	12,299	....	....
Average daily census	77.9	....	....	26.9	....	....	17.3	....	....	33.7	....	....
Average length of stay (days)	23.0	....	....	25.5	....	....	22.9	....	....	21.3	....	....

TABLE 18. AGE OF PATIENTS ADMITTED TO THE MUNROE WING, REGINA GENERAL HOSPITAL, AND THE PSYCHIATRIC WARD, MOOSE JAW UNION HOSPITAL, SASKATCHEWAN, 1959

Age of patient	Number			Per cent		
	Both sexes	Male	Female	Both sexes	Male	Female
	Both Institutions					
All ages	646	291	355	100.0	100.0	100.0
Under 15	7	4	3	1.1	1.4	0.8
15-34	200	90	110	31.0	30.9	31.0
35-54	283	128	155	43.8	44.0	43.7
55 and over	156	69	87	24.1	23.7	24.5
	Munroe Wing, Regina					
All ages	389	186	203	100.0	100.0	100.0
Under 15	6	4	2	1.5	2.2	1.0
15-34	127	62	65	32.6	33.3	32.0
35-54	178	87	91	45.8	46.8	44.8
55 and over	78	33	45	20.1	17.7	22.2
	Psychiatric Ward, Moose Jaw					
All ages	257	105	152	100.0	100.0	100.0
Under 15	1	....	1	0.4	....	0.7
15-34	73	28	45	28.4	26.7	29.6
35-54	105	41	64	40.9	39.0	42.1
55 and over	78	36	42	30.3	34.3	27.6

TABLE 19. DIAGNOSIS OF PATIENTS ADMITTED TO THE MUNROE WING, REGINA GENERAL HOSPITAL, SASKATCHEWAN, 1959

Diagnosis*	Both sexes	Sex of patient	
		Male	Female
All diagnoses	389	186	203
Psychoses (300-309)	173	69	104
Schizophrenic disorders (300)	75	33	42
Manic-depressive reaction (301)	30	7	23
Involutional melancholia (302)	31	7	24
Paranoia and paranoid states (303)	3	1	2
Senile psychosis (304)	10	7	3
Presenile psychosis (305)	2	....	2
Psychosis with cerebral arteriosclerosis (306)	8	6	2
Alcoholic psychosis (307)	5	3	2
Psychosis of other demonstrable aetiology (308)	4	2	2
Other and unspecified psychoses (309)	5	3	2
Psychoneurotic disorders (310-318)	94	36	58
Anxiety reaction without mention of somatic symptoms (310)	19	10	9
Hysterical reaction without mention of anxiety reaction (311)	10	3	7
Phobic reaction (312)	2	1	1
Obsessive-complusive reaction (313)	5	2	3
Neurotic-depressive reaction (314)	50	20	30
Psychoneurosis with somatic symptoms affecting circulatory system (315)	3	....	3
Psychoneurosis with somatic symptoms affecting digestive system (316)	....	....	....
Psychoneurosis with somatic symptoms affecting other systems (317)	2	....	2
Psychoneurotic disorders, other, mixed and unspecified types (318)	3	....	3
Disorders of character, behaviour and intelligence (320-326)	112	76	36
Pathological personality (320)	27	12	15
Immature personality (321)	14	6	8
Alcoholism (322)	59	52	7
Other drug addiction (323)	3	2	1
Primary childhood behaviour disorders (324)	2	2	....
Mental deficiency (325)	4	1	3
Other unspecified character, behaviour, and intelligence disorders (326)	3	1	2
Epilepsy (353)	4	1	3
Other	6	4	2

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

TABLE 20. DIAGNOSIS OF PATIENTS ADMITTED TO THE PSYCHIATRIC WARD, MOOSE JAW UNION HOSPITAL, SASKATCHEWAN, 1959

Diagnosis*	Both sexes	Sex of patient	
		Male	Female
All diagnoses	257	105	152
Psychoses (300-309)	125	44	81
Schizophrenic disorders (300)	37	13	24
Manic-depressive reaction (301)	36	8	28
Involutional melancholia (302)	15	1	14
Paranoia and paranoid states (303)	2	1	1
Senile psychosis (304)	7	5	2
Presenile psychosis (305)	6	6	....
Psychosis with cerebral arteriosclerosis (306)	15	7	8
Alcoholic psychosis (307)	2	1	1
Psychosis of other demonstrable aetiology (308)	5	2	3
Other and unspecified psychoses (309)	....	....	....
Psychoneurotic disorders (310-318)	89	35	54
Anxiety reaction without mention of somatic symptoms (310)	15	9	6
Hysterical reaction without mention of anxiety reaction (311)	13	1	12
Phobic reaction (312)	2	2	....
Obsessive-compulsive reaction (313)	2	....	2
Neurotic-depressive reaction (314)	41	15	26
Psychoneurosis with somatic symptoms affecting circulatory system (315)	4	3	1
Psychoneurosis with somatic symptoms affecting digestive system (316)	....	....	....
Psychoneurosis with somatic symptoms affecting other systems (317)	4	1	3
Psychoneurotic disorders, other, mixed, and unspecified types (318)	8	4	4
Disorders of character, behaviour and intelligence (320-326)	38	23	15
Pathological personality(320)	15	8	7
Immature personality (321)	6	2	4
Alcoholism (322)	13	11	2
Other drug addiction (323)	2	....	2
Primary childhood behaviour disorders (324)	1	1	....
Mental deficiency (325)	....	....	....
Other unspecified character, behaviour, and intelligence disorders (326)	1	1	....
Epilepsy (353)	3	1	2
Other	2	2	....

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

TABLE 21. DIAGNOSIS OF PATIENTS ADMITTED TO THE PSYCHIATRIC WARD, UNIVERSITY HOSPITAL, SASKATOON, SASKATCHEWAN, 1959

Diagnosis*	In-patient			Out-patient
	Both sexes	Sex of patient		Both sexes
		Male	Female	
All diagnoses	550	237	313	671
Psychoses (300-309)	265	111	154	155
Schizophrenic disorders (300)	100	37	63	39
Manic-depressive reaction (301)	71	28	43	69
Involutional melancholia (302)	30	13	17	25
Paranoia and paranoid states (303)	9	6	3	3
Senile psychosis (304)	9	4	5	12
Presenile psychosis (305)	....	....	....	1
Psychosis with cerebral arteriosclerosis (306)	12	4	8	....
Alcoholic psychosis (307)	6	5	1	....
Psychosis of other demonstrable aetiology (308)	16	9	7	2
Other and unspecified psychosis (309)	12	5	7	4
Psychoneurotic disorders (310-318)	169	51	118	232
Anxiety reaction without mention of somatic symptoms (310)	63	25	38	141
Hysterical reaction without mention of anxiety reaction (311)	16	4	12	25
Phobic reaction (312)	....	....	....	3
Obsessive-compulsive reaction (313)	1	....	1	6
Neurotic-depressive reaction (314)	50	9	41	20
Psychoneurosis with somatic symptoms affecting circulatory system (315)	1	....	1	....
Psychoneurosis with somatic symptoms affecting digestive system (316)	....	....	....	3
Psychoneurosis with somatic symptoms affecting other systems (317)	3	....	3	11
Psychoneurotic disorders, other, mixed, and unspecified types (318)	35	13	22	23
Disorders of character, behaviour and intelligence (320-326)	103	71	32	165
Pathological personality (320)	15	7	8	25
Immature personality (321)	18	8	10	25
Alcoholism (322)	58	52	6	24
Other drug addiction (323)	4	....	4	1
Primary childhood behaviour disorders (324)	1	....	1	6
Mental deficiency (325)	4	1	3	51
Other unspecified character, behaviour, and intelligence disorders (326)	3	3	....	33
Epilepsy (353)	4	2	2	1
Other	9	2	7	118

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

TABLE 22. MOVEMENT OF PATIENT POPULATION OF THE SASKATCHEWAN HOSPITALS, NORTH BATTLEFORD AND WEYBURN, 1959

Movement of patients	Total			Saskatchewan Hospital North Battleford			Saskatchewan Hospital Weyburn		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
On the register, January 1, 1959	3,490	2,074	1,416	1,868	1,122	746	1,622	952	670
In hospital	3,317	2,014	1,303	1,742	1,073	669	1,575	941	634
On trial leave	156	55	101	112	46	66	44	9	35
Boarding out	17	5	12	14	3	11	3	2	1
Admissions during year	1,421	802	619	761	440	321	660	362	298
First admissions	849	528	321	451	287	164	398	241	157
Readmissions	555	264	291	306	152	154	249	112	137
Transfers received	17	10	7	4	1	3	13	9	4
Discharges	1,089	603	486	573	339	234	516	264	252
Transfers to other mental hospitals	21	13	8	9	4	5	12	9	3
Deaths	308	185	123	179	107	72	129	78	51
On the register, December 31, 1959	3,494	2,076	1,418	1,868	1,112	756	1,626	964	662
In hospital	3,251	1,967	1,284	1,707	1,041	666	1,544	926	618
On trial leave	187	81	106	118	51	67	69	30	39
Boarding out	56	28	28	43	20	23	13	8	5

TABLE 23. FIRST ADMISSIONS, READMISSIONS, DISCHARGES AND DEATHS BY AGE AND SEX, SASKATCHEWAN HOSPITAL, NORTH BATTLEFORD, 1959

Age group	First admissions	Re-admissions	Transfers in	Dis-charges	Deaths	Transfers out
	Both sexes					
All ages	451	306	4	573	179	9
Under 15	2	3	....	5	....	....
15-24	49	20	1	55	1	4
25-44	158	143	3	282	1	2
45-64	74	88	....	140	18	3
65-69	24	19	....	32	11	....
70 and over	144	33	....	59	148	....
	Male					
All ages	287	152	1	339	107	4
Under 15	2	3	....	4	....	....
15-24	33	10	....	33	1	1
25-44	100	77	1	177	1	2
45-64	43	34	....	71	11	1
65-69	13	10	....	16	10	....
70 and over	96	18	....	38	84	....
	Female					
All ages	164	154	3	234	72	5
Under 15	....	....	....	1	....	....
15-24	16	10	1	22	....	3
25-44	58	66	2	105	....	....
45-64	31	54	....	69	7	2
65-69	11	9	....	16	1	....
70 and over	48	15	....	21	64	....

TABLE 24. FIRST ADMISSIONS, READMISSIONS, DISCHARGES AND DEATHS BY AGE AND SEX, SASKATCHEWAN HOSPITAL, WEYBURN, 1959

Age group	First admissions	Re-admissions	Transfers in	Dis-charges	Deaths	Transfers out
	Both sexes					
All ages	398	249	13	516	129	12
Under 15	2	....	....	1	....	....
15-24	29	15	2	38	1	1
25-44	135	111	8	218	4	9
45-64	97	83	3	179	14	2
65-69	26	19	....	30	18	....
70 and over	109	21	....	50	92	....
	Male					
All ages	241	112	9	264	78	9
Under 15	2	....	....	1	....	....
15-24	19	8	2	29	1	1
25-44	83	58	5	114	1	6
45-64	56	29	2	84	7	2
65-69	14	10	....	16	12	....
70 and over	67	7	....	20	57	....
	Female					
All ages	157	137	4	252	51	3
Under 15	....	....	....	....	....	....
15-24	10	7	....	9	....	....
25-44	52	53	3	104	3	3
45-64	41	54	1	95	7	....
65-69	12	9	....	14	6	....
70 and over	42	14	....	30	35	....

TABLE 25. FIRST ADMISSIONS, READMISSIONS, DISCHARGES, AND DEATHS BY DIAGNOSIS, SASKATCHEWAN HOSPITALS, NORTH BATTLEFORD AND WEYBURN, 1959

Diagnosis*	Both institutions						Saskatchewan Hospital North Battleford						Saskatchewan Hospital Weyburn					
	First admissions	Readmissions	Transfers in	Discharges	Deaths	Transfers out	First admissions	Readmissions	Transfers in	Discharges	Deaths	Transfers out	First admissions	Readmissions	Transfers in	Discharges	Deaths	Transfers out
All diagnoses	849	555	17	1,089	308	21	451	306	4	573	179	9	398	249	13	516	129	12
Psychoses (300-309)	565	403	12	715	276	16	314	230	4	386	171	6	251	173	8	329	105	10
Schizophrenic disorders (300)	190	239	11	361	35	14	84	128	4	183	23	4	106	111	7	178	12	10
Manic-depressive reaction (301)	35	64	1	120	15	....	11	29	....	49	6	....	24	35	1	71	9	....
Involutional melancholia (302)	36	35	....	78	4	....	30	24	....	49	2	....	6	11	....	29	2	....
Paranoia and paranoid states (303)	15	3	....	14	1	....	9	....	....	4	1	....	6	3	....	10	....	....
Senile and presenile psychosis (304-305)	92	9	....	26	92	....	65	7	....	15	58	....	27	2	....	11	34	....
Psychosis with cerebral arteriosclerosis (306)	142	25	....	47	104	....	79	20	....	33	63	....	63	5	....	14	41	....
Alcoholic psychosis (307)	9	5	....	16	....	....	9	5	....	16	....	....	....	....	....	....	....	....
Other and unspecified psychoses (308-309)	46	23	....	53	25	2	27	17	....	37	18	2	19	6	....	16	7	....
Psychoneurotic disorders (310-318)	93	44	....	120	6	....	46	20	....	61	1	....	47	24	....	59	5	....
Anxiety reaction (310)	24	6	....	25	5	....	5	1	....	9	....	....	19	5	....	16	5	....
Hysterical reaction (311)	10	2	....	9	....	....	5	1	....	4	....	....	5	1	....	5	....	....
Phobic reaction (312)	2	....	....	2	....	....	1	....	....	1	....	....	1	....	....	1	....	....
Obsessive-compulsive reaction (313)	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....
Neurotic-depressive reaction (314)	41	27	....	59	1	....	22	13	....	30	1	....	19	14	....	29	....	....
Somatization reactions (315-317)	4	3	....	7	....	....	3	2	....	5	....	....	1	1	....	2	....	....
Other, mixed and unspecified psychoneurosis (318)	12	6	....	17	....	....	10	3	....	11	....	....	2	3	....	6	....	....
Disorders of character, behaviour and intelligence (320-326)	149	90	5	209	9	5	70	45	....	101	3	3	79	45	5	108	6	2
Pathological personality (320)	25	19	....	42	....	....	13	9	....	22	....	....	12	10	....	20	....	....
Immature personality (321)	12	2	....	19	....	....	8	1	....	9	....	....	4	1	....	10	....	....
Alcoholism (322)	76	56	....	104	....	....	35	28	....	52	....	....	41	28	....	52	....	....
Other drug addiction (323)	1	....	....	2	....	....	....	....	....	1	....	....	1	....	....	1	....	....
Primary childhood behaviour disorders (324)	3	1	....	4	....	....	3	1	....	4	....	....	....	....	....	....	....	....
Mental deficiency (325)	22	8	5	24	8	5	9	4	....	9	2	3	13	4	5	15	6	2
Other unspecified character, behaviour and intelligence disorders (326)	10	4	....	14	1	....	2	2	....	4	1	....	8	2	....	10	....	....
Epilepsy (353)	13	15	....	26	2	....	9	11	....	15	....	....	4	4	....	11	2	....
Other	29	3	....	19	15	....	12	....	....	10	4	....	17	3	....	9	11	....

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

TABLE 26. DIAGNOSIS OF PATIENTS ON REGISTER, SASKATCHEWAN HOSPITAL NORTH BATTLEFORD, DECEMBER 31, 1959

Diagnosis*	Number			Per cent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total on register, December 31, 1959	1,868	1,112	756	100.0	100.0	100.0
Psychosis (300-309)	1,640	1,001	639	87.8	90.0	84.5
Psychoneurosis (310-318)	67	11	56	3.6	1.0	7.4
Pathological personality (320)	7	7	....	0.4	0.6	....
Epilepsy (353)	27	15	12	1.4	1.4	1.6
Mental deficiency (325)	96	59	37	5.1	5.3	4.9
Other	31	19	12	1.7	1.7	1.6
In hospital, December 31, 1959	1,707	1,041	666	100.0	100.0	100.0
Psychosis (300-309)	1,508	937	571	88.3	90.0	85.7
Psychoneurosis (310-318)	50	10	40	2.9	1.0	6.0
Pathological personality (320)	7	7	....	0.4	0.7	....
Epilepsy (353)	22	12	10	1.3	1.1	1.5
Mental deficiency (325)	90	57	33	5.3	5.5	5.0
Other	30	18	12	1.8	1.7	1.8
On trial leave, December 31, 1959	118	51	67	100.0	100.0	100.0
Psychosis (300-309)	99	48	51	83.9	94.0	76.1
Psychoneurosis (310-318)	15	1	14	12.7	2.0	20.9
Pathological personality (320)	....	....	....	....	....	....
Epilepsy (353)	2	1	1	1.7	2.0	1.5
Mental deficiency (325)	2	1	1	1.7	2.0	1.5
Other	....	....	....	....	....	....
Boarding out, December 31, 1959	43	20	23	100.0	100.0	100.0
Psychosis (300-309)	33	16	17	76.7	80.0	73.9
Psychoneurosis (310-318)	2	....	2	4.7	....	8.7
Pathological personality (320)	....	....	....	....	....	....
Epilepsy (353)	3	2	1	7.0	10.0	4.3
Mental deficiency (325)	4	1	3	9.3	5.0	13.1
Other	1	1	....	2.3	5.0	....

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

TABLE 27. DIAGNOSIS OF PATIENTS ON REGISTER, SASKATCHEWAN HOSPITAL WEYBURN, DECEMBER 31, 1959

Diagnosis*	Number			Per cent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total on register, December 31, 1959	1,626	964	662	100.0	100.0	100.0
Psychosis (300-309) and psychoneurosis (310-318)	1,426	796	630	87.7	82.6	95.1
Epilepsy (353)	6	3	3	0.4	0.3	0.5
Mental deficiency (325)	167	141	26	10.3	14.6	3.9
Other (including pathological personality)	27	24	3	1.6	2.5	0.5
In hospital, December 31, 1959	1,544	926	618	100.0	100.0	100.0
Psychosis (300-309) and psychoneurosis (310-318)	1,354	765	589	87.7	82.6	95.3
Epilepsy (353)	6	3	3	0.4	0.3	0.5
Mental deficiency (325)	163	138	25	10.5	14.9	4.0
Other (including pathological personality)	21	20	1	1.4	2.2	0.2
On trial leave, December 31, 1959	69	30	39	100.0	100.0	100.0
Psychosis (300-309) and psychoneurosis (310-318)	61	25	36	88.4	83.3	92.3
Epilepsy (353)	....	....	....	....	....	....
Mental deficiency (325)	4	3	1	5.8	10.0	2.6
Other (including pathological personality)	4	2	2	5.8	6.7	5.1
Boarding out, December 31, 1959	13	8	5	100.0	100.0	100.0
Psychosis (300-309) and psychoneurosis (310-318)	11	6	5	84.6	75.0	100.0
Epilepsy (353)	....	....	....	....	....	....
Mental deficiency (325)	....	....	....	....	....	....
Other (including pathological personality)	2	2	....	15.4	25.0	....

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

TABLE 28. MOVEMENT OF PATIENTS, SASKATCHEWAN TRAINING SCHOOL, MOOSE JAW, 1959

Movement of patients	Both sexes	Sex of patient	
		Male	Female
On the register, January 1, 1959	1,179	594	585
In institution	1,123	563	560
On trial leave	56	31	25
Admissions during the year	42	21	21
First admissions	32	17	15
Readmissions	4	1	3
Transfers from other institutions in the province	6	3	3
Total patients on the register during 1959	1,221	615	606
Discharges, transfers and deaths	40	25	15
Discharges from institution	7	4	3
Discharges while on leave	15	7	8
Transfers to other institutions in the province	6	4	2
Deaths in institution	12	10	2
Deaths while on trial leave	....	....	....
On the register, December 31, 1959	1,181	590	591
In institution	1,119	559	560
On trial leave	62	31	31
Average daily census in institution, 1959	1,124	561	563

TABLE 29. NUMBER OF PATIENTS ATTENDING FULL-TIME AND PART-TIME MENTAL HEALTH CLINICS, PSYCHIATRIC SERVICES BRANCH, SASKATCHEWAN, 1959

Centres	All patients	Previous patients	New patients
All centres	4,016	1,192	2,824
Full-time centres	2,374	784	1,590
Regina	529	180	349
Moose Jaw	651	230	421
Saskatoon	721	299	422
Swift Current	300	75	225
Prince Albert (5 months)*	173	....	173
Part-time centres	850	287	563
Kindersley	69	31	38
Assiniboia	30	12	18
Prince Albert (7 months)*	54	18	36
Yorkton	93	32	61
North Battleford	222	119	103
Weyburn	90	14	76
Maple Creek	38	7	31
Shaunavon	34	11	23
Biggar	44	22	22
Rosetown	39	18	21
Davidson	6	....	6
Estevan	74	....	74
Leader	17	3	14
Nipawin	8	....	8
Tisdale	18	....	18
Melfort	14	....	14
University out-patient department	792	121	671

* Prince Albert was a part-time clinic for seven months until full-time clinic opened on August 1, 1959.

TABLE 30. COMPARATIVE MOVEMENT OF PATIENT POPULATION OF THE SASKATCHEWAN HOSPITAL NORTH BATTLEFORD, 1954-1959

Movement of patients	Year					
	1954	1955	1956	1957	1958	1959
Admissions	505	469	440	520	446	451
Voluntary	110	120	101	123	124	121
Certified	368	338	327	386	312	301
Judicial	27	11	12	11	10	29
Readmissions	209	207	252	232	260	306
Voluntary	73	90	97	74	104	119
Certified	134	115	151	152	150	176
Judicial	2	2	4	6	6	11
Transfers received	....	....	....	2	5	4
Returned from probation	70	64	104	106	96	97
Returned from boarding out	6	18	9	15	22	31
Returned after escaping	....	13	15	14	9	19
Probated	289	314	384	325	303	286
Discharged	507	503	300	319	366	389
Deaths	168	186	182	210	171	179
Transfers to other mental hospitals	2	1	6	6	9	9
Escaped from institution	21	18	18	14	11	20
Boarded out	19	23	8	15	21	60

MEDICAL AND HOSPITAL SERVICES BRANCH

In the 1959-60 fiscal year, the Medical and Hospital Services Branch continued its efforts to promote co-operation with health regions and other branches of the Department of Public Health. The overall objective of this branch is to assist in improving the quality and the effectiveness of the medical and hospital services which it supervises or administers. The branch has worked closely with the Department of Social Welfare and Rehabilitation, and the director is a member of the Interdepartmental Committee on Rehabilitation, and the Committee on Medical Care for social aid cases. The branch is represented by the director on the Advisory Committee on Alcoholism, on the Board of Directors of the Saskatchewan Council for Crippled Children and Adults, the Arthritis and Rheumatism Society, and the Co-ordinating Council on Rehabilitation. The director is also a member of the Advisory Planning Committee on Medical Care and the Study on Ageing and Long-Term Illness. The branch maintains a working relationship with the Public Assistance, Housing and Nursing Homes, Child Welfare and Rehabilitation Branches of the Department of Social Welfare.

Hospital Services Plan

No major changes were made in the policy or operations of the Hospital Servicse Plan in the fiscal year. The Minister of National Health and Welfare appointed an Advisory Committee on Hospital Insurance with two representatives from each of the provinces in Canada. Saskatchewan is represented by the Deputy Minister and the Branch Director. Saskatchewan also has representation on National Sub-committees dealing with Quality of Care, Research and Statistics, Accounting, and Reciprocity and Uniformity of Benefits.

In the report it is to be noted that the tax was removed for dependent students and nurses in training between the ages of 18 and 21. Another significant point is the fact that the coverage of the Hospital Services Plan increased by approximately 23,000 over the previous year.

Physical Restoration Division

A new service developed during the fiscal year with the opening of a Brace and Appliance Shop at the Regina Physical Restoration Centre. It is planned that braces and appliances will be available from this shop for disabled persons with long-term illness. It will be providing a service to southern Saskatchewan comparable to that provided by the Council for Crippled Children and Adults at their Brace and Appliance Shop in Saskatoon.

One of the great problems in rehabilitation in Saskatchewan is the testing, training and placement of disabled persons in gainful employment. In order to provide a testing and training program an occupational shop was opened in the Regina Physical Restoration Centre in October. Plans were also made during the year to have a voluntary organization

provide a sheltered workshop and vocational training program in order to supplement this activity. Most of the caseload in the occupational shop has been physically disabled adults and adolescents who have received maximum physical restoration but have not been placed in the community.

Three specialist physicians in Saskatoon and three in Regina were appointed to the expanded Paraplegia Screening Committee. Honorary appointments were accepted by these physicians in order to assist the chairman in the further development of the rehabilitation program for paraplegic patients.

Hospital Administration and Standards Division

There is a continuing trend which shows increasing use of regional hospitals and a decreasing utilization of the rural hospital. During the year special studies were carried out on hospital utilization by certain groups, such as Indians, old age assistance, War Veterans' allowance and other beneficiaries. As well as this, special studies were done on children's admissions to hospitals by diagnosis, particularly in relationship to the need for specialized children's hospitals.

The major emphasis on hospital construction was in the renovation of hospitals and the improvement of their service facilities. Regional hospital councils have developed further in the past year with the four organized councils now serving 67 member hospitals. These councils are developing more extensive services and providing an improved consultation service to their member hospitals. Total bed capacity of the general hospitals in the province has increased to 6,834 which is 7.6 beds per 1,000 population.

Medical Services Division

New aspects of the program in this fiscal year were the changes in policy with regard to the payment of prescription drugs in which the percentage paid by Medical Services Division was decreased from 80 per cent to 50 per cent. Provision was made for payment of 100 per cent of essential drugs of a life-saving nature where the cost would be a serious burden to the beneficiary. Payment for physicians' visits to hospitalized patients was limited to the first 14 days. Thereafter physicians may charge the patient for hospital visits. Pre- and post-operative hospital visits associated with surgical cases are not included in this limitation.

It is interesting to note that there has been a very marked increase in the number of diabetic patients receiving therapy under the public assistance program. Although the number of patients using insulin has decreased, the number using Tolbutamide has increased to a far greater extent.

Regional Medical Care Program

The public medical care program in the Swift Current Health Region entered its thirteenth year of operation on July 1, 1959. It continues to be the only program of its kind in the province. This report covers the calendar year 1959. The number of persons covered

by the Plan has increased over recent years and 51,647 residents have a fairly comprehensive health services program available. This program is administered by the Regional Board of Health and is financed from personal and property taxation levied by the Board of Health under the authority of The Health Services Act. The Board of Health also receives grants from the province to assist in carrying out their program. The rate of personal taxation continued the same as in the previous year, that is $19 for a single person, $31 for a family of two, $40 for a family of three and $48 for a family of four or more. The Board also levied a property tax of approximately 2.4 mills which represents 25 per cent of the revenue from taxation, while the other 75 per cent comes from the personal premium.

Every person residing in the region for 90 days or more is eligible for care unless otherwise entitled to services through some special federal or provincial program. It should be emphasized that eligibility is based on residence only and is not affected by the payment or non-payment of the personal or property tax. In 1959 the general benefit structure was unchanged and these benefits may be stated briefly as follows:

Medical, surgical and obstetrical care is provided by physicians within the region at their offices, at home or in the hospital, with the exception of deterrent fees on home and office calls.

Seventy-five per cent of the schedule of fees is paid for medical and surgical care of patients referred outside of the region where this specialist care is not available within the region or for emergency care while outside the region.

The cost of diagnostic and treatment services at hospital out-patient departments are paid on a special schedule of fees.

The radiological service is provided by the Regional Board who employ a radiologist. His responsibilities include the interpretation of x-ray films and the examination of patients referred from all physicians and hospitals in the region. He is also responsible for the supervision of radiological standards of the region's hospitals.

A limited dental care program with major emphasis on prevention is operated for children under 12 years of age by dentists operating from three permanent dental clinics. These dentists and their dental assistants are members of the regional staff.

In 1959 the Regional Board continued its three-year contract with the Swift Current Medical Society to provide necessary medical care. The Board continued to pay 100 per cent of the assessed accounts under the 1959 schedule of fees. The total cost of medical services within the region and the non-region medical care costs decreased slightly in 1959. The region showed a deficit of $26,800 which was less than their deficit for the previous year.

The following tables show revenues and expenditures, annual rates and costs of services and surgical operations. As well as this, expenditures and per beneficiary costs are shown in tabular form.

	1955	*1956*	*1957*	*1958*	*1959*
All revenues	$801,916	$822,748	$900,958	$947,840	$950,177
Tax levies and penalties	743,929	756,888	824,773	830,800	851,130
Grants	61,211	63,988	64,635	69,840	69,408
Sundry	6,776	11,872	14,600	12,880	12,839
Less allowance for discounts, reserves	10,000	10,000	10,000	10,000	10,000
Deficit	.....	.....	6,950	44,320	26,800
All expenditures	$801,916	$822,748	$900,958	$947,840	$950,177
Medical services	513,909	535,096	670,393	715,739	702,043
Out-patient services	66,631	67,141	72,070	69,499	73,962
Practising dentists	2,699	2,359	3,196	5,384	5,404
Radiology department	20,184	24,325	24,187	26,141	27,516
Dental department	55,599	57,516	53,245	49,720	54,752
Grants	1,800	.....	.....	.....	.....
Statistics department	11,903	10,044	10,427	11,611	10,809
Capital expenditures	10,006	4,431	1,643	1,013	1,242
Commissions to municipalities	22,139	24,705	24,600	24,401	25,356
Administration	45,153	44,050	41,196	44,332	49,093
Surplus for the year	51,893	53,081	.....	.....	.....

TABLE 31. ANNUAL RATE PER 1,000 BENEFICIARIES OF REGIONAL AND NON-REGION PHYSICIANS' SERVICES BY TYPE OF SERVICE, SWIFT CURRENT MEDICAL CARE PROGRAM, SASKATCHEWAN, 1954-1958

Type of service	1954	1955	1956	1957	1958
All physicians' services	3,991.0	4,398.7	4,105.4	4,471.9	4,594.0
Physicians' calls	3,567.8	3,690.9	3,463.7	3,756.3	3,793.8
Office	1,845.6	1,945.2	1,815.8	1,976.1	2,034.0
Home	178.8	185.1	190.9	238.5	225.7
Hospital	1,543.4	1,560.6	1,457.0	1,541.7	1,534.1
Surgical operations	273.8	279.8	263.6	272.2	269.9
Major	75.1	65.0	63.3	66.8	76.7
Minor	198.7	214.8	200.3	205.4	193.2
Confinements	29.2	29.6	28.0	26.6	28.0
Diagnostic procedures*	25.1	305.5	253.4	323.3	409.1
Laboratory	13.0	17.5	8.5	9.7	13.3
X-ray	10.0	2.0	9.0	8.4	11.2
Other†	2.1	286.0	235.9	305.2	384.6
Special services	95.1	92.9	96.7	93.5	93.2
Surgical assistant	20.9	20.5	19.6	19.5	21.4
Anaesthetist	63.8	57.4	60.4	61.8	63.8
Consultant	6.4	14.3	12.6	6.9	2.9
X-ray interpretation	4.0	0.7	4.1	5.3	5.1

* Beginning in 1952 payments from the pooled fund for diagnostic procedures performed in physicians' offices were (with a few exceptions) discontinued.

† Besides E.K.G.'s, B.M.R.'s, allergy tests and gastric analysis previously included, this category in 1955 was expanded to cover special treatments, physical examinations, and unstated procedures.

TABLE 32. NUMBER AND COST OF REGIONAL AND NON-REGION PHYSICIANS' SERVICES BY TYPE OF SERVICE, SWIFT CURRENT MEDICAL CARE PROGRAM, SASKATCHEWAN, 1958

Type of service	Number of services		Cost of services		
	Number	Annual rate per 1,000 beneficiaries	Assessed cost	Per cent	Average amount paid per beneficiary
	Regional services				
All physicians' services	221,006	4,328.5	$938,075	100.0	$ 12.41
Physicians' calls	184,097	3,605.6	383,534	40.9	5.07
Office	101,652	1,990.9	157,284	16.8	2.08
Home	11,320	221.7	30,476	3.2	0.40
Hospital*	71,125	1,393.0	195,774	20.9	2.59
Surgical operations	13,004	254.7	306,311	32.7	4.05
Major	3,381	66.2	236,162	25.2	3.12
Minor	9,623	188.5	70,149	7.5	0.93
Confinements	1,400	27.4	106,832	11.4	1.41
Diagnostic procedures	18,534	363.0	57,748	6.1	0.77
Laboratory	136	2.7	147	0.0	0.00
X-ray	57	1.1	589	0.1	0.01
Other†	18,341	359.2	57,012	6.0	0.76
Special services	3,971	77.8	78,503	8.4	1.04
Surgical assistant	908	17.8	22,179	2.4	0.29
Anaesthetist	2,906	56.9	54,806	5.8	0.73
Consultant	148	2.9	1,481	0.2	0.02
X-ray interpretation	9	0.2	37	0.0	0.00
Mileage	....	....	5,147	0.5	0.07

TABLE 32. NUMBER AND COST OF REGIONAL AND NON-REGION PHYSICIANS' SERVICES BY TYPE OF SERVICE, SWIFT CURRENT MEDICAL CARE PROGRAM, SASKATCHEWAN, 1958 —(*Concluded*)

Type of service	Number of services		Cost of services		
	Number	Annual rate per 1,000 beneficiaries	Assessed cost	Per cent	Average amount paid per beneficiary
	Non-region services				
All physicians' services	13,556	265.5	$ 108,598	100.0	$ 1.61
Physicians' calls	9,608	188.2	18,960	17.5	0.28
Office	2,200	43.1	4,077	3.8	0.06
Home	204	4.0	689	0.6	0.01
Hospital*	7,204	141.1	14,194	13.1	0.21
Surgical operations	776	15.2	51,411	47.3	0.76
Major	533	10.4	48,942	45.1	0.72
Minor	243	4.8	2,469	2.2	0.04
Confinements	28	0.5	1,630	1.5	0.03
Diagnostic procedures	2,354	46.1	21,724	20.0	0.32
Laboratory	542	10.6	745	0.7	0.01
X-ray	515	10.1	4,066	3.7	0.06
Other†	1,297	25.4	16,913	15.6	0.25
Special services	790	15.5	14,363	13.2	0.21
Surgical assistant	187	3.7	4,384	4.0	0.06
Anaesthetist	354	6.9	8,513	7.8	0.13
Consultant	....	....	....	....	....
X-ray interpretation	249	4.9	1,466	1.4	0.02
Mileage	....	....	....	....	....
Other services	....	....	510	0.5	0.01

* Excludes calls to operative cases paid for on an inclusive fee basis.

† Besides E.K.G.'s, B.M.R.'s, allergy tests and gastric analysis previously included, this category has been expanded to cover special treatments, physical examinations, and unstated procedures.

TABLE 33. NUMBER AND RATES OF REGIONAL AND NON-REGION SELECTED SURGICAL OPERATIONS, SWIFT CURRENT MEDICAL CARE PROGRAM, SASKATCHEWAN, 1958

Type of operations	Regional		Non-region	
	Number	Annual rate per 1,000 beneficiaries	Number	Annual rate per 1,000 beneficiaries
All surgical operations	13,004	254.7	804	15.7
Amputation of extremities	35	0.7	....	....
Appendectomy	236	4.6	5	0.1
Biopsy of cervix	40	1.6*	....	....
Blood transfusions	403	7.9	....	....
Cauterization of cervix	455	18.7*	....	....
Cholecystectomy	77	1.5	18	0.4
Circumcision	659	24.7†	10	0.4†
Conjunctiva operations	7	0.1	....	....
Corneal operations	343	6.7	....	....
Cystocele and rectocele	59	2.4*	....	....
Cystoscopy	106	2.1	....	....
Dilatation and curettage	319	13.1*	16	0.7*
Dilatation of urethra	67	1.3	....	....
Haemorrhoidectomy	95	1.9	6	0.1
Herniotomy	178	3.5	16	0.3
Hysterectomy	67	2.8*	3	0.1*
Hysteropexy	23	0.9*	....	....
Laparotomy (exploratory)	12	0.2	....	....
Lumbar puncture	59	1.2	....	....
Phlebectomy	53	1.0	8	0.2
Proctoscopy, sigmoidoscopy	483	9.5	....	....
Prostatectomy	....	....	....	....
Reduction of fracture	856	16.8	11	0.2
Skin grafting	23	0.5	....	....
Suture of wound or injury	1,138	22.3	....	....
Thyroidectomy	15	0.3	5	0.1
Tonsillectomy and adenoidectomy	644	12.6	10	0.2

* Based on female beneficiaries only.
† Based on male beneficiaries only.

TABLE 34. EXPENDITURES AND AMOUNTS PER BENEFICIARY FOR MEDICAL OUT-PATIENT, X-RAY, AND DENTAL SERVICES, SWIFT CURRENT MEDICAL CARE PROGRAM, SASKATCHEWAN, 1952-1959

Type of service	1952	1953	1954	1955	1956	1957*	1958	1959
	Expenditures							
Total	$ 616,887	$ 645,329	$ 640,205	$ 660,822	$ 686,256	$ 823,091	$ 866,483	$ 863,677
Medical services	472,147	502,400	502,430	513,909	535,096	670,393	715,739	702,043
Region	436,500	461,500	460,000	475,000	500,000	604,426	633,623	633,529
Non-region	35,647	40,900	42,430	38,909	35,096	65,967	82,116	68,514
Out-patient services	69,484	71,817	68,792	66,632	67,141	72,070	69,499	73,962
Region	69,305	71,500	68,524	66,437	66,937	71,591	†	†
Non-region	179	317	268	195	204	479	†	†
Radiology services	16,951	17,786	18,672	20,184	24,287	24,187	26,141	27,516
Dental care	58,305	52,827	49,812	58,298	59,732	56,441	55,104	60,156
Regional dental services	51,157	49,727	47,941	55,599	57,373	53,245	49,720	54,752
Practising dentists	7,148	3,100	1,871	2,699	2,359	3,196	5,384	5,404
Other	.....	500	500	1,800	.....	.....	.....	.....

	Amount per beneficiary							
Total	$13.49	$13.57	$13.55	$13.66	$13.91	$16.53	$16.97	$16.72
Medical services	10.32	10.57	10.63	10.62	10.85	13.46	14.02	13.59
Region	9.54	9.71	9.73	9.82	10.14	12.14	12.41	12.27
Non-region	0.78	0.86	0.90	0.80	0.71	1.32	1.61	1.32
Out-patient services	1.52	1.51	1.46	1.38	1.36	1.45	1.36	1.43
Region	1.52	1.50	1.45	1.37	1.36	1.44	†	†
Non-region	0.00	0.01	0.01	0.01	0.00	0.01	†	†
Radiology services	0.37	0.37	0.40	0.42	0.49	0.49	0.51	0.53
Dental care	1.28	1.11	1.05	1.20	1.21	1.13	1.08	1.17
Regional dental services	1.12	1.05	1.01	1.15	1.16	1.07	0.97	1.06
Practising dentists	0.16	0.06	0.04	0.05	0.05	0.06	0.11	0.11
Other	.....	0.01	0.01	0.04	.....	.....	.....	.....
	Estimated number of beneficiaries							
	45,730	47,538	47,262	48,380	49,303	49,797	51,058	51,647

Source: *Financial Statements*, Health Region No. 1, 1952-1959.

* "Amount per beneficiary" has been adjusted since the publication of the 1957-58 Annual Report because of a change in the estimated number of beneficiaries from 50,345 to 49,797.

† Figures not available.

PHYSICAL RESTORATION SERVICES

The Physical Restoration Division operated centres in Regina and in Saskatoon to help in the rehabilitation of child and adult patients handicapped by certain conditions affecting bone, muscle, joint and nervous systems. Staff of the centres co-operate in this work with family physicians, hospitals and with voluntary and other government agencies.

During the year under review an appliance shop was established in the Regina Physical Restoration Centre. This service had been provided by Regina General Hospital Brace Shop. Some internal modifications were made in the Saskatoon Physical Restoration Centre to improve clinic, physical therapy and classroom facilities.

There were 159 new patients admitted to the Saskatoon centre and 164 new patients admitted to the Regina centre.

Division Staff

Total staff establishment for the division at March 31, 1960 was as follows:

	Number of staff	*Central office*	*Regina centre*	*Saskatoon centre*
Total	83[1]	2	53	28
Funds provided by				
Provincial Department of Public Health	64	2	36	26
Provincial Department of Public Works	2	—	2	—
National Health Grants	17	—	15	2

There are eight staff vacancies at the year end, most of which were physical therapy positions.

Paraplegia Screening Committee

To provide a more uniform consultation service in the province, the committee was expanded to include three Saskatoon and three Regina physicians. Major program work and the duties of chairman were maintained in the University Hospital by the director of Rehabilitation Medicine. Patients with a history of paraplegia and possessing valid hospitalization cards were eligible for screening by the committee. See Table 35 for caseload data according to number and the text table on page 124 for etiology.

New Activities — Regina Centre

An appliance shop was established in the midsummer of 1959. Two positions were established and an "orthopedic bracemaker" appointed on November 16, 1959. Production from November 1, 1959

[1] The Saskatchewan Council for Crippled Children and Adults supplied three van drivers in Regina and two drivers in Saskatoon. The Regina General Hospital temporarily loaned a "bracemaker's helper" to the Regina centre shop.

to March 31, 1960 was valued at $1,625.60. Services were provided on 223 medical prescriptions for 167 patients in that period. Plans were made to implement a nominal charge service in 1960 to patients of the centres and of the Saskatchewan Council for Crippled Children and Adults' Vocational Rehabilitation Centre. National health grant assistance was sought for this program, at the year end.

An occupational shop was established for prevocational, conditioning and training activities. A supervisor was appointed on October 9, 1959 and a small caseload of physically disabled adult and adolescent patients began shop programs concurrent with other therapy. Study was undertaken to avoid duplication of services which were to be made available in 1960 by the Saskatchewan Council's Regina Vocational Rehabilitation Unit. The clinical psychologist worked with the shop on aptitude testing and counselling services for patients.

Medical Services — Consultants and Clinics

Consultants who assisted with regular clinic work at the centres were as follows:

	Total	*Saskatoon centre*	*Regina centre*
All specialties	20	11	9
Orthopedic surgeons	4	2	2
Paediatricians	3	1	2
Physical medicine specialists	3	3	—
Radiologists	1	—	1
Dentists and orthodontists	4	2	2
General practitioners	1	—	1
Other (for special clinics)	4	3	1

A wider range of services was available to patients due to the variety of consultants interested in rehabilitation.

In Saskatoon the medical director convened nine cleft palate clinics during the year. The cleft palate team reviewed 27 patients and evaluated nine new cases. The director foresaw the need to continue with monthly clinics in order to study the special problems presented. In addition, two weekly clinics and one diagnostic clinic per month were held in the Saskatoon centre, throughout the year. Staff also supported Saskatchewan Council mobile clinic work and in St. Paul's Hospital served post-poliomyelitis patients who required intensive physical therapy.

In Regina a permanent medical director was appointed on March 1, 1960. Increasing numbers of geriatric patients were referred and received services in radiology, physical therapy, occupational therapy and speech therapy. This group of patients also presented special problems in hemiplegia and in disability following cerebrovascular accident. Consultants, with the director and his staff reviewed patients at weekly clinics and reported their findings to family physicians. Staff supported monthly mobile treatment clinics and five mobile consultation clinics of the Saskatchewan Council, at such points as Weyburn, Estevan, Yorkton, Moose Jaw and Swift Current.

Bursary and Training Programs

Under the national health grant training programs, the following projects were undertaken or continued:

(*a*) Physical therapy, occupational therapy or physical and occupational therapy—eleven students on bursaries in four universities.

(*b*) Speech therapy graduate training—two bursaries established.

(*c*) Short courses—
"advanced training in rehabilitation"—1 occupational therapy supervisor — 1 paediatric consultant.

Four physical therapists completed training and were employed in the centres.

Other training programs included special instruction for centre staff, case conferences, two physical medicine internes (Saskatoon centre) and three physical therapy and occupational therapy internes assigned by the Canadian Physiotherapy Association and by the Canadian Association of Occupational Therapy.

At the Regina College, a summer school course for teachers and educators entitled "Speech Defects and their Correction" was conducted by the Regina centre speech therapist.

Finance

Provincial Public Health Costs:

Based on active patient caseload	*Regina centre*[1]	*Saskatoon centre*
Per diem per patient	$4.34	$4.04
Per unit of treatment	$1.52	$2.77

National health grant costs are excluded in the calculations.

Provincial funds amounting to $7,840.89 were expended for paraplegia services as follows:

All expenditures	$7,840.89
Doctors' fees	1,815.65
Braces and prosthetic appliances	843.97
Wheelchairs	2,424.33
Drugs	1,712.97
Others (including out-patient physical therapy treatments)	1,043.97

National health grant funds amounting to $1,521.78 were expended for diagnostic services. The director of the Saskatoon centre requisitioned laboratory and radiology services amounting to $1,054.38, while in the Regina centre the total spent was $467.40.

Community Relations

Staff from both centres participated in the work of such organized groups and committees as the co-ordinating council on rehabilitation, volunteer services, swim classes and in their professional societies and associations.

The centres were assisted in special activities by service clubs, public health nurses, the Saskatchewan Council for Crippled Children and Adults and by groups of parents and of volunteer ladies.

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[1] The costs of in-patient care on the rehabilitation ward, Regina Centre are not included.

Problems

The recruitment of such technical staff as physiatrists, physical therapists and appliance makers remained a challenge.

The problems presented by medically indigent patients requiring extensive services for complex disability required many hours of staff work.

Increasing numbers of geriatric patient referrals created problems of co-ordination and scheduling, particularly in physical therapy, occupational therapy, speech therapy and for the "rehabilitation centre attendants".

Paraplegia Services — to March 31, 1960

Total caseload as of April 1, 1959		49
Patients in hospital as of April 1, 1959		9
Patient readmissions during year		4
New patients admitted: Hospital	15	
Physical Restoration Centre	1	
		16
Total active cases treated during year		29
Deaths during year		3
Removal from province		1
Total caseload as of March 31, 1960		61

Paraplegia Services

Diagnoses of active cases according to etiology

Total	29
Spinal cord injury (traumatic paraplegia)	16
Multiple sclerosis	6
Poliomyelitis	2
Post meningitis	2
Tumour	1
Thoracic disc protrusion	1
Guillain-Barre syndrome	1

Rehabilitation Ward

Regina Centre—Patient-Days Care to March 31, 1960

Cases admitted	130
Cases discharged	146
Cases remaining in hospital at year end	48[1]
Days of care for discharged cases	6,025[2]
Days of care provided during the year	9,136
Average days stay per discharged case	56.6
Total days divided by admissions	70.3
Total days divided by discharges	86.2

[1] Days of care accrued in respect to these 48 cases were 3,111.

[2] "Days for discharged cases" differ from "total days of care during the year" in that, all days of care for discharged cases are included in the former, although, some of the care may have been given in preceding years, while the latter includes only the care given during the past fiscal year, including care received by patients remaining in hospital at the year end.

TABLE 35. NUMBER OF PATIENTS ON CASELOAD REGISTER, PHYSICAL RESTORATION CENTRES, SASKATCHEWAN, FISCAL YEAR 1953-54 TO 1959-60

Patient status and year	Both centres	Regina centre				Saskatoon centre			
		Cerebral palsy	Polio-myelitis	Rehabilita-tion assessment	Other	Cerebral palsy	Polio-myelitis	Rehabilita-tion assessment	Other
All patients									
1953-54	1,182	112	504	....	....	105	461	....	....
1954-55	1,158	197	437	....	12	136	328	....	48
1955-56	1,193	196	427	....	31	138	338	....	63
1956-57	1,358	213	433	9	41	137	356	69	100
1957-58	1,511	210	445	4	60	165	380	95	152
1958-59	1,802	326	490	2	173	161	365	98	187
1959-60	1,778	343	482	....	170	167	345	85	186
Hospital in-patients									
1953-54	70	2	44	....	....	....	24	....	....
1954-55	56	9	29	....	3	1	14	....	....
1955-56	40	4	29	....	3	....	4	....	....
1956-57	23	5	8	1	7	....	2	....	....
1957-58	47	11	14	2	16	....	4	....	....
1958-59	82	18	16	1	45	....	2	....	....
1959-60	167	49	34	....	77	....	7	....	....
Hospital out-patients									
1953-54	103	18	33	....	....	16	36	....	....
1954-55	106	23	33	....	....	18	25	....	7
1955-56	121	29	26	....	3	22	24	....	17
1956-57	142	36	33	2	10	15	28	4	14
1957-58	159	27	32	2	19	19	32	....	28
1958-59	187	59	13	1	43	18	20	....	33
1959-60	318	108	46	....	62	28	36	....	38
Home exercise program patients									
1953-54	1,009	92	427	....	....	89	401	....	....
1954-55	996	165	375	....	9	117	289	....	41
1955-56	1,032	163	372	....	25	116	310	....	46
1956-57	1,193	172	392	6	24	122	326	65	86
1957-58	1,305	172	399	....	25	146	344	95	124
1958-59	1,533	249	461	....	85	143	343	98	154
1959-60	1,293	186	402	....	31	139	302	85	148

TABLE 36. FIRST VISITS OF PATIENTS TO PHYSICAL RESTORATION CENTRES, SASKATCHEWAN, FISCAL YEARS 1953-54 to 1959-60

Type of patient and year	Both centres	Regina centre	Saskatoon centre
All patients			
1953-54	1,213	619	594
1954-55	1,230	633	597
1955-56	1,289	666	623
1956-57	1,418	717	701
1957-58	1,584	764	820
1958-59	851	444	407
1959-60	1,404	952	452
Poliomyelitis			
1953-54	911	504	407
1954-55	884	487	397
1955-56	878	473	405
1956-57	904	477	427
1957-58	925	487	438
1958-59	426	236	190
1959-60	669	487	182
Cerebral palsy			
1953-54	201	112	89
1954-55	238	144	94
1955-56	277	181	96
1956-57	319	212	107
1957-58	372	238	134
1958-59	200	112	88
1959-60	383	293	90
Rehabilitation assessment			
1957-58	37	11	26
1958-59	50	13	37
1959-60	46	43	3
Other			
1953-54	101	3	98
1954-55	108	2	106
1955-56	134	12	122
1956-57	195	28	167
1957-58	250	28	222
1958-59	175	83	92
1959-60	306	129	177

SASKATCHEWAN HOSPITAL SERVICES PLAN

The Saskatchewan Hospital Services Plan began operations January 1, 1947. Originally, it functioned as a branch of the Health Services Planning Commission. On April 1, 1950, however, it became a division of the Medical and Hospital Services Branch of the Department of Public Health. The Plan completed 13 years of operation at the close of 1959.

The Plan is operated under authority of The Saskatchewan Hospitalization Act. The program's purpose is to spread the total cost of hospital care over the whole population of the province, in order that hospital care may be provided according to medical necessity, and not reflect the ability of individuals to pay for the care. Coverage of Saskatchewan residents is provided on an insurance basis, through prior payment of the annual tax known as the hospitalization tax. Benefits are available to beneficiaries without regard to age or pre-existing physical conditions.

The Plan is financed partly from proceeds of the hospitalization tax, which is levied annually on a family basis, and partly from general funds of the province. The general funds used for the Plan's financing, since April 1, 1950, have included one-third of the proceeds from a sales tax levied under authority of The Education and Hospitalization Tax Act. Since July 1, 1958, the Government of Canada has made contributions toward the cost of the province's general hospital care, as provided for in an agreement between the Government of Canada and the province under the Hospital Insurance and Diagnostic Services Act (Canada). These contributions, however, are made to the province's Consolidated Fund, and therefore are not recorded as transactions of the Saskatchewan Hospitalization Fund.

The Plan's payments to Saskatchewan hospitals are based on the principle that payment should represent the full cost of efficient operation in individual institutions for services provided to the Plan's beneficiaries. Rates of payment are established through the submission by hospitals of annual budgets. A review of rates is undertaken automatically when financial statements are received following the close of each calendar year, and additional payments made if required. Since most of the care provided by hospitals involves beneficiaries of the Plan, the operating income of Saskatchewan hospitals is largely assured through this method of determining the basis of settlement for services provided.

The basis for payment of hospital bills incurred by the Plan's beneficiaries who are hospitalized outside Saskatchewan is described under the heading "benefits."

Coverage

Except for persons provided with hospital care by federal or other provincial government programs, all persons who had resided in the province for three months were required to participate in the Plan during 1959. Since 1947 there have been several changes in the classes

of persons eligible for the Plan's coverage, and in qualifications affecting residence. During the period January 1, 1948, to June 30, 1958, a six-month waiting period applied to new residents of the province. During 1947, residents of the Northern Saskatchewan Administration District (the sparsely settled northern portion of the province) were not eligible to participate. During the years 1948 to 1958, however, such residents were permitted to participate on a voluntary basis. From 1947 until July 1, 1958, Indians could participate only after they had lived apart from reserves for a period of 18 months. Since July 1, 1958, Indians on reserves have been covered under the Plan through payment of the hospitalization tax on their behalf by the Government of Canada. Those who have been away from reserves for 12 months or more are liable for payment of the tax, on the same basis as other residents of the province. War Veterans' Allowance recipients, not eligible to participate prior to July 1, 1958, also have been covered since that date through payment of the hospitalization tax on their behalf by the Government of Canada.

The province pays the hospitalization tax on behalf of certain classes of social welfare recipients whose hospital care is a provincial responsibility. Coverage under the Plan of municipal social aid cases is provided through payment of the tax by the responsible municipalities. This basis of covering social aid cases applied since the Plan's inception.

During the Plan's 13 years of operation there have been several changes in regulations governing hospitalization tax payment by new residents of the province. Since July 1, 1958, newly arrived residents of the province, who are not otherwise exempt under regulations, have been taxed from the first day of the fourth calendar month following establishment of residence in the province. Payment of the tax before completion of three months' residence provides coverage the day following the three-month waiting period. If the tax is paid after the three-month period, the Plan's protection does not become available until one month after it is paid. Beneficiaries who leave the province to reside elsewhere are not entitled to the Plan's benefits for more than three months after residence has been established outside Saskatchewan.

For statistical purposes the Plan's covered population each year reflects persons provided with coverage at any time during the period January 1 to August 31, as derived from hospitalization tax collection reports received by August 31. The August 31 total of reported beneficiaries is used as the average for the year, rather than an average arrived at from 12 month-end totals, in order to permit a machine analysis of covered population by age, sex, and marital status for each municipality in the province. During the years 1947 to 1957, covered population ranged from 92.1 per cent to 94.4 per cent of total population, based on federal census or intercensal estimates. For 1958 the percentage was 97.5. This higher ratio for that year is attributable mainly to the fact that since July 1, 1958, the Government of Canada has arranged for coverage of recipients of the War Veterans Allowance (excluding widows and orphans), for Indians residing on reserves, and for those who have been away from reserves for less than 12 months. The 1959 covered population represented 98.5 per cent of the intercensal estimate. Total covered population for 1959 was 888,503 persons, as compared to 865,544 for 1958. The main factors involved in the increase for 1959 were an overall population increase and participation of residents of the Northern Saskatchewan Administration District on a compulsory basis from January 1, 1959.

Hospitalization Tax

The hospitalization tax rates for 1959 were as follows:

For every person who reached the age of 18 years before January 1, 1959	$17.50
For every spouse, regardless of age	$17.50
For every self-supporting person regardless of age	$17.50
Dependent children who had not reached the age of 18 years at January 1, 1959	No Tax
Maximum family tax	$35.00

(Family included children over 18 who were incapacitated by reason of physical or mental infirmity and dependents between 18 and 21 years who were attending educational institutions or training at schools of nursing.)

When the 1959 family assessment exceeded $17.50, at least that amount was payable by November 30, 1958, with the balance payable May 31, 1959.

Collection of the hospitalization tax for 1960 commenced in the fall of 1959. Rates were the same as those which were in effect in 1959, except the tax was removed for dependent students and nurses-in-training between the ages of 18 and 21 years, and for dependent children of any age who were mentally or physically incapacitated.

Full payment of the hospitalization tax by November 30 provides coverage under the Plan for the ensuing calendar year. When only a partial payment has been made by November 30, the balance of the family assessment is payable by May 31 of the tax year, for coverage during the second half of the year. Any delay in paying the tax (or tax instalment) after due date results in a loss in coverage equal in length to the delay. Where arrears of taxes are involved, the Act provides that such arrears, limited to the previous five years, normally must be paid together with the currently required amount of tax before the Plan's coverage becomes available. Benefits may be provided, however, without immediate payment of arrears, in cases where settlement has been authorized on an instalment basis by the Board of Revenue Commissioners.

An infant born to a mother who is a beneficiary is automatically covered by the Plan without registration for the period to which the mother's tax payment applied. Newborns are not registered with family units until the following year.

From the Plan's beginning the bulk of annual hospitalization tax has been collected by the cities, towns, villages, rural municipalities and local improvement districts of the province. In the cities of Moose Jaw, Prince Albert and Regina, provincial collection offices have been established. In the Northern Saskatchewan Administration District, where prior to January 1, 1959, the hospitalization tax was collected from residents on a voluntary basis, but where since that date participation in the Plan has been required, the Department of Natural Resources is the collector. In the case of organized municipal areas located within the boundaries of the Northern Saskatchewan Administration District, however, municipal corporations are collectors. A few mining companies in this far northern area have been authorized to collect the hospitalization tax from their employees. The rates of commission payable to collectors of the hospitalization tax are fixed annually. For 1959, each collection agency was paid at the rate of three per cent on the first $100,000 collected, and at two and one-half per cent on amounts above that figure. The minimum commission for each collection district is $20.

Benefits

The Plan's schedule of benefits since its inception has included most in-patient services provided by hospitals. Prior to January 1, 1956, all out-patient services were excluded. At the beginning of 1956, however, tissue pathology services provided by Saskatchewan hospitals on an out-patient basis were added to the benefit schedule. Emergency out-patient treatment rendered by Saskatchewan hospitals to beneficiaries within twenty-four hours of injury was added on July 1, 1958. Coverage of hospital bills by the Plan is contingent on medical necesssity for hospital care, established in each case by the opinion of the physician attending the beneficiary.

In-patient benefits include payment for public ward accommodation (including meals, special diets and general nursing care), use of operating, case and emergency rooms, surgical dressings and casts, x-ray and physiotherapy treatments, anaesthetic drugs and equipment, and most drugs in general use. The schedule excludes services of doctors and nurses not employed by hospitals, extra charges for private and semi-private ward accommodation, patent medicines, a few of the newer and more expensive drugs, and all drugs not administered within hospitals. Out-patient services, with the exception of out-patient tissue pathology service and emergency treatment of injuries on an out-patient basis, are excluded from the benefit schedule. Services rendered on a purely diagnostic basis, whether provided on an in-patient or out-patient basis, are not included in the benefit schedule. Hospitalization for arthritis or rheumatism in institutions associated with mineral springs or spas is also excluded from the benefit schedule. No limit is placed on the amount of in-patient care which a beneficiary may obtain at the Plan's expense from Saskatchewan hospitals as long as the attending physician is of the opinion that hospital care is necessary.

When care is obtained by the Plan's beneficiaries in approved hospitals outside Saskatchewan, payments are made for hospital in-patient services which are included as benefits in Saskatchewan hospitals. Here also, coverage of hospital bills by the Plan is contingent on there being medical necessity for hospital care. During 1959, the out-of-province coverage available to participants in the Plan was as follows:

(a) For beneficiaries temporarily absent from the province:

(1) *In Canada*—payment for a maximum of 92 days of care during the year on the following basis:

—when care was obtained in a province to which the Government of Canada made contributions for hospital insurance, payment was made at the per diem rates payable by the provincial insurance plan in that province.

—where care was obtained in a province not participating with the Government of Canada in hospital insurance, payment was made at daily rates not exceeding $15 for adults and children and $2 for newborn babies.

(2) *Outside Canada*—payment was made for a maximum of 60 days of care during the year at daily rates not exceeding $15 for adults and children and $2 for newborn babies.

(b) For beneficiaries who left Saskatchewan to establish residence:

(1) *Elsewhere in Canada*—payment was made for a maximum of 92 days of care during the three-month period following

establishment of new residence, at the same rates applicable to beneficiaries temporarily absent from Saskatchewan.

(2) *Outside Canada*—payment was made for a maximum of 60 days of care during the three-month period following establishment of new residence, at daily rates not exceeding $15 for adults and children and $2 for newborn babies.

Hospitalization Experience (In-patient Care)

The volume of care covered by the Plan for the years 1947, 1951, 1956, 1958 and 1959, exclusive of care provided by geriatric hospitals, is shown in Table 37. During 1959 the Plan accepted responsibility for 186,479 discharged cases, involving a total of 1,857,539 patient days of care provided to adults and children. This volume reflects an increase of 5.1 per cent, in discharged cases as well as patient days, over 1958 experience. The average length of stay, based on discharged cases and related patient days, was 10 days for 1958 and 1959.

TABLE 37. VOLUME OF HOSPITAL CARE COVERED BY THE SASKATCHEWAN HOSPITAL SERVICES PLAN, 1947, 1951, 1956, 1958 and 1959

Year	Hospital cases*		Patient days		Average days of stay		
	Admitted	Discharged	Days for discharged cases†	Total days of care during year†	Per discharged case	Total days divided by admissions	Total days divided by discharges
	Adults and children						
1947	125,510‡	121,951	1,221,453	1,309,288	10.0	10.4	10.7
1951	155,119	154,848	1,715,232	1,721,629	11.1	11.1	11.1
1956	168,076	168,147	1,744,592	1,732,456	10.4	10.3	10.3
1958	178,061	177,509	1,767,952	1,785,457	10.0	10.0	10.1
1959	186,330	186,479	1,857,539	1,850,371	10.0	9.9	9.9
	Newborns						
1947	20,706‡	20,415	187,092	188,430	9.2	9.1	9.2
1951	19,725	19,729	169,062	168,664	8.6	8.6	8.5
1956	22,323	22,352	165,597	165,777	7.4	7.4	7.4
1958	22,510	22,483	159,376	159,663	7.1	7.1	7.1
1959	23,712	23,739	165,592	165,209	7.0	7.0	7.0

* Cases in hospital at December 31, 1959, and days of care accrued in respect of such cases were as follows:

Adults and children 4,520 cases, 88,759 days,
Newborns 373 cases, 2,206 days.

† "Days for discharged cases" differ from "Total days of care during year" in that all days of care for a discharged patient are included in the former, even though some of the care may have been given in preceding years, while "Total days of care during year" cover all care provided to Saskatchewan Hospital Services Plan beneficiaries during a given year, including care received by patients remaining in hospital at the year-end.

‡ Includes beneficiaries in hospital when the plan commenced operations on January 1, 1947.

Although the volume of care for 1959 shows an increase of 5.1 per cent over 1958 experience, the total covered population shows an increase during the same period of only 2.7 per cent. This difference is accounted for partly by a higher than average increase of population in older age groups, and partly by participation of Indians and War Veterans' Allowance recipients. Hospital care for the two federal categories mentioned is reflected in the Plan's experience during 1958 only for the last six months of the year, as compared to 12 months during 1959. Morbidity factors also have an effect on the Plan's volume of care.

The average stay in hospital for adults and children increased from 10 days in 1947 to a high of 11.1 days in 1951. With the introduction

of the present system of payment to hospitals in 1951, the average length of stay decreased gradually thereafter to its present level of 10 days, which was the average for 1958 as well as for 1959.

The volume of newborn care increased from 159,376 patient days, involving 22,483 discharged cases, in 1958 to 165,592 patient days, involving 23,739 cases, in 1959. The average stay in hospital, based on discharged cases dropped from 7.1 days for 1958 to 7.0 days for 1959. The volume increases amount to 5.6 per cent for cases and 3.9 per cent for patient days. During the Plan's 13 years of operation the average stay in hospital for newborns has decreased steadily from a high of 9.2 days in 1947 to the present level of 7.0 days.

Table 38 shows the Plan's hospitalization rates for each year since its inception. During the first two years of operation there was an abrupt rise in hospitalization rates. As may be seen in Table 38, case rates (based on discharged cases) have varied in recent years from 199 per 1,000 beneficiaries in 1951 to the high of 211 per 1,000 in 1957. The rate for 1959 was 210 per 1,000, compared to 205 per 1,000 in the previous year. Patient-day rates have varied since 1949 from 2,048 per 1,000 beneficiaries in that year to a high of 2,201 per 1,000 in 1951. For 1959 the patient-day rate was 2,091 per 1,000, and for the previous year 2,043 per 1,000. Hospitalization rates from year to year are affected by a number of factors, including age distribution of covered population and diagnoses. A significant effect is also noted in the Plan's hospitalization rates whenever there is a new participation by classes of persons which may be described as "high risk" categories. For example, recent participation of Indians and War Veterans' Allowance recipients has been a factor in keeping rates higher than they would have been without such participation. Hospitalization rates for the Plan's beneficiaries in 1959, excluding federal categories, were 206 discharged cases per 1,000 population and 2,033 patient days per 1,000.

TABLE 38. HOSPITALIZATION RATES* PER 1,000 BENEFICIARIES, SASKATCHEWAN HOSPITAL SERVICES PLAN, 1947-1959

Year	Hospital cases		Patient days	
	Admitted	Discharged	For discharged cases	Total days of care during year
1947	161	156	1,565	1,678
1948	178	178	1,875	1,920
1949	200	200	2,048	2,095
1950	204	203	2,197	2,235
1951	199	199	2,201	2,209
1952	205	205	2,175	2,155
1953	206	206	2,139	2,094
1954	204	204	2,084	2,045
1955	201	201	2,049	2,051
1956	202	202	2,099	2,085
1957	211	211	2,120	2,093
1958	206	205	2,043	2,063
1959	210	210	2,091	2,083

* Excluding newborns.

Table 39 shows the number of discharged cases per 1,000 beneficiaries by age and sex for the years 1958 and 1959, while Table 40 shows patient days per 1,000 on the same basis.

TABLE 39. DISCHARGED CASES* PER 1,000 BENEFICIARIES BY AGE AND SEX, SASKATCHEWAN HOSPITAL SERVICES PLAN, 1958 AND 1959

Age in years	Both sexes		Male		Female	
	1958	1959	1958	1959	1958	1959
All ages	205	210	163	166	251	257
0-1	311	353	354	393	264	310
1-4	162	159	176	171	147	146
5-14	116	118	120	120	112	116
15-24	207	215	101	104	312	326
25-44	215	218	102	103	328	333
45-64	201	205	174	176	232	238
65-69	296	306	282	289	313	327
70+	451	468	447	476	456	458

* Excluding newborn care.

TABLE 40. PATIENT DAYS* PER 1,000 BENEFICIARIES BY AGE AND SEX, SASKATCHEWAN HOSPITAL SERVICES PLAN, 1958 AND 1959

Age in years	Both sexes		Male		Female	
	1958	1959	1958	1959	1958	1959
All ages	2,043	2,091	1,792	1,846	2,311	2,352
0-1	2,782	3,424	3,158	3,789	2,374	3,030
1-4	1,054	1,118	1,175	1,182	924	1,049
5-14	667	683	718	708	614	657
15-24	1,378	1,414	760	787	1,986	2,040
25-44	1,679	1,662	902	903	2,458	2,422
45-64	2,498	2,564	2,181	2,243	2,856	2,923
65-69	4,674	4,743	4,476	4,567	4,929	4,963
70+	8,387	8,555	8,376	8,756	8,400	8,291

* In respect of discharged cases. Newborns excluded.

The Plan's 12 leading causes of hospitalization for adults and children in 1959 are shown in Table 41, together with comparisons for 1958.

TABLE 41. LEADING DIAGNOSES OF HOSPITAL PATIENTS, SASKATCHEWAN HOSPITAL SERVICES PLAN, 1958 AND 1959

List numbers*	Diagnosis	Discharged cases†		Per cent of discharged cases		Cases per 1,000 beneficiaries	
		1958	1959	1958	1959	1958	1959
	All causes	177,509	186,479	100.0	100.0	205.1	210.0
C43	Deliveries, complications of pregnancy, childbirth and the puerperium	30,786	32,675	17.3	17.5	35.6	36.8
BN47-50	Accidents, poisonings and violence	14,460	14,836	8.2	8.0	16.7	16.7
C29	Acute pharyngitis and tonsillitis and hypertrophy of tonsils and adenoids	12,183	11,522	6.9	6.2	14.1	13.0
C42	Diseases of genital organs	8,881	9,102	5.0	4.9	10.3	10.2
C31	Pneumonia	7,484	8,610	4.2	4.6	8.6	9.7
C25	Arteriosclerotic and degenerative heart disease	5,285	5,511	3.0	3.0	6.1	6.2
C32	Bronchitis	4,832	5,325	2.7	2.9	5.6	6.0
C12	Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues	4,433	4,720	2.5	2.5	5.1	5.3
C35	Diseases of stomach and duodenum except cancer	4,284	4,536	2.4	2.4	4.9	5.1
C36	Appendicitis	3,930	4,297	2.2	2.3	4.5	4.8
C39	Diseases of gallbladder and bile ducts	4,062	4,125	2.3	2.2	4.7	4.6
C13	Benign neoplasms and neoplasms of unspecified nature	3,925	3,890	2.2	2.1	4.5	4.4
	All other	72,964	77,330	41.1	41.4	84.3	87.2

* Classifed according to *International Statistical Classification of Diseases, Injuries, and Causes of Death, 1955* Revision, Vol. 1, pp. 383-385.

† Excluding newborns.

Until July 1, 1958, hospital services provided at the Plan's expense were restricted to those provided by public general hospitals. From that date, however, the schedule of benefits was extended to cover payment for care provided by the geriatric hospitals at Regina, Saskatoon and Melfort, which are operated by the Department of Social Welfare and Rehabilitation. As mentioned previously, care provided by those institutions has been excluded in preparing the statistical data in this report.

During the last six months of 1958, the Plan paid for a total of 81,230 days of care, involving 635 beneficiaries, provided by the three geriatric hospitals. During 1959 the volume amounted to 143,806 days of care for 892 patients. Total payment to the three hospitals during 1959 amounted to $1,051,995.

Although primarily concerned with geriatric services, the Regina Geriatric Centre also provides nursing care to persons in the hospital who were under treatment by the Regina Physical Restoration Centre. Rehabilitation patients treated by the Physical Restoration Centre ranged in age from very young to very old.

Hospitalization Experience (Out-patient Services)

Since the beginning of 1956 the Plan has been paying Saskatchewan hospitals for tissue pathology services provided to beneficiaries on an out-patient basis. Since July 1, 1958, it has been paying for out-patient services provided by Saskatchewan hospitals within 24 hours of injuries incurred by beneficiaries.

The emergency treatment program does not include payment for visits or referrals to hospital for purely diagnostic services where accidents or injuries are not involved. During 1959 and the last six months of 1958 the program covered only the initial visit to hospital following an injury, and excluded return visits for follow-up services. In the course of providing emergency treatment, however, the program covers all necessary hospital services, including x-ray services, laboratory services and use of operating room. Private physicians' services are excluded. Drugs not included as benefits under the in-patient program, and all drugs taken away from hospital for use at home, are chargeable to the beneficiaries.

During 1959 there were 29,952 beneficiaries treated under the emergency treatment program. Saskatchewan hospitals are paid by the Plan for services rendered under the emergency treatment program at a flat rate of $5 per out-patient admission.

The Plan's out-patient tissue pathology program involves payment for the use of hospital out-patient facilities in procurring tissue for pathological examination, and for subsequent examination of such tissue by hospital pathology laboratories. The program does not cover fees for private physicians' services involved in removing tissue in hospital out-patient departments, nor does it cover the cost of obtaining tissue in physicians' offices or clinics. Further, it covers only services provided by Saskatchewan hospitals. From the beginning of 1956 to the end of 1959 Saskatchewan hospitals were paid under the program at $2 for each tissue specimen taken on an out-patient basis, and $4 for each specimen examined by a pathology laboratory. At the end of 1959, ten public general hospitals in the province were operating pathology departments.

Cost of operation

Table 42 shows the Plan's total expenditure, hospitalization expense and administration expense for the years 1947, 1951, 1956, 1958 and 1959.

TABLE 42. SASKATCHEWAN HOSPITAL SERVICES PLAN EXPENDITURE*, 1947, 1951, 1956, 1958 AND 1959

Year	Total expenditure			Hospitalization expense			Administration expense		
	Amount	Per cent	Per capita	Amount†	Per cent	Per capita	Amount	Per cent	Per capita
1947	$ 7,560,763	100.0	$ 9.68	$ 6,963,258	92.1	$ 8.92	$ 597,505	7.9	$ 0.76
1951	14,010,912	100.0	17.97	13,430,802	95.9	17.22	580,110	4.1	0.75
1956	22,347,533	100.0	26.89	21,617,217	96.7	26.01	730,316	3.3	0.88
1958	28,723,035	100.0	33.18	27,874,337	97.0	32.20	848,698	3.0	0.98
1959	31,809,845‡	100.0	35.80	31,005,486‡	97.5	34.90	804,359	2.5	0.90

* Figures for the years 1947, 1951, 1956 and 1958 have been adjusted to include retroactive increases in hospital rates of payment.

† Figures for 1947 and 1951 represent in-patient expenses only. Figures for 1956, 1958 and 1959 include out-patient expenses of $17,916, $87,307 and $178,489 respectively.

‡ May be increased by retroactive hospital rate changes effected after the date of this report.

Additional information respecting covered population, hospitalization experience and cost of operation for each of the years 1947 to 1959 may be obtained from separately published annual reports of the Saskatchewan Hospital Services Plan.

HOSPITAL ADMINISTRATION AND STANDARDS

Since local governing authorities have autonomy in respect to the construction, maintenance and operation of public general hospitals throughout Saskatchewan, the staff of the division of hospital administration and standards function mainly to monitor and counsel these authorities, in order that those members of the general public admitted to hospital receive a good standard of care at reasonable costs.

The work program of the division is therefore planned to that end, authority being derived from The Hospital Standards Act and regulations thereunder, and also from The Union Hospital Act, under authority of which some 111 of 165 institutions are now organized.

Inspecting and Counselling

Supervised by a medical director, representatives of many of the disciplines related to hospital activity make up the staff complement—hospital administration, accounting, nursing, dietetics, medical technology, pharmacy, medical records, to name a few.

For administrative purposes, the province is roughly divided into eastern and western portions and divisional personnel are assigned, on as permanent a basis as circumstances permit, to cover off hospitals by location, under the supervision of senior staff. This applies to medical technology, nursing, dietetics and accounting.

Staff members representing pharmacy, case records and union hospital district activity, function on a province-wide basis.

Divisional staff offer guidance on such matters as planning construction projects; the purchase and installation of equipment; the development of hospital bylaws and medical staff rules and regulations; personnel policies; preparation of budgets; general administration; and also process all applications and claims for hospital construction grants.

The medical technologists attached to staff also function as instructors and supervisors for the training of personnel as combined technicians, for service in the small public general hospitals, a program administered by this division continuously since 1947. Financed by federal monies, under the National Health Grants program, 17 such students were graduated during the year under review, bringing the total number graduated since the inception of the program to 151.

Financial and statistical data is collected and analyzed in order that equitable rates of payment may be set for individual hospitals and for cost sharing purposes under the Hospital Insurance and Diagnostic Services Act (federal).

The financial and statistical data from which equitable rates of payment to hospitals are determined, are obtained from the uniform accounting system used in Saskatchewan hospitals. A staff of field auditors check completeness and accuracy of hospital accounting records. These auditors also assist in "on the job" training of new hospital personnel who may be unfamiliar with hospital accounting and the uniform accounting system. The information provided by hospitals

through the uniform accounting system is collated and processed. From this information, reports, tables and charts are prepared which are used by the Hospital Rate Board in assessing hospital operations, determining rates of payment to hospitals and for federal cost sharing purposes.

Members of the field staff of this division made 684 visits to hospitals travelling 97,131 miles in the process. The inspection and counselling services provided are shown in Table 44.

Regional Hospital Councils

The department has encouraged the development of hospital councils on a regional basis, with each council becoming a body corporate under authority of The Hospital Standards Act, having an executive officer responsible to council to do such things as are deemed necessary by each council for its corporate purposes and for improving the services and the efficiency of the operation of the participating hospitals.

Each council develops its own work program and submits a budget to the department for review and approval. Costs for the approved program are apportioned among the member hospitals and recovered from the Saskatchewan Hospital Services Plan.

Of particular interest this past year was a project undertaken by the Northwest Regional Hospital Council, financed by federal funds, in respect to centralizing accounting and statistics for those of its member hospitals wishing to participate. Although it is not possible at this time to evaluate all aspects of this program the general reaction is that it will prove to be of benefit to the participating hospitals, educationally and administratively.

There are four such hospital councils in operation involving 67 hospitals, with council staff and activities centralized at the following urban centres:

Humboldt:
Quill Plains Regional Hospital Council—11 hospitals

North Battleford:
Northwest Regional Hospital Council—20 hospitals

Prince Albert:
North Central Regional Hospital Council—18 hospitals

Swift Current:
Southwest Regional Hospital Council—18 hospitals

For the geographical location of member hospitals, please see map on page 139.

Hospital Construction and Accommodation

With the number of beds available for general hospital care at an all time high for the province, hospital construction has had as a main objective the replacement of non-acceptable beds, plus improved service facilities and accommodation for staff, rather than the provision of new beds.

Accommodation in general hospitals is computed on a calendar year basis. On December 31, 1959, 165 general hospitals, nursing homes, geriatric centres and Indian Health Services hospitals and nursing stations were in operation (Table 43). Measured capacity totalled 6,834 beds with 7,556 beds actually set up and in use.

As shown in Table 43 there has been a decrease of one institution which ceased operation in 1959. This change was brought about with the closing of the Waldheim General Hospital, which had a measured capacity of nine beds.

All hospital wards in the province are now rated on the basis of standards established by the federal government.

Provincial government assistance towards construction costs of general hospitals has been provided since 1945. This assistance has been matched in most instances by equivalent federal grants since 1948. During the fiscal year ending March 31, 1960, provincial grant payments for construction totalled $474,581.99 apportioned as follows:

General hospital construction	$447,295.23
Staff residences	25,120.76
Health centres	2,166.00

The following table shows the individual breakdown of projects involved and amounts of provincial grants paid during the 1959-60 fiscal year.

Provincial construction grants paid during the fiscal year 1959-60	*Amount paid*
Total	$474,581.99
Arborfield Union Hospital Nurses' Residence	3,750.00
Avonlea Health Centre	2,166.00
Big River Union Hospital	31,300.00
Davidson Union Hospital Nurses' Residence	7,500.00
Invermay-Canora Union Hospital	5,505.48
Kerrobert Union Hospital	18,493.25
Kipling Union Hospital	11,380.00
Mankota Union Hospital	5,250.00
Melfort Union Hospital	33,716.50
Melville, St. Peter's Hospital	81,743.34
Prince Albert Union Hospital	75,000.00
Rose Valley Union Hospital	46,953.33
Swift Current Union Hospital Nurses' Residence	13,870.76
Tisdale, St. Therese Hospital	41,000.00
Watrous Union Hospital	12,000.00
Wilkie Union Hospital	84,953.33

Union Hospital District Activity

One new union hospital district was provisionally established during the fiscal year 1959-60, although a vote has not yet been held. This was the Beechy Union Hospital District provisionally established on March 18, 1960, involving a population of some 1,062.

The usual activity with respect to the inclusion of fringe areas to existing union hospital districts was carried on during the year, involving 11 municipalities or portions of municipalities, and those union hospital districts centering on Fillmore, Melfort, Pangman, Shellbrook, Spiritwood, Unity, Wakaw and Yorkton.

At the present there are 111 union hospital districts officially established, involving a population of approximiately 508,700.

Additional areas involving a population of some 167,370 contribute toward hospital capital costs by municipal taxation. Based on the intercensal estimate of 902,000, approximately 74 per cent of the population of the province now contribute in this way.

Figure 6. Saskatchewan Public General Hospitals, July, 1960

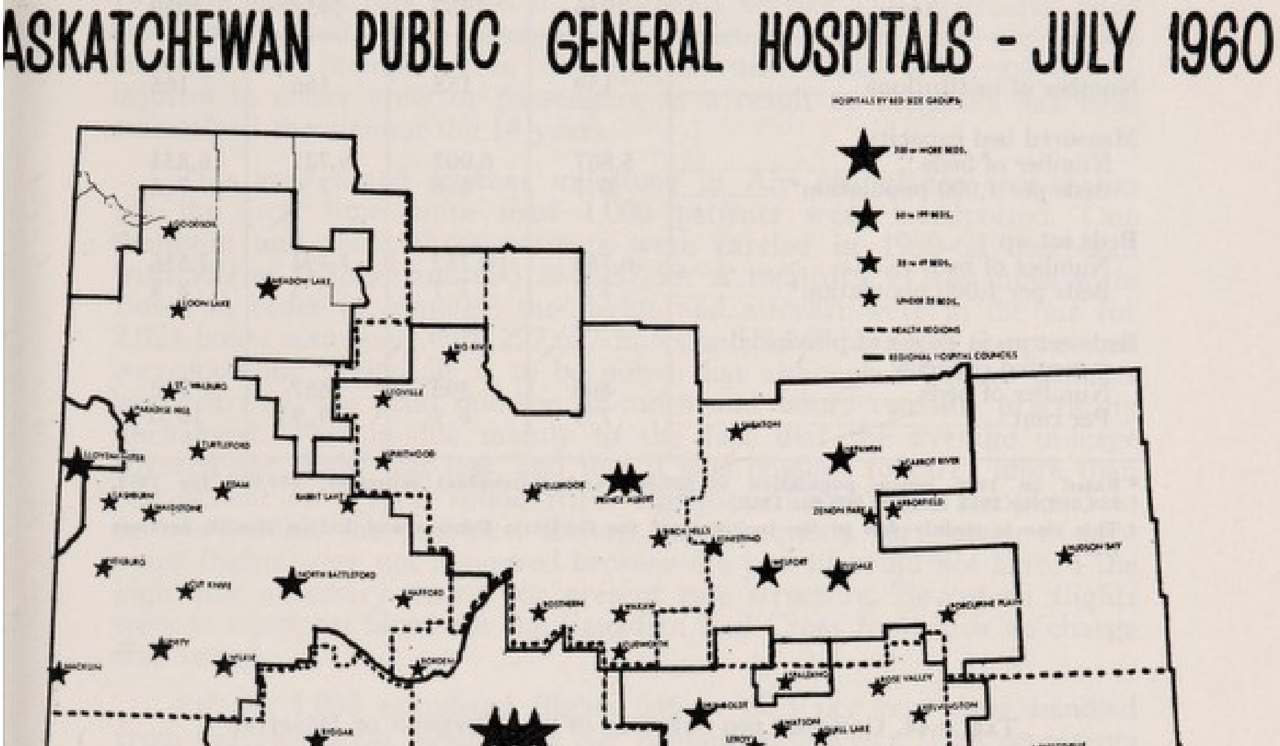

TABLE 43. NUMBER OF BEDS IN PUBLIC GENERAL HOSPITALS, GERIATRIC CENTRES, INDIAN HEALTH SERVICES UNITS AND NURSING HOMES UNDER PERMIT, SASKATCHEWAN, DECEMBER 31, 1956-1959

Item	Year			
	1956	1957	1958	1959
Number of institutions	159	158	166	165
Measured bed capacity				
Number of beds	5,867	6,002	6,727	6,834
Beds per 1,000 population*	6.7	6.8	7.6	7.6
Beds set up				
Number of beds	6,758	6,752	7,394	7,556
Beds per 1,000 population*	7.7	7.7	8.3	8.4
Beds set up in excess of provincial measured capacity				
Number of beds	498	395	667	722
Per cent	7.9	6.2	9.9†	10.6

* Based on 1956 census population of 880,665 and intercensal estimates, 879,000 for 1957, 888,000 for 1958 and 902,000 for 1959.

† This rise is mainly due to the inclusion of the Geriatric Centres and Indian Health Services Units.

TABLE 44. COUNSELLING SERVICES OF THE DIVISION OF HOSPITAL ADMINISTRATION AND STANDARDS, SASKATCHEWAN, 1958 AND 1959

Inspecting and counselling services	1958	1959
Number of visits	821	684
Inspecting and counselling in general	460	458
Assessment of physical plant, areas and facilities	63	6
Construction and renovation projects	20	2
Purchase and installation of equipment	16	5
General administration and business management	9	10
Personnel surveys and staffing problems	44	5
Costing surveys	15	11
Problems prior to rate or deficit decisions	46	46
Problems subsequent to rate and deficit decisions	4	16
Institutes or conferences	41	36
Special problems	66	58
Clinical Laboratory-X-ray Course interviews	37	31
Miles travelled	109,677	97,131

AIR AMBULANCE SERVICE

The Saskatchewan Air Ambulance Service was organized just over 14 years ago. In this period of continuous service 11,512 patients have been transported. Even though approximately one-half of the 23,000 landings were completed in unprepared rural areas, a record of no injuries to either crew or passengers as a result of accidents has been maintained throughout the 14 years.

This year noted another milestone in Air Ambulance services as for the first time more than 1,000 patients were transported. One thousand and thirty-three patients were carried in 1959-60 compared with 959 in 1958-59 and 893 in 1957-58. A total of 291,317 miles were flown in order to complete the flights and aircraft were in the air for 2,024 hours compared with 292,627 miles and 2,042 hours in the previous corresponding period. It is to be noted that although 74 more patients were carried, the total number of miles and hours remains practically unchanged. This is due mainly to the fact that the average mileage covered per flight was less, and that it was possible to carry more than one patient on several round trips. Eighteen flights were completed to centres outside the province. Eleven other requests for outside-of-province flights were not honoured because the patient could not afford the high cost necessary under our present rate structure. Seventeen flights were to transport blood for the Canadian Red Cross for which no charge was levied.

Of the 1,033 completed flights 646 or 62.5 per cent were handled from the Saskatoon base of the Air Ambulance Service. This represents an increase of 60 flights or approximately 1.5 per cent increase over the last year's figures. Although the percentage of flights completed from the Regina base decreased by approximately 1.5 per cent, the total *number* increased by 14. This was due to the increasing demand by the public for Air Ambulance services and particularly for transportation to the University hospital in Saskatoon.

A total of 267 emergency flights were completed by aviation services in the far north (not included in the total of 1,033). This constitutes a decrease of 174 flights over the previous year which is explained by a new policy within the government of responsibility for payment of classified emergent and non-emergent flights. Air Ambulance has accepted responsibility for only emergency flights in the past year whereas non-emergencies have been paid for by other departments. Air Ambulance aircraft have been utilized whenever possible in the far north in an effort to keep the costs to a minimum but because of the heavy demand for air service, the crew based at Saskatoon has always been hard pressed and at times find it difficult to cope with the demand.

There were 94 flight requests not completed during the year due to unsuitable and hazardous landing conditions, death of patients before pick-up, and unacceptable charges (outside the province).

The service continued to employ a staff of 19 persons — a supervisor and chief pilot, three pilots, a senior flight nurse, three flight nurses, eight maintenance staff, a caretaker, a radio technician and a stock clerk.

Several flights were initiated and completed after dark, some to lighted airports and others into fields in small centres. Night flights into unprepared areas were attempted only if the area was previously known or the terrain in the vicinity was of such a nature as not to result in undue risk. The service continued to operate 24-hours-a-day, 365 days a year.

Charges for transportation have not been changed since 1949. Within the province of Saskatchewan, patients are charged a flat rate of $25 regardless of distance, and passengers are charged $10 each. Outside the province, the charges are 35 cents per mile for total miles flown.

The number and distribution of flights during the year, according to specified types of illnesses, is shown below. As has been general in the past, the majority of patients requiring emergency transportation were victims of accidents.

The greatest single increase occured in the accident category.

	1957-58	*1958-59*	*1959-60*
All patients	893	959	1,033
Accident cases including fractures, burns and wounds	258	234	271
Arthritis	7	3	5
Cancer and tumours	91	69	71
Cardiac conditions	44	49	45
Chest conditions	48	45	39
Communicable diseases (except poliomyelitis)	1	7	2
Diseases of blood	21	32	58
Diseases of central nervous system	56	108	107
Eye, ear, nose and throat	10	8	4
Gastro-intestinal	155	173	165
Genito-urinary	62	80	92
Poliomyelitis	14	2	13
Pregnancy with complications	26	41	47
Premature infants and congenital deformities	37	58	59
Psychiatric disorders	23	15	17
Other (senile to nursing home, poliomyelitis repair, post-operative complications)	40	35	38

MEDICAL SERVICES (PUBLIC ASSISTANCE)

Saskatchewan was the first of the Canadian provinces to set up a provincially administered health service program for public assistance beneficiaries, thus removing the major part of the responsibility for this type of care from the municipalities.

This program originated in 1945 following discussions with the Saskatchewan College of Physicians and Surgeons and representatives of other health professions.

Through administrative necessity the benefits are provided under two sub-programs administered by the Medical Services Division of the Department of Public Health. The groups so served total approximately 35,000 persons.

The first program provides benefits to persons receiving regular and continued social assistance in the form of pensions or mothers' allowances. A health services card, issued to the head of the family, entitles the holder and his dependents to health care as required.

The second program provides benefits mainly to recipients of social aid or short-term cases and only a few of these, whose benefits extend over a considerable period, are given health services cards.

These two programs are designed to cover the health care needs of all persons who are considered to be provincial responsibility, leaving to the municipality the responsibility for providing health services to relief, old age assistance, disabled persons' allowance recipients and the medically indigent with local residence.

The Department of Social Welfare, the Local Improvement District Branch of the Department of Municipal Affairs and lately the Department of Natural Resources, Northern Affairs Branch determine who will receive financial assistance in the form of pensions, allowances or social aid. The health department arranges for the provision of essential health services and determines the manner in which these health services will be provided.

The success of these programs depends to a large extent upon the active and willing co-operation of health professions. The physicians of Saskatchewan as well as the dentists, nurses, physiotherapists, optometrists, pharmacists and chiropodists have rendered efficient health services to a group whose health needs are often greater than the community in general.

Beneficiaries — Program I

The beneficiaries of this program include (1) recipients of Old Age Security pensions who qualify for the provincial supplemnetal allowance on a means test together with their spouses and dependents —these are designated by the terminology O.A.S. (S.A.); (2) recipients of Blind persons' Allowance, who qualify for the provincial supplemental allowance on a means test together with their spouses

and dependents, designated by B.P.A.; and (3) recipients of Mothers' Allowance including incapacitated husbands and dependents, designated by M.A.

The following table shows the average number of recipients in each of the past five years:

Fiscal year	*Average number of beneficiaries*	*O.A.S.(S.A.)*	*M.A.*	*B.P.A.*
1955-56	29,364	19,435	9,406	523
1956-57	28,997	19,228	9,233	536
1957-58	28,390	19,310	8,540	540
1958-59	28,055	19,476	8,027	552
1959-60	27,321	19,005	7,780	536

The beneficiaries by age group for 1958-59 are shown as follows:

Total	28,055
Under 1	112
1-4	690
5-14	3,665
15-24	1,325
25-44	1,318
45-64	2,437
65-69	1,297
70 and over	17,211

Beneficiaries — Program II

The following list of beneficiaries is that in effect from April 1, 1959:

—Government wards;
—Jail cases;
—Rehabilitation cases, both those under vocational rehabilitation and certain Metis groups;
—Social Aid cases in unorganized areas;
(1) Local Improvement Districts
(2) Department of Natural Resources far north cases
—Indigent Immigrants;
—Prevention of Blindness cases;
—Relief to Destitute cases (far north).

Excluding those persons who receive care on an episode basis only, such as prevention of blindness, and relief to destitute, there was an average of 6,348 social aid recipients in 1958-59 compared with 4,928 in the previous year.

Benefits

All beneficiaries are eligible for a wide range of services and have free choice of practitioner. Medical care includes the services of physicians and surgeons in home, office or hospital. Comprehensive hospital care includes all benefits of the Hospital Services Plan, together with certain additional benefits such as out-patient services and some extra drugs not covered by the Plan. In addition, dental services, drugs and appliances, optical services, nursing, physiotherapy, and chiropody may be obtained when required.

Reciprocal agreements exist with the British Columbia and Alberta governments whereby health services are provided to those pensioners who transferred between provinces on or prior to December 31, 1952. Pensioners moving after that date must establish residence in the new province before being eligible for health services in that province.

Treaty Indians and Eskimos, whose health services are the responsibility of the Federal Government, are excluded from benefits. Health services, except in emergencies, are not available outside Saskatchewan unless prior approval is granted.

HEALTH SERVICES[1]

Medical and Surgical Services

Through an agreement with the College of Physicians and Surgeons of Saskatchewan, complete medical, obstetrical, and surgical services are made available by the registered physicians of the province. Effective April 1, 1958, the former per capita fund system was discontinued and the province accepted a straight fee-for-service type of payment.

For the year 1959-60 the province agreed to pay 50 per cent of the 1959 schedule of fees for Program I cases and 85 per cent for Program II cases.

The province has also negotiated to pay only for the first 14 days of physicians' hospital visits for non-surgical procedures for Program I cases for any one period of hospital stay.

A comparison of the volume and assessed cost of physicians' services rendered to the Program I cases is presented in Tables 45 and 46.

Of particular interest is the high proportion of hospital calls compared with the total physicians' calls. This reflects the higher rate of hospitalization of the older age group as well as their relatively longer periods of stay in hospital. The demands of this group are shown in Figure 7 as being consistently higher than that of the mothers' allowance and blind persons' allowance. The trend in utilization of physicians' services, average physician caseload and physicians' payments is shown in Table 47. It will be noted that the number of beneficiaries is slightly less than last year, mostly attributable to a reduction in the Mothers' Allowance group. The number receiving at least one physician service during the year increased.

The Central Medical Assessment Board nominated by the College of Physicians and Surgeons and appointed by the Minister of Public Health, continued to be a valuable adjunct to the operation of this program.

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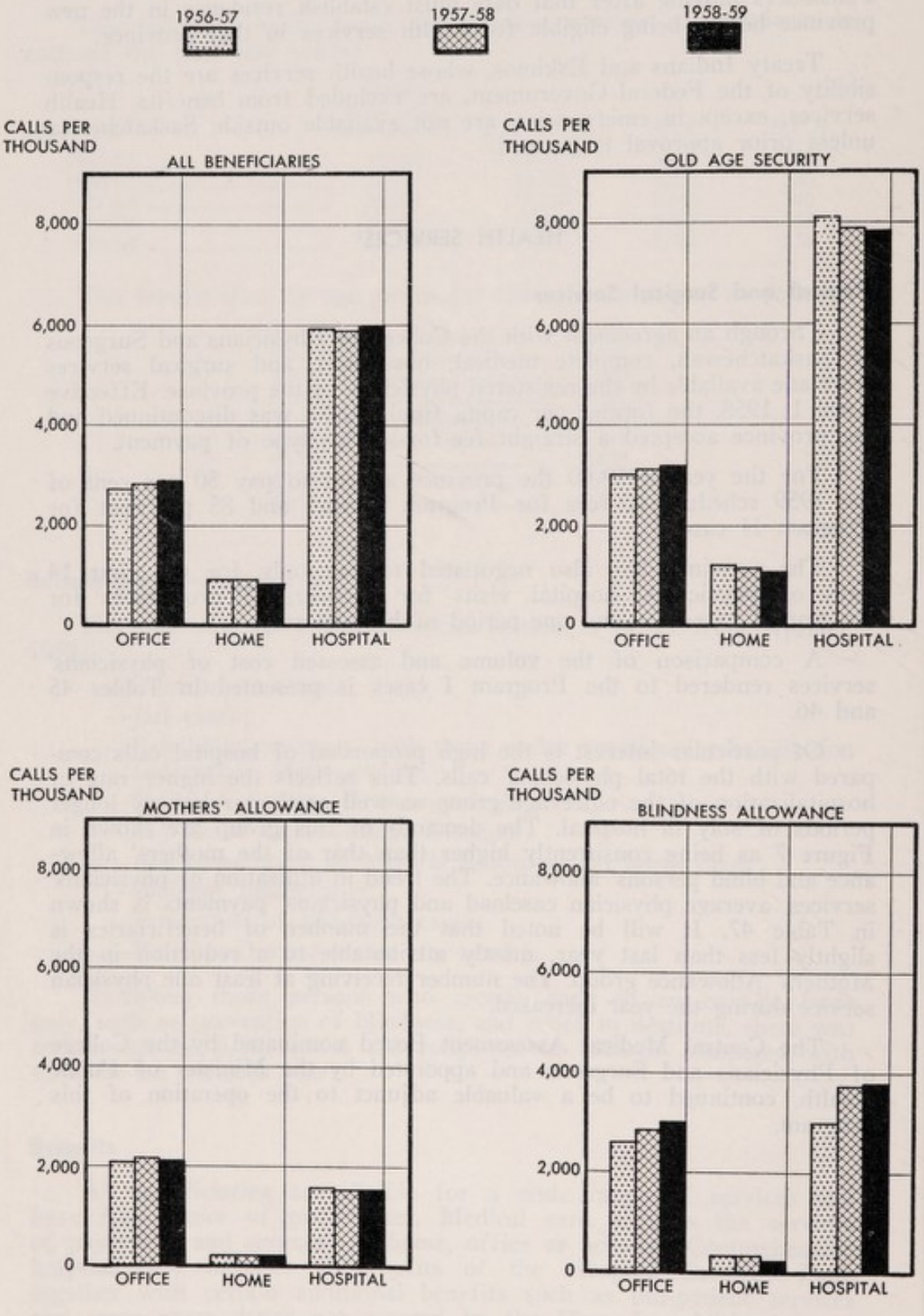
[1] As the annual report of the Department of Public Health is published before statistical information is available for the current year, the data in most instances is for the previous year.

FIGURE 7. RATE OF PHYSICIANS' CALLS PER 1,000 LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM 1), BY TYPE OF CALL AND BENEFICIARY, SASKATCHEWAN, 1956-57 TO 1958-59



Drug Services

Drugs and appliances are provided on a physician's prescription. During 1959-60 Medical Services Division made payments to 322 Saskatchewan pharmacies who by their co-operation made it possible for many indigent persons to receive a high quality of pharmaceutical service. In the previous year payment was made to 335 pharmacies. Beginning April 1, 1959 the patient was required to pay 50 per cent of the cost of each prescription—as opposed to 20 per cent in the previous years. Insulin, tolbutamide, injectable liver extract and injectable vitamni B_{12} continued to be provided at no cost from the department stocks. During the year the range of oral hypoglycemic agents was widened by the addition to the stocks of chlorpropamide and phenformin.

The utilization fee was increased with the hope that it would promote moderation in the use of drugs without causing a deterioration in the quality of care. Provision was made for waiving the 50 per cent payment in cases where essential, life-saving drugs were required over relatively long periods of time and resulted in an average monthly cost to the patient of significant proportions. Applications for consideration were received from just over three per cent of the caseload to which the payment applied (i.e. Program I). The payment was waived for approximately 10 per cent of those who applied.

While final statistics for 1959-60 are not yet available, it would appear that the utilization rate has been affected little if any as a result of the patient paying 50 per cent. If the utilization rate, caseload and average prescription cost remained constant, Medical Services Division expenditures for drugs would have decreased by 37.5 per cent. The actual decrease was 35.2 per cent. Evidently, beneficiaries are prepared to make what sacrifice is necessary to purchase the drugs that are prescribed.

The provision of oral hypoglycemic agents from department stocks continues to work well. The use of these agents has been of marked value to persons whose condition permitted their use inasmuch as they no longer are required to face the prospect of a daily injection for the rest of their lives. It was thought that the use of these agents would result in a substitution of therapy and therefore no appreciable change in the diabetic caseload of the program would occur. Such, however, was not the case. In fact the numbers of persons receiving anti-diabetic therapy has increased by approximately 85 per cent since their introduction. It would appear persons are now receiving specific treatment for their diabetes who previously did not.

During the fiscal year 1958-59 (with the patient paying 20 per cent) the average prescription price once again rose over the previous year. The increase was 6.6 per cent (See Table 48). This compares with increases of 7.6 per cent and 6.5 per cent respectively for Saskatchewan and Canada as a whole in 1958. The increase in the United States was 3.9 per cent. The utilization rate for 1958-59 showed an increase of 7.3 per cent over the previous year and was nearly double that of 1950-51.

Table 49 shows utilization and cost by broad category of drugs in 1958-59. Compared with the previous year the utilization rate is greater by 0.5 prescriptions. This increase is not marked in any one category and some actually showed a decreased rate. However, an increase of 0.5 prescriptions in the program amounts to a total of approximately 14,000. At $2.27 each the cost of these is nearly $32,000.

FIGURE 8. RATE OF DRUG PRESCRIPTIONS PER 1,000 LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), BY AGE GROUP AND SEX, SASKATCHEWAN, 1958-59

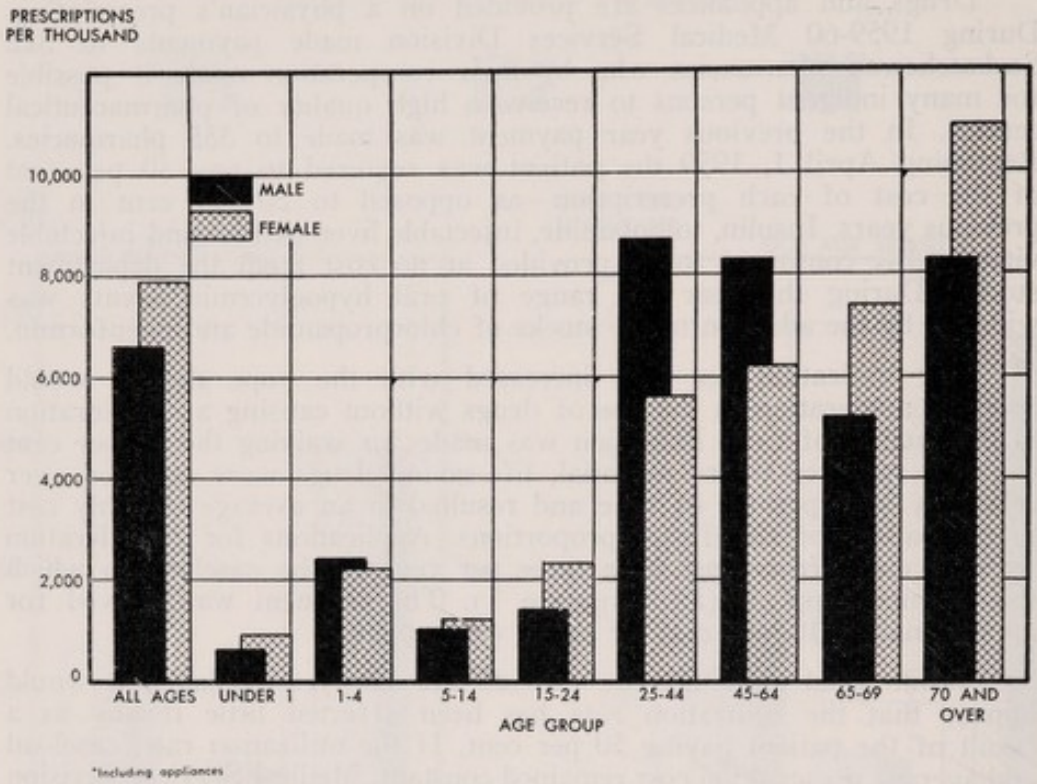


FIGURE 9. EXPENDITURES ON DRUG PRESCRIPTIONS PER LONG-TERM PUBLIC ASSISTANCE BENEFICIARY (PROGRAM I), BY AGE GROUP AND SEX, SASKATCHEWAN, 1958-59

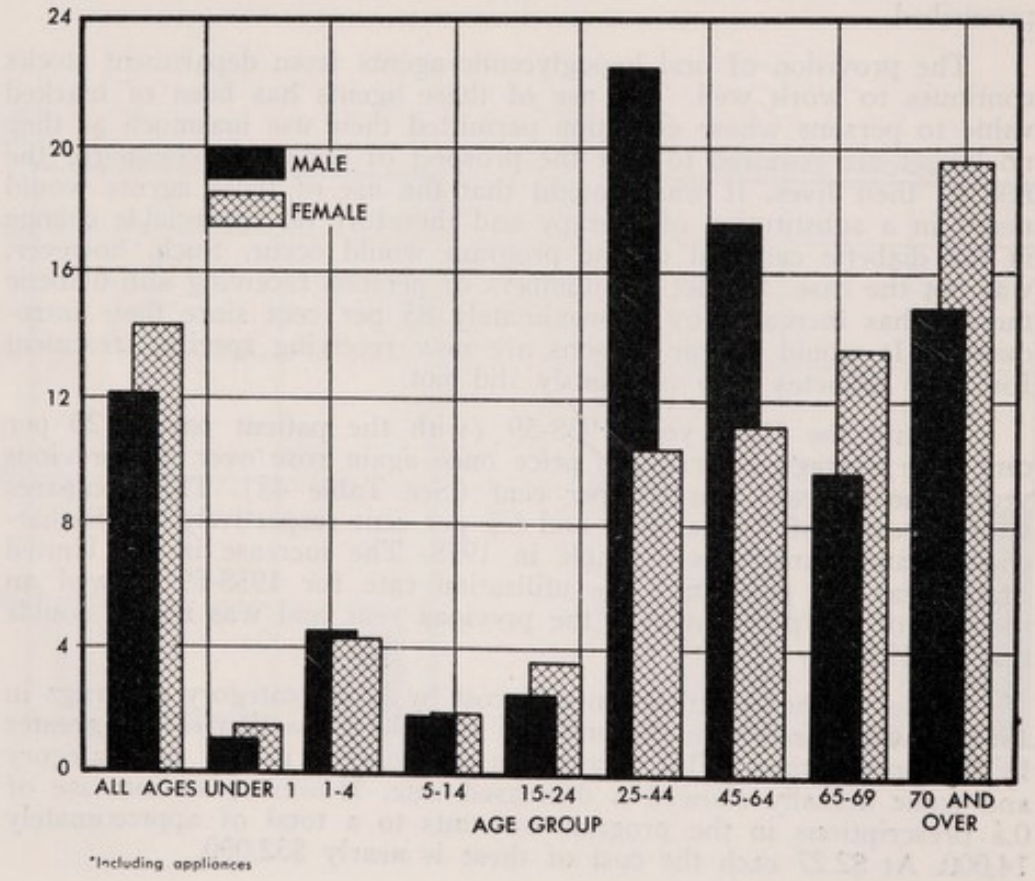


Table 50 shows the ten classes of drugs for which the greatest expenditure was made by Medical Services Division in 1958-59. Individual drug entities have been grouped with others having similar therapeutic properties as much as possible. These ten groups constitute 54.7 per cent of the total payment for drugs to pharmacies, physicians and hospitals and 50.6 per cent of the total number of prescriptions paid for. The nature of the drugs reflects the type of conditions from which a predominately aged group suffers. Prescriptions for laxatives and cathartics increased by 16.6 per cent while the cost increased by 24.3 per cent. This probably reflects the rather wide acceptance of Bisacodyl as a laxative.

Dental Services

Most dental services are available, but the provision of dentures, inlays or gold fillings and certain other services requires prior approval. As in the case of physicians the patient has free choice of dentist. However, he may not change his dentist during any one treatment. A grant of $55 is made toward the provision of a complete set of dentures and $30 for a single denture, with the beneficiary assuming the balance of $55 for complete dentures and $25 for single dentures. A second set of dentures are now provided if necessary, after a five-year period.

Despite the regulations being designed to encourage preventive work, there is a serious under-utilization of dental services in the age group under 14 years.

The cost of dental services increased very slightly over the previous year. Tables 51 and 52 show in more detail the utilization rate and costs for this service and Table 53 shows the per capita expenditure.

Hospital Services

All persons under Program I are covered by the Saskatchewan Hospital Services Plan. The Plan estimates the funds required to cover these long-term beneficiaries and obtains it from the general revenues of the province.

The hospital statistics relating to the provincial social assistance recipients are reported in the 1959 Annual Report of the Saskatchewan Hospital Services Plan (page 13). Provincial social assistance cases represented only 5 per cent of the Plan's total covered population in 1959, but accounted for 9.1 per cent of total discharged cases and 14.5 per cent of patient day volume.

Among persons 70 years of age and over in the Plan's total covered population, 41 per cent were provincial social assistance recipients. They accounted for 41 per cent of discharged cases and 41 per cent of the patient day volume involved with the 70 and over age group.

In 1959, the Plan's expenditures for long-term beneficiaries amounted to $3,186,865.32[1] or approximately $116.64 per capita. Expenditures for Program II cases were $320,545.86.

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[1] Based on discharges for the calendar year 1959.

Out-patient services and certain additional drugs which are excluded from the Hospital Services Plan are included as benefits. In addition, a portion of the cost of emergency hospitalized illness outside the province is borne by Medical Services Division. The per capita cost for these services was 48 cents in 1959-60.

Optical Services

Spectacles are available directly from an optometrist, an ophthalmologist or a general practitioner. Repeat refraction and corrections within two years of previous service require prior approval of the Medical Services Division.

Total expenditures for refractions by optometrists and eye glasses provided by all practitioners and per capita costs based on the date of payment are shown below for Program I:

Fiscal year	*Total expenditure*	*Average cost per beneficiary*
1954-55	$59,885	$2.06
1955-56	54,739	1.86
1956-57	61,637	2.13
1957-58	64,494	2.27
1958-59	72,818	2.60
1959-60	69,062	2.53

Information regarding the volume and costs of optical services for both programs appears in Table 54 and Table 55.

Other Services

The services of special nurses, who must be registered nurses, are provided on the request of the attending physician. Home nursing care through the Victorian Order of Nurses is also paid. Prior approval is required for nursing services.

Physiotherapy treatments on the recommendation of the physician require prior approval.

Necessary chiropodist's services and appliances for foot ailments are also included in the benefits.

Volume of Health Services

Table 56 shows a six-year comparison of those long-term public assistance beneficiaries who received health services at least once during the year, according to the type of service and type of beneficiary.

Detailed statistics of data on the operations of the program are obtained annually with the assistance of national health grants.

Expenditures

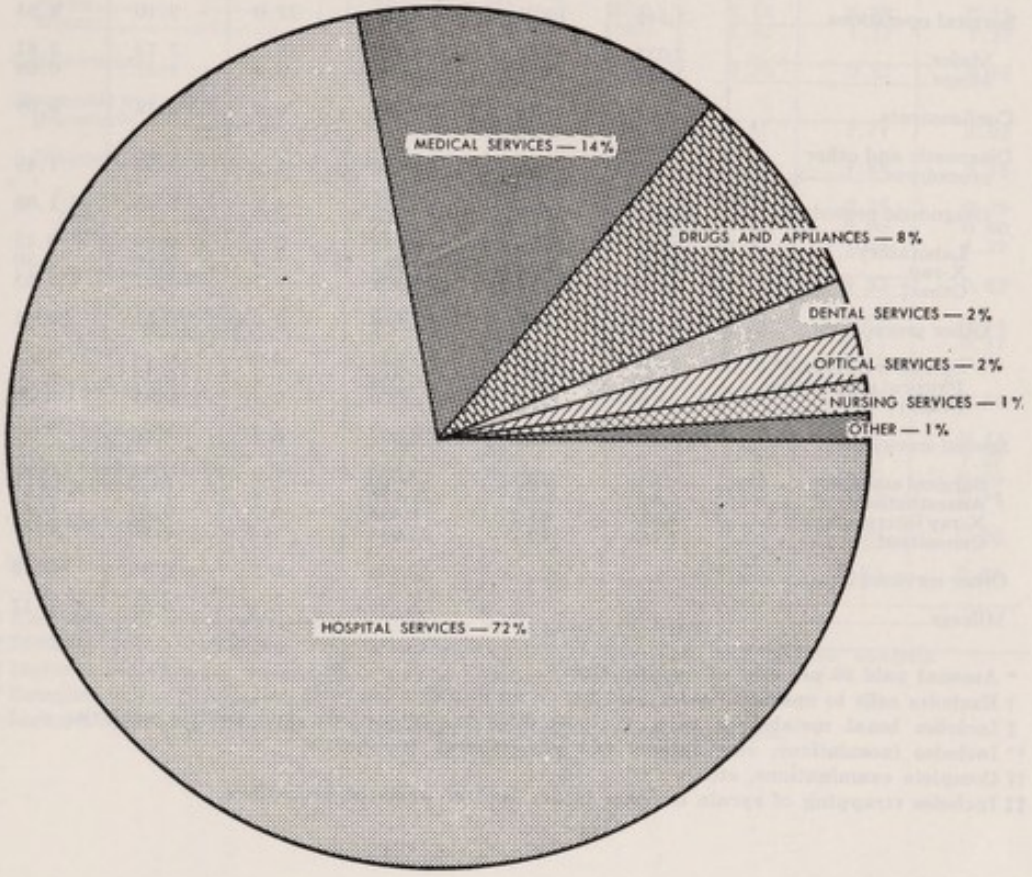
Total expenditures by Medical Services Division during 1959-60 totalled $1,454,134. This involved processing an average of 30,000 professional accounts per month.

The expenditures for each program and for administration were as follows:

	Expenditures	*Per cent*
All expenditures	$1,454,134	100.0
Program I	1,049,044	72.2
Program II	276,890	19.0
Administration	128,200	8.8

Data on expenditures by type of service and classification of beneficiaries for 1959-60 are shown in Tables 57, 58 and 59.

FIGURE 10. PERCENTAGE DISTRIBUTION OF EXPENDITURES ON HEALTH CARE, LONG-TERM AND SHORT-TERM BENEFICIARIES COMBINED (PROGRAMS I AND II), SASKATCHEWAN, 1959-60



Note: Included in "Other" is the following: physiotherapy $2,200; chiropody $5,700; reciprocal agreement with British Columbia $25,000; hospital out-patient services $13,100.

*Excludes $128,000 spent on administration.

TABLE 45. UTILIZATION AND COST OF PHYSICIANS' SERVICES BY TYPE OF SERVICE FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), SASKATCHEWAN, 1958-59

Type of service	Volume of services		Cost of services			
	Number	Rate per 1,000 beneficiaries	Total assessed cost	Per cent	Assessed cost per capita	Average amount paid per capita*
All physicians' services	298,463	10,638.5	$1,158,154	100.0	$ 41.28	$ 20.64
Physicians' calls	270,341	9,636.1	719,616	62.1	25.65	12.83
Office	80,037	2,852.9	225,208	19.4	8.03	4.02
Home	22,667	807.9	97,448	8.4	3.47	1.74
Hospital†	167,637	5,975.3	396,960	34.3	14.15	7.07
Surgical operations	5,346	190.6	255,312	22.0	9.10	4.55
Major	2,035	72.6	216,916	18.7	7.73	3.87
Minor	3,311	118.0	38,396	3.3	1.37	0.68
Confinements	72	2.6	5,158	0.5	0.18	0.09
Diagnostic and other procedures	17,272	615.6	83,498	7.2	2.98	1.49
Diagnostic procedures	12,289	438.0	60,552	5.2	2.16	1.08
Laboratory	7,209	256.9	8,132	0.7	0.29	0.15
X-ray	1,958	69.8	16,852	1.4	0.60	0.30
Other‡	3,122	111.3	35,568	3.1	1.27	0.63
Other procedures	4,983	177.6	22,946	2.0	0.82	0.41
Special treatment**	1,819	64.9	3,820	0.3	0.14	0.07
Physical examination	2,436	86.8	16,050	1.4	0.57	0.29
Other††	728	25.9	3,076	0.3	0.11	0.05
Special services	5,432	193.6	74,692	6.5	2.66	1.33
Surgical assistant	564	20.1	12,070	1.1	0.43	0.22
Anaesthetist	1,840	65.6	39,174	3.4	1.39	0.69
X-ray interpretation	1,885	67.2	8,404	0.7	0.30	0.15
Consultant	1,143	40.7	15,044	1.3	0.54	0.27
Other services‡‡	.....	.....	10,201	0.9	0.36	0.18
Mileage	.....	.....	9,677	0.8	0.35	0.17

* Amount paid 50 per cent of assessed cost.
† Excludes calls to operative cases paid for on an inclusive fee basis.
‡ Includes basal metabolism rate, electrocardiogram, refractions, and gastric analysis.
** Includes inoculations, vaccinations and physiotheray treatments.
†† Complete examinations, etc.
‡‡ Includes strapping of sprain or other injury, and all unstated procedures.

TABLE 46. RATE AND PER CAPITA COST OF PHYSICIANS' SERVICES FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES, (PROGRAM I), SASKATCHEWAN, 1956-57 TO 1958-59

Type of service	Rate of services per 1,000 beneficiaries			Assessed cost per capita		
	1956-57	1957-58	1958-59	1956-57	1957-58	1958-59
All physicians' services	10,497.7	10,621.4	10,638.5	$ 32.60	$ 34.89	$ 41.28
Physicians' calls	9,505.1	9,566.2	9,636.1	19.61	21.63	25.65
Office	2,713.4	2,820.2	2,852.9	5.79	6.47	8.03
Home	856.6	857.6	807.9	3.13	3.10	3.47
Hospital*	5,935.1	5,888.4	5,975.3	10.69	12.06	14.15
Surgical operations	197.9	199.9	190.6	7.64	7.56	9.10
Major	70.1	71.2	72.6	6.42	6.39	7.73
Minor	127.8	128.7	118.0	1.22	1.17	1.37
Confinements	3.7	3.6	2.6	0.21	0.22	0.18
Diagnostic and other procedures	617.4	665.8	615.6	2.47	2.71	2.98
Diagnostic procedures	440.6	439.8	438.0	1.85	1.89	2.16
Laboratory	253.2	253.4	256.9	0.32	0.25	0.29
X-ray	80.2	80.3	69.8	0.62	0.60	0.60
Other†	107.2	106.1	111.3	0.91	1.04	1.27
Other procedures	176.8	226.0	177.6	0.62	0.82	0.82
Special treatment‡	92.9	88.2	64.9	0.15	0.13	0.14
Physical examination	65.5	105.1	86.8	0.37	0.57	0.57
Other**	18.4	32.7	25.9	0.10	0.12	0.11
Special services	173.6	185.9	193.6	2.11	2.13	2.66
Surgical assistant	18.7	19.2	20.1	0.42	0.35	0.43
Anaesthetist	59.9	59.9	65.6	1.06	1.11	1.39
X-ray interpretation	56.4	64.3	67.2	0.23	0.22	0.30
Consultant	38.6	42.5	40.7	0.40	0.45	0.54
Other services††	.....	.....	.....	0.01	0.39	0.36
Mileage	.....	.....	.....	0.55	0.25	0.35

* Excludes calls to operative cases paid for on an inclusive fee basis.
† Includes basal metabolism rate, electrocardiogram, refractions, and gastric analysis.
‡ Includes inoculations, vaccinations and physiotheray treatments.
** Complete examinations, etc.
†† Includes strapping of sprain or other injury, and all unstated procedures.

TABLE 47. PHYSICIANS PROVIDING CARE, AND PAYMENTS TO PHYSICIANS FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), SASKATCHEWAN, 1952-53 TO 1959-60

Fiscal year	Beneficiaries			Physicians		Payments		
	Number*	Number receiving physicians' care	Per cent of beneficiaries receiving care at least once a year	Providing care	Beneficiaries receiving care per physician	Average per physician†	Final per cent payment	Average per physician per patient
1952-53	29,908	18,404	61.5	660	27.9	$685.48	64.5	$24.58
1953-54	29,036	19,067	65.7	673	28.3	654.21	52.6	23.12
1954-55	29,080	18,604	64.0	721	25.8	613.07	49.4	23.76
1955-56	29,364	19,317	65.8	735	26.3	670.12	55.1	25.50
1956-57	28,997	19,518	67.3	736	26.5	721.24	55.4	27.22
1957-58	28,390	19,666	69.3	750	26.2	693.05	52.5	26.45
1958-59	28,055	18,037	64.3	809	22.3	715.79	50.0	32.09
1959-60	27,321	20,194	73.9	823	24.5	643.20	50.0	26.25

* Average number of beneficiaries during the fiscal year.

† This represents both in—and out-of-province payments. During 1959-60, 754 Saskatchewan physicians received an average payment of $698.45 while 69 out-of-province physicians averaged $45.29.

TABLE 48. EXPENDITURES FOR DRUGS AND APPLIANCES* AND NUMBER OF PRESCRIPTIONS PER CAPITA WITH AVERAGE PRESCRIPTION COST, FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), SASKATCHEWAN, 1950-51 TO 1958-59

Fiscal year	Per capita expenditure†	Number prescriptions per capita	Average prescription cost‡		Year	Average prescription prices (general population)		
			At 80%	At 100%		Saskatchewan**	Canada**	U.S.A.††
1950-51	$5.34	3.8	$1.38	$1.66	1950	---	$1.72	$1.77
1951-52	6.47	4.2	1.51	1.81	1951	1.64	1.68	1.90
1952-53	7.72	4.6	1.61	1.93	1952	1.66	1.82	2.08
1953-54	8.27	4.9	1.70	2.09	1953	2.05	2.07	2.19
1954-55	9.68	5.3	1.82	2.19	1954	2.01	2.28	2.27
1955-56	11.58	5.8	2.00	2.41	1955	2.18	2.26	2.46
1956-57	12.64	6.1	2.07	2.49	1956	2.25	2.49	2.62
1957-58	14.59	6.8	2.13	2.57	1957	2.36	2.61	2.85
1958-59	16.62	7.3	2.27	2.73	1958	2.54	2.78	2.96

Note: With the exception of 1953-54 and 1954-55, which are based on the date of service, these figures are derived from the date of payment.

* Provided through drugstores only (excludes hospitals).

† On December 1, 1948, patients became responsible for 20 per cent of the prescription price; patient payments are not included in this price.

‡ Because of the fact that certain drugs and appliances are paid for in full by this division the average payment per prescription over the five-year period 1950-51 to 1954-55 represents 83 per cent of the full assessed value. The figures for 1955-56 and the following years have been calculated on this basis.

** Canadian Pharmaceutical Journal.

†† Lilly Digest.

TABLE 49. UTILIZATION AND COST OF BROAD CATEGORY OF DRUGS* BY LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), SASKATCHEWAN, 1958-59

Broad drug category	Prescriptions		Amount paid†		
	Number	Rate per beneficiary	Total	Average cost per beneficiary	Average cost per prescription
All prescriptions	205,804	7.3	$466,410	$ 16.62	$ 2.27
Drugs used against acute infections and parasitic diseases	15,410	0.5	76,769	2.74	4.98
Drugs used in the palliation and therapy of neoplasms	.....	.....	.....	.....	.....
Drugs of endocrine origin and synthetic substitutes	3,434	0.1	6,587	0.23	1.92
Drugs affecting allergic, metabolic and nutritional deficiency conditions	26,520	1.0	67,920	2.42	2.56
Drugs used against diseases of the blood and blood forming organs	1,729	0.1	3,235	0.11	1.87
Drugs affecting the nervous system and mental diseases including psychoneurotic and personality disorders	49,996	1.8	90,952	3.24	1.82
Drugs affecting the sense organs (eye and ear)	3,395	0.1	3,334	0.12	0.98
Cardiovascular drugs (drugs affecting diseases of the circulatory system)	32,588	1.2	64,145	2.29	1.97
Drugs affecting diseases of the respiratory system (including the nose and throat)	15,877	0.6	29,258	1.04	1.84
Drugs affecting diseases and conditions of the gastro-intestinal tract	25,651	0.9	46,867	1.67	1.83
Drugs affecting the genito-urinary system	9,231	0.3	27,190	0.97	2.95
Drugs affecting the skin and cellular tissue	13,397	0.5	18,568	0.66	1.39
Drugs used against diseases of the bone and organs of movement	4,749	0.2	16,701	0.59	3.52
Dental and oral preparations	281	0.0	204	0.01	0.73
Biologicals, vaccines, serums, diagnostic agents and non-specific parenteral solutions	1,058	0.0	1,616	0.06	1.53
Miscellaneous, poorly defined drug preparations	90	0.0	213	0.01	2.37
Drugs and dressings used in accidents, poisoning and violence	1,359	0.0	2,504	0.09	1.84
Surgical appliances and prosthetics	1,039	0.0	10,347	0.37	9.96

* Includes appliances.

† "Amount paid" means (1) the amount paid for prescriptions dispensed by drugstores and physicians which is equivalent to 80 per cent of the full assessed price, (2) the amount paid for prescriptions dispensed by hospitals (cost plus 10 per cent) which is equivalent to 60-70 per cent of the full assessed price.

TABLE 50. TYPE AND COST OF SELECTED PRESCRIPTIONS* WITH THE HIGHEST TOTAL COST FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM 1), SASKATCHEWAN, 1958-59

Type of prescription	Number of prescriptions	Total cost	Average cost per prescription
Oral broad spectrum antibiotics	6,531	$ 51,183	$ 7.84
Multivitamins and vitamins and minerals	14,866	45,028	3.03
Antihypertensive drugs†	13,158	31,332	2.38
Ataractics	5,867	24,025	4.13
Barbiturate derivatives	19,284	23,845	1.24
Diuretics and antidiuretics	6,297	21,213	3.37
Opiates‡	10,696	15,113	1.41
Vasodilators	6,050	13,054	2.16
Digitalis and its glycosides	13,177	12,562	0.97
Laxatives and cathartics	7,638	12,244	1.60

Note: Based on date of prescription.

* Dispensed by drugstores and hospitals (exclusive of in-patient drugs under S.H.S.P.). Cost includes the amount paid by Medical Services Division which is equivalent to approximately 80 per cent of the full assessed price for prescriptions dispensed by drugstores and physicians and 60 to 70 per cent of the full assessed price for prescriptions dispensed by hospitals.

† Includes rauwolfia and its alkoloids as well as ganglionic blocking agents used in treating hypertension.

‡ Includes acetylsalicylic acid, phenacetin and caffeine with codeine gr. ¼ or more.

TABLE 51. RATE OF DENTAL SERVICES PER 1,000 BENEFICIARIES BY TYPE OF SERVICE FOR BOTH LONG-TERM AND SHORT-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAMS 1 AND 11), SASKATCHEWAN, 1954-55 TO 1958-59

Type of service	1954-55	1955-56	1956-57	1957-58	1958-59
All services	548.8	535.0	646.2	575.3	568.9
Fillings	202.0	198.9	260.8	222.2	215.0
Extractions	285.3	274.6	317.6	285.9	286.2
Dentures	61.5	61.5	67.8	67.2	67.4
Complete dentures*	34.4	32.2	34.1	36.4	35.6
Repairs	21.4	23.4	25.7	23.7	23.4
Relines	3.8	4.0	5.5	5.1	5.9
Partial dentures	1.9	1.9	2.5	2.0	2.3
Other	....	....	....	....	0.3

* Upper or lower denture.

TABLE 52. UTILIZATION AND COST OF DENTAL SERVICES BY TYPE OF SERVICE FOR BOTH LONG-TERM AND SHORT-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAMS I AND II), SASKATCHEWAN, 1958-59

Type of service	Volume of services			Cost of services*			
	Number	Rate per 1,000 beneficiaries	Per cent	Total amount	Average cost per beneficiary	Average cost per service	Per cent
All services	19,573	568.9	100.0	$94,517	$ 2.75	$ 4.83	100.0
Examination and report	.....	.....	.....	439	0.01	.....	0.5
Fillings	7,399	215.0	37.8	26,163	0.76	3.54	27.7
Extractions	9,847	286.2	50.3	18,448	0.54	1.87	19.5
Dentures	2,318	67.4	11.9	45,004	1.31	19.42	47.6
Complete dentures†	1,223	35.6	6.2	35,116	1.02	28.71	37.2
Repairs	806	23.4	4.1	4,749	0.14	5.89	5.0
Relines	202	5.9	1.1	2,895	0.08	14.33	3.1
Partial dentures	87	2.5	0.5	2,244	0.07	25.79	2.3
Other	9	0.3	0.0	4,463	0.13	.....	4.7

* Grant of $55 paid for complete dentures.
† Upper or lower denture.

TABLE 53. PER CAPITA EXPENDITURES FOR DENTAL SERVICES BY SELECTED CLASSES OF BENEFICIARY FOR BOTH LONG-TERM AND SHORT-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAMS I AND II), SASKATCHEWAN, 1949-50 TO 1958-59

Fiscal year	All beneficiaries	Selected classes of beneficiary		
		Old age security (SA)	Mothers' allowance	Blind persons' allowance
1949-50	$3.48	$3.42	$3.56	$3.93
1950-51	3.23	2.91	3.87	3.46
1951-52	2.34	2.02	3.07	1.87
1952-53	2.21	1.86	2.97	2.32
1953-54	2.21	1.70	3.50	1.82
1954-55	2.34	1.59	3.80	2.11
1955-56	2.31	1.39	3.73	3.24
1956-57	2.77	1.57	4.62	3.05
1957-58	2.71	1.73	4.26	2.50
1958-59	2.75	1.72	4.56	3.21

TABLE 54. UTILIZATION AND COST OF OPTICAL SERVICES BY TYPE OF SERVICE FOR BOTH LONG-TERM AND SHORT-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAMS I AND II), SASKATCHEWAN, 1958-59

Type of service	Volume of services			Cost of services			
	Number	Rate per 1 000 beneficiaries	Per cent	Total	Average cost per beneficiary	Average cost per service	Per cent
All services	14,374	417.8	100.0	$88,391	$ 2.57	$ 6.15	100.0
Services	6,571	191.1	45.7	32,653	0.95	4.97	36.9
Simple examination	54	1.6	0.4	108	0.00	2.00	0.1
Refraction without fitting fee	456	13.3	3.2	1,821	0.05	3.99	2.1
Refraction with fitting fee	3,874	112.6	26.9	26,846	0.79	6.93	30.3
Fitting fee only	2,187	63.6	15.2	3,878	0.11	1.77	4.4
Materials	7,803	226.7	54.3	55,738	1.62	7.14	63.1
Glasses	6,277	182.5	43.7	50,988	1.48	8.12	57.7
Repairs	70	2.0	0.5	136	0.00	1.94	0.2
Replacements	1,443	41.9	10.0	4,307	0.13	2.98	4.9
Other	13	0.3	0.1	307	0.01	23.62	0.3

TABLE 55. COST OF OPTICAL SERVICES BY TYPE OF SERVICE AND CLASS OF BENEFICIARY FOR BOTH LONG-TERM AND SHORT-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAMS 1 AND 11), SASKATCHEWAN, 1958-59

Type of service	All beneficiaries	Class of beneficiary			
		Old age security (SA)	Mothers' allowance	Blind persons' allowance	Short-term beneficiaries
	Cost of services				
Total	$ 88,391	$ 52,992	$ 19,911	$ 1,033	$ 14,455
Services	32,653	19,022	7,886	268	5,477
Simple examination	108	88	10	4	6
Refraction without fitting fee	1,821	789	532	4	496
Refraction with fitting fee	26,846	16,085	6,491	175	4,095
Fitting fee only	3,878	2,060	853	85	880
Materials	55,738	33,970	12,025	765	8,978
Glasses	50,988	31,899	10,731	672	7,686
Repairs	136	98	29	2	7
Replacements	4,307	1,724	1,265	52	1,266
Other	307	249	....	39	19
	Cost per capita				
Total	$ 2.57	$ 2.72	$ 2.48	$ 1.87	$ 2.28
Services	0.95	0.98	0.98	0.49	0.87
Simple examination	0.00	0.00	0.00	0.01	0.00
Refraction without fitting fee	0.05	0.04	0.06	0.01	0.08
Refraction with fitting fee	0.79	0.83	0.81	0.32	0.65
Fitting fee only	0.11	0.11	0.11	0.15	0.14
Materials	1.62	1.74	1.50	1.38	1.41
Glasses	1.48	1.64	1.34	1.22	1.21
Repairs	0.00	0.00	0.00	0.00	0.00
Replacements	0.13	0.09	0.16	0.09	0.20
Other	0.01	0.01	....	0.07	0.00

TABLE 56. PERCENTAGE OF BENEFICIARIES WHO RECEIVED HEALTH SERVICES AT LEAST ONCE DURING THE YEAR BY TYPE OF SERVICE AND TYPE OF BENEFICIARY, FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), SASKATCHEWAN, 1954-55 TO 1959-60

Type of service	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
	All beneficiaries					
At least one type of health service	82.9	82.4	85.3	87.0	87.8	89.4
Physicians' care	64.0	65.8	67.3	69.3	64.3	73.9
Drugs	58.6	60.7	61.8	64.7	62.9	69.5
Dental care	13.5	13.3	13.9	13.4	13.5	13.9
Optical care	17.6	16.4	18.1	19.0	19.5	19.8
Special nursing care	0.3	0.2	0.2	0.3	0.4	1.4
Chiropody	1.5	1.3	1.4	1.6	1.5	1.7
Hospital care*	7.8	7.7	8.2	9.2	9.1	9.6
Other	1.2	1.3	1.3	1.7	1.4	0.4
	Old age security (supplemental allowance) group					
At least one type of health service	82.3	83.5	86.8	86.4	88.0	89.6
Physicians' care	65.7	68.6	70.5	70.4	67.8	76.2
Drugs	63.1	66.4	68.2	68.8	68.4	75.7
Dental care	7.4	7.3	7.4	7.7	7.9	7.8
Optical care	17.3	16.6	17.9	19.0	19.3	19.3
Special nursing care	0.3	0.3	0.2	0.5	0.5	1.9
Chiropody	2.0	1.9	2.0	2.2	2.0	1.7
Hospital care*	7.6	7.8	8.3	9.2	9.1	9.7
Other	1.6	1.7	1.6	2.3	1.8	0.4
	Other beneficiaries					
At least one type of health service	84.1	80.2	82.5	88.1	87.4	89.1
Physicians' care	60.2	60.3	61.1	67.0	56.2	68.6
Drugs	48.8	49.4	49.3	56.0	50.6	55.3
Dental care	26.6	25.1	26.6	25.4	26.2	27.7
Optical care	18.3	16.1	18.3	18.9	19.9	20.8
Special nursing care	0.1	0.1	0.1	0.1	0.1	0.3
Chiropody	0.3	0.2	0.3	0.3	0.4	0.4
Hospital care*	8.0	7.4	8.0	9.3	9.2	9.3
Other	0.3	0.5	0.8	0.3	0.3	0.2

* Does not include hospitalization under S.H.S.P.

TABLE 57. EXPENDITURE BY TYPE OF SERVICE AND CLASSIFICATION OF BENEFICIARY FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM I), SASKATCHEWAN, 1959-60*

Type of service	Total	Total per capita cost	O.A.S. (S.A.)	O.A.S. (S.A.) per capita cost	M.A.	M.A. per capita cost	B.P.A.	B.P.A. per capita cost
All services	$ 1,023,998.83	$ 37.48	$ 823,183.19	$ 43.31	$ 183,818.00	$ 23.62	$16,997.64	$ 31.71
Medical	538,399.85	19.71	437,593.64	23.02	92,166.19	11.84	8,640.02	16.12
Dental	65,998.10	2.41	32,514.00	1.71	31,658.85	4.07	1,825.25	3.41
Optical	69,061.81	2.53	49,199.94	2.59	19,085.02	2.45	776.85	1.45
Nursing	27,873.50	1.02	26,853.50	1.41	576.00	.07	444.00	.83
Physiotherapy	2,245.50	.08	1,845.50	.10	338.50	.04	61.50	.11
Hospital†	13,137.17	.48	9,456.93	.50	3,104.62	.40	575.62	1.07
Drugs	292,420.66	10.70	254,399.06	13.38	33,504.61	4.31	4,516.99	8.43
Appliances	9,169.29	.34	6,002.42	.32	3,070.96	.40	95.91	.18
Chiropody	5,692.95	.21	5,318.20	.28	313.25	.04	61.50	.11

* Includes old age security and blind persons' supplemental allowance cases, and mothers' allowance recipients, including their spouses and children under 16 years.
† Excludes in-patient hospital services received under S.H.S.P.

TABLE 58. EXPENDITURES FOR LONG-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM 1), UNDER THE MEDICAL SERVICES DIVISION FOR THE FISCAL YEAR 1959-60, AND THE SASKATCHEWAN HOSPITAL SERVICES PLAN FOR THE CALENDAR YEAR 1959

Classification	Total expenditure	Per capita expenditure
All health services	$ 4,210,864.15	$ 154.12
Total S.H.S.P.	3,186,865.32	116.64
O.A.S. (S.A.) (S.H.S.P.)	2,874,355.76	151.24
M.A., C.W. and G. (S.H.S.P.)	276,592.82	35.55
B.P.A. (S.H.S.P.)	35,916.74	67.01
Total medical care and related services	1,023,998.83	37.48

TABLE 59. EXPENDITURE BY TYPE OF SERVICE AND CLASSIFICATION OF BENEFICIARY FOR SHORT-TERM PUBLIC ASSISTANCE BENEFICIARIES (PROGRAM II), SASKATCHEWAN, 1959-60

Type of service	Total M.S.D. and S.H.S.P.	All M.S.D. beneficiaries	Class of beneficiary							
			Social Welfare social aid	Social aid in L.I.D.'s	Natural Resources social aid	Vocational rehabilitation cases	Metis rehabilitation cases	Indigent immigrant cases	Wards*	Correction cases
Total expenditures†										
All services	$ 512,247.53	$ 191,701.67	$ 6,431.40	$ 70,896.84	$ 4,544.87	$ 9,320.84	$ 6,042.56	$ 2,280.88	$ 75,961.54	$ 16,222.74
Medical	108,379.87	108,379.87	3,451.85	39,304.34	2,480.20	5,483.06	4,064.50	101.15	49,602.62	3,892.15
Dental	17,390.73	17,390.73	167.00	5,375.00	1,082.00	767.00	195.00	.....	8,031.00	1,773.73
Optical	6,974.79	6,974.79	43.20	2,492.75	110.05	189.05	277.55	.....	2,712.34	1,149.85
Nursing	611.25	611.25	.....	.....	.....	4.50	.....	.....	342.75	264.00
Physiotherapy	252.50	252.50	.....	.....	.....	213.50	.....	.....	30.00	9.00
Hospital	336,831.12	16,285.26	2,551.05	2,741.00	9.20	424.75	98.95	2,158.39	684.90	7,617.02
Drugs	38,006.72	38,006.72	192.62	20,607.45	814.42	1,123.77	1,367.11	21.34	12,364.17	1,515.84
Appliances	3,771.15	3,771.15	25.68	361.10	49.00	1,115.21	39.45	.....	2,179.56	1.15
Chiropody	29.40	29.40	.....	15.20	.....	.....	.....	.....	14.20	.....
Per capita expenditures										
All services	‡	$ 39.19	$ 207.46	$ 38.24	$ 7.19	$ 117.98	$ 37.53	$ 142.55	$ 44.09	$ 41.06
Medical	.....	22.16	111.35	21.20	3.93	69.40	25.25	6.32	28.79	9.85
Dental	.....	3.55	5.39	2.90	1.71	9.71	1.21	.....	4.66	4.49
Optical	.....	1.43	1.39	1.34	.17	2.39	1.72	.....	1.57	2.91
Nursing	.....	.12	.....	.....	.....	.06	.....	.....	.20	.67
Physiotherapy	.....	.05	.....	.....	.....	2.70	.....	.....	.02	.02
Hospital	.....	3.33	82.29	1.48	.01	5.38	.61	134.90	.40	19.28
Drugs	.....	7.77	6.21	11.12	1.29	14.22	8.49	1.33	7.18	3.84
Appliances	.....	.77	.83	.19	.08	14.12	.25	.....	1.26	0.00
Chiropody	.....	.01	.....	.01	.....	.....	.....	.....	.01	.....

* Includes Boys' School.

† Because of the nature of the payments or current type of care received by the beneficiaries, the following expenditures are not included in this table: mothers' allowance (husbands) examinations, $1,938.92; eligibility examinations for admission to geriatric centres, $2,167.40; miscellaneous health services, $29,881.85; disabled persons allowance, $2,988.18; prevention of blindness, $8,665.07; relief to destitutes (Northern Administration District), $21,758.20; relief to destitutes (Municipal and Local Improvement District), $1,698.41; provincial social aid 1958-59, $16,090.82. The total expenditure for these items was $85,188.85.

‡ S.H.S.P. expenditures include those for medical indigents. Because medical care is given on a current basis only, it is not possible to determine the number of beneficiaries involved in the per capita expenditures. Actual expenditure was $320,545.86 for hospitals and blood transfusions.

MUNICIPAL MEDICAL CARE PROGRAMS

The main function of the division is the supervision of municipal plans that provide tax-derived funds to finance medical care for the residents of rural and urban municipalities. These plans are organized and administered by local governing bodies which enter into agreements with physicians for providing specified services to the population of a municipality. Where a plan is confined to a single municipality, the municipal council acts as the administrative body, but where two or more municipalities join together to form a health services unit, the administrative duties are often delegated to a joint board known as a Health Services Board appointed by the councils of the municipalities belonging to the unit.

These plans are designed to attract and hold doctors in rural areas and to cushion the burden of medical bills by spreading medical costs over many families and over a period of time. These municipal medical care programs—known locally as municipal doctor plans — play an important role in Saskatchewan rural life.

Three methods may be used to finance a medical care plan. The most widely used is a property tax, commonly a land tax. A levy which became popular after 1940 is a personal tax. The third method which is beginning to receive more attention, is a combination of a land and personal tax. In those municipalities where a property or land tax is used, the council may pass a bylaw excluding non-ratepayers from services until they have paid a personal tax.

In 1945 the Department of Public Health began offering financial aid for local medical care services. The purpose of this aid (which took the form of grants) was to assist those areas least able to pay for services, and to strengthen those services which it considered should be improved and expanded. The grants were to be paid to municipalities which accepted certain responsibilities for raising their health services up to a minimum standard.

During the year medical care plans were in operation in 79 rural municipalities, 12 towns and 41 villages. Of the 132 plans providing physicians' services, 79 offered both medical and surgical care and 53 basic general medical services. A few of the latter provided for part of the cost of surgical care.

In most of the programs providing general medical services only, the beneficiaries were restricted to the services of a single physician. When both medical and surgical services were provided, the benefits varied from the services of a single physician, to the services of several physicians including referrals made to specialists. Towns and villages had variation in services provided, similar to those in the rural municipal programs.

Two distinguishing features of the plans have remained unchanged. Control is invariably by the elected public body and coverage of the population group is on an area or geographical basis and is virtually complete.

Many visits were made by the supervisor of municipal medical care plans during the year to discuss with physicians and local officials the various problems relating to services and taxation. Meetings were held with councils and health services boards to discuss proposed improvements in plans or extensions of services. Public meetings were attended for the purpose of assisting local authorities in organizing plans.

The salary method of remuneration to the physician is still widely used although the present trend is toward fee-for-service agreements with a maximum limit on the amount to be spent on the services each year. Agreements for both medical and surgical benefits frequently provide for payment on a combined salary and fee-for-service basis where medical care is on a salary basis and surgery is paid on a fee-for-service basis.

The cost of operating plans increased in 1959. Plans operating on a fee-for-service basis with broad coverage found it necessary to raise their mill rates or to apply deterrent fees, in some instances services were restricted. Very few plans, if any, place a limit on the amount of service which any one person may receive under the plan. The actual amount paid out in grants is shown in Table 60.

TABLE 60. MEDICAL CARE GRANTS TO MUNICIPALITIES, SASKATCHEWAN, DURING THE FISCAL YEAR, 1959-60

Rural Municipalities

Lomond No. 37	$ 207.75	Hazell Dell No. 335	$3,662.10
Tecumseh No. 65	212.00	Sasman No. 336	614.75
Norton No. 69	201.25	Lakeview No. 337	439.00
Stonehenge No. 73	103.50	Lakeside No. 338	280.25
Maryfield No. 91	209.50	Leroy No. 339	454.25
Walpole No. 92	43.00	Wolverine No. 340	1,125.00
Elmsthorpe No. 100	234.75	Viscount No. 341	329.75
Montmartre No. 126	307.50	Colonsay No. 342	189.75
Coulee No. 136	406.50	Perdue No. 346	208.25
Saltcoats No. 213	1,255.50	Kelvington No. 366	1,981.35
Cana No. 214	1,443.75	Ponass Lake No. 367	1,629.00
Stanley No. 215	1,979.25	Spalding No. 368	429.00
Tullymet No. 216	766.50	St. Peter No. 369	623.50
Lipton No. 217	354.00	Porcupine No. 395	3,893.40
Longlaketon No. 219	1,501.50	Barrier Valley No. 397	907.50
McKillop No. 220	249.25	Pleasantdale No. 398	1,337.25
Sarnia No. 221	241.75	Bjorkdale No. 426	5,040.75
Craik No. 222	181.00	Tisdale No. 427	578.25
Ituna Bon Accord No. 246	2,826.45	Star City No. 428	501.00
Kellross No. 247	1,692.60	Hillsdale No. 440	280.50
Touchwood No. 248	586.95	Manitou Lake No. 442	272.50
Emerald No. 277	2,425.50	Arborfield No. 456	312.50
Kutawa No. 278	360.00	Willow Creek No. 458	613.50
Milton No. 292	108.25	Kinistino No. 459	601.50
Buchanan No. 304	464.75	Birch Hills No. 460	402.00
Elfros No. 307	353.00	Eldon No. 471	339.50
Antelope Park No. 322	16.50	Moose Range No. 486	1,244.25
Preeceville No. 334	4,626.60	Nipawin No. 487	507.25

Local Improvement Districts

Local Improvement District No. 983	$4,761.00

Villages

Archerwill	$ 478.50	Perdue	$ 103.25
Avonlea	85.50	Leroy	124.50
Aylesbury	45.00	Lipton	101.25
Birch Hills	138.50	Loon Lake	596.25
Bulyea	43.00	Marengo	32.50
Flaxcombe	36.75	Margo	64.25
Hubbard	140.25	Maryfield	113.00
Ituna	985.05	Neilburg	63.75
Jasmin	115.50	Marsden	44.00
Kelliher	477.75	Quill Lake	113.25
Earl Grey	193.50	Rose Valley	395.25
Kinley	29.00	Silton	66.75
Leney	12.50	Wishart	248.85

Towns

Arborfield	$ 137.25	Saltcoats	$ 373.50
Carrot River	368.55	Star City	151.00
Craik	150.75	Strasbourg	143.75
Kindersley	1,929.00	Sturgis	1,202.85
Preeceville	1,982.47	Wadena	2,250.30

Summary

Total	$70,454.52
Rural municipalities	56,917.45
Towns	8,689.42
Villages	4,847.65

HEALTH SERVICES ASSOCIATION

The Saskatoon Mutual Medical and Hospital Benefit Association Limited continued to be the only association in operation incorporated under The Mutual Medical and Hospital Benefit Associations Act. Their membership has shown a slight increase as indicated in the table below.

Medical Services Incorporated with head office in Saskatoon has shown the greatest increase in membership and this organization now offers an individual plan, a community plan and group Plans A and B. Group Medical Services of Regina also showed some increase in their membership in 1959. These three plans provided insurance for the cost of physicians' services to approximately 31.6 per cent of the provincial population in 1959.[1]

Membership enrolment in the three plans is shown in the following table:

Year	*Total enrolment*	*Medical Services Incorporated*	*Group Medical Services*	*Saskatoon Mutual Medical and Hospital Benefits Association Limited*
1957	230,907	164,563	61,730	4,614
1958	260,074	192,351	62,822	4,901
1959	284,943	211,514	68,201	5,228

[1] For the purpose of this calculation, the provincial population was taken to be 902,000, which is the population figure for the province estimated by the Dominion Bureau of Statistics as of June 1, 1959.

OCCUPATIONAL HEALTH BRANCH

This, the third year since the establishment of the Occupational Health Branch, can be regarded as its first fully operational year. The two previous years had been taken up with surveys, planning and development. Not only has this year seen the expansion of the program initiated by members of the branch but there has been a considerable increase in the requests for information, advice, consultation and investigation of occupational health problems from industries, other governmental agencies, and organizations representing both management and employees. Regular meetings of the standing interdepartmental committee on occupational health and safety have been held and have resulted in useful exchange of information and the establishment of some joint programs, for example in the follow-up of the health of uranium miners and the organization of a course on the recognition of health hazards in industry and mines, for the respective inspectors.

The year has seen the branch involved in a wide variety of activities. Some of these include: investigation of the circumstances of the development of suspected industrial diseases; review of draft I.L.O., W.H.O. codes on Health and Safety in Agriculture and Radiation Hazards; review of research projects on occupational health for which funds were being provided by the Department of National Health and Welfare; preliminary discussions with the Saskatchewan Research Council and the University Engineering Department regarding a proposed study of the ergonomics (human engineering) of tractor design; membership of the Saskatchewan Highway Safety Council and its medical committee; and the design of a first aid kit to be taken on prolonged journeys in the north in connection with geological surveys.

Radiological Health

The radiological health committee continued with the work commenced in the previous year. The radiation survey of a representative sample of x-ray equipment in Saskatchewan was completed and the committee presented its report to the Minister of Public Health. The summary of this report is given below:

1. We are of the opinion that ionizing radiation is essentially deleterious in its effects on tissue and that the damage it causes to genetic tissue is both accumulative and irreversible.

2. A survey of certain typical x-ray installations was done and, while not alarming, the findings did disclose conditions that indicate need for more attention to radiation hazard control.

3. There are, presently, many national and other jurisdictional agencies, which have been given the responsibility of providing a radiological health service.

4. We recommend that all x-ray installation shall be required to be registered annually.

5. Only properly qualified persons should be permitted to operate x-ray apparatus. Technically simple procedures may be undertaken by

non-qualified personnel, provided they are working under the supervision of qualified persons.

6. Radiological health should be introduced into the curricula of all persons who occupationally use x-radiation.

7. Film badges should be worn when working with or near x-ray apparatus.

8. A radiation protection service should be established.

9. There should be medical supervision of occupationally exposed x-ray workers and gross over-exposures should be reported to the Department of Public Health.

10. Pre-employment examination of persons occupationally exposed to radiation should be required.

11. The recommendations of the International Commission on Radiological Protection should be accepted as the standard criteria in radiological health.

12. The use of shoe-fitting fluoroscopes should be banned.

13. Mass chest radiography should be kept under review and in future may be restricted to areas with high tuberculosis incidence.

14. No recommendations are made with regard to hours of work and vacations. It is noted that a four-week vacation for radiological workers is a widely accepted practice.

15. Drafting of regulations in detail is a secondary step following acceptance of this report and enunciation of government policy.

16. A continuing advisory committee should be established to assist a radiological health service program.

The Cabinet accepted in principle the recommendations of the committee which then drafted regulations implementing its recommendations. A draft of the regulations has been submitted to various provincial organizations for comment.

An exhibit on radiological health was shown at the conventions of the College of Physicians and Surgeons of Saskatchewan and the Saskatchewan Hospital Association. This exhibit had two sections, one devoted to general radiological health information and the other a competition in which the participants were required to recognize common faults in radiographic and fluoroscopic technique causing unnecessary radiation exposure to staff or patients.

Liaison has been established with the Provincial Fire Commissioner so that he is regularly acquainted with the location of radioisotopes and the degree of hazard involved in fighting fires in the buildings where they are stored or used.

Employee Health Services

Several industries in Saskatchewan already operate their own employee health services. These vary from what may be described as comprehensive services to ones giving only a minimum service. With the establishment of new industries and large construction projects there is a need for the establishment of corresponding employee health services. This also applies to some existing industries which are be-

coming of a size to warrant their own service. Opportunity has been taken to acquaint these industries with the advantages of establishing employee health services. One failure in this respect has to be recorded. In spite of the fullest information, advice and planning by the staff of the branch it has not been possible to persuade the Prairie Farm Rehabilitation Administration to take responsibility for the establishment of a centralized program, providing only the minimum services, for the 1,500 employees expected to be working at the South Saskatchewan River Dam site.

A useful opportunity presented itself to acquaint industrial management with the functions of the occupational health branch, the value of employee health services and the importance of providing optimum working conditions, when the director gave two lectures in the University Extension Course on Health and Productivity held at Saskatoon for managers, supervisors and foremen. Talks on the principles of occupational health and the functions of the branch have been given to other management and professional groups. This will enable these senior people in industry to recognize potential health problems and obtain advice early. Advice and information has been given concerning the establishment of an employee health service at a large hospital which has recently become aware of the need for such a program.

Education

During the year the director has given three courses in occupational health for the 3rd and 4th year medical students at the Saskatoon Medical College. These courses consisted of three lectures each and one period devoted to visits to industries in the area to demonstrate occupational health problems. It is felt that in the absence of a qualified and experienced occupational health specialist on the full-time teaching staff of the Department of Social and Preventive Medicine this is an essential part of the program of a provincial occupational health branch. Unless the practising members of the medical profession in the province are acquainted with the principles of occupational health and have some knowledge of the functions of an employee health service, they cannot play their full part in the programs for promotion and protection of the health of people at work.

Industrial Hygiene

During 1959-60 the laboratory became more fully equipped with the result that more detailed surveys and their analysis could be performed. Exhaustive studies and investigations covering any one industry throughout the province were not attempted. Instead, pressing problems in a variety of industries and occupations were investigated and control measures recommended.

Dusts containing silica, certain silicates and asbestos are known to produce disabling pulmonary fibrosis. Investigations into the extent of this hazard were made in both uranium and base metal mining industries, in crushing and refining ore, in a clay products plant, in an iron foundry and in a commercial enterprise using asbestos pulp as an insulation media.

Inhalation of some dusts, fumes and gases may produce inflammatory lung changes. Investigations were thus made in a cadmium casting and refining plant to determine what amount of this metal is airborne. Sulfur dioxide concentrations were determined around the sulfide ore roasters in a metal refinery.

Welding and soldering operations produce copious quantities of metal fumes and vaporized fluxes which lead to varying stages of respiratory irritation or, in the case of zinc, to metal fume fever. The indoor dismantling of wrecked cars often leads to considerable indoor air pollution caused by burning rubber, upholstery, grease, tar and paint. These situations were investigated and local and general exhaust systems prescribed. Diesel exhaust gases above certain concentrations can also be a health hazard and an investigation in one large diesel bus garage revealed the need for a better procedure to sweep the surges of exhaust gases out of the building.

In one plant, acid mist created a problem due to its extremely irritating effect on the workers but a slight modification in plant design and this problem was overcome.

In recent years organic mercurial fungicides have gained in popularity as a seed grain treatment. Increasing in popularity also are small commercial seed cleaning and treating plants. Whereas the farmer uses the fungicide for very short periods of time in the spring of the year, these seed plant operators frequently use the fungicide over periods of months. This prompted a brief survey covering a number of these plants in an attempt to ascertain the amount of airborne mercury in these establishments. In the plants investigated, there were negligible amounts of airborne organic mercury, the amount dependent on the good housekeeping and care of the operator.

Solvents of one kind or another are universally used in industry and investigations were made in a plastic fabrication plant, repair shops and plywood factory as to the concentration of solvent vapors, their toxicity and inflammability. Industrial dermatitis, caused by solvents, plastics, resins, creosote, oils, were also checked as to its occurrence and prevention.

Extremes in temperature, humidity and air movement produce conditions which may result in loss of efficiency, increased liability to accidents and increased absenteeism. Thermal comfort surveys were made in offices, drafting rooms, stenographic-pool rooms, in a clothing factory, in mines and their associate mills.

Noise surveys and analysis were made in a number of electrical power generating stations, in the uranium and potash mines and mills. The noise levels in many cases was excessive resulting in impaired hearing and clearly indicating the need for quieter equipment and ear protection.

The rather high incidence of Raynaud's phenomenon among the uranium miners led to an investigation into the vibration characteristics of the jack-leg drill, seemingly the chief cause of this disease, and the effectiveness of various insulating materials in reducing the vibrations transmitted to the hands of the miners.

Early in the year, a random sample of x-ray machines and their operators were checked as part of the work of the Radiological Health Committee. In addition monitoring checks were made on an oil well logging radium-beryllium source and on an isotope camera used to examine the welds in pipelines.

A check on the radioactivity of a few water, mud and fish samples indicated that the contamination from the uranium mill "tailings" and effluent was limited to an area immediately surrounding the "tailings

ponds". The small amount of radioactivity in the samples resulted mainly from the natural processes of rock weathering and water leaching.

A start has been made on trying to correlate the excretion of polonium 210 in uranium miners' urine to the concentration of radon gas in the mine working places. This project will be continued. The other project underway is that of checking the body burden of uranium in uranium concentrate packing workers.

Occupational Health Nursing

The occupational health nursing program has followed much the same pattern as last year with regard to the consultant service for nurses, that is:

1. Arranging meetings of nurses.
2. Bulletin published by the branch.
3. Mimeographed material submitted to nurses.
4. Talks to student nurses (public health and hospital).

The supervising occupational health nurse attended a consultants conference at Brockville, Ontario, in June, three projects were worked on by the group.

1. Pamphlet on Occupational Health Nursing for Public Relations Purposes.
2. Guilding Principles for Health Services for Hospital Personnel.
3. Handbook for Occupational Health Nurses.

The Handbook for Occupational Health Nurses was completed and distributed. This took the form of a reference book.

Guiding Principles for Health Services for Hospital Personnel is nearing completion and will serve a useful purpose as there is increased interest in employee health services for hospitals. The supervising occupational health nurse has been called upon both to assist in the development of existing services and in setting up a record system for a new service. An attempt is being made to interest management groups in the development of new health services and to this end there have been individual interviews with management and a film has been shown to a management group.

Ambulance Services

The road ambulance regulations have continued to be administered by the director. There was an attendance of 15 at the course in advanced first aid for road ambulance attendants held in May, 1959, at Saskatoon, several of the medical staff of the University Hospital discussing the first aid problems of their own special field. As was pointed out in the annual report of 1958-59 there is great need to improve the financial basis of many of the road ambulance services in this province if present standards of service are to be improved or even maintained. Some preliminary discussions to this end have been held but apparently these are services which everyone expects to be available in time of need but few individuals or organizations are prepared to accept responsibility for their operation.

HEALTH EDUCATION SERVICES

In a literate, democratic society, the informed partnership of the public with the official agency is essential to the realization of public health goals. The principle of government with the consent of the governed must be taken into account when so much of the progress which may be made depends upon the consent of people who can give it or withhold it.

This has been evident in a number of areas where the Department of Public Health has been most active during the year under review, such as Salk vaccination for the prevention of poliomyelitis, the addition of fluorine to water supplies for the prevention of dental disease, the maternal and child health program, and the accident-prevention activity—to name but a few.

It is a chief function of health educators to help a department achieve this informed consent and participation. This calls for much more than giving information or even developing better knowledge. Without motivation to change attitudes and habits, progress is very limited. This, unfortunately, is where health education of the public has advanced too slowly.

Estimates of poliomyelitis vaccination among persons in the most threatened age group—1-40 years in Saskatchewan at the end of 1959 were that 90 per cent of the children and 63 per cent of the eligible adults have received two or more doses of Salk vaccine. These percentages were believed to reflect an improvement over the previous year, and if there was such an improvement, the Health Education Division probably contributed to it. However, when almost 35 per cent of the adults have not availed themselves of the protection there is no reason for great satisfaction. It should be possible to increase the number substantially if a well-planned educational program is initiated.

There are ways of determining factors for the relatively low response by adults, and any remedial educational effort should be based on such factors. Public health in Canada has been curiously unscientific in its conduct of programs which depend for success on the acceptance of the public. It is still groping blindly where public participation is concerned.

The Health Education Division has proceeded also on the premise that the public should be stimulated to recognize health needs and suggest ways in which these can be met instead of waiting to be told in every instance by public health authorities. With a view to this there is room for many more local studies and conferences such as the commendable health survey conducted during the year by citizens of Esterhazy.

It is in this area that the voluntary health organizations are making a useful contribution, although much more could be done. There is a tendency for such agencies to work in narrow interest channels, as illustrated by the fact that none has shown a concern for the provision of full-time public health services in areas not yet so served.

Among the great variety of subjects with which the Health Education Division dealt during the year was the establishment of the Humboldt-Wadena Health Region. Here the health educators had responsiblity for interpreting need and indicating remedy. Wherever this has been done effectively, the people have welcomed the establishment of a health region. Areas where in the past health region organization has been rejected were those in which tried educational techniques were not employed and where decisions were based on false assumptions.

Already work was begun in the projected Saskatoon Rural Health Region, which, when established, will complete the picture of Saskatchewan as a province where all the settled area has been organized for full-time public health service.

Once a health region has been established, direct communication between the Health Education Division and its public there ceases. The health education program in the area then becomes the responsibility of the medical health officer in charge. Thus, over the years, the functions of the Health Education Division have changed gradually, and with the creation of the last health region much of its work will be consultative and advisory.

However, while the division is essentially a service agency assisting the program divisions and branches of the department, it has been, since 1952, a program division. It has conducted the department's accident-prevention program, and this has become such a large activity that it has encroached seriously on the other services. During the winter and spring months the compilation of statistics on accidents alone involved a large proportion of the staff continuously, apart from all other safety activities.

The division promoted Saskatchewan's fifth annual Child Safety Day on the first Sunday of May and immediately began work on observance of the sixth such day in 1960. Moreover, with five other provinces joining in this observance as a focal point for year-round safety activity, it was called upon to co-ordinate what is becoming a national campaign. It has responded to numerous inquiries from many parts of Canada and elsewhere.

The sixth annual Farm Safety Week, now a national event, was observed in the last full week of July, with increased public participation. The division played an important part in the organization and management of the Second Western Canada Farm Safety Conference, held in Fort Qu'Appelle in January, 1959, and was involved in plans for the third such conference in Calgary in the spring of 1960. A staff health educator has served as secretary of both the Saskatchewan and Western Canada farm safety committees, and the director of health education was vice-chairman of the western group, becoming chairman in 1960.

There were strong indications that the division was succeeding in its intermediate objectives of causing wide-spread awareness of accidents, how they are caused, where they occur, and how they may be prevented. Preliminary figures showed that in the calendar year 1959, almost 44,000 Saskatchewan residents suffered injuries necessitating hospital treatment as in- or out-patients, and that 438 citizens lost their lives in accidents. The cost of hospitalization was almost $2,500,000. Compared to human and monetary cost of accidents, the effort of which the Health Education Division has been capable so far is inadequate. Progress in the reduction of accidents is apparent but so far the resources provided for an attack on such a formidable cause of death and injury are far from satisfactory.

The division introduced the spring farmyard cleanup campaign, a counterpart of the well-observed community cleanups, as one way of reducing the high incidence of yard accidents. The nature of accidents and injuries has suggested bad yard housekeeping. The second annual cleanup was in the spring of 1959 and the third early in 1960. Concurrently the division initiated a safe-play-areas project to protect young farm children against machines and livestocks in farmyards. It demonstrated inexpensive homemade play equipment and supplied thousands of sketches to farmers on request.

The practice of children being allowed to operate farm power equipment or ride on it as passengers has been widely condemned. The division has persistently called attention to the frequent deaths or injuries resulting to children thus exposed to danger.

In the field of health education the division assisted health region staffs in conducting educational programs for both commercial and amateur foodhandlers. It assisted in the preparation of annual reports and advanced the view that such reports should be readable, informative publications designed to stir interest and motivate constructive reactions.

RESEARCH AND STATISTICAL SERVICES

In anticipation of extra work resulting from the establishment of the medical care planning committee, the branch had to be expanded towards the end of the fiscal year, both in terms of personnel and equipment and it is evident that for the time being at least, the branch will be employed in large part as a service agency, with minimum time being allocated to original research.

As in previous years, the organizing, tabulating and analyzing of data essential to the department's functioning was continued.

The branch continued to be financed from two sources, a national health grant, and provincial revenue funds.

Continuing Studies

These include the accumulation and analysis of statistics from the operations of the Swift Current Health Region Medical Care program, the province's hospital care insurance program and the provincial government programs of medical care for pensioners and other persons receiving social assistance. The branch continues to compile monthly statistics of births and infant deaths in Saskatchewan based on preliminary data available in the department.

Special Studies

Medical Care Costs

The branch assisted the department in investigation of the overall cost of medical care in the province which included payment to physicians, hospitals, druggists, dentists, optometrists, etc. It was anticipated that this information would be required by the Advisory Planning Committee on Medical Care.

Costs of Hospitalization

A study of the economic cost of various hospital insurance plans was completed during the year. Provincial comparisons were made on such costs in order to investigate the relationship existing between the economy of a province and its hospital services plan costs.

Population Statistics

Analyses of population trends continued, as a basic requirement for the numerous investigative procedures which are carried out by this department and other agencies.

Maps and Charts

By way of service to the department as a whole, the branch continued in the preparation of maps, charts and items such as graphs, histograms and other pictographic devices.

Home Farm Accidents

In collaboration with the Division of Health Education, the branch compiled numerous sets of statistical data on fatal accidents occurring in homes and on farms. The figures are obtained from various sources including the R.C.M.P., death certificates, hospitalization records, and the Dominion Bureau of Statistics. Towards the end of the fiscal year, agreement was reached with the Division of Health Education that the Research and Statistics Branch assume responsibility for the collection and analysis of these data.

Service Areas of Individual Hospitals

A survey on the service areas of individual hospitals was completed during the year and certain conclusions reached as to factors influencing the size of these areas.

Life Tables for Saskatchewan

Work was commenced during the year on compiling life tables for Saskatchewan. Such tables have been available for Canada as a whole. and for the prairie provinces (prepared by the Dominion Bureau of Statistics), but never for Saskatchewan as an ecologic unit. It is intended to issue these tables on a quinquennial basis.

1957 Hospitalization Experience

This study analyzing the cases hospitalized and the number of days spent in hospital by different diagnoses was completed and published during the year. This publication has proved to be of great value in many quarters both from administrative and clinical standpoints.

Information Services

The branch continued to extend services to other divisions and agencies, wherever possible, but it became evident that a maximum workload was being carried and that a limit had to be placed on the number of extra-mural obligations undertaken.

PUBLIC HEALTH LIBRARY

The Public Health Library was established in 1946 and in 1950 became a division of the Research and Statistics Branch. Library services are extended to departmental personnel, faculty of the College of Medicine of the University of Saskatchewan, students of the combined clinical laboratory x-ray training course, nursing students, organizations associated with the department, other departments, other libraries, and individuals.

The library functions as (1) a specialized reference library, (2) a circulating library, and (3) a central agency for the order of books, pamphlets and periodicals required by various branches and units of the department.

Loan Services

The number of books, pamphlets and periodicals circulated on loan has grown from 552 in 1948 to 2,750 in the fiscal year 1959-60. Publications are borrowed by personnel within the city of Regina and are sent by mail to all parts of the province and occasionally to other parts of Canada and the United States.

As part of the library loan service, incoming periodicals are circulated on circulation lists. The names of 90 officials of the health department appeared upon library circulation lists and a total of 1,282 issues of 108 periodicals were circulated during the year.

Since it is not possible for a library to have on its shelves every publication needed, the resources of the library were augmented by borrowing books, periodicals and reports from universities and scientific institutions. During the fiscal year 1959-60 interlibrary loans numbered 143. These were from the Universities of Saskatchewan, British Columbia, Manitoba, Montreal, Toronto, McGill, Queen's, the Department of National Health and Welfare (Ottawa), the Defence Scientific Information Service Library (Ottawa), the Suffield Experimental Station (Ralston, Alberta), the Legislative Library of Saskatchewan (Regina), Regina College, Saint John Public Library, Vancouver Public Library, and Regina Public Library.

Order Services

Publications purchased for the library, as well as those purchased by other branches, divisions and services, are ordered by the library in co-operation with the Administrative Services Branch and the Provincial Government Purchasing Agency.[1] Records are maintained regarding source, payment and price.

Cataloguing and Indexing Activities

Public Health Library books are classified and catalogued according to the Library of Congress classification and cataloguing systems.

[1] Except the Saskatchewan Training School, the Saskatchewan Hospital North Battleford, and the Saskatchewan Hospital, Weyburn.

Pamphlets and reports are catalogued by author, title and subject. Periodicals are scanned and outstanding articles of permanent value are indexed.

Cards are added to the library card catalogue for books ordered for other branches, divisions and services. These cards carry a "location" note indicating where each book is housed. While some of the books in the unit libraries are in constant use and are therefore not available for loan, others may be borrowed for periods varying from two days to four weeks, by requesting them through the Public Health Library.

Reference Services

In response to requests, information is secured through the use of standard reference texts and specialized medical and hospital texts, dictionaries, directories and indexes.[1] This information goes out verbally, by telephone and by mail.

Library Resources

The library holdings include approximately 3,650 books, 4,500 pamphlets, 561 volumes of permanently bound periodicals, and 140 current periodical subscriptions.

While most of the publications are acquired by purchase, a number of reports, pamphlets, periodicals and reprints are secured free from governmental agencies, societies, commercial firms, scientific institutes, and individuals who supply reprints of research studies.

Publications of the Week

"Publications of the Week", continued to be issued. One hundred and seven names appeared upon the distribution list for this listing of newly received books, pamphlets and reports. Due to a heavy demand for some of the publications, it was not always possible to forward all publications promptly in response to requests. A reserve system ensures, however, that the desired publications will go forward to the borrower as soon as possible.

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1 e.g. the Index Medicus, the Current List of Medical Literature, the Hospital Periodical Literature Index.

SASKATCHEWAN VITAL STATISTICS

The Vital Statistics Division continued to provide the administrative machinery required for the registration of births, stillbirths, deaths, marriages, divorces and adoptions in Saskatchewan.

Division registrars, of whom there are approximately 800 in the province, forward their returns of birth, death and stillbirth registrations on a weekly basis to the central office in Regina. From these registrations the central office creates notice of birth, death and stillbirth cards by health statistical area. These notification cards are then sorted by health region and residence and forwarded as soon as possible to the medical health officers of the health regions. The purpose of this procedure being to keep the health officers informed of the vital events occurring to residents of their regions.

Marriage registrations are filed directly with the central office in Regina by the officiating clergyman or marriage commissioner and are not channelled through a division registrar.

The total number of registrations processed in 1959 was 38,037. A comparison of the number of registrations for 1956, 1957, 1958, and 1959 follows:

Processed registrations	*1956*	*1957*	*1958*	*1959*
Total	37,590	37,524	37,310	38,037
Births	24,218	23,939	24,011	24,437
Stillbirths	310	309	278	270
Deaths	6,645	6,769	6,557	6,922
Marriages	6,417	6,507	6,464	6,408

Registrations were checked for completeness, and indexed, numbered, microfilmed, and filed in a fireproof vault as permanent records.

Births which are not registered at the time of event, and corrections on the original registration of birth, continue to present a problem. Each application for correction is carefully investigated and satisfactory evidence must be produced to assure that there actually was an error at the time of the original registration. In addition to an application for a delayed registration, the applicant must also file satisfactory documentary evidence in accordance with the "Standard Minimum of Evidence for Delayed Registrations" agreed to by all provinces in 1944. A large amount of correspondence is necessary in handling correction and delayed registration files.

Likewise, considerable correspondence and personal interviews are necessary in connection with legitimation of births, registration of illegitimate children, alteration of given names and adoptions, before the proper notations can be entered on the original registrations concerned.

The numbers of delayed registrations and notations made in 1956, 1957, 1958 and 1959 are as follows:

Type of investigation	*1956*	*1957*	*1958*	*1959*
Delayed registration	1,472	1,476	1,663	1,539
Correction of original registration	2,372	2,467	2,177	1,710
Registration of illegitimate child in name of father	29	38	27	43
Legitimation of birth	100	79	100	102
Alteration of vital statistics registration resulting from change of name certificate	418	469	470	413
Alteration of given name	421	429	414	362
Adoption notation	429	515	483	468

Current birth, stillbirth, death and marriage registrations are microfilmed at the earliest possible date after registration. The films are forwarded to the Dominion Bureau of Statistics which compiles vital data for the country as a whole and is in charge of the national index of births. Documents submitted as supporting evidence in connection with the division's activities are also placed on microfilm for reference.

Certified copies of the original registrations, certificates, and statements or verifications were issued as part of the function of the divison to the public or other agencies, as proof of these events, upon receipt of an application in the required form and payment of the prescribed fee.

The revenue received from these and from other sources for the years 1955 to 1959 inclusive was as follows:

	1955	*1956*	*1957*	*1958*	*1959*
Total	$76,859	$85,319	$87,384	$86,700	$84,459
Vital statistics fees	52,864	61,465	63,142	62,110	60,881
Marriage licence fees	18,626	18,193	18,779	18,628	18,233
Revenue from microfilm	3,869	3,886	3,757	3,766	3,852
Revenue from change of name	1,500	1,775	1,706	2,196	1,493

The division of Vital Statistics also provides the administrative machinery necessary to carry out the provisions of the Marriage Act. This includes recognition of religious denominations, registration of clergymen authorized to perform marriages, appointment of issuers of marriage licences, supplying of marriage licences to issuers, printing and distribution of all required forms, and checking of forms such as statutory declarations, health certificates, licences, banns, consent forms for the marriage of minors, divorce certificates, and death certificates.

Under the authority of the Change of Name Act, all applications for change of name must be submitted to this division for consideration. All approved registrations of change of name are retained as permanent records in a fireproof vault. In 1959 there was 150 change of name applications accepted for registration compared to 223 in 1958.

Vital Data

According to data published by the Dominion Bureau of Statistics in 1959, the population of Saskatchewan was 902,000. This represents an increase of 14,000 over 1958 or 1.58 per cent (Table 61).

Live births registered during 1959 totalled 24,319 and deaths 7,003 resulting in a natural increase of 17,316 or 19.2 per 1,000 population. This rate is 0.3 less than that for 1958.

In 1959, the birth rate per 1,000 population was 27.0, or 0.1 more than the year before. At the same time the death rate increased to 7.8 per 1,000 population, from 7.3 for 1958.

During the year under review, the number of stillbirths recorded in Saskatchewan was 247, 23 less than in 1958. The stillbirth rate per 1,000 live births was 10.2 representing a decrease from 11.3 for 1958 (Table 63).

As regards infant mortality, the year 1959 showed an increase over the preceding year. The number of infants dying in their first year of life was 626 as against 616 in 1958. At the same time, the infant mortality rate in 1959 decreased to 25.7 per 1,000 live births compared with 25.8 in 1958. The all time low record has been established at 25.5 per 1,000 live births in 1957.

Among the leading causes of death, heart disease and malignant neoplasms (cancer) retained the first and second places, respectively. Together they accounted for about one half of all deaths in the province in 1959 (Table 64). Other leading causes of death were vascular lesions affecting the central nervous system, accidents, diseases peculiar to early infancy, pneumonia, diseases of arteries, diabetes mellitus, congenital malformations and influenza in that order. As in 1958, these 10 causes accounted for four out of every five deaths occurring in Saskatchewan. In this connection, it is worth recalling that tuberculosis disappeared from among the 10 leading causes of deaths in 1954. A comparison of the ten leading causes of deaths can be found in Table 64.

From 6,464 in 1958, the number of marriages decreased to 6,388 in 1959, and the marriage rate decreased from 7.3 to 7.1 per 1,000 population. The rate of divorces and annulments per 1,000 population decreased from 0.32 in 1958 to 0.31 in 1959. In 1959 the ratio of divorces and annulments to marriages was 1:23 as against 1:22 in 1958 (Table 66). These figures do not include separations on which no statistical data are being compiled.

TABLE 61. POPULATION TREND FOR SASKATCHEWAN, CENSUS YEARS 1901 TO 1951 AND 1956, AND ESTIMATES FOR 1952, 1953, 1954, 1955, 1957, 1958 AND 1959

Year	Canada	Saskatchewan			
				Increase over preceding population	
	Total population	Total population	Per cent of Canada's population	Number	Per cent
1901	5,371,315	91,279	1.70	91,279	.....
1906		257,763		166,484	182.39
1911	7,206,643	492,432	6.84	234,669	91.04
1916		647,835		155,403	31.56
1921	8,787,940	757,510	8.62	109,675	16.93
1926		820,738		63,228	8.35
1931	10,376,786	921,785	8.88	101,047	12.31
1936		931,547		9,762	1.06
1941	11,506,655	895,992	7.79	−35,555	−3.82
1946		832,688		−63,304	−7.07
1951	14,009,429	831,728	5.94	−960	−0.12
1952	14,459,000*	843,000	5.83*	11,272	1.32
1953	14,845,000*	861,000	5.80*	18,000	2.13
1954	15,287,000*	873,000*	5.71*	12,000*	1.39*
1955	15,698,000*	878,000*	5.59*	5,000*	0.57*
1956	16,080,791	880,665	5.48	2,665	0.30
1957	16,589,000	879,000	5.30	−1,665	−0.19
1958	17,048,000	888,000	5.21	9,000	1.02
1959	17,442,000	902,000	5.17	14,000	1.58

* Note that numbers and percentages as given for these years vary slightly as a result of postcensal adjustments from the numbers and percentages as shown in the annual reports on Saskatchewan Vital Statistics for the years 1952, 1953, 1954 and 1955.

TABLE 62. NATURAL INCREASE IN POPULATION, SASKATCHEWAN, 1916-1959

Year	Live births	Deaths	Natural increase*	
			Number	Rate per 1,000 population
1916-1920 average	20,764	6,260	14,504	21.2
1921-1925 average	21,541	5,853	15,688	20.1
1926-1930 average	21,298	6,256	15,042	17.5
1931-1935 average	20,325	6,037	14,288	15.4
1936-1940 average	18,675	6,365	12,310	13.5
1941-1945 average	18,444	6,437	12,007	14.1
1946	21,433	6,422	15,011	18.0
1947	23,334	6,610	16,724	20.0
1948	21,562	6,496	15,066	18.0
1949	21,662	6,596	15,066	18.1
1950	21,546	6,243	15,303	18.4
1951	21,733	6,440	15,293	18.4
1952	22,605	6,625	15,980	19.0
1953	23,703	6,687	17,016	19.8
1954	24,981	6,323	18,658	21.4†
1955	24,746	6,661	18,085	20.6†
1956	24,059	6,666	17,393	19.7
1957	23,921	6,743	17,178	19.5
1958	23,843	6,483	17,360	19.5
1959	24,319	7,003	17,316	19.2

* The natural increase is the excess of live births over deaths.

† Note that rates as given for these years vary slightly as a result of postcensal adjustments from the rates as shown in the annual reports on Saskatchewan Vital Statistics for the years 1954 and 1955.

TABLE 63. NUMBER OF STILLBIRTHS, INFANTS DEATHS, AND MATERNAL DEATHS, WITH ANNUAL RATES PER 1,000 LIVE BIRTHS, SASKATCHEWAN, 1926-1959

Year	Live births	Stillbirths		Infant deaths*		Maternal deaths	
		Number	Rate	Number	Rate	Number	Rate
1926-1930	21,298	551	25.9	1,560	73.2	126	5.9
1931-1935	20,325	488	24.0	1,260	62.0	91	4.5
1936-1940	18,675	393	21.0	1,025	54.9	68	3.6
1941-1945	18,444	348	18.9	858	46.5	52	2.8
1946	21,433	372	17.3	1,004	46.8	36	1.7
1947	23,334	362	15.5	1,018	43.6	38	1.6
1948	21,562	347	16.1	867	40.2	22	1.0
1949	21,662	325	15.0	834	38.5	27	1.2
1950	21,546	346	16.1	690	32.0	21	1.0
1951	21,733	303	13.9	676	31.1	22	1.0
1952	22,605	314	13.9	787	34.8	13	0.6
1953	23,703	319	13.5	797	33.6	13	0.5
1954	24,981	327	13.1	708	28.3	22	0.9
1955	24,746	300	12.1	745	30.1	11	0.4
1956	24,059	291	12.0	680	28.3	8	0.3
1957	23,921	280	11.7	609	25.5	5	0.2
1958	23,843	270	11.3	616	25.8	13	0.5
1959	24,319	247	10.2	626	25.7	10	0.4

* Deaths of children under one year of age.

TABLE 64. TEN LEADING CAUSES OF DEATH WITH PERCENTAGES AND RATES PER 100,000 POPULATION, SASKATCHEWAN, 1958 AND 1959

Cause of death*	Number		Per cent		Rate per 100,000 population	
	1958	1959	1958	1959	1958†	1959†
All causes	6,483	7,003	100.0	100.0	730.1	776.4
Ten leading causes	5,463	5,850	84.3	83.5	615.2	648.6
Heart diseases (410-443)	2,175	2,292	33.6	32.7	244.9	254.1
Malignant neoplasms (140-205)	1,076	1,121	16.6	16.0	121.2	124.3
Vascular lesions affecting central nervous system (330-334)	739	752	11.4	10.7	83.2	83.4
Accidents (E800-E962)	426	444	6.6	6.4	48.0	49.2
Diseases peculiar to early infancy (760-776)	349	346	5.4	4.9	39.3	38.4
Pneumonia (490-493)	234	334	3.6	4.8	26.4	37.0
Diseases of arteries (450-456)	163	218	2.5	3.1	18.4	24.2
Diabetes mellitus (260)	99	132	1.5	1.9	11.1	14.6
Congenital malformations (750-759)	119	128	1.8	1.8	13.4	14.2
Influenza (480-483)	...	83	...	1.2	...	9.2
Other	1,020	1,153	15.7	16.5	114.9	127.8

* Code numbers according to the *International Statistical Classification of Diseases, Injuries and Causes of Death, 1955*, are shown in parentheses.

† 1958 and 1959 rates are based upon population estimates for the year.

TABLE 65. ACCIDENTAL DEATHS BY CAUSE OF DEATH, SASKATCHEWAN, 1957-1959

Accidental deaths*	Number			Rate per 100,000 population		
	1957	1958	1959	1957	1958	1959
Total	448	426	444	51.0	48.0	49.2
Motor vehicle accidents	157	147	162	17.9	16.5	18.0
Other transport accidents	29	22	24	3.3	2.5	2.6
Accidental poisoning	8	20	13	0.9	2.3	1.4
Accidental falls	86	68	56	9.8	7.7	6.2
Accident caused by machinery	25	17	25	2.8	1.9	2.8
Accident caused by fire and explosion of combustible material	34	39	35	3.9	4.4	3.9
Accident caused by hot substance, corrosive liquid, steam and radiation	2	....	3	0.2	....	0.3
Accident caused by firearm	12	6	8	1.4	0.7	0.9
Accidental drowning and submersion	29	36	28	3.3	4.0	3.1
All other accidental causes	66	71	90	7.5	8.0	10.0

* Causes according to the *International Statistical Classification of Diseases, Injuries and Causes of Death*, 1955, Volume 1, pp. 375-380.

TABLE 66. DIVORCES AND ANNULMENTS, RATIO TO MARRIAGE AND RATES PER 1,000 POPULATION, SASKATCHEWAN, 1953-1959

Item	1953	1954*	1955*	1956	1957	1958	1959
Number of divorces and annulments	223	255	242	226	246	286	277
Number of marriages	7,186	6,953	6,494	6,403	6,510	6,464	6,388
Ratio of divorces and annulments to marriages	1:32	1:27	1:27	1:28	1:26	1:22	1:23
Rate of divorces and annulments per 1,000 population	0.26	0.29	0.27	0.26	0.28	0.32	0.31
Rate of marriages per 1,000 population	8.3	8.0	7.4	7.3	7.4	7.3	7.1

* Note that rates as given for these years vary slightly as a result of postcensal adjustments from the rates shown in the annual reports on Saskatchewan Vital Statistics for the years 1954 and 1955.

SASKATCHEWAN CANCER SERVICES

The following report on the Saskatchewan Cancer Commission is included in this annual report of the Department of Public Health. Detailed tables may be found in the annual report of the Commission, which is published separately.

The Saskatchewan Cancer Commission, charged with the administration of the Cancer Control Act under the Minister of Public Health, continued during the year the operation of the Allan Blair Memorial Clinic, located in the Regina Grey Nuns' Hospital, and the Saskatoon Cancer Clinic, located in the University Hospital. Both were staffed by full-time medical, nursing and office personnel.

Care and Treatment

The services of the cancer clinics for both diagnosis and treatment, as well as those diagnostic procedures and medical and surgical care, authorized by the clinics and provided by doctors in private practice, are furnished at the expense of the commission to those patients who were residents of Saskatchewan for at least three months immediately prior to admission to a cancer clinic.

Except for certain diagnostic procedures revealing the presence of malignant disease, or in the case of an operation where unsuspected cancer is discovered, financial responsibility is not accepted for services rendered before actual admission of the patient to a cancer clinic.

Payment of hospitalization of cancer patients is a responsibility of the Saskatchewan Hospital Services Plan in cases where the annual tax levied for that purpose has been paid by patients. However, this expense is assumed by the commission when the tax has not been paid and the patient is otherwise entitled to free care and treatment. The commission also pays for drugs listed as non-benefits of the Plan provided to in-patients. The patient is solely responsible for payment of out-patient drugs.

Except for authorized home visits of the Victorian Order of Nurses in terminal cases, special nursing services are not paid for by the commission.

Free services are not extended to patients for whom the Federal Government is responsible, nor, of course, to those who are not residents of Saskatchewan. Such patients are accepted by the clinics on a fee-for-service basis.

The Family Doctor

The commission bases its cancer program on the conception that the ultimate success of a province-wide plan of cancer management depends upon the partnership and co-operation of the family doctor. He is the first and most important detection centre and all patients coming to either clinic are required to be referred there by him.

Specialist Services

Each clinic has a roster of surgeons in private practice for the purpose of consultation and for referral of patients for surgery when patients have no particular choice of surgeon. Medical specialists are consulted, as well, when occasion demands.

Medical and Surgical Fees

Authorized medical and surgical services rendered to clinic patients by doctors in private practice are paid by the commission on a fee-for-service basis in accordance with the current schedule of fees of the College of Physicians and Surgeons of Saskatchewan.

Social Worker

The Saskatchewan division of the Canadian Cancer Society provides funds for a social worker attached to each clinic. This worker assists the medical and nursing staff in the care and comfort of cancer patients, being particularly concerned with their social and psychological needs.

Lay Education

Lay education in cancer remains a responsibility of the Canadian Cancer Society in co-operation with the Division of Health Education of the Department of Public Health.

Technical Staff

Besides full-time medical, nursing and clerical staffs, each clinic has a full-time physicist. Part-time consultants are available in physics, pathology, diagnostic radiology, biochemistry and medical tariff. The operation of an emanation plant at the University of Saskatchewan for the production of radon is under the supervision of the consulting physicist, the commission assuming payment of a technician's salary.

Cost of Services

The total cost of operating the commission and the two clinics in 1959-60 was $1,364,866, a national health grant contributing $438,645 of the amount. Not included in this total expenditure was the cost of hospitalization of cancer patients who were beneficiaries of the Saskatchewan Hospital Services Plan. This was borne by the Plan.

Medical and surgical fees were $585,188, staff salaries $402,509 and payments to clinic hospitals $240,488 for diagnostic, laboratory and x-ray facilities, as well as for various other services provided for the clinics.

TABLE 67. SUMMARY OF ALL PATIENTS SEEN AT THE CANCER CLINICS, SASKATCHEWAN, 1959

Cases	Both clinics	Regina clinic	Saskatoon clinic
All cases	21,193	10,310	10,883
Number of patients admitted to the clinics for the first time in 1959 for the diagnosis and treatment of cancer	3,776	1,728	2,048
Number of patients discharged from the clinics previous to 1959 with benign conditions, who returned to the clinics in 1959 with cancer	192	87	105
Number of patients seen in 1959 but not admitted to the clinics, as superficial examination appeared to exclude cancer.	403	197	206
Number of patients admitted to the clinics in 1959 solely for the diagnosis or treatment of non-malignant conditions*	598	111	487
Number of review examinations of all patients seen in 1959†	16,224	8,187	8,037

* Diagnosis refers to various radioactive isotope uptake studies.
† The above figures do not include attendance of patients for treatment only.

TABLE 68. NUMBER OF NEW PATIENTS ADMITTED TO CANCER CLINICS FOR DIAGNOSIS AND TREATMENT OF CANCER, SASKATCHEWAN, 1932 TO 1959

Year	All cases	Cancer	Pre-cancer	Not cancer	Not diagnosed
	Both clinics				
All 28 years	66,683	29,825	4,015	31,207	1,636
1932	500	343	35	105	17
1933	579	338	20	199	22
1934	646	402	13	215	16
1935	692	415	12	243	22
1936	712	401	30	249	32
1937	801	428	25	323	25
1938	909	473	32	352	52
1939	1,094	520	60	364	150
1940	1,193	528	80	466	119
1941	1,245	598	77	508	62
1942	1,468	653	192	568	55
1943	1,698	756	275	601	66
1944	2,103	871	327	741	164
1945	2,613	1,042	273	1,043	255
1946	3,161	1,193	176	1,708	84
1947	3,632	1,362	207	1,998	65
1948	3,820	1,420	231	2,147	22
1949	3,366	1,312	190	1,842	22
1950	3,269	1,430	225	1,582	32
1951	3,378	1,502	230	1,606	40
1952	3,547	1,597	220	1,678	52
1953	3,502	1,594	192	1,680	36
1954	3,516	1,605	138	1,745	28
1955	3,679	1,662	146	1,846	25
1956	3,984	1,778	148	2,006	52
1957	3,909	1,824	135	1,929	21
1958	3,891	1,830	130	1,870	61
1959	3,776	1,948	196	1,593	39

TABLE 68—(*Concluded*)

Year	All cases	Cancer	Pre-cancer	Not cancer	Not diagnosed
	Regina clinic				
All 28 years	34,435	16,467	2,694	14,480	794
1932	301	207	21	63	10
1933	368	204	11	138	15
1934	389	250	4	125	10
1935	430	277	7	137	9
1936	440	255	19	144	22
1937	528	265	19	223	21
1938	570	279	24	234	33
1939	723	321	51	233	118
1940	829	352	72	325	80
1941	877	371	75	377	54
1942	1,072	444	183	409	36
1943	1,306	542	267	457	40
1944	1,445	544	304	526	71
1945	1,499	591	240	589	79
1946	1,837	707	141	963	26
1947	1,979	722	146	1,087	24
1948	1,991	784	131	1,060	16
1949	1,607	687	95	809	16
1950	1,489	774	93	604	18
1951	1,568	834	144	571	19
1952	1,574	824	122	611	17
1953	1,583	823	95	661	4
1954	1,588	866	73	637	12
1955	1,569	854	63	641	11
1956	1,721	912	66	720	23
1957	1,721	893	60	765	3
1958	1,703	919	52	729	3
1959	1,728	966	116	642	4
	Saskatoon clinic				
All 28 years	32,248	13,358	1,321	16,727	842
1932	199	136	14	42	7
1933	211	134	9	61	7
1934	257	152	9	90	6
1935	262	138	5	106	13
1936	272	146	11	105	10
1937	273	163	6	100	4
1938	339	194	8	118	19
1939	371	199	9	131	32
1940	364	176	8	141	39
1941	368	227	2	131	8
1942	396	209	9	159	19
1943	392	214	8	144	26
1944	658	327	23	215	93
1945	1,114	451	33	454	176
1946	1,324	486	35	745	58
1947	1,653	640	61	911	41
1948	1,829	636	100	1,087	6
1949	1,759	625	95	1,033	6
1950	1,780	656	132	978	14
1951	1,810	668	86	1,035	21
1952	1,973	773	98	1,067	35
1953	1,919	771	97	1,019	32
1954	1,928	739	65	1,108	16
1955	2,110	808	83	1,205	14
1956	2,263	866	82	1,286	29
1957	2,188	931	75	1,164	18
1958	2,188	911	78	1,141	58
1959	2,048	982	80	951	35

UNIVERSITY MEDICAL CENTRE

THE UNIVERSITY HOSPITAL

The first five years at University Hospital passed swiftly and, apparently, successfully. The fifth annual report covering the year 1959 is presented in the pages that follow by means of reviewing progress during the first five years, commenting upon the present position and attempting to look into the future.

Negotiations to establish a University Hospital were originated in 1943 by Dr. W. S. Lindsay, then the Dean of Medical Sciences. It might be said that the hospital was first begun in 1946 when, on September 17, the University Hospital Board was constituted by Order in Council. Construction of the hospital was started in the spring of 1948; however, work was stopped from September 18, 1948 until December 13, 1948, at which time the board obtained authority to complete one portion of the building. It was not until May, 1950, that Premier Douglas announced, during the opening ceremonies for the new Medical Building, that the hospital would be completed as planned. From then on progress was slow but steady until on January 26, 1955, the first patients were admitted to the partially completed building. Thus, over 11 years had passed before the hospital started to fulfill its mission and "the first five years", referred to in this report was begun. The buildings were not completed until October 1956, when the hospital, fully equipped, was handed over to the University Hospital Board.

It is now nearly 17 years since Dr. Lindsay began his work to establish a teaching and base hospital for the province at the university. Dr. Lindsay still serves the hospital for which he, more than any other man, is responsible.

During 1955 and 1956 the hospital was opened gradually. Beginning with 40 beds on January 26, 1955, additional wards and services were made available as successive portions of the buildings were completed and necessary staff obtained. There were 397 beds available for patients by the end of December, 1955. The total hospital patient accommodation of 530 was reached on October 29, 1956. Thus, nearly all of the first two years were occupied by completing the opening of the buildings. Of greater importance, this time was needed to secure the staff; doctors, nurses and many others, whose skilled and devoted ministrations moulded inanimate buildings and equipment into a hospital.

Nineteen fifty-seven was the first year of full operation for the hospital with all facilities for service available throughout the 12 months. During that year the first classes of nurses and doctors were graduated. These graduations marked the completion of the opening phase in attaining the educational objectives of the hospital. Other groups trained or in training by this time included internes, residents in medical specialty training, laboratory technologists, hospital dietitians, radiographers, pharmacists, medical record librarians, hospital administrators. Thus, the opening of two phases of hospital operation—service to the public and education—were completed. In the annual report for

1957 it was stated that the next two years, 1958 and 1959, "should see consolidation of our venture" and "active planning to meet the needs that are already beginning to arise . . ."

The Saskatchewan Cancer and Medical Research Institute was opened in 1958 greatly augmenting facilities for research which had begun in the hospital. The basic facilities for service, education and research were therefore completed and planning for future development of the medical centre was begun in 1958 and carried on into 1959. During these two years of consolidation and planning, activities of the hospital continued to expand. As new equipment and services were added, every available space in the building was occupied until by the end of 1959 overcrowding in many areas was becoming a serious concern.

We are pleased to report that, although much remains to be done, a good start has been made with preliminary architectural studies on land availability and utilization. Likewise, the decision has been taken on the first additional building which is to be a home for medical internes and residents. It is hoped to have plans completed and building construction under way during 1960 with completion in 1961. When the house staff residence is occupied, accommodation for approximately 30 additional patients will become available in the area presently occupied by house staff in the hospital building. By virtue of this new development, some much needed accommodation for patients will be made available and internes and residents will have more suitable housing.

Although the hospital has been fully operative for three years, the volume of work done and numbers of patients served has increased each year. Obviously further increase in work cannot continue indefinitely, despite growing needs, without additional space, personnel and facilities. A comparison of some figures for the past five years will serve to illustrate the continued growth in service offered. At the same time it will be noted that the rate of increase in services is much less in the past two years than previously because optimum capacity has been reached and, in some cases, exceeded. Further increases can only be made at the expense of overcrowding facilities and creating undue pressure on the staff, which carry the dangers of forcing standards down and of obstructing the march towards improvement.

What does the future hold? Undoubtedly rapid progress will continue in medical science. One result of improved medical care has been a great increase in the old age groups. Others, both young and old, have been saved from death but are wholly or partially disabled and dependent to some extent on hospital facilities. These numbers will increase.

Already active care of acutely ill persons taxes our facilities to the utmost and new construction to offer expanded service is imperative. Among facilities urgently needed in a new service wing are at least two additional large operating rooms, three to four times the space presently used for recovery room purposes, expanded pathology and bacteriology departments, considerable office space, classroom facilities and a hospital chapel. This must be the next development.

The University hospital pioneered in providing a small rehabilitation ward in the original plans. As medical and surgical care improve, the need for greatly extended facilities for the treatment of disabled persons will increase. A substantial wing or building providing accommodation

and active rehabilitation facilities for at least 125 patients is necessary for proper service to patients, for teaching and for research. This development should not be delayed.

The care of mental illness eventually will become part of the function of every general hospital. Many hospitals, including ours, have psychiatric wards or services. Enlarged and improved facilities for the care of emotional illness must soon be made available in Saskatoon. A psychiatric wing or building is seen as a further addition to our facilities in the course of the next few years.

With three large general hospitals, Saskatoon is serving as a referral centre for the province. The care of children will continue to be a major responsibility in protecting the future for our province. It would appear that a children's hospital should be developed soon in order that there may be a well equipped and well staffed centre for this all-important work.

Activity Highlights in 1959

Publication of 81 papers in various professional and scientific journals by a number of medical and other professional staff of the hospital.

Another active year by the University Hospital Women's Auxiliary which saw many thousands of hours of service and several donations of money in the form of scholarships for nurses and equipment for the hospital.

An average of approximately 30 patients were admitted to the hospital each day of the year.

The hospital operated by far the largest food service in Saskatoon in serving well over three-quarters of a million meals during the year.

A special cooling room with accommodation for up to three persons was constructed for neurosurgical patients who, due to the nature of their illness or injury, require low room temperatures as a part of their care.

Offices and examining rooms were constructed in the basement of Wing E for the Department of Ophthalmology. Space on the ground floor of Wing E, previously occupied by ophthalmology, will now be available for expanded out-patient facilities.

A medical students' lounge was constructed in the basement of Wing D.

Extensive improvements were made in the laboratories for psychiatric research, in the chemistry section of pathology, in the Department of Bacteriology and in the metabolic laboratories of the Department of Medicine.

Graduation ceremonies were held for 32 doctors, 69 nurses, 5 dietry internes, 7 laboratory technologists and 3 radiographers.

The hospital was the location for an ever-increasing number of short courses and institutes for doctors, nurses and many others.

By year's end nearly five years of operation were completed and in that period, 39,331 patients had been admitted. Of these, almost two-thirds come from all parts of the province outside Saskatoon. The hospital is continuing to serve as a major referral centre for the province.

In-service education, in process almost from the beginning was greatly strengthened during the year by the appointment of a full-time director, Miss C. Dauk, who had completed special preparation at Columbia University.

By the end of the first five years, 4,581 patients had been delivered of babies without a maternal death.

With assistance from a federal-provincial grant and co-operation from several departments, the Department of Rehabilitation Medicine initiated a Home Care Program. Still on an experimental basis, it is hoped to establish the program permanently as a means of giving better care to many patients by assisting their families to care for them in their home environment.

Revenue and Expenditure

Revenue for 1959 totalled $4,363,623.67 and expenditures $4,405,287.25, resulting in a deficit of $41,663.58.

The bulk of revenue, $4,005,816.44, was realized from service to patients. The balance came from a variety of sources, the largest amount being $198,959.91 received from sales in the cafeteria and snack bar. It should be noted, however, that this figure does not represent a "profit", but merely helps to offset the costs, which are included in the expenditure figure, of maintaining these services.

Two-thirds, or $2,900,692.92 of the total expenditure was for salaries, wages and perquisites of employees and students.

Depreciation on buildings and equipment has been included in expenses and in 1959 amounted to $342,021.80. In order to provide for new equipment and improvements to the buildings, $84,645.63 was expended in 1959.

Our best wishes and grateful thanks for his great service over many years go to Dr. W. P. Thompson who, in 1959, retired as President of the University and a member of the University Hospital Board. We welcome J. W. T. Spinks and look forward to a continuation of the spirit of co-operation that exists between the university and the hospital.

In conclusion, the past year, like the first five years, has been marked by considerable achievement. This has been possible only through the labours of devoted department heads and their efficient staffs. Our sincere thanks are hereby tendered to all. It is impossible to mention each by name, but we would particularly like to thank Mr. E. V. Wahn, Assistant Director (business), and Dr. W. S. Lindsay, Assistant Director (medical). The officers of the University of Saskatchewan and the members of the University Hospital Board have also been unstinting in their help and support.

THE UNIVERSITY COLLEGE OF MEDICINE

Medical student enrolment during the year 1959-60 was as follows:

	Total	*First-year*	*Second-year*	*Third-year*	*Fourth-year*
All students	126	40	30	27	29
Men	112	35	25	27	25
Women	14	5	5	—	4

The total is the same as in 1958-59. With full enrolment expected in September's freshman class it is believed that we are nearing the end of the extreme dearth of applicants for medicine. This does not mean a sufficiency of academically well prepared men and women with the utmost in scientific curiosity, human understanding and zeal for service. It indicates, however, that in future we shall probably recruit each year a full class of 40. To attract our share of the best students we must extend our contacts with high school pupils and teachers, breaking down misunderstandings about entrance requirements, financial aspects and effects of the lengthy course. Unfortunately, the course *is* lengthy and expensive and has the reputation of being formidable. It is necessary to emphasize that it is not time "out of one's life", that loan funds are more abundant than ever and that the progress of science and improvements in medical education make the study of medicine more intriguing than ever before. At the same time, we need still more loan funds. bursaries, residences, a day nursery to permit more wives to work, and opportunities for more suitable summer employment.

Examination results were as follows:

Fourth-year—Twenty-nine graduated in May; one with great distinction and one with distinction.

Third-year—Twenty-four promoted; two required to write supplemental examinations; one required to repeat the year.

Second-year—Twenty-eight promoted; one required to write supplemental examination, one required to discontinue.

First-year—Thirty-two will be promoted if eight are successful in supplemental examinations (two of these are for credit to raise the overall average to 60 per cent); two withdrew during the year because of academic difficulty; two required to discontinue and four required to repeat the year.

Interneships

Hospitals for the 12-month rotating interneship required for license to practise have been selected by the graduating class as follows:

Canada	20
New Westminster	1
Saskatoon (3 hospitals)	17
Toronto	1
Montreal	1
United States	7
New York City	1
Cleveland, Ohio	1
Washington, D. C.	3
Alabama	1
Not ascertained to date	1
Deferring interneship	2

Again the students have evinced their interest in breaking new ground. Of those going to the United States, entirely different hospitals have been chosen. The majority have favored hospitals affiliated with medical schools. It is gratifying to note that over half of our graduates are patronizing Saskatchewan hospitals. Unfortunately, the Regina hospitals were omitted.

Preceptorships

The two-weeks experience with a family physician in a smaller community is now an established activity during the vacation after

third-year. The names of the preceptors are listed for the first time in the university calendar. The program is administered by the Professor of Social and Preventive Medicine, Dr. A. Robertson.

Graduate Studies and the Supply of Future Teachers

In 1958-59, eight postgraduate students were working in five departments towards higher degrees (Masters 5, Ph. D. 3). In 1959-60, there were 13 candidates working in 8 fields, with one receiving Ph.D. and two the M. Sc. degrees. While the extension of graduate work into bacteriology, pathology and psychiatry is gratifying, there has been little growth in the last five years in numbers of candidates for higher degrees in the older medical science departments. How we compare with the 11 other Canadian medical schools is suggested by the following figures:

1958-59	*Canada*	*Saskatchewan*
Number of medical students	3,672	127
Graduate students in medical sciences	315	8
Ratio of graduate students to medical students	8.8%	6.3%

The Saskatchewan graduate students in 1958-59 included no one proceeding to both Ph.D. and M.D. degrees, although the following year three medical graduates were pursuing Ph.D.'s.

These figures are of interest from the standpoint of the future supply of teachers in medical science departments and of scientifically well prepared teacher-investigators in clinical departments. With abundant opportunities in industry, in defense and other government-sponsored research and in the universities of the United States, it is clear that everything possible must be done to arouse interest in careers in medical science and to increase the attractiveness of teaching posts in Canadian medical schools.

Another need is increased liaison between the basic medical science and clinical departments. This is developing nicely on the research front but we have only one double full-time appointment (biochemistry and paediatrics). Medical scientists and clinical investigator-teachers are more likely to be recruited when medical students encounter a good number of basic science teachers interested in clinical problems, and clinical teams including basic investigators who are accorded status and whose contribution is respected.

Research

Departmental reports reveal increasing activity and accomplishment. Nearly 100 research reports and scientific articles were published or were in press as of June 30. Many faculty members participated in scientific meetings or gave special lectures. The amount of money spent on research is not necessarily a measure of virtue. The approval of granting bodies, however, is one step towards the assessment of a research program. In 1958-59 the departments received a total of $486,355 in grants for medical research from outside the university. If one adds to this the grants of $195,000 received by the psychiatric research unit of the Department of Public Health, and the grants for research and development from the Teaching and Research Fund and the Surplus Earnings Pool, then the research enterprise at the university medical center is seen to be of the order of three-quarters of a million dollars.

In any expanding institution the danger of isolation is real. To counter this and to foster the cross-fertilization of ideas and concepts a new Medical Research Club arose in the fall of 1959 and completed a successful year. For initiating and leading this venture we are indebted greatly to Dr. S. M. Drance.

Continuing Professional Education

The annual refresher course in January dealing with The Management of Injuries of the Bones and Joints was one of the most successful in six years. Over 40 doctors were registered, and with hospital housestaff and other teachers present, the attendance at most meetings during the three days was 75. More important was the quality of discussion of a timely subject.

Three general practitioners from Alberta and British Columbia came for periods of two weeks each to work in clinical fields of their choice at the University Hospital. This program, under the auspices of the College of General Practice and with the financial support of the Schering Corporation, serves two goals. It improves the professional service rendered by the doctor to the community and it relates the latter's needs to the teaching program, both undergraduate and postgraduate.

This year has seen a resurgence of interest on the part of more distant medical communities to have teacher-visitors spend an entire day in discussions of local clinical problems at the hospital bedside and in the doctors' offices. Educationally, the advantage of this over the district society lecture is enormous. Such programs have done best when carried out in collaboration with the state or provincial medical organization and when a university teacher is assigned administrative responsibility for extension work on at least half-time basis. The time would seem to be ripe for this development in Saskatchewan.

Organized assistance to other professional groups continued to be rendered as before. Three new developments are worthy of mention. Senior theological students from affiliated colleges obtained additional experience this year by means of case assignments in the University Hospital with subsequent seminars led by joint medical and theological faculty. An intensive one-day course in advanced first aid was given to ambulance personnel in collaboration with the Department of Public Health. Teachers from six clinical services participated. The third undertaking was the extension course in environmental control presented by the Department of Social and Preventive Medicine. For three weeks a group of 12 sanitary officers drawn from most regions of the province enjoyed a comprehensive lecture and discussion program in which 20 teachers took part. They came from agriculture, biology, center for community studies, engineering, home economics, industry, medical department and the Department of Public Health. For the great success of this new venture, much credit goes to Dr. Robert Steele, co-ordinator and course tutor.

TABLE 69. ANALYSIS OF CARE BY DEPARTMENTS, UNIVERSITY HOSPITAL, SASKATCHEWAN, 1959

Department	Discharges	Percentage involving autopsies	Percentage involving consultations	Average stay
	Departments			
Medicine	2,094	78.4	40.3	18.8
Neurosurgery	287	91.3	53.3	24.9
Obstetrics and Gynaecology	2,480	100.0	37.1	8.1
Gynaecology	943	....	....	....
Obstetrics (delivered)	1,106	....	....	....
Obstetrics (other)	431	....	....	....
Ophthalmology	460	....	13.9	9.9
Paediatrics	1,188	95.7	26.1	16.5
Psychiatry	516	100.0	25.6	23.5
Rehabilitation Medicine	111	....	78.4	86.9
Surgery	2,426	75.7	32.9	19.2
	Patients			
All patients	10,669	82.7	31.1	....
Adults and children	9,562	81.9	34.6	16.6
Newborn	1,107	94.7	1.3	7.5

TABLE 70. GROWTH IN SERVICE OFFERED AT THE UNIVERSITY HOSPITAL, SASKATOON, SASKATCHEWAN, 1955-1959

Service	1955	1956	1957	1958	1959
Patients discharged from hospital	3,554	8,309	9,802	10,406	10,669
Surgical operations	1,815	3,783	4,556	4,950	5,263
Births	461	947	1,020	1,069	1,126
Drug requisitions	20,600	91,000	111,340	131,876	146,048
Total meals—patient and staff	189,594	739,557	830,318	866,931	870,661
Units of laboratory work—pathology	236,408	387,233	471,434	614,509	689,881
Tons of laundry	260	890	986	1,052	1,157
	Percentage increase				
	1955-1956	1956-1957	1957-1958	1958-1959	
Patients discharged from hospital	133.8	18.0	6.2	2.5	
Surgical operations	108.4	20.4	8.6	6.3	
Births	105.4	7.7	4.8	5.3	
Drug requisitions	341.7	22.4	18.4	10.7	
Total meals—patient and staff	290.1	12.3	4.4	0.4	
Units of laboratory work—pathology	63.8	21.7	30.3	12.3	
Tons of laundry	242.3	10.8	6.7	10.0	

SASKATCHEWAN ANTI-TUBERCULOSIS LEAGUE

Through the courtesy of the Board of Directors and G. D. Barnett, M.D., Director of Medical Services and General Superintendent, the following report is included in this annual report of the Department of Public Health.

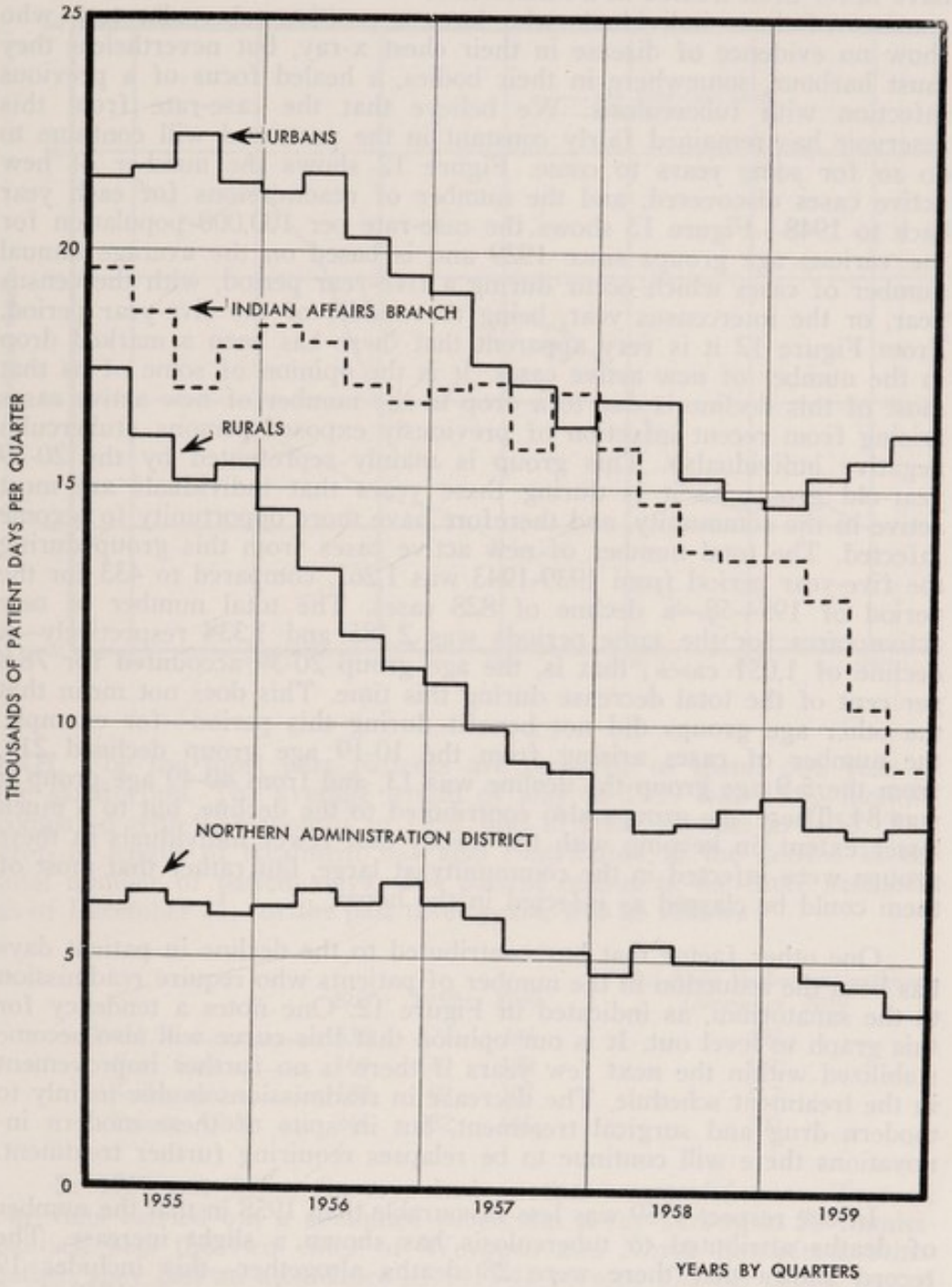
This report again reflects a favourable trend in the control and treatment of tuberculosis. On looking back, one of the most interesting developments in 1959 has been the remarkable decline in the number of treatment days for Indians. This decline has been anticipated because of the increased tempo in the case-finding program carried out by the Indian Health Services, and the fact that since about 1950 more and more beds have become available for the treatment of the Indian. The Prince Albert Sanatorium has received the majority of the Indians from the northern regions. The tuberculosis Indians from the southern area are practically all treated at the Qu'Appelle Indian Hospital in Fort Qu'Appelle. During the past three years over 50 per cent of the total treatment days for the Prince Albert Sanatorium has been Indian patient days. This has had the effect of maintaining the census at the Prince Albert Sanatorium at or near capacity. However, in view of the fact that the decline in Indian patient days will continue, although at a slightly slower rate, this will mean that the Prince Albert Sanatorium will be showing more and more vacant beds in the future. Therefore, some consideration will have to be given to the utilization of these beds for some purpose other than tuberculosis.

Figure 11 shows the distribution of patient days according to the main agencies financially responsible for their care and reveals several interesting features. As mentioned above, the Indian days have been gradually declining since the beginning of 1958, but there has been a precipitous drop since April 1959. The urban days have actually shown a gradual rise during the entire period of 1959, although the total days for urbans for the year is slightly less than in 1958. This rise in urban days has never happened before during any period back to 1952. The rural days, on the other hand, have had a tendency to become stabilized during the past two years; this particular plateau has persisted since January 1958. Prior to this time there had been a steady decline since the beginning of 1954.

One is loath to jump to any conclusion from this Figure. Although it definitely indicates a downward trend, are we to expect that the rural days will stabilize at the present level—and will the urban days continue to rise, or will they stabilize at or near their present level?

We do know that the infection rate in Saskatchewan is falling year by year. We expect this to continue, provided we maintain our present case-finding program in order to discover new cases as soon as possible, and before they have an opportunity to spread their infection about the community. We are confident that the downward trend will become stabilized at some level, because there is within the province a considerable reservoir of people who have already been exposed to tuberculosis infection. This group consists of about one-quarter of our population. It includes approximately 10,000 ex-patients, and an equal number of

FIGURE 11. PATIENT DAYS SPENT IN TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1955-1959



persons who show evidence of inactive disease in their lungs, but who have never been treated in a sanatorium. The remainder of this reservoir consists of those individuals who have a positive tuberculin test, who show no evidence of disease in their chest x-ray, but nevertheless they must harbour, somewhere in their bodies, a healed focus of a previous infection with tuberculosis. We believe that the case-rate from this reservoir has remained fairly constant in the past, and will continue to do so for some years to come. Figure 12 shows the number of new active cases discovered, and the number of readmissions for each year back to 1948—Figure 13 shows the case-rate per 100,000 population for the various age groups since 1929 and is based on the average annual number of cases which occur during a five-year period, with the census year, or the intercensus year, being the middle of the five-year period. From Figure 12 it is very apparent that there has been a marked drop in the number of new active cases. It is the opinion of some of us that most of this decline is due to a drop in the number of new active cases arising from recent infection of previously exposed persons (tuberculin negative individuals). This group is mainly represented by the 20-39 year-old group, as it is during these years that individuals are most active in the community, and therefore have more opportunity to become infected. The total number of new active cases from this group during the five-year period from 1939-1943 was 1,261, compared to 433 for the period of 1954-58—a decline of 828 cases. The total number of new active cases for the same periods was 2,385 and 1,334 respectively—a decline of 1,051 cases; that is, the age group 20-39 accounted for 78.8 per cent of the total decrease during this time. This does not mean that the other age groups did not benefit during this period—for example, the number of cases arising from the 10-19 age group declined 211, from the 5-9 age group the decline was 13, and from 40-49 age group it was 84. These age groups also contributed to the decline, but to a much lesser extent, in keeping with the theory that fewer individuals in these groups were infected in the community at large, but rather that most of them could be classed as infected in the home.

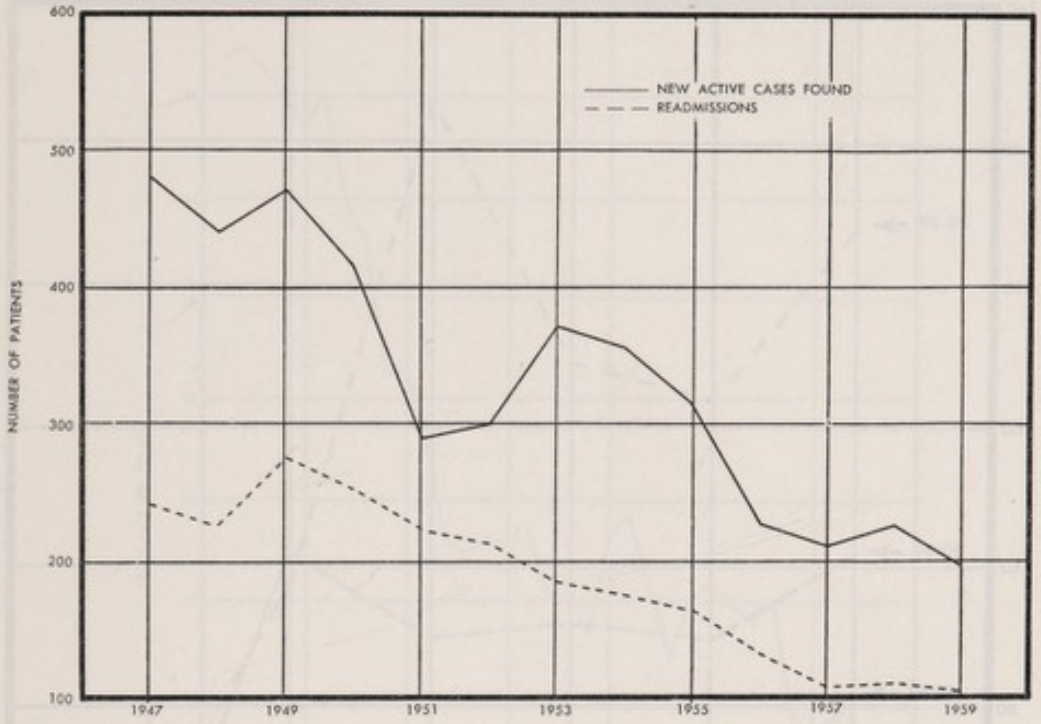
One other factor that has contributed to the decline in patient days has been the reduction in the number of patients who require readmission to the sanatorium, as indicated in Figure 12. One notes a tendency for this graph to level out. It is our opinion that this curve will also become stabilized within the next few years if there is no further improvement in the treatment schedule. The decrease in readmissions is due mainly to modern drug and surgical treatment, but in spite of these modern innovations there will continue to be relapses requiring further treatment.

In one respect 1959 was less favourable than 1958 in that the number of deaths attributed to tuberculosis has shown a slight increase. The record shows that there were 28 deaths altogether—this includes 19 Whites and 9 Indians. The age distribution is of interest. In 1959 there were two deaths in children age six months (1 White and 1 Indian), both from meningitis, but 50 per cent of the deaths were in persons over the age of 60. The table below shows the distribution of deaths, according to age, for 1958 and 1959:

	Total	*0-4*	*5-9*	*10-19*	*20-29*	*30-39*	*40-49*	*50-59*	*60-69*	*70+*
1958	23	1	0	1	1	3	4	1	6	6
1959	28	2	0	2	2	1	1	5	4	11

There has been no radical change in the treatment of tuberculosis in the past year. All patients are receiving a course of drug therapy consisting of a combination of at least two, of Streptomycin, PAS, or

FIGURE 12. NUMBER OF PATIENTS WHO ENTERED TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1947-1959

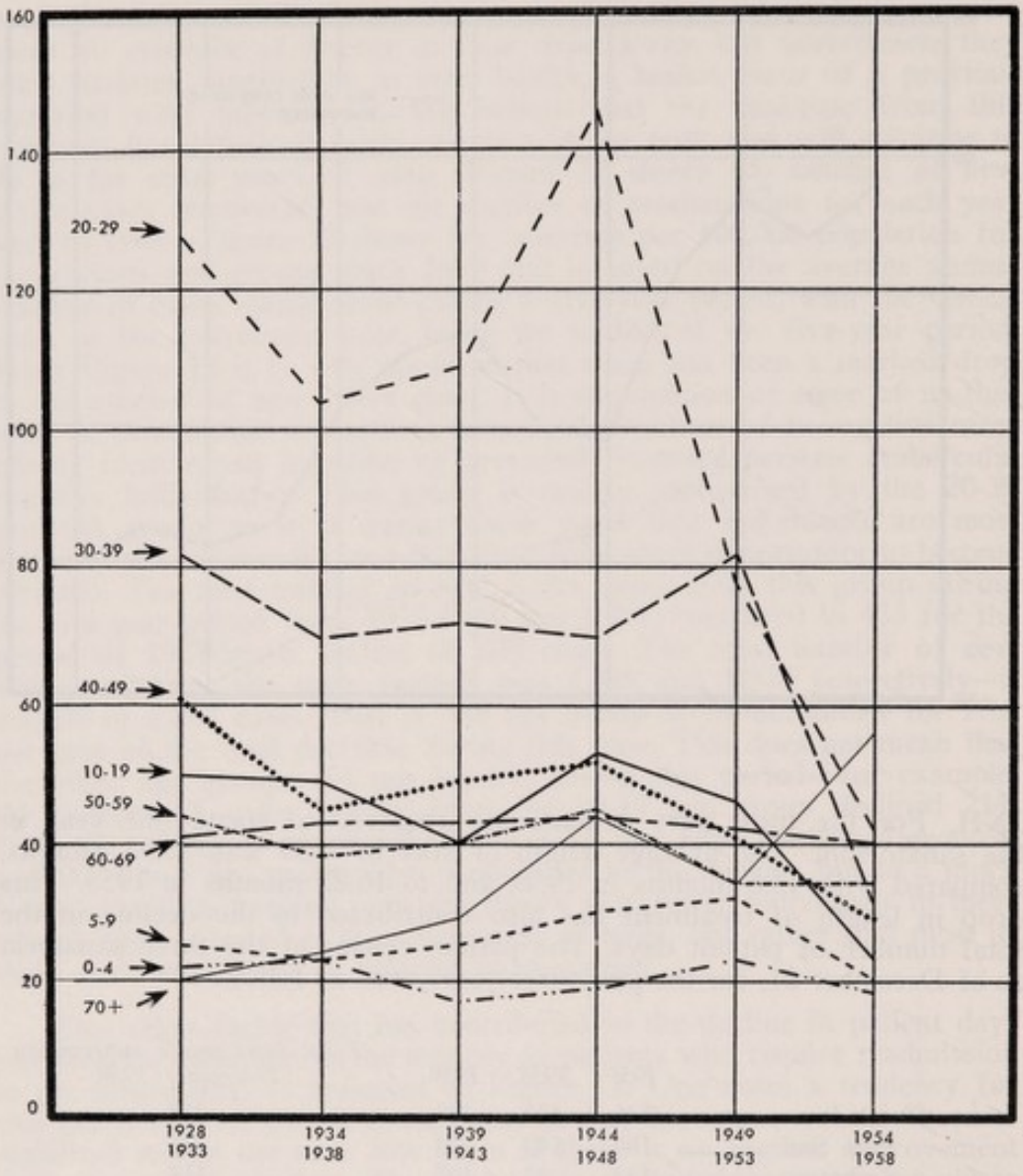


INH. For the most part patients are required to spend one year in the sanatorium. The average length of stay in 1959 was 12.93 months, compared with 13.6 months in 1958, and to 16.27 months in 1955. This drop in length of treatment has also contributed to the decline in the total number of patient days. The patient census at the three sanatoria as of December 31, for the past three years, was as follows:

	1957	*1958*	*1959*	*Total beds under supervision December 1959*
Total	536	473	388	458
Fort San	160	149	120	141
Saskatoon	132	92	107	117
Prince Albert	244	232	161	200

In 1959 our Mass Surveys had another successful year. Two of our vans carried out a combined tuberculin x-ray survey in 79 municipalities, plus the two cities of Weyburn and North Battleford. Altogether, they had an attendance of 141,741 persons (75 per cent), out of an estimated total population of 190,000. In this survey 127,567 tuberculin tests were administered, and 87,488 x-rays were taken. Out of the total attendance, 54,253 persons under the age of 15 had a negative tuberculin test, and therefore were not x-rayed. The results of the tuberculin tests are shown in Table 71. This was the sixth year for our mass tuberculin testing program, and we have almost completed the entire coverage of the province, except for the cities of Regina and Prince Albert where only the school children have been done; in addition, we have no tuberculin records on approximately ten municipalities, and the two cities of Moose Jaw and Saskatoon have not as yet had a tuberculin survey of the school children. It is expected that these areas will be completed within the next few years.

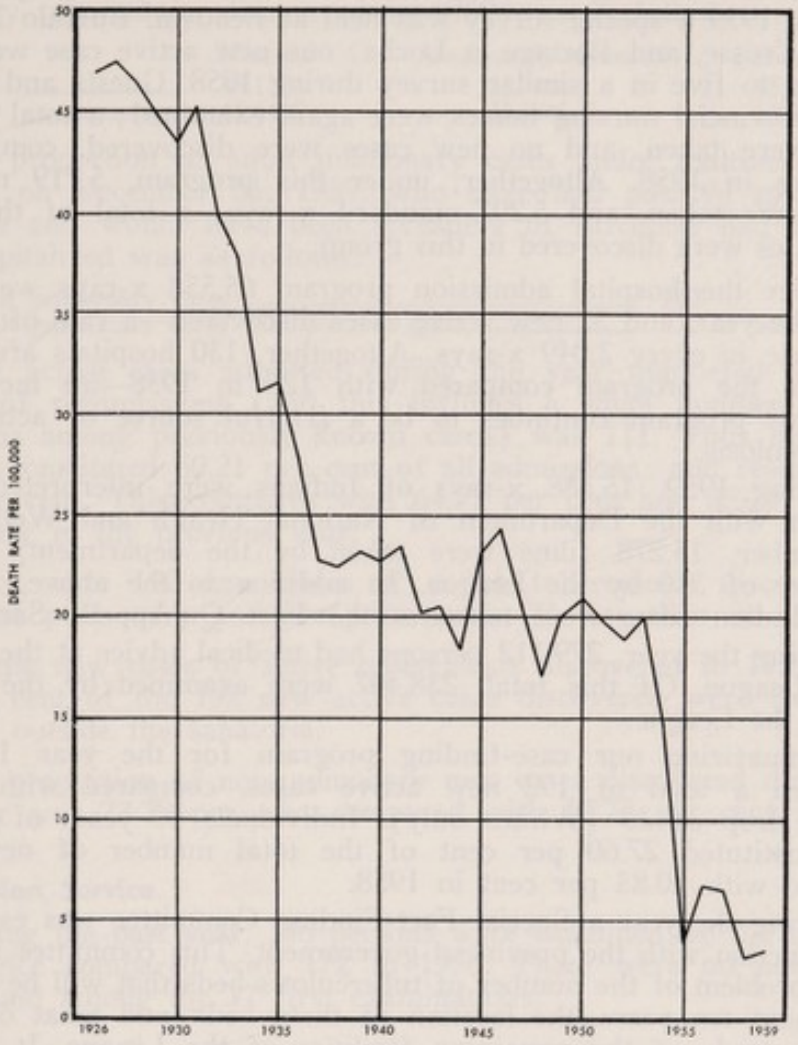
FIGURE 13. NON-INDIAN TUBERCULOSIS CASE RATES BY AGE GROUP, BY 5-YEAR AVERAGES, SASKATCHEWAN, 1928-1933 TO 1954-1958



The number of new active cases discovered by this mass survey totalled 26, for a rate of one new active case per 5,452 examinations. In 1958 a similar survey discovered 29 new cases, for a rate of one new active case per 5,211 examinations.

The third van carried out an x-ray survey among previously known positive tuberculin reactors in the southwest and west central portion of the province. This is the same type of survey that was carried out in 1958 in the southeast and east central areas of the province. In 1959, a total of 13,998 x-rays were taken, and six new active cases were discovered. This is equivalent to a rate of one new active case for every 2,333 x-rays taken. In 1958, there were 19,231 x-rays taken, and they discovered four new active cases for a rate of one new active case for every 4,808 x-rays. Summarizing the two years, we find that out of a total of 33,229 x-rays taken on persons with a previously known positive tuberculin reaction, there were ten new active cases of tuberculosis. This is equivalent to a rate of one new active case for every 3,323 x-rays. When this rate (1:3323) is compared to the rate for the

FIGURE 14. TUBERCULOSIS DEATH RATE PER 100,000 POPULATION, SASKATCHEWAN, 1926-1959



general population (1:5452), it seems apparent that the positive tuberculin survey is a more fruitful source of active cases. However, on closer analysis of the type of cases discovered, one tends to question whether this type of survey is worthwhile. If we had no other method of early detection in our preventive program, then one could say categorically that a positive tuberculin survey would be an excellent means of discovering new cases. However, when we analyze the ten new active cases discovered by this survey, we find that two cases were on regular follow-up, two cases were on follow-up but discontinued because of the lapse of time, and four cases should have been on follow-up because of contact history, but for some reason or other these people were not named as contacts at the time of admission of the source case. This leaves two persons who were diagnosed who would otherwise have been missed by other methods in our preventive program.

It is not our intention to continue with this type of survey during 1960, as we feel that, with a little extra effort and no additional cost, a complete survey of a community can be carried out. It is of interest here to note that in addition to the persons who were requested to attend this survey, there were 14,652 other persons who attended on their own initiative. We had no record of a tuberculin test on this latter group; among them we discovered six new active cases of tuberculosis—a rate of one case for every 2,442 x-rays.

In addition to the regular surveys mentioned above, special surveys were carried out using both miniature and standard-size x-rays. During February 1959 a special survey was held at Beauval, Buffalo Narrows, Ile a la Crosse, and Portage la Loche; one new active case was found compared to five in a similar survey during 1958. Guests and staff of all the provincial nursing homes were again examined; a total of 3,275 x-rays were taken, and no new cases were discovered, compared to two cases in 1958. Altogether, under this program, 5,719 miniature x-rays were taken, and 5,297 standard x-rays; a total of three new active cases were discovered in this group.

Under the hospital admission program 65,558 x-rays were taken during the year, and 32 new active cases discovered—a rate of one new active case in every 2,049 x-rays. Altogether, 130 hospitals are participating in the program compared with 126 in 1958—an increase of four. This program continues to be a fruitful source of active cases of tuberculosis.

During 1959, 15,588 x-rays of Indians were interpreted in co-operation with the Department of National Health and Welfare. Of this number, 15,278 films were taken by the department, and the remainder of 310 by the League. In addition to the above, 323 out-patient Indian films were taken at the Fort Qu'Appelle Sanatorium.

During the year, 279,112 persons had medical advice at the expense of the League. Of this total, 238,407 were examined by the medical staff of the League.

Summarizing our case-finding program for the year 1959, we discovered a total of 192 new active cases, compared with 225 in 1958—a drop of 33 (Whites only). Individuals 60 years of age and over constituted 27.60 per cent of the total number of new cases, compared with 30.83 per cent in 1958.

During the year a Special Fact-Finding Committee was established in conjunction with the provincial government. This committee is studying the problem of the number of tuberculosis beds that will be required in the next ten years, the location of these beds, and what other use could be made of the remaining facilities of the League. It is to be hoped that this committee will come forth with some sound recommendation to guide the board of directors.

Summary of Medical Services

The various medical services of the League, including treatment, diagnosis, follow-up, examination of Indians, examination of teachers' college students, school children, nurses, and the reading of hospital admission x-rays when taken altogether comprise a total of 279,112 persons who had medical advice during the year. Of this number, 238,407 were examined by the medical staff of the League, 901 persons were examined by family physicians at the request of the League, 5,911 Indians were examined in association with the federal Indian Health Services, and 23,893 admission x-rays for city hospitals and clinics were examined by outside radiologists. There was a decrease of 21,832 examinations carried out by the medical staff of the League —238,407 in 1959 compared to 260,239 in 1958.

Miniature X-ray Surveys

During the year 1959, 87,488 persons received a miniature film; 54,253 persons were not x-rayed because of a negative tuberculin and under the age of 15. Out of this total of 141,741, 26 new active cases were found. This is equivalent to a rate of 0.183 per 1,000 persons examined, or one new case in every 5,452 examinations.

Class of New Patients Discovered

The proportion of early cases among the new cases of active pulmonary tuberculosis discovered in 1959 was as follows:

Year	*Minimal*	*Moderately advanced*	*Far advanced*
1958	48.11%	36.76%	15.13%
1959	45.64%	35.57%	18.79%

The proportion of adult pulmonary cases under treatment in the sanatoria on December 31, 1959, who have had positive sputa since admission and would have been spreaders of infection had they not been hospitalized was as follows:

Adult pulmonary cases	262
Adult pulmonary cases with positive sputa	170 or 64.88%

New active cases admitted during the year numbered 168; the number of readmissions (and this includes a small number of first admissions among previously known cases) was 111. Thus new cases admitted constituted 60.21 per cent of all admissions; and readmissions 39.79 per cent. This compares with 64.71 per cent and 35.29 per cent respectively in the previous year.

There were 192 new cases of active tuberculosis discovered in 1959, both pulmonary and non-pulmonary—33 less than in 1958.

Of the new cases of active tuberculosis discovered in 1959, 24 or 12.5 per cent of the 192 new active cases discovered were treated or observed outside the sanatoria.

The proportion of non-pulmonary new cases discovered during the past year was 22.39 per cent compared with 17.78 per cent in 1958.

Consultation Service

During the past year, 136 persons were examined by the consultation service compared with 172 in 1958. There were no new active cases found among the 17 first examinations.

Stationary Clinics

The following table shows the total number of examinations made at the clinics for the past two years. There was a decrease of 239 in the total number examined.

In 1959, 19 new active cases were discovered among 1,147 first examinations—a percentage of 1.6 per cent. This compares with 30 new active cases discovered in 1958 among 1,215 first examinations — a percentage of 2.5 per cent.

There were in addition in 1959, ten new active cases found among persons previously examined. This compares with 11 new active cases found in 1958 among persons previously examined.

	1958	*1959*
Total	5,218	4,979
Regina	2,709	2,659
Moose Jaw	709	697
Swift Current	407	360
Yorkton	465	461
Canora	293	178
North Battleford	282	312
Tisdale	72	77
Melfort	98	62
Meadow Lake	161	161
Wadena	22	12

Review of Ex-Patients

During the year, 3,754 review examinations of ex-patients were carried out by the various services of the League, and 111 were readmitted for treatment.

Contacts

During 1959 a total of 4,633 contact examinations was made compared with 4,892 in 1958. The incidence of new active disease found among the entire group of 4,633 contacts examined was 1.16 per cent.

	New cases		*Review cases*		*Total*	
	1958	*1959*	*1958*	*1959*	*1958*	*1959*
Total	1,664	1,464	3,228	3,169	4,892	4,633
Family physicians	515	355	506	546	1,021	901
Consultants	26	5	120	20	146	25
Clinics	609	616	1,723	1,653	2,332	2,269
Sanatoria	514	488	879	950	1,393	1,438

Summary of Preventive Work

Preventive services carried out during 1959 may be summarized as follows:

Total	269,236
Examinations made at the three sanatoria clinics	4,004
Persons seen at the other stationary clinics	4,979
Persons seen by the consultation service	136
Persons x-rayed in miniature x-ray surveys[1]	87,488
Children under age 15 tuberculin tested and negative reactors (not x-rayed)	54,253
Persons examined in positive tuberculin x-ray survey	13,998
Persons (with no tuberculin record) examined in positive tuberculin x-ray survey	5,866
Persons examined at Saskatchewan Teachers' College, Regina	406
Persons examined at Saskatchewan Teachers' College, Saskatoon	508
Persons examined at the University Summer School, Saskatoon	1,036
Persons examined in school surveys	689
Persons examined in nursing homes	3,275
Persons examined in miscellaneous surveys	4,115
Nurses examined in hospitals	1,366
Contacts examined by family physicians	901
Non-treaty persons examined	2,884
Indian films read by League staff in co-operation with Indian Health Services	15,588
Films of staff of Indian schools, reserves and hospitals interpreted	121
Hospital, and Medical Arts Clinic, admission films taken, and interpreted by League staff and radiologists	67,623

This increase of 44,988 examinations over 1958 is due to the fact that this year we have included the number of examinations carried out under the Hospital Admission X-ray Program.

The total cost of the preventive work was $204,642.01, compared to $166,118.69 in 1958. The increased cost, due to the Hospital Admission X-ray Program, was $47,294.98.

Length of Treatment

The period of treatment of the tuberculous cases discharged in 1959 was 12.93 months.

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[1] In addition 127,567 tuberculin tests were given.

Examination of Indians

During 1959 the Indian children in the Lebret, Duck Lake, Onion Lake and Prince Albert Residential Schools were examined—a total of 1,217. Among these 1,217 children examined, there were no active cases discovered.

A total of 14,371 Indians (adults, pre-school and day school children) were examined from the following reserves: Carry-the-Kettle, Cote, Cowessess, Day Star, Fishing Lake, Gordon, Kahkawistahaw, Keesekoose, Key, Kinistino, Little Black Bear, Muscowequan, Muscowpetung, Nut Lake, Ochapowace, Okanese, Pasqua, Peepeekisis, Piapot, Poorman, Sakimay, Standing Buffalo, Star Blanket, Whitebear, Beardy's, Beaver Lake, Big River, Black Lake, Brochet, Canoe Lake, Co-Op Point, Cree Lake, Cumberland House, Deschambeault, Dillon, Fond du Lac, James Smith, John Smith, Joseph Bighead, Lac la Ronge, Little Island, Little Pine, Little Red River, Loon Lake, Meadow Lake, Mistawasis, Montreal Lake, Moosomin, Moose Woods, Mosquito, Muskeg Lake, One Arrows, Onion Lake, Patuanak, Pelican Lake, Pelican Narrows, Poundmaker, Red Earth, Red Pheasant, Sandy Lake, Saulteaux, Shoal Lake, South End Reindeer, Stanley, Stony Rapids, Sturgeon Lake, Sturgeon Landing, Sweetgrass, Thunderchild, Uranium City, Witchekan Lake, Waterhen, Wollaston Lake.

Among this group of 14,371, there were 13 who required treatment, or 0.09 per cent.

The usual fine co-operation of the Indian Health Services was obtained throughout the year.

Admission X-rays

The following table gives the number of admission x-rays taken by various hospitals during the year 1959. The figures in brackets indicate the number of new active cases of tuberculosis discovered.

Hospital	*No. of x-rays*	*Hospital*	*No. of x-rays*
Total (32 including 4 Indians)	65,558	Fillmore (0)	367
Arborfield (0)	133	Foam Lake (1)	371
Assiniboia (0)	403	Frontier (0)	87
Balcarres (0)	655	Goodsoil (0)	323
Beechy (0)	153	Gravelbourg (0)	677
Bengough (0)	50	Green Lake (0)	13
Bienfait (0)	240	Grenfell (0)	278
Biggar (0)	503	Gull Lake (0)	176
Birch Hills (0)	14	Hafford (0)	274
Broadview (2)	335	Herbert (0)	559
Buffalo Narrows (0)	19	Hodgeville (0)	2
Cabri (0)	257	Hudson Bay (0)	91
Canora (0)	1,420	Humboldt (0)	588
Carrot River (1)	312	Ile a la Crosse (6)	574
Central Butte (0)	316	Imperial (0)	230
Climax (0)	71	Indian Head (1)	481
Coronach (0)	109	Invermay (0)	134
Cudworth (0)	506	Kamsack (0)	581
Cumberland House (0)	24	Kelvington (0)	99
Cupar (0)	207	Kerrobert (0)	94
Delisle (0)	41	Kincaid (0)	77
Dinsmore (1)	186	Kindersley (0)	358
Dodsland (0)	118	Kipling (1)	438
Eastend (0)	150	Kyle (0)	119
Edam (0)	66	LaFleche (0)	294
Elrose (0)	130	Lampman (0)	352
Esterhazy (1)	691	Langenburg (2)	626
Estevan (0)	1,843	Lashburn (0)	131
Eston (0)	514	Leader (0)	311

Hospital	*No. of x-rays*
Leoville (0)	184
Lestock (1)	667
Loon Lake (0)	365
Lucky Lake (0)	179
Macklin (0)	604
Maidstone (0)	2 18
Mankota (0)	163
Maple Creek (0)	1,030
Meadow Lake (0)	175
Melfort (0)	1,274
Melville (0)	973
Midale (0)	49
Montmartre (0)	210
Moose Jaw Providence (0)	988
Moose Jaw Union (0)	914
Moosomin (0)	285
Mossbank (0)	55
Neilburg (0)	415
Nipawin (0)	1,209
Nokomis (0)	131
Norquay (0)	295
North Battleford Saskatchewan Hospital (0)	2,400
North Battleford (0)	2,052
Outlook (0)	357
Oxbow (0)	227
Pangman (0)	76
Ponteix (0)	120
Porcupine-Carragana (0)	749
Portage la Loche (0)	126
Preeceville (0)	547
Prelate (0)	103
Prince Albert Holy Family (0)	2,805
Prince Albert Victoria (1)	1,593
Qu'Appelle (0)	279
Quill Lake (1)	197
Rabbit Lake (0)	135
Radville (0)	636
Redvers (0)	287
Regina General (4)	7,324
Regina Grey Nuns (2)	3,295
Rockglen (0)	72
Rose Valley (2)	303
Rosthern (1)	422
Saltcoats (0)	82
Sandy Bay (0)	36
Saskatoon University (3)	4,216
Shaunavon (0)	467
Shellbrook (0)	477
Smeaton (0)	168
Spiritwood (0)	71
Swift Current (0)	693
St. Walburg (0)	222
Stony Rapids (0)	19
Theodore (0)	6
Tisdale (0)	430
Turtleford (0)	300
Unity (0)	377
Uranium City (1)	163
Val Marie (0)	130
Vanguard (0)	361
Wakaw (0)	574
Waldheim (0)	25
Watrous (0)	491
Watson (0)	164
Wawota (0)	245
Weyburn (0)	454
Whitewood (0)	24
Wilkie (0)	409
Willowbunch (0)	127
Wolseley (0)	491
Wynyard (0)	360
Yorkton (0)	1,155
Zenon Park (0)	162

It will be seen from the above that the incidence of new active cases is one in every 2,049 hospital admission films taken.

In addition, 2,065 admission x-rays were taken at the Medical Arts Clinic in Regina; one new active case of tuberculosis was discovered.

Examination of Students in Teachers' Colleges

During the year 1959, the students at the teachers' colleges at Regina and Saskatoon were examined.

In the Regina group of 393 students who were tuberculin tested, 31 had a positive tuberculin reaction on account of previously having had B.C.G. vaccine. Of the remainder, 9.67 per cent were positive tuberculin reactors.

In the Saskatoon group, 453 students were tuberculin tested, 21 had a positive tuberculin reaction on account of previously having had B.C.G. vaccine. Of the remainder, 10.18 per cent were positive tuberculin reactors.

No new active cases were discovered in the entire group of students.

The arrangement made through the co-operation of the Department of Education and the teachers, for the examination for tuberculosis of all the teachers in the schools of Saskatchewan in the clinics of the League, is progressing satisfactorily. It is important that both the teachers and pupils be protected against the spread of the disease.

Medical Students

Twenty-seven medical students from the University of Saskatchewan attended lectures and clinics at the Saskatoon Sanatorium during the year.

Affiliation Course in Tuberculosis Nursing

This is a course of instruction given to student nurses in the sanatoria at Fort Qu'Appelle and Saskatoon. The course has been in operation at the Fort Qu'Appelle Sanatorium since 1945, and at the Saskatoon Sanatorium since 1953.

One foresees some difficulty in the future regarding the affiliation course. Some of the parent nursing schools are questioning the value of a course in tuberculosis nursing. However, under our program we are relating many of the nursing problems to the care of the chronically ill patient. This latter field has a wider application and is more appealing than the limited field of tuberculosis nursing.

A total of 311 students received instruction in the affiliation course in 1959—195 at Fort San and 116 at Saskatoon. Since the commencement of this program, 1,921 students have been received at Fort San, and 983 at Saskatoon.

B.C.G. Vaccination

The total number of vaccinations done by the League in 1959 was 1,142. This compares with 1,428 done in 1958.

The number of B.C.G. vaccinations reported to the League in 1959 by the Saskatchewan Hospitals at Weyburn and North Battleford, and the Saskatchewan Training School, Moose Jaw, totalled 418.

Financial

During the year 1959, 166,299 days treatment were given in sanatoria and hospitals, compared to 187,620 days during the preceding year—a decrease of 21,321.

The per diem cost of treatment advanced to $11.772 in 1959, from $10.323 in 1958, an increase of $1.449 per patient day.

The net cost of treatment was $1,957,681.03 in 1959, compared with $1,936,837.01 in 1958—an increase of $20,844.02.

Municipal Levies

The total levy collections during the year were $992,164.01. Levies outstanding as at December 31, 1959 were $2,834.59.

Borrowings

Borrowings of the League as at December 31, 1959 were $50,000.00 —a figure identical with that of the borrowings as at December 31, 1958.

TABLE 71. SASKATCHEWAN TUBERCULIN SURVEY, 1959

Age	All tuberculin tests	Tuberculin negative	Tuberculin positive	Percentage negative	Percentage positive
All ages	129,823	101,999	27,824	78.6	21.4
Male	67,165	50,997	16,168	75.9	24.1
Female	62,658	51,002	11,656	81.4	18.6
Under 1 year	2,085	2,085	....	100.0	....
Male	1,004	1,004	....	100.0	....
Female	1,081	1,081	....	100.0	....
1 year	2,749	2,744	5	99.8	0.2
Male	1,388	1,386	2	99.9	0.1
Female	1,361	1,358	3	99.8	0.2
2 years	3,413	3,406	7	99.8	0.2
Male	1,747	1,744	3	99.8	0.2
Female	1,666	1,662	4	99.8	0.2
3 years	3,506	3,486	20	99.4	0.6
Male	1,743	1,731	12	99.3	0.7
Female	1,763	1,755	8	99.5	0.5
4 years	3,661	3,641	20	99.4	0.6
Male	1,878	1,868	10	99.5	0.5
Female	1,783	1,773	10	99.4	0.6
5-9	18,007	17,800	207	98.8	1.2
Male	9,233	9,134	99	98.9	1.1
Female	8,774	8,666	108	98.8	1.2
10-14	16,609	16,078	531	96.8	3.2
Male	8,356	8,097	259	96.9	3.1
Female	8,253	7,981	272	96.7	3.3
15-19	11,069	10,340	729	93.4	6.6
Male	5,731	5,344	387	93.2	6.8
Female	5,338	4,996	342	93.6	6.4
20-24	5,624	4,888	736	86.9	13.1
Male	3,015	2,587	428	85.8	14.2
Female	2,609	2,301	308	88.2	11.8
25-29	6,510	5,388	1,122	82.8	17.2
Male	3,230	2,645	585	81.9	18.1
Female	3,280	2,743	537	83.6	16.4
30-34	7,741	5,922	1,819	76.5	23.5
Male	3,718	2,786	932	74.9	25.1
Female	4,023	3,136	887	77.9	22.1
35-39	8,598	5,925	2,673	68.9	31.1
Male	4,254	2,796	1,458	65.7	34.3
Female	4,344	3,129	1,215	72.0	28.0
40-44	8,380	5,507	2,873	65.7	34.3
Male	4,261	2,614	1,647	61.3	38.7
Female	4,119	2,893	1,226	70.2	29.8
45-49	7,942	4,643	3,299	58.5	41.5
Male	4,118	2,260	1,858	54.9	45.1
Female	3,824	2,383	1,441	62.3	37.7

TABLE 71. SASKATCHEWAN TUBERCULIN SURVEY, 1959—(*Concluded*)

Age	All tuberculin tests	Tuberculin negative	Tuberculin positive	Percentage negative	Percentage positive
50-54	6,318	3,062	3,256	48.5	51.5
Male	3,367	1,497	1,870	44.5	55.5
Female	2,951	1,565	1,386	53.0	47.0
55-59	5,093	2,029	3,064	39.8	60.2
Male	2,849	986	1,863	34.6	65.4
Female	2,244	1,043	1,201	46.5	53.5
60-64	3,756	1,366	2,390	36.4	63.6
Male	2,046	576	1,470	28.1	71.9
Female	1,710	790	920	46.2	53.8
65-69	3,566	1,353	2,213	37.9	62.1
Male	2,050	651	1,399	31.8	68.2
Female	1,516	702	814	46.3	53.7
70 and over	5,100	2,248	2,852	44.1	55.9
Male	3,122	1,238	1,884	39.6	60.4
Female	1,978	1,010	968	51.1	48.9
Not stated	96	88	8	91.7	8.3
Male	55	53	2	96.4	3.6
Female	41	35	6	85.4	14.6

TABLE 72. STAFF OF THE TUBERCULOSIS SANATORIA, SASKATCHEWAN, DECEMBER 31, 1959

Staff	Total	Sanatoria		
		Fort San	Saskatoon	Prince Albert
Total	462	182	133	147
Administrative and clerical	39	23	11	5
Salaried doctors (full-time)	14	6	4	4
Graduate nurses	54	16	23	15
Nurses' assistants	109	38	29	42
Graduate dietitians	1	1	....	....
Orderlies and cleaners	53	17	17	19
Instructors	5	2	....	3
Academic	3	1	....	2
Vocational	2	1	....	1
Technicians	14	5	5	4
X-ray	6	2	2	2
Laboratory	8	3	3	2
All other employees	173	74	44	55

TABLE 73. SURGICAL, RADIOLOGICAL AND LABORATORY SERVICES RENDERED TO PATIENTS IN THE TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1959

Type of service	Total	Sanatoria		
		Fort San	Saskatoon	Prince Albert
Surgical operations	641	160	366	115
Major	77	10	66	1
Minor	564	150	300	114
Pneumoperitoneum treatments	8	8	....	....
Pneumothorax treatments	13	13	....	....
Laboratory examinations	31,179	10,527	10,493	10,159
X-ray examinations in sanatoria	13,943	3,914	6,791	3,238
Mass miniature x-ray surveys*	87,488	35,737	26,894	24,857
Special miniature x-ray surveys†	19,864	....	....	....
Miniature x-ray special survey films	5,719	2,380	2,258	1,081
Special x-ray surveys—large films	5,297	1,784	1,202	2,311
Kahn tests	919	437	207	275
Wasserman tests	8	8	....	....
Autopsies performed	7	3	4	....

* In addition 127,567 tuberculin tests were done.
† Tuberculin positive survey.

TABLE 74. PREVENTIVE SERVICES PROVIDED AT THE TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1959

Type and place of preventive services	Total	Sanatoria		
		Fort San	Saskatoon	Prince Albert
Clinics conducted within sanatoria				
Cases diagnosed	1,113	248	621	244
Cases reviewed	2,887	973	932	982
Pneumothorax, pneumoperitoneum and special treatments	9	4	5	....
Clinics in outside hospitals				
Cases diagnosed and reviewed	4,979	4,355	12	612
X-ray examinations	4,054	3,452	12	590
Travelling consultant services				
Persons examined	136	....	136	....
X-ray examinations	137	....	137	....
Photofluorographic surveys				
Persons examined (mass surveys)	87,488	35,737	26,894	24,857
Persons examined (tuberculin positive surveys)	19,864	....	....	....
Persons examined (special surveys)*	5,719	2,380	2,258	1,081
Special surveys using large films				
Persons examined	5,297	1,784	1,202	2,311

* In addition 127,567 tuberculin tests were made.

TABLE 75. NUMBER OF PERSONS SEEN WITH ACTIVE TUBERCULOSIS BY TYPE OF CASE AND TYPE OF TUBERCULOSIS, SASKATCHEWAN, 1959

Type of case	Total	Type of tuberculosis	
		Pulmonary	Non-pulmonary
All active tuberculosis cases	303	242	61
New cases	192	149	43
Admitted to sanatoria	168	130	38
Not admitted to sanatoria	24	19	5
Old cases	111	93	18
Readmissions	103	85	18
First admissions (previously diagnosed)	8	8	....

TABLE 76. BED COMPLEMENT AND MOVEMENT OF PATIENTS OF TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1959

Item	Total*	Sanatoria		
		Fort San	Saskatoon	Prince Albert
Bed complement	662	300	143	219
Infirmary beds	536	174	143	219
Pavilion beds	126	126	....	....
Movement of patients				
Total patients under care during this year†	1,039	303	315	421
Patients in sanatoria, January 1, 1959	473	149	92	232
Admissions during year	507	150	190	167
Transfers from other sanatoria	59	4	33	22
Discharges, deaths and transfers	651	183	208	260
Discharges	575	169	178	228
Deaths	17	8	4	5
Transfers to other sanatoria	59	6	26	27
Patients in sanatoria, December 31, 1959	388	120	107	161
Total patient days	166,299	51,371	39,293	75,635
Average daily census	455.61	140.74	107.65	207.22

* The average length of treatment for active tuberculosis cases discharged in 1959 was 12.93 months.

† This includes tuberculosis patients cared for in general hospitals at the expense of the Saskatchewan Anti-Tuberculosis League.

TABLE 77. INCOME AND EXPENDITURES, TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1959

Balance, 1958 deficit			$ 13,608.75
Income, 1959			
Municipal levy			
Rural	$479,374.03		
Urban	490,624.57		
Northern Saskatchewan Administration District	25,000.00		
		$994,998.60	
Patients' fees		525,009.58	
Provincial government grants		332,598.00	
			1,852,606.18
Income available to meet current expenditures			$1,838,997.43
Net expenditures for the year			1,957,681.03
Deficit—December 31, 1959			$ 118,683.60

TABLE 78. DETAILS OF OPERATING COSTS OF THE TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1959

Item	Total	Sanatoria		
		Fort San	Saskatoon	Prince Albert
Administration	$ 94,458.00	$ 30,053.64	$ 22,369.54	$ 42,034.82
Interest and discounts	14,916.75	4,562.20	3,463.16	6,891.39
Hospital	823,127.67	293,639.49	240,844.63	288,643.55
Dispensary	20,160.53	7,470.34	10,221.43	2,468.76
Laboratory	30,820.32	11,499.33	13,038.62	6,282.37
X-ray	24,807.98	8,103.47	9,490.57	7,213.94
Kitchen	386,511.24	150,108.79	98,396.75	138,005.70
Stewards	20,398.19	8,331.33	5,728.87	6,337.99
Housing	76,873.18	33,581.70	19,161.99	24,129.49
Maintenance of buildings	38,809.39	22,638.26	9,235.39	6,935.74
Power house	236,740.44	101,715.53	57,980.38	77,044.53
Laundry	64,367.34	18,913.06	18,607.28	26,847.00
Grounds	25,817.02	7,120.49	7,286.03	11,410.50
Garage	8,194.27	3,968.81	470.24	3,755.22
Stable	4,895.89	4,895.89	.....	.....
Red Cross Lodge	4,861.80	4,861.80	.....	.....
School grants	700.00	700.00	.....	.....
Staff insurance	15,000.00	4,633.50	3,544.50	6,822.00
Replacements (under Sec. 12 Sanatoria Act)	1,000.00	308.90	236.30	454.80
League patients in other hospitals	26,853.13	8,849.49	11,921.37	6,082.27
Superannuation fund	115,860.98	35,789.46	27,377.95	52,693.57
Workmen's compensation fund	3,000.00	926.70	708.90	1,364.40
Compensation claims	2,142.44	619.92	554.36	968.16
Liability insurance	2,500.00	772.25	590.75	1,137.00
	$ 2,042,816.56	$ 764,064.35	$ 561,229.01	$ 717,523.20
Less				
Accounts charged to health grants	70,268.73	30,693.96	24,541.30	15,033.47
Accounts charged to preventive fund	7,135.59	3,638.91	1,195.58	2,301.10
Canteen and postal revenue	117.97	117.97	.....	.....
S.H.S.P. (re patients' fees)	7,529.24	5,355.72	968.76	1,204.76
Miscellaneous and service charges	84.00	20.00	.....	64.00
	$ 85,135.53	$ 39,826.56	$ 26,705.64	$ 18,603.33
Total net expenditure	$ 1,957,681.03	$ 724,237.79	$ 534,523.37	$ 698,919.87
Number of patient days	166,299	51,371	39,293	75,635
Cost per patient day	$ 11.77	$ 14.10	$ 13.60	$ 9.24

TABLE 79 PATIENTS' FEES AND GOVERNMENT GRANTS, TUBERCULOSIS SANATORIA, SASKATCHEWAN, 1959

Source of revenue	Total	Sanatoria		
		Fort San	Saskatoon	Prince Albert
Total grants and fees	$ 857,607.58	$ 182,544.31	$ 149,580.73	$ 525,482.54
Provincial government grants	332,598.00	102,742.00	78,586.00	151,270.00
Patients' fees	525,009.58	79,802.31	70,994.73	374,212.54
Federal government	511,733.02	67,537.97	69,982.51	374,212.54
Indian Affairs	449,908.99	32,935.50	57,043.60	359,929.89
Veterans' Affairs	58,604.19	31,382.63	12,938.91	14,282.65
Re immigrants	3,219.84	3,219.84	.....	.....
Yukon Territory	13,276.56	12,264.34	1,012.22	.....

APPENDIX A

ACTS ADMINISTERED BY THE DEPARTMENT OF PUBLIC HEALTH

The Anatomy Act

The Change of Name Act

The Cancer Control Act

The Health Services Act, 1950

The Hospital Standards Act

The Marriage Act

The Mental Hygiene Act

The Mutual Medical and Hospital Benefit Associations Act

The Public Health Act

The Saskatchewan Hospitalization Act

The Union Hospital Act

The Veneral Disease Prevention Act

The Vital Statistics Act

(The Tuberculosis, Sanatoria and Hospitals Act is administered by the Saskatchewan Anti-Tuberculosis League.)

NATIONAL HEALTH GRANTS

National Health Grants have been available to the province since 1948. The prime purpose of the grants is to expand and extend public health services and to institute new services. Before the funds may be utilized it is necessary to submit projects to the federal authorities which outline in detail the services to be provided, the estimated expenditure and the expected benefits to be derived from the program.

The total expenditure under this program for the fiscal year under review was $2,170,633.

Crippled Children's Grant

This grant was utilized to provide for five staff members who were employed in the physical restoration program of the department. In addition a small amount of this grant was used to assist in financing a short postgraduate course for a paediatrician who acts as consultant to the program.

Funds available for these services amounted to $28,858 of which the sum of $25,320 was expended. Staff vacancies at different times during the year accounted for the under-expenditure.

Professional Training Grant

Funds made available in this grant amounted to $28,858 for the year and were to be utilized to assist in an extended program for the training of health and hospital personnel. Of the above sum, a total of $26,812 was spent.

As in previous years a considerable portion of the funds was utilized to finance the university training of public health nurses. A total of 12 nurses received financial assistance for their postgraduate training courses. In addition, one physician was assisted in a postgraduate course in hospital administration and several hospital staff members received financial assistance for short courses in hospital management and organization and medical records. A postgraduate clinical seminar in children's dentistry was also arranged in co-operation with the College of Dental Surgeons with financial assistance being provided out of this grant.

Hospital Construction Grant

An expenditure of $561,978 was made out of this grant during the year. This sum contributed toward the cost of constructing 37 different projects involving 271 public general hospital beds, 175 staff beds and 120 beds for the mentally ill.

Hospitals completed during the year were located at Milden, Rabbit Lake, Central Butte, Cupar and Hudson Bay. Extensions to existing hospitals were completed at Arcola, Paradise Hill, Invermay-Canora and Ile a la Crosse. Staff accommodation was completed at Swift Current, Watson, Leader and Lucky Lake and construction on 120 beds for the mentally ill was completed at the Saskatchewan Hospital North Battleford.

Completion of the construction of health centres was accomplished at Carlyle, Semans and Avonlea while such centres were under construction at Luseland, Southey and North Battleford with financial assistance being provided out of this grant.

Late in the fiscal year 1958-59 a revised formula for grant assistance was announced by the federal authorities. This entailed an increase of the grant from $1,000 to $2,000 per bed or bed equivalent for health facilities, and from $500 to $750 per bed for living quarters for nurses and internes. In addition provision was made for sharing the cost of renovations to hospitals and health facilities on the basis of the above levels of assistance or one-third of the cost, whichever is less. In all cases, however, payment of the federal grant is contingent upon the province matching or exceeding the federal contribution.

At the year end there were several projects under construction and others were being considered for grant assistance.

Venereal Disease Control Grant

The full amount of the available funds in this grant was utilized in the year under review. The grant is made available on a matching basis, that is, each dollar spent by the province is matched by the federal grant up to a stated maximum. The allotment was $28,858.

Mental Health Grant

The initial amount of this grant was $388,682 and was augmented by the transfer of $30,000 from the Laboratory and Radiological Services Grant with approval of the federal officials. Of the total allotment amounting to $418,682, the sum of $392,312 was spent, with $251,470 being utilized to extend the clinical programs, $52,370 for training of staff and $88,105 for research.

It is noteworthy that a considerable increase in funds for research was approved and spent during the 1959-60 fiscal year over 1958-59 when approximately $63,500 was utilized for this purpose. It is a well recognized fact that increasing sums of money must be spent to finance research into the causes of mental illness and to develop ways and means of prevention of such illness as well as finding cures for those so afflicted. With these goals in mind, approval was gained for an increasing proportion of the funds in this grant to be utilized for this purpose.

In order to further the objectives of the Mental Health Grant, use of the funds was made to continue postgraduate training for physicians, psychologists, nurses, social workers, therapists and technical staff of the hospitals and clinics. The persons so trained joined the staff or returned to their respective positions much better equipped to make their individual contribution to the team therapy approach which is now recognized as an all-important facet of the treatment of the mentally ill. Some $52,370 was utilized for this purpose.

A sizeable portion of the grant continued to be used to assist in supporting the clinical program. Such funds amounting to slightly over $250,000 were utilized for the employment of carefully selected professional staff in the clinics and hospitals operated for the prevention and treatment of mental illness.

Some 93.7 per cent of the funds available in this grant were spent in accordance with the express intent of the policy to assist in an

extended program for the prevention and treatment of mental illness, including rehabilitation and free treatment.

Tuberculosis Control Grant

Expenditures under this grant were 100 per cent of the amount available or $201,968.

The purpose of the grant is to assist in an extended program for the prevention and treatment of tuberculosis, including rehabilitation and free treatment. To this end funds were utilized by the Saskatchewan Anti-Tuberculosis League to employ additional staff at the sanatoria in their treatment program, to purchase drugs for the patients, to assist in mass x-ray surveys, B.C.G. vaccinations, to extend surgical services and to pay hospitals and clinics for x-rays taken on all admissions as well as for training of staff members and general hospital nursing students.

Public Health Research Grant

This grant differs somewhat from other grants made available in that a specific sum of money is not allocated to each province but rather an over-all amount of money is appropriated by parliament for all of Canada and each province is required to make its submission of projects to the federal officials. These are considered on their merits by appraisers and consultants selected and appointed by the federal government who either approve, reject or modify the projects and then notify the provinces of the amount of money approved for each project.

For the fiscal year 1959-60 a sum of $34,535 was approved for Saskatchewan and of this nearly $30,000 was spent. All of the projects were carried out at the University of Saskatchewan under the direction of members of the faculty of the College of Medicine.

General Public Health Grant

The original allotment under this grant was $444,000 which was increased by a transfer of funds approved by the federal authorities amounting to $125,000 from the Laboratory and Radiological Grant making a total of $569,000 available. Of this total a sum of $462,215 or 81 per cent was actually spent during the year.

Funds made available in the General Public Health Grant may, under the regulations, be utilized to expand public health services, to institute new services, to conduct studies and surveys and to provide for training of personnel, as well as to finance research projects.

Assistance to health regions was continued and increased over the level provided in the previous year in all regions but one. A total of nearly $170,000 was utilized for this purpose as against slightly over $140,000 for the previous year. This increase is attributed to two factors, first, a somewhat better supply of trained staff such as nurses and sanitary officers and second, the increased cost of supplies and materials and other expenses related to providing services in rural areas.

A considerable sum was utilized in providing services in the fields of health education, sanitation services, occupational health, home care rehabilitation, statistical services, public health services in the cities of Regina and Saskatoon and laboratory services. A total of approximately $235,000 was expended in these areas.

The grant was also used for training of staff in a variety of disciplines in the health field, including hospital administration, physiotherapy and occupational therapy, postgraduate nursing, medical record librarians and physical medicine. To provide for such training slightly over $38,000 was spent.

Provision to the extent of nearly $4,500 was made in this grant for surveys and studies related to the problems of ageing and long-term illness and approximately $12,000 was utilized for research work.

It should also be reported that considerable difficulty is still experienced in securing the services of well qualified personnel as well as candidates for training in certain areas of work in the health field, such as nutritionists, medical social workers and speech therapists. Faced with this problem, increased efforts will be put forth in the coming year to utilize an even greater amount of the available funds for training to overcome this shortage of staff.

Cancer Control Grant

The full amount available, viz. $187,495, in this grant was expended in the fiscal year 1959-60.

The conditions under which these funds are made available are unchanged from previous years. The grant is a matching one and for each dollar spent on medical and surgical services in the treatment of cancer by the province an equivalent amount up to the total of funds available may be claimed. Elsewhere in this report will be found a statement of provincial expenditure on cancer services.

Laboratory and Radiological Services Grant

At the commencement of the year the sum of $444,000 was available in this grant. Of this amount a total of $165,000 was transferred to the General Public Health and Child and Maternal Health Grants leaving a balance of $279,000 available. Expenditures of nearly $109,000 were made or 34 per cent.

In the years previous to July 1, 1958, a considerable portion of this grant was spent in paying for services, which, when the Hospital Insurance Act (Canada) 1957 became operative, were included in the cost sharing arrangements provided for under that legislation.

The funds spent under this grant were utilized in training of laboratory technicians and physicians and providing counselling services to general hospitals in the field of laboratory and radiological techniques. A sum of slightly over $87,000 was utilized for the former and about $21,000 in the latter area of activity.

Saskatchewan was not alone amongst the provinces of Canada which were unable to make full use of the available funds. Ontario and British Columbia spent a much smaller proportion of the funds available to them than did Saskatchewan. Advice was received from the federal authorities shortly before the end of the fiscal year that this grant would be discontinued as at March 31, 1960. This decision was taken primarily due to restrictions placed on utilization of funds for services formerly provided but which are now covered by the cost sharing arrangements under the Hospital Insurance Act.

Medical Rehabilitation Grant

The funds available under this grant were again utilized to supplement the staff of the two physical restoration centres and to provide specialized training for such staff. Of the $56,682 available a total of $47,115 was spent or 83 per cent. Slightly over $7,000 was utilized for training of physiotherapists and occupational therapists and the remainder was used to pay the salaries of staff engaged to provide restorative services at the two centres.

Child and Maternal Health Grant

The original allotment under this grant was $108,700 which was supplemented by a transfer of $10,000 from the Laboratory and Radiological Services Grant during the year in order to meet anticipated expenditures. Ninety-four per cent or $111,611 was actually spent.

A sum of $32,650 was utilized to match provincial funds toward the purchase of Salk vaccine for use in the poliomyelitis vaccination program. Slightly over $6,400 was expended to provide for training courses for nurses and physicians, while a further sum of $23,535 was utilized for medical research in the paediatric field. Nearly $48,000 of the grant was utilized to provide for staff salaries, childrens' dental services, child health services in the city of Regina, preventive ophthalmological services for children and a nutrition survey. It was hoped to inaugurate a consultation service in audiometry and speech pathology but this was delayed due to unavailability of trained staff.

TABLE 80. GRANTS ALLOCATED AND AMOUNTS EXPENDED UNDER THE NATIONAL HEALTH GRANTS PROGRAM, SASKATCHEWAN, 1950-51 TO 1960-61

Name of grant	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
	Amount made available										
Total	$2,133,948	$2,175,435	$3,446,194	$3,711,811	$3,037,159	$2,307,250	$3,061,043	$3,296,896	$4,088,063	$3,603,465	$3,733,013
Crippled children	34,321	34,120	33,476	31,874	31,792	31,571	31,190	30,801	29,285	28,858	.....(a)
Professional training	34,321	34,120	34,881	31,874	31,792	31,571	31,190	30,801	29,285	28,858	94,856
Hospital construction(b)	849,465	843,823	2,105,732(c)	2,066,522(d)	1,220,206(e)	385,551(f)	1,101,018(g)	1,295,775(h)	2,156,988(i)	1,685,363(j)	1,857,967(k)
Venereal disease control	34,321	34,120	32,476	31,874	31,792	31,571	31,190	30,801	29,285	28,858	.....(l)
Mental health	337,322	335,247	379,963	372,459	431,607	428,373	422,805	417,118	416,932(m)	418,682(n)	464,936
Tuberculosis control	228,043	194,819	216,002	236,535	228,065	227,582	222,476	220,290	209,688	201,969	151,035
Public health research(o)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Health survey(p)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
General public health	387,450	472,000	428,879	411,500	430,500	439,000	489,500(q)	528,500(r)	489,500(m)	569,000(n)	744,881
Cancer control	228,705	227,186	214,785	210,244	209,625	207,958	205,087	202,156	190,717	187,495	185,656
Laboratory and radiological services	.....	.....	.....	252,900	301,350	351,200	355,050(q)	368,500(r)	367,500(m)	279,000(n)	.....(l)
Medical rehabilitation	.....	.....	.....	33,134	62,192	61,777	61,063	60,333	57,485	56,682	140,406(a)
Child and maternal health	.....	.....	.....	32,895	58,238	111,096	110,474	111,821	111,398	118,700(n)	93,276
	Expenditure from grants										
Total	$1,436,930	$1,538,755	$1,980,964	$1,931,165	$2,561,443	$2,813,399	$2,067,582	$2,231,368	$2,901,361	$2,170,633	.....
Crippled children	28,549	32,803	32,815	24,229	26,173	22,875	30,070	29,490	24,762	25,320	.....
Professional training	31,589	28,894	29,997	22,739	29,243	25,710	24,636	21,286	23,157	26,812	.....
Hospital construction	352,940	297,295	776,645	499,585	889,908	1,005,723	258,217	320,446	1,147,491	561,978	.....
Venereal disease control	32,779	33,132	29,258	30,647	31,792	31,571	31,190	30,801	29,285	28,858	.....
Mental health	272,142	319,622	339,275	338,890	396,491	400,298	398,471	401,824	402,663	392,312	.....
Tuberculosis control	182,040	194,819	216,002	236,523	228,061	227,538	222,476	220,290	209,688	201,968	.....
Public health research	16,467	18,925	25,788	26,664	22,385	19,692(s)	20,736	39,929(s)	46,288(s)	29,839	.....
Health survey	9,207	500	3,150	.....	.....	.....	.....	.....	.....	.....	.....
General public health	282,512	385,529	313,249	352,289	373,347	388,673	416,624	502,575	436,844	462,215	.....
Cancer control	228,705	227,186	214,785	210,244	209,625	207,958	205,087	202,156	190,717	187,495	.....
Laboratory and radiological services	.....	.....	.....	154,483	279,936	336,925	316,675	344,480	281,168	95,110	.....
Medical rehabilitation	.....	.....	.....	4,042	41,588	57,987	57,987	53,999	48,653	47,115	.....
Child and maternal health	.....	.....	.....	30,830	32,894	108,141	106,148	104,022	106,934	111,611	.....
	Per cent of grants expended										
Total	67.3	70.7	84.1	51.3	83.5	76.8	58.3	67.7	71.0	60.2	.....
Crippled children	83.2	96.1	98.0	76.0	82.3	72.4	96.4	95.7	84.6	87.7	.....
Professional training	92.0	84.7	85.9	71.3	91.9	81.4	79.0	69.1	79.1	92.9	.....
Hospital construction	41.5	35.2	36.8	24.1	72.9	57.7	16.3(t)	24.7	53.2	33.3	.....
Venereal disease control	95.5	97.1	90.0	96.1	100.0	100.0	100.0	100.0	100.0	100.0	.....
Mental health	80.7	95.3	89.2	90.9	91.8	93.4	94.2	96.3	96.6	93.7	.....
Tuberculosis control	79.8	100.0	100.0	99.9	99.9	99.9	100.0	100.0	100.0	100.0	.....
Public health research	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Health survey	91.5(u)	92.8(u)	99.9(u)	.....	.....	.....	.....	.....	.....	.....	.....
General public health	72.9	81.7	73.0	85.6	86.7	88.5	85.1	95.1	89.2	81.2	.....
Cancer control	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
Laboratory and radiological services	.....	.....	.....	61.0	92.8	95.9	89.2	93.5	76.5	34.1	.....
Medical rehabilitation	.....	.....	.....	12.1	66.8	93.8	95.0	89.5	84.6	83.1	.....
Child and maternal health	.....	.....	.....	93.7	56.4	97.3	96.1	93.0	96.0	94.0	.....

Sources: Unless otherwise noted, statements on operations of the health grants program for Saskatchewan were prepared by the Directorate of Health Insurance Studies, Department of National Health and Welfare.

(a) Combined with "Medical Rehabilitation" in 1960-61. Now called "Medical Rehabilitation and Crippled Childrens' grant".

(b) The hospital construction grant was cumulative. The amount not utilized during the year in which it was allocated could accumulate from year to year.

(c) The figure for the fiscal year 1952-53 includes an allotment for that year plus unexpended portions of previous allotments for the years 1948-49 to 1949-50.

(d) The hospital construction allotment for 1953-54 is composed of:

Allocation for new projects	$ 389,772
Revote	$ 1,676,750
	$ 2,066,522

(e) This total is made up as follows:

Allocation for new projects	$ 388,643
Revote	$ 831,563
	$ 1,220,206

(f) Ottawa's final statement for the fiscal year 1955-56 shows amount of hospital construction grant available as $1,741,291. Percentage figured on amount available shown on Ottawa's final statement for the fiscal year 1955-56.

(g) Amount available for hospital construction for 1956-57:

Allocation for new projects	$ 380,229
Revote	$ 720,789
	$ 1,101,018

Ottawa's final statement for 1956-57 shows the amount of Hospital Construction Grant available as $1,587,085.

(h) This total is made up as follows:

New projects		
Annual allocation	$ 374,794	
Revote	$ 747,204	
		$ 1,121,998
Revote		$ 173,777
		$ 1,295,775

(i) This total is made up as follows:

New projects		
Annual allocation	$ 919,123	
Revote	$ 1,212,865	
		$ 2,131,988
Revote		$ 25,000
		$ 2,156,988

(j) This total is made up as follows:

New projects		
Annual allocation	$ 903,581	
Revote	$ 756,782	
		$ 1,660,363
Revote		$ 25,000
		$ 1,685,363

(k) This total is made up as follows:

Annual allocation	$ 897,103
Revote	$ 960,864
	$ 1,857,967

(l) Discontinued.

(m) Includes transfer of $50,000 and $22,000 from Laboratory and Radiological Services Grant to General Public Health Grant and Mental Health Grant respectively.

(n) Includes transfer of $165,000 from the Laboratory and Radiological Services Grant to the Mental Health, General Public Health, and Child and Maternal Health Grants in the amounts of $30,000, $125,000, and $10,000 respectively.

(o) Various amounts for public health research were made available nationally each year and were apportioned among the provinces on the basis of projects submitted and approved.

(p) One allocation of $43,506 was made in 1948-49 to conduct a health survey. The allocation was spent over a 5-year period.

(q) A transfer of $45,000 from Laboratory and Radiological Services Grant to the General Public Health Grant is considered in figures shown for these two grants.

(r) Includes transfer of $80,000 from Laboratory and Radiological Services Grant to General Public Health Grant. (Transfer not included in the 1956-57 annual report table.)

(s) Amount excluded from total.

(t) Percentage figured on amount available shown on Ottawa's final statement for the 1956-57 fiscal year.

(u) Cumulative percentages of original allocation of $43,506.