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ANNUAL REPORT

OF THE

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Department of Public Health

INCLUDING

Vital Statistics Division

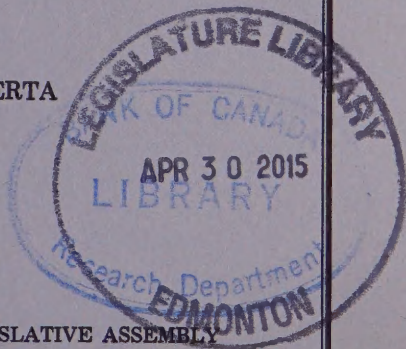
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PROVINCE OF ALBERTA

1962

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA

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ANNUAL REPORT

OF THE

Department of Public Health

Legislative Assembly of the Province of Alberta

Sir:

INCLUDING

I have the honour to transmit herewith the Annual Report of the Department of Public Health for the year 1962.

Vital Statistics Division

J. DONNAN ROSS, B.A., M.D.
Director of Health

PROVINCE OF ALBERTA

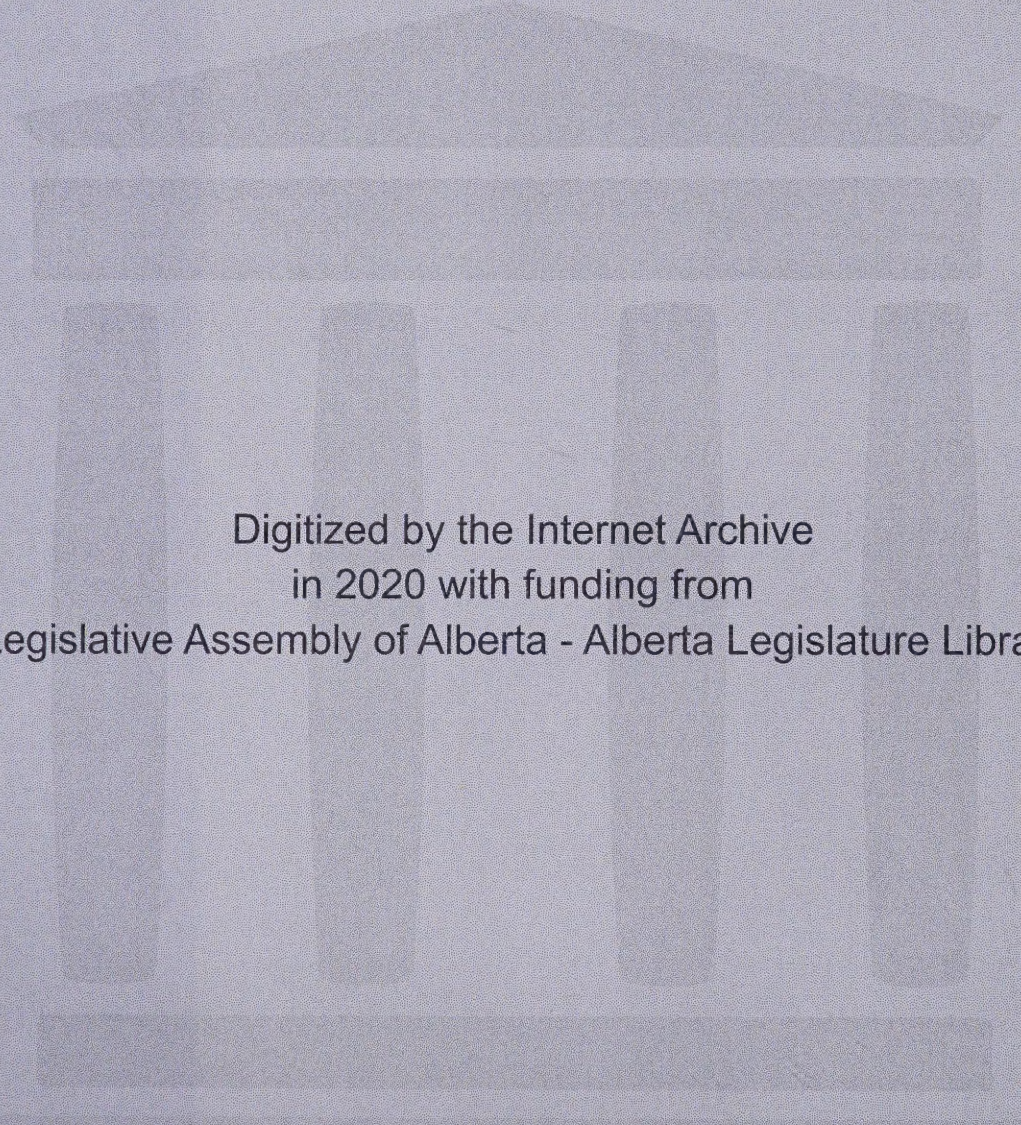
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November 30, 1963.

TO HIS HONOUR,

J. PERCY PAGE,

Lieutenant Governor of the Province of Alberta.

Sir:

I have the honour to transmit herewith, the Annual Report of the Department of Public Health for the year 1962.

I have the honour to be, Sir,

Your obedient Servant,

J. DONOVAN ROSS, B.A., M.D.,
Minister of Health.

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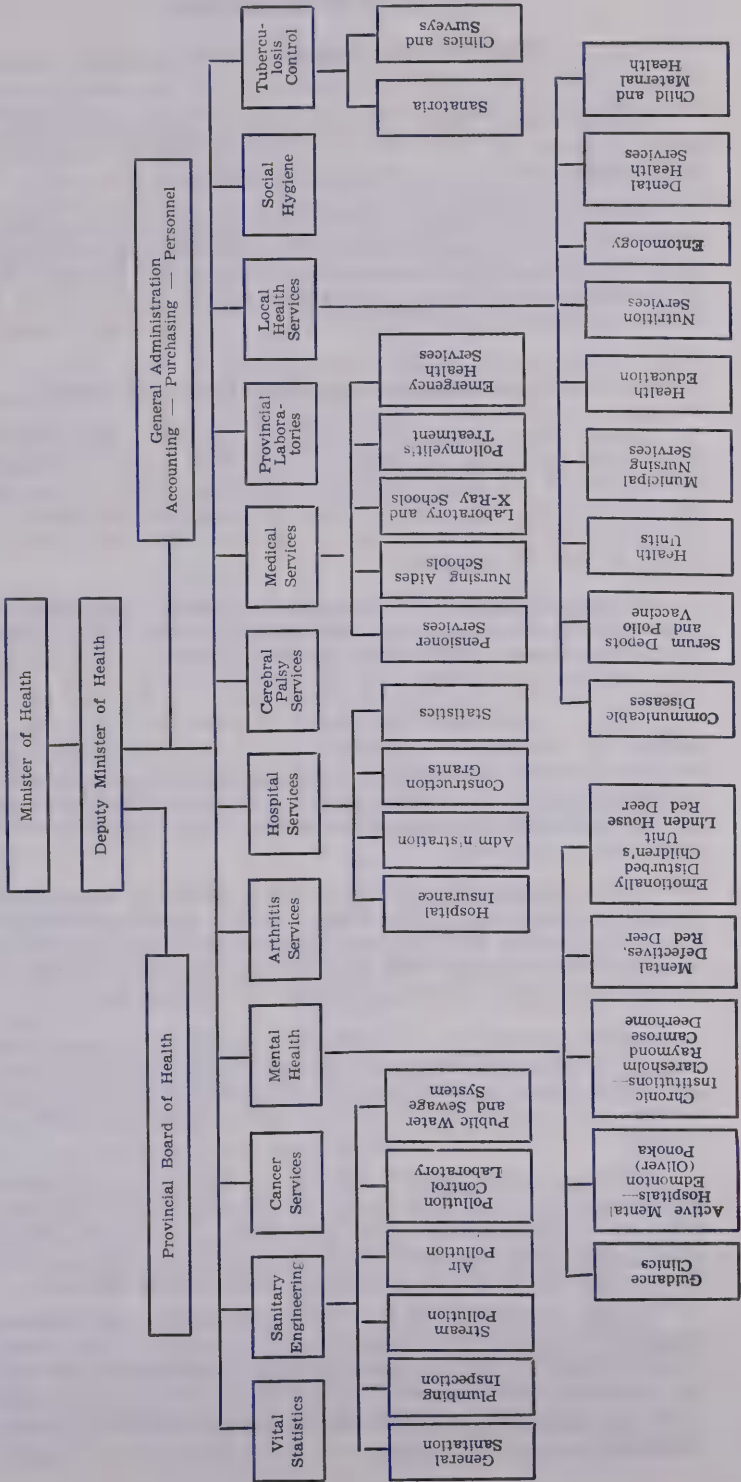
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PART II

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Note: See separate publication covering Annual Report of the Hospitals Division for the year 1962.

Department of Public Health—Alberta
DIVISIONAL ORGANIZATION CHART
 January - 1962



PROVINCIAL BOARD OF HEALTH

The Provincial Board of Health met on such occasions as were necessary during the year 1962. A review of some of the major items considered by the Board is contained in this report.

There was no change in membership during the year. Dr. M. G. McCallum, Provincial Medical Officer of Health, continued as Chairman. Dr. R. D. Stuart, Provincial Bacteriologist, and Mr. H. L. Hogge, Provincial Sanitary Engineer, were members. Mr. L. E. Stewart, Chief Sanitary Inspector, acted as Secretary.

Regulations Passed or Amended During The Year

Alberta Regulation 176/62 (O.C. 511-62) Amendments to Regulations Regarding Plumbing and Drainage. These amendments make provision for improvements in the administration of the regulations and provide more realistic permit fees and fines for offences under the regulations. Extensive changes in the regulations recognize technological advances in the trade.

Alberta Regulation 230/62 (O.C. 580-62) New Regulations Respecting the Qualifications of Sanitary Inspectors. These regulations provide that persons employed as Sanitary Inspectors must possess the Certificate in Sanitary Inspection (Canada) or an equivalent certificate.

Alberta Regulation 231/62 (O.C. 581-62) Amendment to Regulations Respecting Nuisances and General Sanitation. This amendment affected the air space requirements in sleeping rooms. The basic requirement, at least 400 cubic feet per person, has been retained but the method of determining allowances for air space in adjoining rooms has been altered.

Alberta Regulation 232/62 (O.C. 582-62) Amendments to Regulations Governing Trailer Coach Parks. These amendments permit some relaxation of the spacing requirements in older parks and give Local Boards of Health some discretionary powers in relation to the sizes of porches and vestibules attached to trailer coaches.

Alberta Regulation 233/62 (O.C. 583-62) Amendment to Regulations Governing Barber Shops and Beauty Culture Parlours. A new section has been added to permit the installation of machines which dispense coffee and other beverages in barber shops and beauty culture parlours.

Alberta Regulation 234/62 (O.C. 584-62) Amendments to Regulations Governing Restaurants, Regulations Governing Food and Drink and Regulations Governing Bakeshops. New sections have been added to permit blind patrons to use dog guides (commonly called seeing-eye dogs) in the public portions of food handling premises.

Alberta Regulation 484/62 (O.C. 1236-62) New Regulations Regarding Inspection of Institutions and Nurseries. The regulations authorize Local Boards of Health to inspect Institutions and Nurseries. The Provincial Board of Health is authorized to issue a code of standards (not regulations) for the guidance of Local Boards during such inspections.

Alberta Regulation 498/62 (O.C. 1320-62) Amendments to Regulations Respecting the Fluoridation of Water Supplies. These amendments are of an administrative nature and do not significantly alter the basic requirements.

The Provincial Board of Health also issued a Code of Standards for Institutions and Nurseries. These standards are intended as a guide to Local Boards of Health in the inspection of Institutions and Nurseries. The standards include recommendations concerning building construction, toilet facilities, sleeping accommodation, airing courts, playgrounds, equipment and furnishings, nutrition and food service, health and medical supervision, etc.

The Board received information during the year that certain persons suffering from communicable forms of tuberculosis were refusing treatment and endangering other persons. After proper investigation in each instance the Board issued five orders covering removal of these persons to hospitals and sanatoria for treatment under the provisions of the Communicable Disease Regulations. This may be compared with 2 such orders in 1957, 4 in 1958, 6 in 1959, 2 in 1960 and 4 in 1961.

Nine persons, employees of the Provincial Department of Public Health or Municipal Nurses, were appointed to be Executive Officers of the Provincial Board of Health during 1962. Eight cards were returned and at the year's end 43 such authorizations were in effect.

During the year 70 nurses employed by Local Boards of Health were certified by the Provincial Board to be capable of performing inoculations and vaccinations in accordance with Section 41 of The Public Health Act. Fifty-one authorizations were returned. At the year's end 188 such authorizations were in effect compared with 169 at the end of 1961. This increase probably reflects fewer vacancies in Health Unit staffs.

Problems in water clarity in man made bathing beaches or dugout bathing places received attention during the year. The Provincial Board advised Local Health authorities to withhold approvals for more of these unless suitable bottoms are to be provided. This policy will be reviewed in the light of 1962 operating experience and experiments being conducted.

The question of compulsory medical examination of food handlers received consideration during the year. A specific area connected with the manufacture of certain types of cheese where there is a lot of handling received special attention. At the year's end the possibility of providing regulations on this subject was being studied.

The Board continued its interest in matters connected with air pollution and stream pollution during the year. The condition of the North Saskatchewan River during the winter of 1961-62 was of special interest. This was the first winter during which the Brazeau dam was in operation. The effect of the increased winter flow was studied. The City of Edmonton was given permission to increase the amount of B.O.D. allowed into the river by a substantial quantity. Attention was given to various matters in the field of air pollution resulting from increased industrial activity throughout the province.

The Board received reports that an unsatisfactory condition existed in the Hamlet of Beaumont due to inadequate water supplies. Beaumont

is in the Municipal District of Leduc No. 75 near Edmonton. Private wells in the hamlet have been drying up. The Municipal District had plans prepared for the installation of water and sewer systems. The Board had a sanitary survey made in the community to determine the situation. The report of this survey together with other reports indicated a danger to health did exist. The Board ordered that water and sewer systems be constructed. In view of the Board's order a ratepayers' plebiscite throughout the Municipal District was not required.

Many other matters in the field of public health received the Board's attention during the year. These included control and supervision of milk pasteurizing plants and slaughter houses, school sanitation, the authority of Health Units on Provincial Government property, tuberculosis case finding in schools, sanitation of commercial camp grounds and the regulation of swimming pools. The Board gave direction in these and other matters to the various Divisions of the Department of Public Health so that there would be a broad program to improve the health of the people of the province.

LEGISLATION PASSED DURING THE YEAR

The Cemeteries Act Amendment Act (Chapter 6)

This Act amends The Cemeteries Act to prohibit the opening of new cemeteries except by a religious auxiliary, religious denomination or municipality. The amendment does not interfere with the operation of existing commercial cemeteries.

This Act came into force on the 5th day of April, 1962.

The Health Unit Act Amendment Act (Chapter 30)

This Act amends The Health Unit Act. The definition of "municipality" in section 2 was amended to include a metis colony, thereby extending the application of the Act to such areas.

Section 9 was amended to provide that a Board may not enter into a lease of office accommodation for a term of more than three years unless the lease provides that it may be terminated at any time by either party upon not more than one year's notice to the other.

Sections 13 and 14 were amended to set out more fully the duties of a board of a health unit with respect to deductions and contributions for health unit employees under The Public Service Pension Act or The Temporary Provincial Employees Retirement Act.

This Act came into force on the 5th day of April, 1962.

The Alberta Hospitals Act Amendment Act (Chapter 32)

This Act amends The Alberta Hospitals Act. Section 2 was amended to define "excess cost" as the audited operating cost of an approved hospital in a fiscal year over and above the approved operating cost of the hospital for that year.

Section 11 was repealed and replaced. Under subsection (1) of the new section a non-district hospital may enter into an agreement with the district board, or any one or all of the councils of the included municipalities, covering excess cost and providing for the establishment of a board of management for the hospital with not more than one-half of the membership being representatives of the district board or the

municipalities as the case may be. Under subsection (2) an agreement may be entered into to establish a board of management for a non-district hospital in the interest of good public relations and to provide assistance in problems of operation, but if such an agreement is entered into and excess costs develop in the operation of the hospital, the district board is liable to the hospital for the full amount of the excess cost. The section also provides for a municipality undertaking to pay a proportionate share of the excess cost of a non-district hospital without the requirement of representation on a board of management.

Section 48 was amended to enable the Director of the Hospitals Division to waive the requirement that a claim on behalf of the Minister be included in the beneficiary's claim in case of injury caused by negligence. The Director is also authorized to give releases or consents to settlement.

Section 55, subsection (1) was amended to prohibit the adding of new members to group contracts of insurance of the type prohibited by this section.

A new section 60 was added restricting the use of the word "hospital" to approved hospitals or institutions operated by the Crown.

This Act also repealed The Private Hospitals Act, being chapter 242 of the Revised Statutes.

This Act came into force on the 5th day of April, 1962.

The Mental Defectives Act Amendment Act (Chapter 48)

This Act amends section 15 of The Mental Defectives Act to enable the Lieutenant Governor in Council to prescribe a daily charge for institutional care of mentally defective persons under the age of twenty-one years.

This Act came into force on the 1st day of April, 1962.

The Nursing Service Act Amendment Act (Chapter 58)

This Act amends The Nursing Service Act to extend its application to metis colonies. Provision is also made for entering into agreements with the Federal Government to extend nursing service to persons residing within the boundaries of an Indian reservation. Under such an agreement the Federal Government is to pay a proportional cost of the nursing service with the balance being paid by the Provincial Government.

This Act came into force on the 1st day of April, 1962.

The Alberta Pharmaceutical Association Act Amendment Act (Chapter 61)

This Act amends The Alberta Pharmaceutical Association Act. The definition of drug in section 2 is extended to include substances the definition and composition of which are found in the Food and Drug Act (Canada) or the regulations thereunder.

Under a new section 45 pharmacists are permitted to dispense drugs that are generically equivalent to those prescribed unless the

doctor giving the prescription indicates otherwise by designating the name of the manufacturer, or by specifying that no equivalent is to be dispensed.

This Act came into force on the 5th day of April, 1962.

The Provincial General Hospitals Act Amendment Act (Chapter 67)

This Act amends The Provincial General Hospitals Act to enable a Provincial General Hospital to be established in Edmonton. Provision is also made for a Provincial General Hospital to transfer property to any charitable foundation which has been established to receive, hold, administer and apply any property for purposes or objects in connection with a Provincial General Hospital.

This Act came into force on the 5th day of April, 1962.

The Psychologists Association Act Amendment Act (Chapter 68)

This Act amends The Psychologists Association Act to increase the council of the association from five to eight elected members and the quorum from three to four members. A new section is added which makes it an offence for an unqualified person to practise psychology or to hold himself out as a psychologist or describe his services in any way by using the word "psychology", "psychologist" or "psychological".

This Act came into force on the 5th day of April, 1962.

The Public Health Act Amendment Act (Chapter 69)

This Act amends The Public Health Act by revising the definition of "communicable disease" in section 2 and the definition of "pasteurization" in section 10. Also, section 42 was repealed.

This Act came into force on April 5th, 1962.

The University of Alberta Hospital Act Amendment Act (Chapter 95)

This Act amends The University of Alberta Hospitals Act. Various amendments were made to the provisions contained in sections 8 to 15 of the Act to clarify the powers of the hospital Board and to streamline the administration of the hospital.

Section 18 of the Act was repealed and Parts II and III of The Alberta Hospitals Act were made applicable to the University Hospital.

This Act came into force on the 5th day of April, 1962.

The University Hospital Foundation Act (Chapter 96)

This new Act cited as "The University Hospital Foundation Act" established a charitable Foundation to hold and administer property to be used for purposes beneficial to the University of Alberta Hospital.

This Act came into force on the 5th day of April, 1962.

The Vital Statistics Act, 1959 Amendment Act (Chapter 98)

This Act amends The Vital Statistics Act, 1959, to amend the definition of "stillbirth" to conform to the definition recommended by the World Health Organization and the Vital Statistics Council of Canada.

This Act came into force on the 1st day of January, 1963

ANNUAL REPORT, 1962

DEPARTMENT OF PUBLIC HEALTH
REVENUE AND EXPENDITURE FOR FISCAL YEAR ENDING MARCH 31, 1963

	Expenditure	Revenue
2401 Administration—General	\$ 18,405.44	\$
2402 Administration—General	140,591.53	9,535.70
2405 Vital Statistics	115,235.14	157,236.56
2408 Professional Acts	883.15	.....
2409 Civil Service Nurse	11,453.97	.....
2410 Alcoholism Foundation of Alberta	250,000.00	.....
2411 Health Services—Extension Program	1,409,043.64	1,659,292.78
2412 Hospital Construction Grant	2,809,069.19	2,212,249.48
2453 Hospitals Division	53,164,361.35	24,522,026.88
2414 Communicable Diseases	123,360.91	.....
2415 Health Units and Grants for Public Health Services	1,249,395.22	614,250.50
2416 Municipal Nursing Service	107,341.52	22,736.38
2417 Dental Health Services	12,421.71	.....
2418 Public Health Education	22,354.06	.....
2419 Entomology and Vector Control	18,590.43	.....
2420 Poison Control Services	5,720.12	.....
2421 Public Health Laboratories	662,000.00	.....
2422 Social Hygiene	110,775.82	58,514.17
2425 Sanitary Engineering	190,347.84	91,711.63
2428 Industrial Health Services	10,634.30	.....
2430 Medical Services	1,979,062.24	.....
2433 Insulin and Other Special Drugs	34,214.22	8,767.00
2434 Emergency Air Ambulance Services	18,169.84	.....
2436 Nursing Aides	353,371.26	347,821.91
2437 Laboratory and X-Ray School	27,314.74	28,388.54
2440 Poliomyelitis	134,933.52	.....
2441 Medical Rehabilitation Services	11,400.00	.....
2442 Cerebral Palsy Clinics	114,833.07	55,669.40
2443 Arthritis Services	15,506.06	.....
2450 Cancer Services	1,197,442.41	16,033.09

DIVISION OF TUBERCULOSIS CONTROL

2455 Director's Office and Clinics	152,824.88	31,141.11
2456 Aberhart Memorial Sanatorium, Edmonton	1,013,072.71	223,037.17
2457 Baker Memorial Sanatorium, Calgary	1,040,102.39	361,380.54

DIVISION OF MENTAL HEALTH

2460 Director's Office and Guidance Clinics	284,044.82	130,000.00
2463 } Provincial Mental Hospital, Ponoka	2,580,451.12	621,539.66
2464 }		
2465 } Provincial Mental Institute, Edmonton	2,601,099.85	663,865.16
2466 }		
2467 } Rosehaven, Camrose	757,085.40	388,398.36
2468 } Provincial Auxiliary Mental Hospital, Claresholm	175,741.34	38,781.68
2469 } Provincial Auxiliary Mental Hospital, Raymond	138,663.79	36,261.06
2472 } Emotionally Disturbed Children's Program	72,558.21	11,461.25
2475 } Provincial Training School, Red Deer	1,811,004.63	368,302.64
2477 } Deerhome, Red Deer	1,925,764.40	349,579.53
	<u>\$76,880,666.24</u>	<u>\$33,027,982.18</u>
Total Expenditure—Public Health Department		\$76,880,666.24
Less Public Health Revenue		33,027,982.18
Net Expenditure—Department of Public Health		<u>\$43,852,684.06</u>

Vital Statistics

The Vital registrations during the year were as follows:

Births	38,804
Marriages	10,423
Deaths	9,264

The population for 1962 was 1,370,000 and, therefore, the following rates have been recorded:

Year	No. of Births	Birth Rate	No. of Marriages	Marriage Rate	No. of Deaths	Death Rate
1957	35,719	30.8	10,117	8.7	8,255	7.1
1958	36,842	30.7	10,186	8.5	8,237	6.9
1959	38,060	30.6	10,402	8.4	8,481	6.8
1960	39,009	30.4	10,482	8.2	8,888	6.9
1961	38,914	29.2	10,474	7.9	8,863	6.7
1962	38,804	28.3	10,423	7.6	9,264	6.8

On the whole these figures are good. The birth rate is down slightly. The natural increase (excess of births over deaths) was 29,540.

Alcoholism

The Alcoholism Foundation of Alberta is a voluntary society supported during the fiscal year 1962-63 by the Province of Alberta by a grant of \$250,000.00. This was approximately 78% of their income. The Foundation recognizes alcoholism as a treatable illness and a public health responsibility and is, therefore, concerned with problem drinking. Its aim is to prevent problem drinking through education, treatment and research. In carrying out this program, 839 new files were established in 1962, bringing the total of alcoholics known to the Foundation in nine years of operation to 6,214. 78% of these alcoholics have received treatment, and it is conservatively estimated that 55% have "recovered" or shown significant improvement.

Sanitary Engineering

The program of this Division in 1962 continues to be influenced by the growth of the urban areas and the increase in industrial development in the Province.

Of the 262 projects for water and sewage systems, 23 of them were completed during the year.

Air pollution control facilities at five industrial plants were reviewed. Two mobile laboratories for sulphur dioxide and hydrogen sulphide were in continuous operation during the year. In the Pincher Creek and Waterton Lakes area air pollution from two gas processing and sulphur recovery plants were under constant supervision with frequent complaints emanating from a number of families in this area. A scientific advisory committee on air pollution was set up during the year.

Water pollution programs continued to function throughout the year with only minor difficulties continuing to confront this section.

The study project in the operation of sewage ponds was continued. Specific studies were started on the rate of sludge accumulation.

Nine new waterworks and twelve new sewage plants were established in towns throughout Alberta during the year.

A considerable amount of time of the plumbing inspectors' section was spent on plans relative to active and auxiliary hospitals.

Mental Health Services

The capacity of the various mental institutions and the number of patients as at December 31, 1962, is as follows:

ACUTE MENTAL HOSPITALS

	Capacity	Patients in
P.M.H., Ponoka	1,272	1,120
P.M.I., Edmonton	1,416	1,441

CHRONIC MENTAL HOSPITALS

Rosehaven, Camrose	510	499
P.A.M.H., Claresholm	412	107
P.A.M.H., Raymond	127	120

INSTITUTIONS FOR MENTAL DEFECTIVES

P.T.S., Red Deer	792	796
Deerhome, Red Deer	1,020	944

Total	<u>5,549</u>	<u>5,027</u>
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Construction of a new reception-administration building was commenced at the Provincial Mental Hospital, Ponoka. The renovation of the older buildings at the Provincial Mental Institute, Edmonton, began also. During the year three new dormitories and the new services building were made ready for occupancy and service at the Provincial Auxiliary Mental Hospital, Claresholm. The process of selecting and appointing new staff members was initiated. The increase in beds would be approximately 300.

During the latter part of the year 45 beds became available for paediatric mentally deficient cases at the Baker Memorial Sanatorium, Calgary. Plans were prepared for a new infirmary ward at the Provincial Training School, Red Deer. It was decided that Linden House should continue to provide accommodation and treatment of emotionally disturbed children to the number of approximately twenty.

At Deerhome the new recreational and occupational therapy building was opened.

Cancer Services

The cancer clinics in Edmonton, Calgary and Lethbridge have continued to operate at an adequate level. The new building at Calgary has been working very well. Plans are being drawn for a new cancer clinic building in Edmonton. The load at the clinics has been increasing steadily at a faster rate than the increase of population in Calgary and Lethbridge. There is a decrease in Edmonton in the number of examinations—13,205 versus 13,594.

Poliomyelitis

Though the cases of poliomyelitis had decreased in number from 1960 to 1961, it was with a great deal of satisfaction that the Department of Health received the announcement that the live trivalent Sabin vaccine had been licensed in April, 1962 for use by Provincial Departments of Health in the immunization of its population. Several provinces immediately launched into a mass immunization of total populations. Follow-up studies indicated that the vaccine had probably caused a number of new cases to the extent of one case per million individuals vaccinated. Alberta had planned to carry out a total population immunization beginning in November, 1962 but postponed the immunizations to the spring of 1963 with a reinforcement dose of Sabin to individuals previously having received three doses of the Salk vaccine.

Health Education

During 1962 the Health Education program operated at a somewhat reduced capacity due to the Director being on leave of absence. However, the routine work of the Division was carried on as usual by the balance of the staff. The distribution of literature and the supplying of films from the library, as well as the distribution of material to the press and to radio stations has continued at the usual level.

Because of Mr. Evoy's absence during 1962, the visits to schools, health units, etc. were discontinued and the stimulating effect of these visits has been missed. Also, because of his absence in 1962, the usual report of the work of the Division is not available for this Annual Report.

Dental Health

The Dental Health Service has continued to develop satisfactorily with Dr. C. W. B. McPhail as Director of the prophylactic program. A second class of students enrolled in 1962 in the two-year course for Dental Auxiliaries at the University of Alberta following the passing of The Dental Auxiliaries Act. By the summer of 1963 the first class will be available to function in the Health Unit Service under the guidance of a dentist.

Child and Maternal Health

As a result of the establishment of this service more stress is being placed on prenatal teaching, planning of prenatal and post-natal visiting and a better liaison between hospitals and public health personnel. On occasions, hospitals are requesting the services of the health unit staff as consultants.

Industrial Health

During the last ten to fifteen years industrialization has developed in the Province tremendously. It had become apparent in the last number of years that industrial health problems had come to the forefront and it became imperative that a Division of Industrial Health be set up to make a study of these problems. In the latter part of the year, Dr. H. Siemens, D.P.H., was appointed as Director of this Division and sent away to England for a period of time to take a course in industrial health problems. He will return at the beginning of 1963 to direct the operations of the Division of Industrial Health.

Hospital Services

For information regarding the Alberta hospitalization program, it will be necessary to refer to the 1962 Annual Report issued by the Hospitals Division.

Professional Acts

In regard to the matter of Professional Acts, the Minister of Health is charged with the administration of the following:

- The Podiatry Professions Act
- The Chiropractic Act
- The Dental Association Act
- The Medical Profession Act
- The Naturopathy Act
- The Optometry Act
- The Chartered Physiotherapists Act
- The Veterinary Surgeons Act
- The Psychologists Association Act
- The Dental Technicians Act

In regard to The Podiatry Professions Act and The Optometry Act, Boards of Examiners have been established by the Department, in

order to license all members who desire to practise in Alberta. Pursuant to The Chiropractic Act and The Naturopathy Act, Appraisal Boards have been formed by the Department in order that members wishing to practise in Alberta may be "listed" through the Provincial Government. The Dental Technicians Act is included in a special report prepared by the Director of Dental Health Services. In the case of the other Professional Acts, membership is obtained through the various Associations established under each respective Act.

During the calendar year 1962, the Chiropractic Appraisal Board approved seventeen applications and rejected two. The Board of Examiners, pertaining to The Optometry Act, issued one license and no one was rejected. No applications were received pursuant to The Podiatry Professions Act or The Naturopathy Act.

Respectfully submitted,

M. G. McCALLUM, B.Sc., M.D., D.P.H.,
Deputy Minister of Health.

DIVISION OF LOCAL HEALTH SERVICES

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director.

The Division of Local Health Services is composed of a number of branches with a director or consultant in charge of each, namely:

- (1) Communicable Diseases
- (2) Health Units
- (3) Public Health Nursing
- (4) Maternal and Child Health
- (5) Dental Health
- (6) Health Education
- (7) Nutrition Services
- (8) Entomology and Vector Control
- (9) Poison Control Service.

The working relationship between these branches is enhanced by certain staffing patterns and administrative links. While the Director of the Division is personally responsible for the Communicable Diseases branch and the Health Units branch, the Director of Entomology and Vector Control also directs the Poison Control Service. And just as the services of the Nursing Consultant in Maternal and Child Health are administered through the Public Health Nursing branch, so the services of the Public Health Nutritionist are administered through the Health Education branch.

It is a fundamental function of the director or consultant in each of these branches to serve upon request as an advisor to any Local Board of Health or to its employees. However, each director or consultant maintains a close liaison not only with other divisions of the Department of Public Health and with other departments of the Provincial Government, but also with his opposite number at the federal level, with his counterpart at the University of Alberta, and with the professional and voluntary organizations pertinent to his field.

Mrs. Dorothy Smith resigned as Director of Public Health Nursing on the 31st March 1962, after more than fourteen years in the Department, including seven years in her final appointment. She was replaced by Mrs. Janet Bailey, Nursing Consultant in Maternal and Child Health, and the vacancy thus created remained unfilled for the balance of the year. The position of Director of Health Education was vacant throughout the year.

The Director of Local Health Services was privileged to attend the 53rd annual meeting of the Canadian Public Health Association in Toronto from the 28th to the 31st May 1962, at which he presented a paper entitled "The Scope of Epidemiology in Canada". He also attended the fifth annual meeting of the Maternal and Child Health Advisory Committee in Ottawa on the 1st and 2nd October 1962, and the first meeting of the Advisory Committee on Epidemiology in Ottawa from the 3rd to the 5th December 1962.

The reports which follow describe in more detail the functions of the various branches of the Division, and their activities during the year.

COMMUNICABLE DISEASES

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director.

The functions and responsibilities of the Communicable Diseases branch of the Division of Local Health Services include:

- (1) The collection, preparation and transmission of information, and the compilation and evaluation of statistics, concerning the morbidity and mortality of communicable diseases;
- (2) The provision of consultant services to local health authorities on matters relating to the prevention and control of communicable diseases;
- (3) The direction or application of control measures against communicable diseases in areas administered by the Provincial Government which are outside the jurisdiction of Health Units;
- (4) The interpretation and distribution of Communicable Disease Regulations;
- (5) The distribution of immunizing antigens and sera, and supervision of the utilization of those in limited supply;
- (6) The appraisal of immunization programs, and the publication of specific recommendations in relation to them.

REPORTING OF NOTIFIABLE DISEASES

The new Communicable Disease Regulations which came into force at the beginning of the year resulted in two distinct changes in relation to the reporting of notifiable diseases. One effect of the new regulations was to make officially notifiable in Alberta all those diseases in respect of which, in 1958, notification throughout Canada was recommended by the Dominion Bureau of Statistics and approved by the Dominion Council of Health. There was a simultaneous change of procedure, whereby the Local Health Authority was required to send to the Department two copies of each individual notification in order that one copy might be forwarded to the Dominion Bureau of Statistics for computing purposes. An example of the type of information which the Dominion Bureau of Statistics can readily supply from these data is shown in tables 5 and 6.

PARALYTIC POLIOMYELITIS

The number of paralytic poliomyelitis cases in 1962 was one of the lowest on record. There were 6 reported cases during the year, and none was fatal. By way of comparison, there were 201 cases with 11 deaths in 1960, and 26 cases with two deaths in 1961. Type 1 poliovirus and type 3 poliovirus were identified in one case each. The illness in the type 3 case developed 52 days after the administration of Sabin vaccine in a neighbouring province, but the case was considered by the National Technical Advisory Committee on Live Poliovirus Vaccine to have only a slight probability of association with the oral vaccine. From table 1, which shows the age distribution and vaccination status of the 1962 cases, it will be noted that only one individual had received fewer than three doses of Salk vaccine.

TABLE 1
AGE DISTRIBUTION AND VACCINATION STATUS OF PARALYTIC POLIOMYELITIS
CASES REPORTED IN 1962

Age Group	Number of Cases	No. of Doses of Salk Vaccine				
		0	1	2	3	4+
Under 1	.....	.....	.....	.....	.....	.....
1 - 4	2	.....	1	.....	.....	1*
5 - 9	1	.....	.....	.....	.....	1
10 - 14	1	.....	.....	.....	.....	1
15 - 19	.....	.....	.....	.....	.....	.....
20 - 39	2	.....	.....	.....	2	.....
40 - 59	.....	.....	.....	.....	.....	.....
60+	.....	.....	.....	.....	.....	.....
Total	6	.....	1	.....	2	3

*This patient had also received one feeding of Sabin vaccine.

VIRAL OR ASEPTIC MENINGITIS

There were 53 reported cases of viral or aseptic meningitis during 1962 compared with 75 in 1960 and 84 in 1961. Polioviruses were identified in three cases (one type 1 and two type 3), while Coxsackie viruses were identified in eight cases (one type A9, five type A23, one type A unspecified and one type B5) and ECHO viruses in two cases (one type 4 and one type 16). The aetiology of the remaining 40 cases was undetermined. Table 2 shows the age distribution and vaccination status of the three cases due to poliovirus and of the 40 cases of unknown aetiology.

TABLE 2
AGE DISTRIBUTION AND VACCINATION STATUS OF VIRAL OR ASEPTIC
MENINGITIS CASES DUE TO POLIOVIRUS OR OF UNSPECIFIED
AETIOLOGY REPORTED IN 1962

Age Group	Cases due to Poliovirus						Cases of Unspecified Aetiology					
	Number of Cases	No. of Doses of Salk Vaccine					Number of Cases	No. of Doses of Salk Vaccine				
		0	1	2	3	4+		0	1	2	3	4+
Under 1	1	.....	.....	1	.....	.....	2	2	.....	.....	.....	.....
1 - 4	.....	.....	.....	.....	.....	.....	3	1	.....	1	1	.....
5 - 9	.....	.....	.....	.....	.....	.....	16	.....	.....	1	8	.....
10-14	1	.....	.....	.....	.....	1	4	.....	.....	.....	.....	7
15-19	.....	.....	.....	.....	.....	.....	3	1	.....	.....	1	1
20-39	.....	.....	.....	.....	.....	.....	10	3	1	.....	5	1
40-59	.....	.....	.....	.....	.....	.....	2	1	1	.....	.....	.....
60+	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	3	.....	.....	1	.....	2	40	8	2	2	15	13

TYPHOID FEVER

There were eight cases of typhoid fever reported during 1962, compared with three cases in 1960 and 16 in 1961. There was no fatality in any of these years. The fact that all except one of the cases occurred outside of the five principal cities reminds us once again of the continuing need for strict surveillance of the carriers of this endemic infection, especially in rural areas.

DIPHTHERIA

There were ten cases of diphtheria notified in 1962, all of whom recovered. The corresponding figures for the two preceding years were 12 cases with one death in 1960 and 19 cases with no fatality in 1961.

The number of cases in 1962 was the second lowest ever recorded in Alberta, having been improved upon only once, in 1951, and equalled twice, in 1955 and 1959.

MEASLES

The number of measles cases reported during the year was 10,185, compared with 9,279 cases in 1960 and 6,309 cases in 1961. The number of measles deaths was five, compared with six in 1960 and four in 1961. The City of Edmonton experienced an epidemic peak during January, while the City of Calgary during December reached an even higher peak.

The Director of Local Health Services made a trip during December to the Fort Vermilion district to investigate a number of infant deaths, most of which had been attributed to diarrhoea. It was observed that the timings and locations of the deaths corresponded closely with the pattern of spread of a previously unreported measles epidemic, the first such epidemic to strike the area for seven or eight years. Since stool cultures had consistently proved negative for the common pathogenic organisms, the conclusion was reached that seven of the deaths could have been due to measles enteritis, either with or without terminal bronchopneumonia. In the meantime, two deaths unassociated with diarrhoea were considered to be consistent with measles complicated by bronchopneumonia. The official provincial figure for measles deaths obviously fails to reflect the findings of this investigation.

STREPTOCOCCAL INFECTIONS

The number of notified cases of scarlet fever and streptococcal sore throat in 1962 was 1,235, and there was no fatality. These figures compared favourably with the 4,131 cases and one death reported in 1960, and with the 1,673 cases and two deaths reported in 1961.

INFECTIOUS HEPATITIS

The number of cases of infectious hepatitis reported during the year was 1,726, compared with 690 in 1960 and 1,006 in 1961. Since the disease was not officially notifiable during 1960 and 1961, however, it is possible that at least a portion of the increase observed in 1962 represents an improvement in the standard of notification. The number of deaths from infectious hepatitis was five, compared with nine in 1960 and ten in 1961.

IMMUNIZATION

Immunizing antigens and sera to the value of approximately \$201,000 were distributed during 1962 with the help of the Provincial Laboratory of Public Health. The corresponding expenditures in the previous two years were approximately \$223,000 in 1960 and approximately \$153,000 in 1961.

When Sabin vaccine was first made available to Provincial Health Departments for community use in Canada, in the month of March, an Advisory Committee on Oral Poliovirus Vaccine, consisting of Dr. G. H. Ball of the City of Edmonton Health Department, Dr. C. G. More of the Red Deer Health Unit, and Dr. D. Stewart of the Sturgeon Health Unit (later replaced by Dr. L. C. Allan of the City of Calgary Health Department), with the Director of Local Health Services as chairman, was appointed by the Minister to consider how the vaccine might best be used in Alberta. This committee recommended from the outset that, notwithstanding the early availability of vaccine, its use on a general

scale should be deferred until the winter, when the low prevalence of enteroviruses would enhance the individual attainment of immunity, and when opportunities for the natural transmission of vaccine viruses would be at a minimum. Consequently no vaccine had been given in Alberta when, in September, its use was temporarily banned following the occurrence of four cases of paralytic poliomyelitis among approximately four million Canadians who had been vaccinated. When the Dominion Council of Health subsequently agreed, in November, that the use of Sabin vaccine should be deferred no longer, plans for its use in Alberta were resumed, modified to conform with the recommendations of the National Technical Advisory Committee on Live Poliovirus Vaccine.

TABLE 3
NUMBER OF CASES OF COMMUNICABLE DISEASES REPORTED IN THE YEARS
1961 AND 1962

	1961	1962
Brucellosis	2	5
Diarrhoea of the newborn .....	...	6
Diphtheria	19	10
Dysentery:		
(a) Amoebic .....	....	....
(b) Bacillary	115	262
(c) Unspecified	62	36
Encephalitis, infectious (arthropod-borne)	1	....
Food poisoning:		
(a) Staphylococcus intoxication	5	22
(b) Salmonella infections	74	207
(c) Unspecified	8	1
Hepatitis, infectious	1,006	1,726
Measles	6,309	10,185
Meningitis, viral or aseptic:		
(a) Due to poliovirus .....	....	3
(b) Due to Coxsackie	33*	8
(c) Due to ECHO virus	7*	2
(d) Other and unspecified	45	40
Meningococcal infections	1	9
Paratyphoid fever	3	8
Pemphigus neonatorum .....	....	....
Pertussis	315	980
Poliomyelitis, paralytic	26	6
Psittacosis	6	....
Puerperal Pyrexia .....	....	13
Rocky Mountain spotted fever .....	....	1
Rubella	1,118	797
Scarlet fever and streptococcal sore throat	1,673	1,235
Tetanus	1	1
Tuberculosis:		
(a) Pulmonary	305	302
(b) Other and unspecified	97	75
Tularaemia	1	....
Typhoid fever	16	8

*Includes one case of simultaneous infection with Coxsackie virus and ECHO virus.

TABLE 4
DEATHS ASCRIBED TO COMMUNICABLE DISEASES FOR THE YEARS 1961 AND 1962

	1961		1962	
	Total Deaths	Rate per 100,000 of population	Total Deaths	Rate per 100,000 of population
Brucellosis	0	0.0	1	0.1
Diarrhoea of the newborn	5	0.4	4	0.3
Diphtheria	0	0.0	0	0.0
Dysentery	3	0.2	2	0.1
Encephalitis	0	0.0	4	0.3
Hepatitis, infectious	10	0.8	5	0.4
Measles	4	0.3	5	0.4
Meningococcal infections	1	0.1	4	0.3
Paratyphoid fever	0	0.0	0	0.0
Pertussis	1	0.1	1	0.1
Poliomyelitis, paralytic	2	0.2	0	0.0
Scarlet fever and streptococcal sore throat	2	0.2	0	0.0
Smallpox	0	0.0	0	0.0
Tuberculosis:				
(a) Pulmonary	27	2.0	24	1.8
(b) Other and unspecified	5	0.4	6	0.4
Typhoid	0	0.0	0	0.0
Population of Alberta in 1961	1,331,944		Population of Alberta in 1962	
			1,370,000	

TABLE 7—COMMUNICABLE DISEASE CASES REPORTED IN 1962 BY SEX, AGE AND PERIOD OF REPORTING (Continued)

	SEX		FOUR WEEKLY PERIODS												AGES						Cases In Armed Forces Stated	TOTAL				
	Male	Female	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-44	45-48	49-52	Under 1	1-4	5-9	10-14	15-19			20-39	40-59	60 and Over	
			1	6	5	4	1	1	8	18	20	10	21	22	1	3	10	4	5	1			1	1	1	1	1
DIPHTHERIA CARRIER-STATE																										
Edmonton	9	14	1	6	5	4	1	1	1	1	1	2	1	2	3	10	4	5	1	1	1	1	1	1	1	23
Calgary	9	14	1	6	5	4	1	1	1	1	1	2	1	2	3	10	4	5	1	1	1	1	1	1	1	23
Lethbridge																										
Medicine Hat																										
Red Deer																										
Rural																										
Total	9	14	1	6	5	4	1	1	1	1	1	2	1	2	3	10	4	5	1	1	1	1	1	1	1	23
DYSENTERY—BACILLARY																										
Edmonton	5	3	1	1	1	1	1	3	1	1	1	1	1	1	1	3	1	1	1	2	2	2	1	1	1	8
Calgary	5	3	1	1	1	1	1	3	1	1	1	1	1	1	1	3	1	1	1	2	2	2	1	1	1	8
Lethbridge																										
Medicine Hat																										
Red Deer																										
Rural																										
Total	146	116	28	26	10	18	12	26	18	21	11	10	42	22	18	33	119	25	27	13	27	5	13	1	1	262
DYSENTERY—UNSPECIFIED																										
Edmonton																										
Calgary																										
Lethbridge																										
Medicine Hat																										
Red Deer																										
Rural																										
Total	32	4	2	2	1	1	1	1	1	1	1	7	19	6	1	8	1	2	10	8	7	5	13	1	1	36

FOOD POISONING—STAPHYLOCOCCUS INTOXICATION

Edmonton																								
Calgary																								1
Lethbridge																								21
Medicine Hat																								1
Red Deer																								11
Rural	17	4			21																			9
Total	17	5			21																			12
																								1
																								22

FOOD POISONING—SALMONELLA INFECTIONS

Edmonton	42	46	1	1	13	1	1	1	3	1	4	67	7	3	1	5	12	2	3	29	17	20		88
Calgary	24	23		1	13					2	2	13	4	6	2	19	10	4	1	2	7	3	1	47
Lethbridge	1	2		2	1						1	3				3								3
Medicine Hat	6	3		2	2						7	3	5	3	6	20	16	7	1					9
Red Deer	53	27	2	2	2				7	12	3	3	2	3	3	3			2	1	8	4	2	60
Rural																								
Total	106	101	3	4	16	5	9	13	10	19	86	18	12	9	3	47	41	13	5	6	44	26	25	207

FOOD POISONING—UNSPECIFIED

Edmonton																									1
Calgary																									
Lethbridge																									
Medicine Hat																									
Red Deer																									
Rural																									
Total																									1

HEPATITIS, INFECTIOUS

Edmonton	83	83		15	15	9	11	22	11	8	21	5	13	21	15	7	24	26	28	68	11	2		166
Calgary	155	185	37	39	29	21	16	32	17	16	21	29	37	32	14	14	81	54	25	154	29	3		540
Lethbridge	3	4		2	2		1	1	1	1						1	1	1	4	3			7	
Medicine Hat	2	4		2	1		1	1	1	2		2		3		1	1	1	1	2			6	
Red Deer	3	6		1	1		2	1	1	2		2		3		1	4	4	2	2			6	
Rural	625	573	117	116	136	88	109	83	61	72	53	96	97	90	80	3	114	284	222	132	81	21		1,198
Total	871	855	156	175	180	118	139	137	91	98	95	132	147	148	110	3	135	391	307	192	122	26		1,726

MENINGITIS, VIRAL OR ASEPTIC—DUE TO ECHO VIRUS

Edmonton	1																			1
Calgary	1																			1
Lethbridge				1																
Medicine Hat				1																
Red Deer																				
Rural																				
Total	2																			2

MENINGITIS, VIRAL OR ASEPTIC—OTHER AND UNSPECIFIED

Edmonton	8		1	1	1	1	1	4	1	5	1	1	3	1	1	1	1	1	1	11
Calgary	5					2			2	5	1	1	1	1	2	7	1	1	1	12
Lethbridge	3			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Medicine Hat	1										1	1	1	1	1	1	1	1	1	1
Red Deer	1										1	1	2	1	1	1	1	1	1	1
Rural	8		1	1	1	2	6	2	1	4	1	4	2	1	2	1	2	1	1	11
Total	24	16	1	1	2	3	1	9	9	6	2	5	2	3	16	4	3	10	2	40

MENINGOCOCCAL INFECTIONS

Edmonton	1													1							1
Calgary	1													1							1
Lethbridge																					
Medicine Hat																					
Red Deer	2		2	1	1	2	1	1	1	1	1	1	1	1	3					3	7
Rural																					
Total	4	5	2	2	1	2	1	2	1	4	1	1	4	1	3					3	9

PARATYPHOID FEVER

Edmonton	1																				2
Calgary																					
Lethbridge																					
Medicine Hat																					
Red Deer	4	2		3		2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	6
Rural																					
Total	5	3	3	1		2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	8

TABLE 8
INCIDENCE OF SOME OF THE MORE SERIOUS COMMUNICABLE DISEASES
FOR THE TEN-YEAR PERIOD, 1953 TO 1962

Date	Population	Total Cases	Total Deaths	Mortality Rate per 100,000 of population
DIPHTHERIA				
1953	1,002,000	28	3	0.3
1954	1,039,000	35	2	0.2
1955	1,066,000	10	1	0.1
1956	1,123,116	19	0	0.0
1957	1,160,000	39	6	0.5
1958	1,201,000	17	2	0.2
1959	1,243,000	10	0	0.0
1960	1,283,000	12	1	0.1
1961	1,331,944	19	0	0.0
1962	1,370,000	10	0	0.0
MEASLES				
1953	1,002,000	7,260	8	0.8
1954	1,039,000	3,719	6	0.6
1955	1,066,000	7,136	24	2.3
1956	1,123,116	2,047	2	0.2
1957	1,160,000	12,337	16	1.4
1958	1,201,000	3,383	4	0.3
1959	1,243,000	3,956	3	0.2
1960	1,283,000	9,279	6	0.5
1961	1,331,944	6,309	4	0.3
1962	1,370,000	10,185	5	0.4
PERTUSSIS				
1953	1,002,000	1,085	12	1.2
1954	1,039,000	842	7	0.7
1955	1,066,000	791	1	0.1
1956	1,123,116	547	3	0.3
1957	1,160,000	859	4	0.3
1958	1,201,000	684	2	0.2
1959	1,243,000	657	5	0.4
1960	1,283,000	580	3	0.2
1961	1,331,944	315	1	0.1
1962	1,370,000	980	1	0.1
POLIOMYELITIS, PARALYTIC				
1953	1,002,000	1,052*	109	10.9
1954	1,039,000	221	31	3.0
1955	1,066,000	125	8	0.7
1956	1,123,116	39	3	0.3
1957	1,160,000	34	6	0.5
1958	1,201,000	22	1	0.1
1959	1,243,000	84	13	1.0
1960	1,283,000	201	11	0.9
1961	1,331,944	26	2	0.2
1962	1,370,000	6	0	0.0

*Estimated figures based on the ratio of paralytic to non-paralytic cases in a survey of 1,437 cases of poliomyelitis in Alberta undertaken in 1954.

SCARLET FEVER AND STREPTOCOCCAL SORE THROAT				
Date	Population	Total Cases	Total Deaths	Mortality Rate per 100,000 of population
1953	1,002,000	2,173	3	0.3
1954	1,039,000	1,363	0	0.0
1955	1,066,000	741	1	0.1
1956	1,123,116	642	0	0.0
1957	1,160,000	774	1	0.1
1958	1,201,000	1,062	0	0.0
1959	1,243,000	5,132	5	0.4
1960	1,283,000	4,131	1	0.1
1961	1,331,944	1,673	2	0.2
1962	1,370,000	1,235	0	0.0

TYPHOID FEVER				
Date	Population	Total Cases	Total Deaths	Mortality Rate per 100,000 of population
1953	1,002,000	9	1	0.1
1954	1,039,000	5	1	0.1
1955	1,066,000	8	2	0.2
1956	1,123,116	22	1	0.1
1957	1,160,000	16	2	0.2
1958	1,201,000	6	0	0.0
1959	1,243,000	13	0	0.0
1960	1,283,000	3	0	0.0
1961	1,331,944	16	0	0.0
1962	1,370,000	8	0	0.0

HEALTH UNITS

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director

Since 1951 The Health Unit Act has presented the opportunity for rural municipalities, villages and towns, and even cities not exceeding 50,000 in population, to group together and provide themselves with public health and preventive medical services essentially comparable to those which have been available for many years in the larger cities.

The standard services offered by a Health Unit include the prevention and control of communicable diseases, the local control of tuberculosis, maternal and child health programs, school health services, health education and mental health programs, and a sanitary inspection service. In some Health Units there is also a dental service which may operate on either a full-time or a part-time basis, and which may be either continuous or seasonal.

Consultant services to Health Units are provided upon request by the staffs of the Division of Local Health Services, the Division of Sanitary Engineering and the Provincial Laboratory of Public Health. The Health Units also collaborate closely with the Division of Tuberculosis Control, the Guidance Clinics of the Division of Mental Health, and, in relation to some of the more remote areas, the Division of Social Hygiene. However, the administration of each Health Unit is the responsibility of a local Board, which normally consists entirely of councillors from the major contributing municipalities.

In 1962 The Health Unit Act was amended to enable a metis colony to be part of a Health Unit on the same terms as a properly constituted municipality, and to enable the Board of a Health Unit to enter into a lease in respect of office accommodation for up to three years. The amending legislation also served to regularize the status of Health Unit employees in relation to The Temporary Provincial Employees Retirement Act.

The Forest Lawn Health Unit, which suspended operations on the 30th December 1961 when the Town of Forest Lawn was annexed by the City of Calgary, was disestablished by Order-in-Council effective the 31st March 1962. In the meantime some interest in the establishment of a Health Unit was shown by certain councils in the Cardston-Warner area, but the population involved was insufficient to support economically a service of this kind.

By the end of 1962, therefore, the number of operating Health Units remained unchanged at 24, although the population served by them had increased to 725,470, representing 90.5% of Alberta's population outside of the cities of Edmonton and Calgary. The following is a list of these Health Units with the locations of their headquarters, the population figures upon which their grants were based for the fiscal year beginning the 1st April 1962, their approximate areas and their population densities:

Name of Health Unit	Headquarters	Population	Area in Square Miles	Population Density
Alberta East Central	Stettler	49,218	7,300	6.74
Athabasca	Athabasca	20,862	8,500	2.45
Banff National Park	Banff	4,101	2,600	1.18
Barons-Eureka	Coaldale	27,924	3,000	9.31
Big Country	Hanna	13,860	8,400	1.65
Chinook	Fort Macleod	22,576	4,000	5.64
City of Lethbridge	Lethbridge	35,454	12	2955.
Drumheller	Drumheller	28,853	4,200	6.85
Edson	Edson	23,003	10,100	2.27
Foothills	High River	22,933	3,800	6.03
Grande Prairie	Grande Prairie	32,006	19,000	1.68
Jasper National Park	Jasper	2,902	4,200	0.55
Jasper Place	Jasper Place	30,530	6.5	4697.
Leduc-Strathcona	Edmonton	30,138	1,900	15.86
Medicine Hat	Medicine Hat	48,719	9,300	5.24
Minburn-Vermilion	Vermilion	29,088	5,000	5.82
Mount View	Calgary	45,401	4,700	9.66
North Eastern Alberta	St. Paul	33,988	6,000	5.66
Peace River	Peace River	32,122	27,400	1.14
Red Deer	Red Deer	61,745	4,500	13.72
Stony Plain-Lac Ste. Anne	Stony Plain	23,539	4,300	5.47
Sturgeon	St. Albert	48,279	3,700	13.05
Vegreville	Vegreville	29,667	3,700	8.02
Wetoka	Wetaskiwin	28,562	3,100	9.21

The categories of staff required to implement Health Unit services, and the number of positions in each category established by the end of 1962, with corresponding figures for the five preceding years, are shown in the following table:

Category of Staff	1962	1961	1960	1959	1958	1957
Medical Officers	24	24	24	23	21	20
Dentists	9	8	7	3	3	3
Public Health Nurses	138	135	130	120	108	98
Sanitary Inspectors	34	34	32	31	28	26
Dental Assistants	7	7	6	3	3	3
Stenographer-Technicians	52	51	47	42	32	29
Secretary-Treasurers	24	24	24	23	21	20

Five new Medical Officers of Health were appointed to Health Units during the year, and orientation was arranged for those who required it. Two other openings for Medical Officers were filled by inter-unit transfer. One Dental Officer was awarded a professional training grant to enable him to take the D.D.P.H. course at the University of Toronto.

In his capacity as consultant to Health Unit Boards and to Medical Officers of Health, the Director of Local Health Services made twenty-eight visits during the year to fourteen different Health Units, usually in response to specific invitations.

The annual Health Unit Conference, to which each Health Unit was invited to send its Chairman or one of its Board Members, its Secretary-Treasurer, and its Medical Officer of Health or Senior Nurse, was held in the Department from the 29th to the 31st October 1962. The Chairmen and Board Members were largely concerned with the extent to which their budgets had been affected by a recent Order-in-Council establishing a new salary schedule for Health Unit employees with retroactive effect from the 1st April 1962, and they passed a resolution requesting an immediate upward revision of Health Unit grants. This and many other resolutions, covering a wide variety of technical and administrative topics, were submitted to the Minister for his consideration.

PUBLIC HEALTH NURSING

Janet C. Bailey, D.P.H.N., R.N., Director

In the organizational pattern of the Division of Local Health Services, the public health nursing branch is concerned with the organization, personnel and development of the nursing service on a broad provincial basis and on a consultant basis at the local community level. The consultant service offered to the local health units includes assistance with the organization of new services, recruitment and placement of new staff and acts in an advisory role in relation to public health nursing programs. Also included in the administrative duties is the responsibility for the administration and supervision of the Municipal Nursing Service.

The total number of public health nurses employed by official agencies in the Province continues to increase but it is very seldom that all positions are filled. The large turnover of personnel continues to cause disruption in the public health nursing programs in most areas of the Province; however, in the last few years the staff of the Municipal Nursing Service has shown a greater degree of stability. The number of nurses with their basic public health nursing qualification has improved slightly but further increases in this percentage would permit more improvement in the nursing service rendered. Table I shows the comparative situation between 1961 and 1962.

TABLE I
DISTRIBUTION OF NURSES EMPLOYED IN HEALTH UNITS, MUNICIPAL NURSING SERVICE, AND CITY HEALTH DEPARTMENTS IN RELATION TO BASIC QUALIFICATIONS

Service	With Public Health Preparation				Without Public Health Preparation				Total	
	Number		Percentage		Number		Percentage			
	1962	1961	1962	1961	1962	1961	1962	1961	1962	1961
Health Units	69	68	55.2	53	56	60	44.8	47	125	128
Municipal Nurses	4	5	30.8	33	9	10	69.2	67	13	*15
City of Edmonton	23	15	37.1	27	39	40	62.9	73	62	55
City of Calgary	43	46	97.7	96	1	2	2.3	4	44	48
Total	139	134	56.6	54	105	112	43.4	46	244	246

*This figure includes four municipal nurses outside of health units.

Table II shows the distribution of public health nurses in relation to various factors in the communities. Although the areas served by the health units remain much the same, there has been some increase in the number of nurses employed. Whereas, in December 1961 there were 11 senior nurses and 117 staff nurses working on health unit staffs, in December 1962 there were 16 senior nurses and 125 staff nurses. The eight newly created staff positions have improved the nursing service available in some areas of the Province but the very high nurse:population ratio still existing in several units continues to hamper the quality of service offered and allows for very little expansion of the present nursing programs.

In the organizational pattern of the health units, the administration of each unit is the function of the Medical Officer of Health. In his absence, this duty is delegated to the senior nurse. This situation has occurred quite frequently as there have been many changes among the Medical Directors of our health units during the year. This points up the need for some help to be given to the senior nurses in order that they can carry out their administrative duties more effectively when the Medical Officer is not available and also to guide them in carrying out their supervisory responsibilities to the staff nurses. An annual workshop for the senior nurses is urgently required.

MUNICIPAL NURSING SERVICE

At the end of the year there were fifteen municipal nursing services in operation. The service at Lomond was discontinued as it was considered that the situation there in regard to transportation and accessibility of medical and hospital facilities had greatly improved over the years. The services in the Tangent-Eaglesham and Slave Lake districts were interrupted due to lack of suitable staff.

A municipal nursing service commenced operation in the New Town of Swan Hills late in the year. This was a temporary arrangement as medical services to this community unexpectedly became available at the same time. The service that was therefore made available was limited to public health nursing programs without the usual minor and emergency treatment services.

The Municipal Nurses' Annual Conference was held in October. This is a change as for many years this meeting has been held in the Spring but it was necessary so that the sessions would not conflict with the Annual Convention of the Canadian Public Health Association (Alberta Division). The main subject considered was the Drug Advisory Committee's report and recommendations. This Committee had been appointed by the Honourable Minister of Health to prepare a list of preparations which would be authorized by the Department for use by the Nursing Service in their emergency and minor treatment service. With the preparation of the Approved Drug List the first task of this Committee has been completed but it can be reconvened, if necessary, to consider additions or deletions to the list. Our Division is most appreciative of the assistance given by the Chairman, Dr. P. B. Rose and the other physicians, Dr. F. B. Rodman, Dr. M. Marshall and Dr. P. Rentiers. All the physicians to whom the Municipal Nurses refer patients were advised of our new policy in relation to the provision of drugs by the nurses and all of them have been most co-operative.

Tables II - VIII inclusive which follow, outline the services provided by the Municipal Nurses. Twelve of the sixteen nurses are located within health unit boundaries and therefore the annual reports of the health units concerned also include the statistics of these municipal nurses.

ACKNOWLEDGEMENT

After long service with the Public Health Nursing Service in Alberta, Mrs. Dorothy Smith resigned from her position as Director of Public Health Nursing in March 1962. Many changes in both the health unit and municipal nursing services came about during the period that she was Nursing Director. A list of those in which she played an active part would be too lengthy to include here but her contributions to both these services will long be remembered.

DEPARTMENT OF PUBLIC HEALTH

TABLE II

DISTRIBUTION OF NURSES IN RELATION TO POPULATION, AREA AND POPULATION DENSITY IN HEALTH UNITS AND CITY HEALTH DEPARTMENTS ARRANGED IN ASCENDING ORDER OF POPULATION SIZE

Local Health Authority	Population	Area in Square Miles	Population Density	No. Health Unit Nurses			Nurse-Population Ratio
				Senior	Staff	Number of Municipal Nurses	
HEALTH UNITS							
Jasper National Park	2,902	4,200	0.69	..	1	..	1:2,902*
Banff National Park	4,101	2,600	1.58	..	1	..	1:4,101*
Big Country	13,913	8,400	1.65	..	3	..	1:4,617
Athabasca	21,004	8,500	2.47	1	5	3	1:2,334
Foothills	22,920	3,800	6.03	..	4	..	1:5,680
Chinook	23,052	4,000	5.76	..	4	..	1:5,763
Edson	23,148	10,100	2.29	1	4	1	1:3,858
Stony Plain-Lac Ste. Anne	24,996	4,300	5.8	1	3	..	1:6,249
Barons-Eureka	28,126	3,000	9.98	1	5	..	1:4,687
Wetoka	28,607	3,100	9.24	..	5	..	1:5,721
Drumheller	28,711	4,200	6.84	..	6	..	1:4,785
Minburn-Vermilion	29,483	5,000	5.9	1	4	..	1:5,897
Vegreville	29,920	3,700	8.09	1	6	..	1:4,274
Leduc-Strathcona	30,991	1,900	16.31	1	6	..	1:4,427
Jasper Place	32,160	6.5	4,948	1	5	..	1:5,360
Grande Prairie	32,942	19,000	1.73	1	6	4	1:2,995
Peace River	33,381	27,400	1.22	1	8	2	1:3,035
North Eastern Alberta	34,390	6,000	5.73	1	6	..	1:4,913
City of Lethbridge	35,722	12	2,977	1	6	..	1:5,103
Mount View	46,520	4,700	9.9	1	5	..	1:7,753
Medicine Hat	48,872	9,300	5.25	1	8	..	1:5,430
Sturgeon	49,504	3,700	13.37	1	7	..	1:6,188
Alberta East Central	49,514	7,300	6.78	..	8	..	1:6,064
Red Deer	63,664	4,500	13.72	1	9	..	1:6,366
				Dir. Super.			
Calgary	269,068	78	3,450	1	5	47	1:5,077
Edmonton	294,467	69	4,275	1	3	58	1:4,749
Total Population	1,302,078						

NOTE: In areas where there are municipal nurses, the total number of nurses has been used in determining the nurse-population ratio. This number, therefore, requires interpretation as the municipal nurse covers a small area and combines the emergency treatment service with her public health nursing duties.

*Part time service.

TABLE III
PUBLIC HEALTH NURSING CONSULTATIONS BY MUNICIPAL NURSES

Age Group	Office	Home
Infant	1,898	667
Preschool	1,785	1,210
School	1,727	867
Adult	3,456	1,389
Older Age Group	343	423
Totals	9,209	4,556

TABLE IV
MINOR AND EMERGENCY TREATMENT CONSULTATIONS BY MUNICIPAL NURSES

Age Group	Office	Home
Infant	1,401	229
Preschool	2,613	375
School	3,723	488
Adult	7,394	580
Older Age Group	715	362
Totals	15,846	2,034

TABLE V
SPECIFIC SERVICES PROVIDED BY MUNICIPAL NURSES

Prenatal Consultations	900
Postnatal Consultations	451
New Infant Consultations	542
TB Patient Consultations	94
TB Contact Consultations	529
V. D. Patient Consultations	513
Other Communicable Disease Consultations	522
Mental Health Consultations	71
Consultations with Other Agencies	1,300
Number of Referrals to Doctor or Hospital	1,912
Number of Home Deliveries	21
Number of Abortions	10
Number of Accidents Attended	837
Number of Films Shown	44
Number of Health Unit Staff Meetings Attended	69
Number of Other Meetings Attended	126

TABLE VI
SCHOOL HEALTH SERVICES PROVIDED BY MUNICIPAL NURSES

Number of Visits to Schools	586
Number of Physical Examinations Assisted	264
Number of Inspections Undertaken by Nurses	5,083
Number of Nurse-Teacher Conferences	530
Number of Conferences with Parents	305
Number of Conferences with Staff Members	23
Number of School Meetings Attended	17

TABLE VII
IMMUNIZATION AND TESTS GIVEN BY MUNICIPAL NURSES

	Infant	Preschool	School	Adult
Diphtheria	1,759	2,138	2,226	38
Pertussis	1,759	2,057	59	2
Tetanus	1,757	2,152	2,333	404
Poliomyelitis	1,746	2,085	2,211	1,016
T.A.B. .....	.....	4	23	18
Smallpox	353	419	1,225	60
B. C. G. .....	.....	14	.....	.....
Other Immunizations .....	.....	9	157	68
Tuberculin	16	147	2,044	241
Other Tests	29	2	534	11
Gamma Globulin	87	152	42	74

TABLE VIII
CHILD HEALTH CONFERENCES CONDUCTED BY MUNICIPAL NURSES

Number of Clinics Held	454
Number of Infants Attending	1,836
Number of Preschoolers Attending	2,237
Number Examined by Doctor	25

MATERNAL AND CHILD HEALTH

Janet C. Bailey, D.P.H.N., R.N., Nursing Consultant

The service provided by the nursing consultant in maternal and child health continued for the first three months of 1962 but for the remainder of the year this work was combined with that of the Director of Public Health Nursing.

Two refresher courses covering various aspects of maternal and child care were held in Calgary and Edmonton under the joint sponsorship of the School of Nursing and the Extension Department of the University of Alberta and the Department of Public Health. A total of 216 nurses attended. Some were hospital nurses working in the obstetric and paediatric fields and the remainder were public health nurses representing health agencies located in all areas of the Province.

Visits were made by the nursing consultant to seven health units to review their public health nursing programs. In recent years a definite improvement in the liaison between the staffs of the local hospitals and the health units has been shown in many health unit areas.

Lectures on the community aspects of maternal and child health care were given to each successive class of students attending the Advanced Practical Obstetrics Course and the course in the Care of Premature Infants which are offered by the School of Nursing, University of Alberta.

DENTAL PUBLIC HEALTH

C. W. B. McPhail, B.Sc., D.D.S., M.S.D., Director

The function of this service is to promote and aid the development and expansion of all sound measures and means for the betterment of dental public health in Alberta. This includes working with local health authority programs, volunteer private practice programs, dental health education, information, and liaison with all bodies concerned with dental health.

LOCAL HEALTH AUTHORITY PROGRAMS

(a) City Health Departments

Calgary and Edmonton have active and expanding dental health programs which offer education, prevention, emergency and limited routine treatment services to young age groups. Both have full-time Dental Directors assisted by full and part-time Dental Officers.

Both plan to add the services of Dental Auxiliaries as soon as they are available on graduation in June, 1963. Provincial Health Department grants to a total of \$55,000.00 were made to the two cities.

(b) Local Health Units

Eighteen of the 24 provincial Health Units operated dental health programs, with services provided by seven full-time and four part-time Dental Officers, seven third-year dental students (who provided education and preventive services only) and aided by dental assistants. The Medical Officers of Health and Public Health Nurses must be mentioned for the excellent groundwork and liaison they contributed. A number of Health Units have indicated definite interest in the additional services of Dental Auxiliaries as they become available. Provincial health grants for dental health services totalling \$104,000.00 were paid to the Health Units.

Both the City Health Department and the Local Health Unit programs continue to expand and improve yearly. The addition of Dental Auxiliary personnel in adequate numbers should make these among the finest dental health programs in North America.

VOLUNTEER PRIVATE PRACTICE PROGRAMS

This program was established jointly by the Department and the Alberta Dental Association in an attempt to provide some basic services to the areas remote from established dental services. Transportable dental equipment plus a grant-in-aid for travel is supplied by the Department; the Dental Association of Alberta undertakes to arrange for dentists who will visit these communities to provide services on a private practice basis. The communities must make the request and be prepared to provide and arrange for the local facilities required. The program has been reasonably successful in this effort. Ten programs were carried out in 1962, for a total of twenty-five to date. A few applications have been turned down because of reasonable access to existing services; otherwise all requests have been fulfilled.

DEPARTMENT OF PUBLIC HEALTH

In the matter of education, the Department continued to make available a good selection of films, filmstrips, posters, pamphlets and booklets. Some films were previewed and added to the library. Two loan sets of color slides have been prepared, and the local health bodies have been encouraged to add this education aid. The Director served on an Advisory Committee to deal with health educational material in the school curriculum.

Health Units with full-time Dental Directors have been encouraged to carry dental health studies using the methodology developed in 1961.

Fifty-two technicians have registered under The Registered Dental Technicians Act.

The Dental Auxiliary Committee has completed its responsibilities to date and the course of training is running smoothly. Arrangements for services in Health Units are progressing favorably.

Other Factors Related to Dental Health

- (1) Fifty-two students registered in the first year of dentistry. There are eighteen students registered in the first year of the dental auxiliary course, nineteen in the second and graduating year.
- (2) At the end of 1961 six communities were fluoridating their water supply. At the end of 1962 the situation was as follows—ten communities were fluoridating, serving a combined population of 50,100 people, and equipment was being installed in four additional communities with a combined population of 7,386 for a grand total of 57,486 people. On the basis of preliminary testing it is estimated that an additional 50,000 Alberta residents are drinking water with a natural fluoride content of 0.7 parts per million or more.

It is gratifying to see the sound, steady growth and development of dental public health in Alberta. It reflects an increasing appreciation of this important health matter by the people of Alberta and their local and provincial government representatives.

NUTRITION SERVICES

Elva M. Perdue, B.Sc. (H.Ec.), B.Ed., Nutritionist

During the past year, as in previous years, the over-all goal of Nutrition Services of the Alberta Department of Public Health has been the improvement of nutritional status of the people of the province. Each year our activities are broadening in scope and services are being provided to an increasing number of people, although limitations of time and staff in the nutrition office and frequent changes of health personnel in the field are a chronic handicap. The nutrition program for the most part again provided a consultant service to public health workers, welfare workers, teachers and other professional personnel in the field as well as a direct service to the public at large.

The major part of our nutrition information is now disseminated each year through existing organizations. In this regard, much credit must be given to the public health nurses. They are kept informed on all aspects of nutrition by Nutrition Services. They then use this knowledge in such areas as motivating mothers to feed their children properly, encouraging low income families to choose economical foods and assisting teachers to use available materials in health classes at school. In addition, public health nurses have, during the year requested and received assistance with the nutrition presentation for prenatal classes, talks to Home and School Associations, menu planning for allergy diets, planning packed lunches, planning food budgets, improving poor eating habits, explaining food fads, together with other items which often require considerable researching.

Our usual service was provided to public health personnel through articles in the mimeographed release "Nutritionally Speaking". Judging from the comments of the recipients—medical officers of health, public health dentists, public health nurses, industrial nurses and teachers—this release has been particularly useful this year as a source of information on recent advances and new teaching materials. Ten issues of "Nutritionally Speaking" were distributed.

The practice of introducing new senior public health staff and municipal nurses to Nutrition Services during their orientation was continued. Before going to their posts this staff usually spends some time in Nutrition Services where an effort is made to inform them of the significant role of nutrition in the general public health program and to acquaint them with the services available.

A new feature was added to our program this year when the nutritionist had an opportunity to speak to the first class of dental auxiliary students at the University of Alberta. This class graduates in the spring of 1963 and its members will be attached to the health units. Their education program in the schools and with mothers will be a valuable channel for nutrition education and we are looking forward to working with them.

Simple table exhibits for use in health unit offices have been popular during the past year. To meet this demand, we have spent time modifying old exhibits and rejuvenating props.

There has been a gradual expansion in our work with senior citizens' homes. Considerable time has been spent in answering cor-

respondence from matrons of the homes. The most common problems are food purchasing, menu planning and quantity recipes. Standardized quantity recipes, prepared by the Federal Nutrition Division, were again made available quarterly to these homes and to the Associated Hospitals of Alberta for distribution to its members. Consultation service was continued to the Alberta School for the Deaf, Provincial Mental Hospital, Ponoka, and other institutions which do not have a dietitian on their staff.

Assistance in nutrition education in the schools continued but to a somewhat greater degree this was provided through work of field personnel and much less of the nutritionist's time was spent in direct work with teachers in the classroom. The public health nurses were encouraged to teach simple nutrition facts which the children could apply to their own diets. It was also suggested that emphasis should be placed on the carried lunch and that encouragement and advice be given to teachers to improve lunch programs and to stress the importance of good nutrition in the care of the teeth.

Assistance and information was given and experimental animals were supplied free of charge to 24 schools desirous of conducting animal feeding demonstrations. These demonstrations served as an aid in emphasizing the importance of good food. Although one class in the school was responsible for the animals, other grades were urged to make use of the project. In most cases, the community was also given an opportunity to profit by the demonstration when the animals were displayed on the local television station, at a public meeting or in a store window.

There was also an increase in the number of requests from Home and School Associations for assistance with programs for their meetings for which Nutrition Services supplied reference materials, films and filmstrips. Many other groups such as the John Howard Society, Junior Red Cross, home nursing classes, church groups, Boy Scouts and Girl Guides also received assistance.

Nutrition Services assumes the responsibility for obtaining and preparing accurate and helpful information relative to nutrition for general distribution. This office maintains an excellent assortment of literature, some of which is obtained from such sources as Department of Fisheries, Nutrition Division of the Department of National Health and Welfare, Metropolitan Life Insurance, Dairy Food Service Bureau, Bakery Foods Foundation of Canada and some of which is prepared locally, often in co-operation with personnel from other divisions. In addition, the provincial department purchased copies of Canada's Food Guide to help meet the large number of requests received in excess of the supply available from the Department of National Health and Welfare. This new statement replaces Canada's Food Rules which has been the basis of nutrition education in Canada for many years and while it provides a fresh approach in presentation it does not reflect any basic change in the underlying nutritional principles.

Answering questions, giving information and solving problems received from individuals continues to require a great part of the nutritionist's time. Individual inquiries were answered as promptly and completely as possible. Assistance was given on a variety of

subjects, including budgeting, food values and food fads. A wide variety of personal and form letters, publications, reports, statistics, monthly bulletins and posters were sent out in this connection.

Library service is still made available to personnel in public health and related fields by means of a small nutrition library. Routine circulation of new journals to interested persons continued and other publications were loaned upon special request.

During the summer there was again an increase over previous years in services provided to summer camps in various parts of the province. The number of camp leaders given assistance with planning of adequate camp meals was extended but in many instances information on camping facilities and equipment, camp sanitation and quantity food service was of necessity limited to the manuals "Feeding Fifty Campers" and "Feeding Twenty Campers", as well as other publications relative to the subject.

In September and October, the nutritionist joined a team composed of three nutritionists and a laboratory technician from Ottawa in a study of food habits among older people in Edmonton. This is part of a nation wide study sponsored by the Nutrition Division of the Department of National Health and Welfare. It is hoped that these surveys will not only provide a basis for improved dietary advice to older people but also a basis for the prevention of symptoms of aging related to nutrition.

In the course of the survey, a nutritionist visited each participant and made a record of all foods eaten on each of the four interview days as well as noting a number of other factors that influence food habits—cooking and storage facilities, mode of living, attitudes toward food, past and present activities, education, income, country of birth. Urine and blood samples from each subject were also analyzed for protein and vitamin content as a guide to the general adequacy of the foods eaten and their utilization.

Following the completion of the senior citizen survey, the laboratory technician assisted with a hemoglobin study on adolescents in the Wetoka Health Unit for which the nutritionist acted as liaison.

In addition to the nutritionist's official duties, she served on committees of the Canadian Home Economics Association, Edmonton Home Economics Association and the Consumers' Association of Canada. She was granted permission to attend the Convention of the Canadian Public Health Association, Alberta Branch, and the meeting of the Dominion Provincial Nutrition Committee, as well as a 6-day workshop on Food Management sponsored by the Alberta Home Economics Specialist Council of the Alberta Teachers' Association. While the subject matter covered was most worthwhile, the course also provided an opportunity for an exchange of ideas between the participants, as well as joint planning for mutual problems.

ENTOMOLOGY AND VECTOR CONTROL

J. H. Brown, B.Sc., M.Sc., F.A.P.H.A., M.R.S.H., Director

The Division of Entomology and Vector Control is responsible for the locating of, and the control of arthropod-borne diseases of man and their reservoirs of infection in native small mammals, with particular attention being paid to Rocky Mountain Spotted Fever, Colorado Tick Fever, Bubonic Plague, Tularaemia, Encephalomyelitis, and other less well-known conditions, which are of Public Health importance.

Other problems, such as fly and mosquito control, the use of insecticides, insect infestation in food-stuffs and insect pests of institutions, also fall within the work of the Division. Furthermore, a considerable amount of time is devoted to determining the distribution and species of the insects, ticks and mites that are involved in the transmission of human diseases. A number of other biological problems such as the control of leeches and swimmers itch, the evaluation of pesticides as a public health hazard and vermin control are also included.

TICK SURVEY

The Rocky Mountain Spotted Fever tick, *Dermacentor andersoni* is well-established in Alberta. Its known and supposed range embraces all of that part of Alberta south of a line from Empress west to Calgary, and thence north and west in the foothills and mountains north to Fort St. John, B.C.

Collections—During 1962 a total of 4 collections were made with 35 ticks being collected by drag. There was one host collection. All of the collections were submitted to the Rocky Mountain Laboratory at Hamilton, Montana, for testing but the results have not been received.

ROCKY MOUNTAIN SPOTTED FEVER

During April, 1962, a suspected case occurred in a male, 39 years old, from Dunmore, Alberta, who was admitted to hospital on April 19 and displayed the typical rash. Blood samples were taken four days later but proved negative. On April 27 the rash began to disappear and his chart showed progressive improvement, and he was shortly released. However it is known that infected ticks and reservoirs of infection are present at Medicine Hat, Lethbridge, Milk River, Manyberries, Brooks, Kananaskis and Banff.

Vaccinations—During 1962 a total of 1,896 doses of Rocky Mountain Spotted Fever vaccine were given in the Medicine Hat, Lethbridge, Milk River, Ralston, Manyberries, Brooks, Kananaskis and Banff areas.

Tick Paralysis—No cases were reported during 1962.

PLAGUE SURVEY

Two very large areas of Plague infection, one centering on Hanna and the other on Brooks exist in Alberta, in both of which plague-infected Ground Squirrels (gophers) and plague-infected Ground Squirrel fleas are present in large numbers.

There are 14 species of fleas in Alberta that are capable of transmitting plague from infected animals to man but, fortunately, most of these species are not very numerous, and in many cases their distribution is limited. In 1962 a total of 74 fleas were collected in various areas from 14 small mammals. These were submitted to the Plague Suppressive Measures Laboratory, United States Public Health Services at San Francisco, California, for bacteriological examination. Results have not yet been received.

FLY CONTROL

A program of Fly Control within Health Units was developed during 1962, based mainly on adequate sanitation and proper garbage disposal, and aided by chemical spraying. This program was developed in this Division and is based on the fact that spraying for fly control in small towns is very costly. The program appeared to have been well accepted.

MOSQUITO CONTROL

Mosquitoes did not present a very serious problem except in the irrigation areas of southern Alberta. However, they were present in sufficient numbers to constitute a nuisance at most of the summer resort areas. Since the establishment of the Provincial Parks, there has been a very great demand in all parts of the province for local mosquito control programs, but, unfortunately, mosquito control in such small areas is expensive and ineffective unless a definite long range program embracing a number of such places is undertaken. When this is done, with the cost being spread out over a period of years, an exceptionally cheap and effective control can be had.

SCHISTOSOMIASIS

Schistosome dermatitis is becoming quite a serious problem in many of the new lake-side areas and Provincial Parks that are being opened up. This condition is caused by the penetration of the skin by a small fork-tailed parasite (**cercariae**). In man it always follows bathing or swimming in infested lakes or ponds and is characterized by a localized area of very itchy weals.

Snails, which are the hosts for the cercariae, are sensitive to copper, and under certain conditions, small quantities of it in the water will poison them. As this has to be done at least once a week it becomes an expensive control. This same chemical is also toxic to fish and unless properly applied can have a very adverse effect on the fish population. Furthermore, there is a grave danger that the accumulation of toxic copper in the water will present a hazard to the general public.

The investigation into the biological, epidemiological and immunological aspects of **Schistosome dermatitis** which was undertaken with the investigation to be in the form of a two-year pilot experiment,

supported as Project 608-7-24 under the National Health Grants Program, was continued. The work is being done under the auspices of the Division of Entomology and Vector Control. The laboratory investigations are being carried on at the Department of Zoology, and the Department of Botany, University of Alberta.

During 1962 an experiment was undertaken, using Crushed Glazed Coarse Salt as an indirect control method for snails. The theory was that the application of salt to the aquatic vegetation would destroy it, thus destroying the shelter and food for snails. Three experimental plots were set up and the salt was distributed over each area from a boat. It was found that this method was very difficult and an unequal distribution was made. However, it was determined that the salt did have an inhibitory effect on a number of species of aquatic weeds. With these results in mind it was proposed that during 1963 the salt would be spread on the ice prior to breakup.

PESTICIDE INVESTIGATION PROJECT

This investigation is supported under the National Health Grants Program as Project 608-7-40 and is carried on in co-operation with the Dairy Bacteriology Laboratory, Department of Agriculture.

The results of the 1962 investigations compare favourably with those of 1961 in regard to seasonal variations and indicate that the highest percentage of positives occur during and following the spraying season. The purpose of this survey was to obtain information regarding the prevalence of antibiotics and pesticides in the milk supply in Alberta.

All of the samples were examined for the presence of DDT, DDE, DDD, BHC, Dieldrin, Aldrin, Heptachlor, Heptachlor Epoxide, Toxaphene, Methoxychlor, Perthane, Chlordane and Endrin. 50% of the milk samples; 75% of the cream samples; 60% of the evaporated milk samples; 41.7% of the butter samples; 16.7% of the cheese samples; 100% of the animal and fowl tissue samples; 62.5% of the beef fat samples and 66.7% of the six well-water samples were all positive. Dieldrin was the most frequently encountered pesticide, DDT was the next most common and Toxaphene in third place. The pesticides DDE, DDD, Heptachlor Epoxide and some un-identified compounds were also detected in some instances. The levels of residue ranged from a trace to 2.0 parts per million.

WESTERN EQUINE ENCEPHALITIS

This investigation, which came into effect April 1st, 1962, is supported under the National Health Grants Program as Project 608-7-25 and is carried on by this Division in co-operation with the Department of Entomology, University of Alberta, Provincial Laboratory of Public Health and the Agriculture Research Station, Lethbridge. The proposed research deals with the Public Health Implications of Western Equine Encephalomyelitis in Alberta and consists of a co-operative virological, entomological, ecological and biological investigation. Its objective is to determine the extent and distribution of Western Equine Encephalomyelitis in Alberta through a study of the reservoirs, hosts and vectors involved; to assess its importance in the field of Public Health; and, if necessary, to devise and implement methods for its control, suppression and/or elimination.

On account of a number of unfortunate circumstances the research program did not get under way until July when preliminary investigations into the mosquito situation were undertaken by Narayan V. Belur, M.Sc. The Virologist, Dr. Odosca Morgante, was not appointed until September, 1962. Furthermore, considerable difficulty was experienced in ordering laboratory and field supplies. Despite these difficulties a considerable amount of new information was assembled and the necessary equipment and supplies are on hand for the Project to become fully operational on April 1, 1963.

LEECHES

Reports of leech infestations came in from many Alberta lakes during 1962 and appropriate advice was given. It is evident that leeches will become a problem at many of the resort areas being now developed, particularly in regard to the wading areas, and the operators of resort areas are very much concerned over the problem.

HARVEST ITCH

Harvest Itch is a skin condition somewhat similar to scabies and is caused by mites. The mites involved are normally on such vegetation as grain and grasses and are accidentally transferred to the person of harvesters and others handling such materials, particularly in the fall and winter. The necessary advice for controlling outbreaks was circulated to Health Units and local practitioners during 1962. There were no cases of Harvest Itch during the year.

INSECTICIDES

Vapourizers are mechanical devices for releasing the fumes of lindane and other insecticides by means of electrical heating elements. Installation regulations under the Canadian Standards Association are used to control their use in food-handling establishments with the result that this problem is decreasing.

In view of the fact that insecticides, and pesticides generally, are toxic materials, the Division is being very cautious in making recommendations unless there is sufficient evidence that the materials will be used by competent persons in a proper manner. It should be a matter of great concern when it is realized that there is a vast array of "poisons" now present in every household. There is ample evidence now available to indicate that some regulatory measures regarding the use of pesticides should be introduced. Particular concern is felt in regard to the possible contamination of milk and milk products through the improper use of pesticides on farms, in dairy barns and the places where milk is produced, handled and processed.

Q FEVER

In 1962 the Q Fever Survey was carried on in co-operation with the Provincial Laboratory of Public Health and the Dairy Bacteriology Laboratory, Department of Agriculture, and demonstrated the presence of the organism in dairy herds in various parts of the province. Further work is being carried on to evaluate the importance of these findings, and also to determine the extent of human involvement.

The following are the results obtained for milk samples received at the Provincial Dairy Laboratory for the period from November, 1961 to September, 1962. This survey does not include the herds supplying Calgary, as the samples from that area were not available.

GENERAL SUMMARY

Total number of herds tested	1,341
Negative herds	1,288
Positive herds	53
Positive herds in percentage	3.95

SOURCE OF SAMPLES

	Total	Neg.	Pos.	% Pos.
Herds in Edmonton milk shed	441	434	7	1.98
Herds in Lethbridge—(Medicine Hat) milk sheds	108	88	20	1.85
Other herds (including cheese plants)	784	758	26	3.31
Raw milk Producer-Distributors	8	8	0	0

During this period, individual cow samples were received from ten herds where the composite sample had given a positive reading. The results are as follows:—

Herd	No. of Cows	% Positive
A	20	40
B	22	22.7
C	25	4
D	94	28.6
E	33	60.6
F	21	28.6
G	14	7.1
H	12	8.3
I	43	3.0
J	13	30.8

As for previous years, it still is observed that once a herd becomes infected, it usually remains infected.

LABORATORY

Insect Identification—During 1962 numerous specimens of insects from different products and places were received for identification. Insects from tropical and semi-tropical areas continue to be found in Alberta. From the increase in their numbers, and as they are plant-eating insects, it would appear that they may be directly connected with the vanning-in of fruit and vegetables. Suitable information for control measures was supplied and the local Sanitary Inspectors were notified in each case.

Insect Collections—Good progress was made in 1962 in arranging the collection of insects and ticks injurious to human health.

Water Samples—During 1962 many samples of water were sent in from the Health Units from reservoirs, tap water, etc., and found to contain Algae, Chromogenic bacteria, and small aquatic insects. Information for checking these conditions was given by letter.

STAFF

During 1962 the summer field investigations were carried on under the direction of Mr. J. H. Brown, M.Sc., Director, Entomology & Vector Control, by Mr. A. F. Kirdeikis, B.Sc., Biologist. Mr. Kirdeikis resigned July 25 to return to University.

The usual educational work in regard to the control of insect-borne diseases was carried out by means of radio, television, motion pictures, newspapers and lectures. The usual lectures to the 3rd year Medical Students, Public Health Nurses and Nurses-in-Training were given, and in some cases, expanded. A series of lectures were given to the students taking the "Health" course in the Faculty of Education.

PROVINCIAL POISON CONTROL SERVICES

J. H. Brown, B.Sc., M.Sc., F.A.P.H.A., M.R.S.H., Director

INTRODUCTION

During 1962 Poison Treatment Centres were established in the Provincial Training School, Red Deer, and in the Leduc Hospital, Leduc, making a total of 105 Poison Treatment Centres in Alberta, or one in each of the 104 active treatment hospitals and one in the Provincial Training School at Red Deer. Thus the Alberta Poison Control Services provides poison treatment service to all parts of the Province.

The two Poison Information Centres, one in the Calgary General Hospital to serve Southern Alberta and the other in the University Hospital, to serve Northern Alberta, functioned as usual with an increasing number of requests for information on new toxic substances and/or treatment for complicated poisonings.

During 1962 the office of the Poison Control Services received a total of 2922 Individual Poisoning Reports. These Reports were coded, punched and made up into monthly statements showing the Age, Sex, and address of the individual involved, as well as the location where the incident occurred, the substance involved, the treatment given and the final outcome. These monthly reports were compiled on a quarterly basis and a short form was mimeographed and mailed to each practising physician and to each hospital in the Province.

RESULTS FOR 1962

During 1962 a total of 2922 cases were reported. Of these, 1524 were males and 1398 were females. The deaths among these reported cases were 30 males and 13 females making a total of 43 deaths or a fatality rate of 1.4%, this rate is in accord with the findings elsewhere. In 1962 the Bureau of Vital Statistics reported 40 deaths occurring outside of hospitals.

REPORTING

For purpose of reporting eight (8) Categories were established covering the substances in common use. These Categories are:

A. Drugs and Medications for External Use,—which embraces antiseptics, liniments, cosmetics, salves, etc.

B. Drugs and Medications for Internal Use,—which covers aspirins, Baby's Own and Ex-Lax, sedatives and sleeping pills, cough syrups, prescription drugs etc.

C. Household Chemicals,—which includes cleaners, detergents, lye, polishes, waxes, solvents and varsol, etc.

D. Industrial Auto & Fuel,—such as gas (CO), industrial products, gasoline, etc.

E. Poisonous Plants & Venomous Animals,—which covers berries and plants, toadstools, etc.

F. Pesticides,—which includes insecticides, moth balls, rodenticides, weedicides, etc.

G. Tobacco & Alcohol,—which covers ethyl alcohol, and tobacco.

H. Miscellaneous,—embracing substances difficult to categorize.

RELATIONSHIP OF AGE TO POISONING

AGE-GROUP BELOW 5 YEARS

In examining the Tables it becomes apparent that age and poisonings are directly linked. The fact that 2225 of the total reported poisonings occurred in the Age-Group below 1 to 4 (actually 76%), is ample evidence that this age-group needs almost constant supervision. While this information, in relation to poisonings, extends and amplifies this need, it has long been recognized by parents' physicians, nurses and other persons concerned with the care of children that this age-group, through its adventurous proclivities in seeking, climbing, tasting and exploring, was peculiarly accident-prone. It is interesting to note that of the poisonings 1215 occurred in males and 1010 in females. The deaths were 2 males and 3 females, with the fatality rate being 0.2%.

AGE-GROUP 5-14

In this age-group there were 133 poisonings with 84 being males and 49 females. There were 3 male deaths. This age-group accounted for only 4 percent of the total poisonings. It is interesting to note that while the males in the below 1 to 4 age-group accounted for 1215 of the total poisonings in the age-group, the males in the 5-14 age-group accounted for 84 of the total poisonings.

AGE-GROUP 15-24

In this age-group there were 229 poisonings, with 82 being males and 147 being females; with the females accounting for the largest percentage of the poisonings. The poisonings in the age-group accounted for 8 percent of the total poisonings. There were 5 male deaths and 2 females.

There has been a suggestion made that poisonings in the age-group 15-24 may not be accidental in its true sense, however, our experience shows that most of the incidents are accidental, generally being due to carelessness in not reading directions or understanding what the particular substance was designed to do.

AGE-GROUP 25-44

This age group accounted for 229 of the total poisonings. Here again the females are in the lead with 142 of the total poisonings in this age-group. In examining the data, it is easily seen that a large proportion of the 142 cases were associated with Drugs & Medications for Internal Use. On the face of it this indicates that there may have been some abuse in the use of such drugs and medications. It should be sufficient to indicate that the great profusion of Drugs & Medications for Internal Use, available not only in drug stores but also in other retail outlets, and the carelessness with which such materials are handled in the home, could easily account for a large proportion of the poisonings being definitely accidental. The mere fact that most of the victims were females, only supports the well known fact that the females, mostly mothers, are more commonly in the home and are subjected to stresses and strains which the male escapes.

AGE-GROUPS 45-UP

The poisonings in this age-group are 106 of the total poisonings reported. Of these 56 involved males. Here again Drugs & Medications for Internal Use were in the lead, with the other cases being approximately evenly distributed amongst the other categories. Information gathered in relation to a number of these cases shows that many of them involved elderly persons, and it is entirely reasonable to assume that the confusion associated with illness and/or age caused either a mistake in identity of medications or an overdose of the particular product involved.

SUMMARY

In summarizing poisonings by age-groups, a further examination of Table 11 indicates that the group below 1-4 accounts for 2225 of the total 2922 poisonings. The age-group 5-14 accounts for 133 cases of poisonings. In the age-group 15-24 there were 229 of the total poisonings, while in the age-group 25-44 there were 229 of the total. The age-group 45 and up accounted for 106 poisonings. However, an examination by sex shows that in the age-group below 1-4, the 5-14 and 45 and up, the males were the most common. In the age-group 15-24 and 25-44, the females predominated.

ALL POISONINGS BY AGE-GROUP & SEX

An examination of the Tables discloses the fact that there is a definite relationship between the months and the numbers of poisonings occurring in each age-group. In a climate such as ours this relationship can be associated, particularly in the below 1-4 age-group, with the season of the year and type of weather prevailing.

While it would appear that certain months have a higher number of poisonings than others, it should be borne in mind that there is an enormous variety of substances which readily lend themselves to causing poisonings, and while there is ample evidence that Drugs & Medications for External Use, Drugs & Medications for Internal Use and Household Chemicals are the most available source for poisonings, there are many other poisons which, under certain conditions, become just as readily available.

The following tables present the results in statistical form:

TABLE 1
POISONINGS (INCLUDING DEATHS), FOR ALL AGE-GROUPS, BY SEX, AND TOTALS,
FOR EACH MONTH, 1962

Months	All Categories					
	Cases			Deaths		
	M	F	T	M	F	T
January	127	117	244	.....	.....	.....
February	128*	101	229*	2*	.....	2*
March	128	115*	243*	.....	1	1
April	89*	92*	181*	8	5	13
May	124*	133	257*	1	.....	1
June	132	116	248	.....	.....	.....
July	138*	106*	244*	7	3	10
August	121	115	236	.....	.....	.....
September	118	132	250	.....	.....	.....
October	168*	130*	298*	6	2	8
November	126*	138	264*	1	.....	1
December	125*	103*	228*	5	2	7
Total	1524*	1398*	2922*	30	13	43

*Deaths Included in "All Categories" columns. This list of deaths from poisonings should not be regarded as official for Alberta for 1962.

DEATH FROM POISONINGS OCCURRING OUTSIDE HOSPITALS AND REPORTED BY
THE BUREAU OF VITAL STATISTICS—LISTED BY AGE GROUP, SEX, SUBSTANCE
AND CATEGORIES—FOR 1962

TABLE 1A

CATEGORIES	0 - 4		5 - 14		15 - 24		25 - 44		45 - Up		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
A. Drugs and Med. For Ext. Use.	0	0	0	0	0	0	0	0	0	0	0	0
B. Drugs and Med. For. Int. Use												
Aspirin	0	2*	1	0	0	0	0	0	0	0	1	2*
Barbiturates	0	0	0	0	0	0	0	2*	1*	0	1*	2*
Prescriptions	0	0	0	0	0	0	0	3*	0	0	0	3*
C. Household Chemicals												
Cleaners	0	0	0	0	1*	0	0	0	0	0	1*	0
Turpentine	1*	0	0	0	0	0	0	0	0	0	1*	0
D. Industrial Auto and Fuel												
Carbon Monoxide ...	0	0	0	0	2*	2*	4*	1*	12*	1*	18*	4*
Nitrite in Drinking Water	1	0	0	0	0	0	0	0	0	0	1	0
Propane Gas	0	1	1*	0	0	0	0	0	0	0	1*	1
Natural Gas	0	0	0	0	1*	0	0	0	0	0	1*	0
E. Poison Plants and Ven. Animals	0	0	0	0	0	0	0	0	0	0	0	0
F. Pesticides												
Sodium Fluoride	0	0	1	0	0	0	0	0	0	0	1	0
Gopher Poisoning ..	0	0	0	0	1*	0	0	0	0	0	1*	0
G. Tobacco and Alcohol												
Ethyl Alcohol	0	0	0	0	1*	0	0	1*	0	0	1*	1*
H. Miscellaneous No Poison Named ..	0	0	0	0	0	0	0	0	2*	0	2*	0
Totals	2	3	3	0	6	2	4	7	15	1	30	13

*DIED—Including those who died outside hospital and reported by Bureau of Vital Statistics.

TABLE 2
POISONINGS (INCLUDING DEATHS) IN EACH AGE-GROUP, BY SEX, AND TOTALS FOR ALL CATEGORIES BY MONTHS

Months	0-4		5-14		15-24		25-44		45 and Up		All Age Groups		Deaths					
	M	F	M	F	M	F	M	F	M	F	M	F	M	F				
January	107	87	6	3	4	12	16	8	12	2	3	5	117	244				
February	102	69	2	2	9	19	28	8	8	7	3	10	128*	229				
March	100	91*	9	2	11	13	21	6	8	5	1	6	128	115*				
April	69	75	4	4	6	5*	12*	4	6	7	2	9	89*	92*				
May	100	86	5	3	8	13	21	7	20	3	9	14	123*	181*				
June	111	88	5	5	9	7	21*	9	15	2	5	10	133	237*				
July	110	88	12*	4	16*	7	12*	3*	5	8	5	10	138*	243*				
August	87	83	8	2	10	12	15	10	14	3	4	7	121	115				
September	96	88	8	4	12	3	15	9	17	2	8	10	118	132				
October	132	87	14*	10	10	20*	20*	7*	19*	5*	4*	9*	168*	130*				
November	101	98	5	8	13	5	18	12	10	3*	4	7*	126*	138				
December	90*	71*	7	4	11	13	34*	4*	10*	3*	5	8*	125*	103*				
Totals	1215*	1010*	84*	49	133*	82*	229*	87*	142*	56*	50*	106*	1524*	2922*				
% of Total poisonings	.....76%																
*Indicates one or more deaths included.	.....																
DEATHS	2	3	5	3	0	3	5	2	7	15	1	16	30	13				
% of Deaths10%												71.4%		28.6%		100%	

4% 8% 8% 4% 52.2% 47.8% 100%

38% 31% 14% 7% 10%

TABLE 3
POISONINGS (INCLUDING DEATHS), BY SEX AND TOTALS FOR ALL AGE-GROUPS FOR EACH CATEGORY BY MONTHS—1962

Months	Category A			Category B			Category C			Category D			Category E			Category F			Category G			Category H			Totals			Deaths					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
Jan.	6	4	10	72	96	168	30	11	41	8	3	19*	1	3	3	6	6	1	7	1	2	3	127	117	244	2	2	4					
Feb.	12	12	24	74	67	141	21	14	35	16	3	19*	1	3	3	6	2	2	2	2	2	2	128	101	229*	1	1	2					
March	12	6	18	90	81	171*	14	18	32	10	4	14	1	2	2	1	3	3	3	3	3	128	115	243*	8	5	13						
April	2	7	9	48	65	113*	21	9	30	9	5	14*	2	5	5	4	9*	3	2	5	1	89	92	181*	1	1	2						
May	16	11	27	59	89	148	25	17	42	13	3	16*	2	1	3	5	14	2	2	2	2	124	133	257*	1	1	2						
June	6	11	17	70	73	143	23	10	33	22	9	31	2	3	5	14	4	5	4	5	1	132	116	248	7	3	10						
July	10	4	14	59	62	121	25	18	43	18	16	34*	2	2	13	6	15	2	2	2	2	138	106	244*	1	1	2						
August	6	4	10	66	75	141	28	18	46	19	6	25	1	1	8	1	13	3	2	5	1	171	139	310*	1	1	2						
September	6	4	10	66	75	141	28	18	46	19	6	25	1	1	8	1	13	3	2	5	1	171	139	310*	1	1	2						
October	6	4	10	66	75	141	28	18	46	19	6	25	1	1	8	1	13	3	2	5	1	171	139	310*	1	1	2						
November	10	5	15	72	98	168	16	23	39	19	10	28*	1	2	11	9	20*	1	1	1	2	168	130	298*	6	2	8						
December	7	4	11	74	68	142*	23	16	39	14	9	23*	1	1	5	4	9	1	1	1	4	128	103	231*	5	2	7						
Total	104	83	187	837	966	1803*	288	183	471	181	80	261*	11	9	20	71	53	124*	21	17	38*	11	7	18*	1524	1398	2922*	30	13	43			
% of cases	6.4%			61.6%			16.2%			8.9%			0.7%			4.2%			1.4%			0.6%			52.2%			47.8%					
Deaths			2 7 9			2 ... 2			21 5 26					2 ... 2			1 1 2			2 2			30 13 43								
% of Deaths			19.0%			4.8%			61.8%					4.8%			4.8%			4.8%			71.4%			28.6%			100%		

*Indicates one or more deaths included.

DIVISION OF MEDICAL SERVICES

P. B. Rose, M.D., Director

A change in the direction of this Division occurred in June with the resignation of Dr. F. S. B. Rodman. Dr. P. B. Rose took over as Director in June.

DIABETIC DRUG PROGRAM

The Department of Public Health continued to provide without charge, insulin, to diabetic patients who are residents of Alberta. This program has been in operation for approximately 30 years and is provided under a "means test". The patient makes his application through his own physician. In 1959 the program was expanded to provide an oral hypoglycemic medication tolbutamide for those persons capable of being treated with tolbutamide instead of insulin. In June, 1962, the program was further expanded to provide phenformin for those patients in whom it was demonstrated that better control could be achieved.

TABLE 1
PERSONS USING INSULIN, TOLBUTAMIDE AND PHENFORMIN

Year	Insulin	Tolbutamide	Phenformin	Total
1959	314	81	....	395
1960	334	188	....	522
1961	345	272	....	617
1962	321	362	22	705

PHENYLKETONURIA THERAPY PROGRAM

In 1960 the treatment of phenylketonuria was brought under the Special Drug Program of this Division. Phenylketonuria is a congenital defect found in a very small percentage of newborn infants which prevents the proper metabolizing of certain foods. This results in mental deficiency if not treated early and with special dietary preparations. These preparations are provided free. Six children received this dietary preparation during 1962.

RHEUMATIC FEVER PROPHYLAXIS

This program was started in June, 1958, has now been in operation for four and one-half years, and was continued throughout the year on the same basis as previously reported.

TABLE 2

Year	Applications Approved and first supply sent	Follow-up Supplies
1958 *	494	250
1959	433	1 545
1960	391	2 533
1961	383	2 708
1962	336	3 518
Total	2,037	10,954

*Figures are for June 30th, 1958, to December 31st, 1958 only.

During the past four and one-half years a total of 2,037 applications have been approved and 10,954 follow-up supplies requested and sent. To the end of December, 1962, the number of patients suspended by reason of having reached the age limit for the program, the eighteenth birthday, is 239. A preliminary review of renewal forms

received from doctors indicated a possibility of 98 recurrences of the disease up to December, 1961. A similar review of the past twelve months indicates a further 51 recurrences reported. Upon examination of these reports it is found that only 8 were of patients who had history of recurrences reported in previous years. In a large proportion of the 149 recurrences so far reported on this program, the medical signs of recurrence have been of a minor nature. For approved patients, 200,000 units of penicillin twice daily is provided. For those patients who are sensitive to penicillin an alternative prophylactic medication, triple sulpha, can be provided, the dosage being one 7½ gr. tablet twice daily. There are presently 23 cases receiving this treatment, of this number 6 developed sensitivity since coming under the prophylactic program.

EMERGENCY AIR AMBULANCE SERVICE

This service, now in its fourth year of operation, provided 76 flights during the last twelve months. Seriously ill patients, living in inaccessible areas, are transported to hospital in the two larger cities. If the patient can be transported satisfactorily by car, ambulance or rail, the air service is not available.

TABLE 3

Year	Flights	Patients	Adults	Children	Premature Infants
1959	55	53	....	....	....
1960	44	52	32	20	....
1961	50	50	31	19	13
1962	76	83	50	33	14

Premature infant totals included with children.

POLIOMYELITIS TREATMENT PROGRAM

Under the provisions of The Poliomyelitis Sufferers Act and Regulations, residents of Alberta who suffer from poliomyelitis and its subsequent effects may obtain such treatment services as, in-hospital medical services subsequent to the acute fourteen-day isolation period, surgical services, and respirator care where indicated, from the day of onset of the disease. Orthopaedic appliances are provided. Out-patient physiotherapy, muscle tests, and radiological examinations and other assessment procedures are also available. Out-patient speech therapy and occupational therapy may be provided.

Admissions to hospital, and hospital days, are as follows:

TABLE 4
HOSPITAL ADMISSIONS 1959-1962

Year	New Admissions	Re-admissions	Total
1959	135	143	278
1960	304	172	476
1961	88	212	300
1962	53	151	204

HOSPITAL DAYS 1959-1962

Year	Isolation	Post-Isolation	Respirator	Total
1959	536	17,543	4,258	22,337
1960	1,738	28,196	1,925	31,859
1961	263	16,170	7,572	24,005
1962	34	6,040	6,895	12,969

TABLE 5
PROVINCIAL EXPENDITURES FOR POLIOMYELITIS TREATMENT SERVICES 1959-1962

Expenditure	1959	1960	1961	1962
Post Isolation Days @ 60¢	\$ 10,528.80	\$ 16,827.00	\$ 9,702.00	\$ 3,624.00
Respirator Days @ \$2.00	8,516.00	3,876.00	15,144.00	12,790.00
Surgical Procedures	28,104.95	25,007.40	27,631.30	20,316.50
Medical Adviser	3,600.00	2,400.00	2,400.00	2,400.00
Appliances and Out-Patient Services	32,120.37	43,393.92	47,609.03	36,911.66
Home Care Program	9,884.15	13,826.99	21,519.28	23,942.13
Total	\$ 92,754.27	\$105,331.31	\$124,005.61	\$ 99,984.29

The total number of new admissions to hospital in 1962 was only 60.23% of the 1961 total. The incidence of poliomyelitis continued to decrease in 1962. Re-admissions also decreased by 28.8%. Operative procedures in 1962 totalled 133 compared to 182 in 1961. Post-isolation care was almost completely provided in the University of Alberta, Alberta Children's and the Calgary General Hospitals.

Expenditure under the Home Care Program was increased by \$2,422.85, equipment was provided during the year for 12 persons. The total number of patients for whom equipment had been provided by December, 1962, was 30.

TABLE 6
APPLIANCES AND OUT-PATIENT SERVICES 1959-1962

Services	1959		1960		1961		1962	
	No.	Expenditure	No.	Expenditure	No.	Expenditure	No.	Expenditure
IN-PATIENT Appliances	431	\$25,497.42	882	\$32,139.62	773	\$34,170.55	801	\$27,525.61
OUT-PATIENT Appliances	36	2,774.55	44	3,773.55	49	4,219.63	45	3,229.25
Physiotherapy	715	1,454.00		4,455.50	1,903	6,126.10	945	2,826.75
Muscle Tests	143	207.50	22	103.00	42	163.25	58	191.75
Radiology		2,093.50		2,806.50		2,774.50		3,030.50
Other (Cast Room, etc.)		93.40		115.75		155.00		107.80
Total		\$32,120.37		\$43,393.92		\$47,609.03		\$36,911.66

TREATMENT SERVICES FOR SOCIAL SERVICE RECIPIENTS

The Treatment Services Act provides for treatment services for the Social Services Group. The services provided are medical, dental, optical and chiropractic. Certain limited services such as physiotherapy and podiatry are also provided but require prior approval by the Medical Services Division.

Complete hospitalization is provided by the Division of Hospital Services under the Hospitalization Benefits Plan.

During 1961 the Department of Public Welfare introduced Social Allowance and Social Assistance, for statistical purposes therefore, pensioner groups are now divided as follows:

Group A: Over 60 years of age.

Group B: Persons in receipt of Blind and Disability Pensions

Group C: Under 60 years of age

Group D: Government Wards added to the Social Services Group, November, 1961.

In 1962 total social service recipients increased by 7,205 over 1961. This overall increase was 13.63% compared to the population increase of 2.8%.

TABLE 7
SOCIAL SERVICE RECIPIENTS AS OF DECEMBER 31st, 1960, 1961, 1962

Categories	Recipients			Spouses			Dependent Children			Total		
	1960	1961	1962	1960	1961	1962	1960	1961	1962	1960	1961	1962
A	29,691	29,636	29,474	3,620	3,630	3,689	882	875	985	34,193	34,141	34,148
B	4,246	4,938	5,695	846	1,091	1,378	1,316	1,921	2,499	6,408	7,950	9,572
C	2,676	2,974	3,542	.....	7	15	5,574	7,478	9,189	8,250	10,459	12,746
D	.....	.....	3,289	.....	.....	.....	.....	.....	.....	.....	.....	3,289
	36,613	37,548	42,000	4,466	4,728	5,082	7,772	10,274	12,673	48,851	52,550	59,755

The average number of recipients in the province during the calendar year 1962 was 57,639, an increase of 7,180 over 1961. Provincial expenditures for treatment services for social service recipients in the calendar years 1961 and 1962 were \$1,609,093.93 and \$1,877,901.93 respectively, showing an increase in 1962 of \$268,808.00.

The per capita expenditure for the group in 1962 was \$32.58 as compared to \$30.62 in 1961. Per capita payments to the College of Physicians & Surgeons were \$24.00 per year, to the Alberta Dental Association \$5.25 per year, and \$1.20 per year to the Alberta Chiropractic Association.

TABLE 8
PROVINCIAL EXPENDITURES BY TYPE OF SERVICE—
CALENDAR YEARS 1961-1962

Type of Service	1961	1962	Increase or Decrease
Medical Care	\$1,211,012.00	\$1,383,358.00	+ 12.45%
Dental Care	242,202.40	302,982.20	+ 20.06%
Optical and Optometric Services	117,602.13	119,472.03	+ 1.56%
Chiropractic Services	35,753.40*	69,613.70	
(*from June 1st, 1961)			
Other Treatment Services	2,521.00	2,476.00	- 1.78%
Total	\$1,609,090.93	\$1,877,901.93	

1. Medical Care for Social Service Recipients

Through an agreement between the Department of Public Health and the College of Physicians and Surgeons of Alberta, the practising members of the College provide complete medical care for the Social Service Recipient Group. The payment is \$24.00 per capita per year on a basis of \$2.00 per capita per month.

These monies are placed in a Pensioner's Medical Fund and are administered by the College. Administrative cost in the fiscal year April 1st, 1962 to March 31st, 1963 was 3.84% of the assessed value.

Individual doctors' accounts are assessed according to the College's minimum schedule of fees, and an initial payment of 50% is made. The remainder of the fund is pro-rated at the end of the fiscal year according to the assessed value of the accounts submitted, and a further payment is made.

In 1962 the payment was 62% of the assessed value of the accounts received. The difference is a sizeable personal contribution made to the medical care of social service recipients by the doctors of Alberta.

In 1962 the province expended \$1,383,358.00 for medical services as compared to \$1,211,012.00 in 1961. This represents an increase of 12.45%.

TABLE 9
SOCIAL SERVICE RECIPIENTS MEDICAL SERVICES UTILIZATION
April 1st, 1962 - March 31st, 1963

GROUP "A"	Recipient		Spouse		Child	
	No. of Services	Fee	No. of Services	Fee	No. of Services	Fee
Type of Service						
Office	74,762	\$ 259,220.25	8,296	\$ 29,526.50	3,195	\$ 12,372.75
House	19,127	99,240.50	1,027	5,175.50	491	2,770.50
Hospital "A"	196,785	377,564.71	11,028	23,787.12	2,743	6,866.25
Hospital, Chronic	27,478	46,722.75	471	677.00	9	37.00
Mileage	788	5,721.00	24	281.50	2	43.00
Laboratory	11,413	25,386.37	1,125	2,623.12	425	839.62
Surgical Procedures	19,822	343,561.60	1,853	34,029.75	743	13,336.00
Consultations	3,378	48,842.25	259	3,637.25	219	1,350.25
Refractions	1,764	16,493.50	186	1,727.50	161	1,543.00
X-ray	6,391	62,934.25	713	7,090.00	245	1,994.25
Anaesthetic	1,577	48,882.00	195	6,036.25	138	3,529.75
Cards not read	1	3.00				
Total	363,286	\$1,334,572.18	25,177	\$ 114,591.49	8,371	\$ 44,682.37
Average cost per procedure		\$3.67		\$4.55		\$5.34
Average cost per individual covered		\$3.80		\$2.61		\$3.96
GROUP "B"						
Office	12,204	\$ 42,402.25	2,305	\$ 8,482.25	1,607	\$ 6,082.75
House	1,670	9,069.75	153	855.00	170	946.50
Hospital "A"	25,850	49,135.33	2,103	5,327.00	1,685	4,378.75
Hospital, Chronic	3,459	6,328.50			1	7.00
Mileage	72	446.00	5	77.00	1	3.00
Laboratory	1,587	3,470.37	252	547.75	94	176.38
Surgical Procedures	3,177	51,091.75	487	9,462.25	334	7,137.50
Consultations	681	9,544.75	70	901.50	40	438.25
Refractions	208	1,845.00	51	410.00	58	475.00
X-ray	995	9,600.75	179	1,729.00	75	640.50
Anaesthetic	331	8,981.50	65	2,025.75	53	1,733.50
Total	50,234	\$ 191,915.95	5,670	\$ 29,817.50	4,118	\$ 22,019.13
Average cost per procedure		\$3.82		\$5.26		\$5.35
Average cost per individual covered		\$2.95		\$1.92		\$0.78
GROUP "C"						
Office	6,808	\$ 25,476.45	93	\$ 238.00	7,049	\$ 27,075.25
House	599	3,398.15	31	22.00	1,361	7,354.30
Hospital "A"	3,842	8,848.25	24	65.00	4,061	10,895.25
Hospital, Chronic	50	105.00			15	33.00
Mileage	1	10.00			3	37.00
Laboratory	1,328	3,271.75	16	31.00	932	1,945.25
Surgical Procedures	1,604	35,843.62	11	336.75	1,687	30,221.50
Consultations	260	3,558.75	1	10.00	179	2,234.75
Refractions	236	2,302.50	3	30.00	406	3,817.50
X-ray	768	7,266.50	4	46.00	646	5,351.50
Anaesthetic	292	6,635.00	3	75.00	295	6,444.25
Total	15,788	\$ 96,715.97	158	\$ 53.75	16,634	\$ 95,409.55
Average cost per procedure		\$6.13		\$5.40		\$5.74
Average cost per individual covered		\$2.37		\$5.58		\$0.91
GROUP "D"						
Office	4,098	\$ 15,962.00				
House	1,232	6,690.00				
Hospital "A"	3,166	6,872.50				
Hospital, Chronic	4	11.00				
Mileage	2	19.00				
Laboratory	626	1,340.75				
Surgical Procedure	1,495	28,955.50				
Consultations	336	4,522.00				
Refractions	288	2,725.00				
X-ray	398	3,449.50				
Anaesthetic	276	5,824.00				
Total	11,921	\$ 76,371.25				
Average cost per procedure		\$6.15				
Average cost per individual covered		\$1.97				
TOTAL Costs and Services						
GROUPS A, B, C, D	441,229	\$1,699,575.35	31,005	\$ 145,262.74	29,123	\$ 162,111.06
Average cost per procedure		\$3.85		\$4.69		\$5.57
Average cost per individual covered		\$3.43		\$2.44		\$1.12
TOTAL SERVICES RENDERED					501,357	
TOTAL ASSESSED COST					\$2,006,949.14	
Average cost per procedure					\$4.00	
Average cost per individual covered					\$2.87	

2. Dental Services for Social Service Recipients

There was an increase in the per capita rate per month for Social Service Recipients, this became effective April 1st, 1962, at which time the rate was raised from 40¢ per month to 45¢ per capita per month. Routine dental care is provided to all recipients except as follows: New dentures and partial plates are provided at half cost to eligible individuals. Posterior bridge work is not provided. Each dentist receives payment in full for other services provided to the Social Service Recipient Group on submission of his accounts to the Alberta Dental Association. In 1962 the province paid to the Alberta Dental Association for dental services \$302,982.20 as compared to \$242,202.40 in 1961. This was an increase of \$60,779.80 or 20.06%

The following table shows the utilization of dental services by Social Service Recipient Group 1960-1962.

The dental services were used by 3,538 more people than in 1961. The average disbursement made by the Alberta Dental Association to the practising dentists during 1962 were \$297,293.60. Administrative costs were \$21,204.00 or 6.9%

TABLE 10—SOCIAL SERVICE RECIPIENTS UTILIZATION OF DENTAL SERVICES
BY GROUPS AND YEARS, 1960-1962

GROUP	Cases Treated						% of Recipients and Dependents		Disbursements				
	1960		1961		1962		1961	1962	Total Per Group			Average Per Case	
	1960	1961	1962	1961	1962	1960	1961	1960	1961	1962	1960	1961	1962
A	3,400	3,225	3,469	10.86	11.77	\$ 64,220.34	\$ 60,980.35	\$ 68,556.26	\$18.88	\$18.91	\$19.76		
Dependents	564	659	578	14.66	12.68	12,006.50	14,788.75	11,482.00	21.24	22.44	19.87		
B	1,189	1,260	1,600	27.60	29.88	25,542.85	26,283.00	33,211.16	21.48	20.86	20.76		
Dependents	501	655	989	26.00	28.19	11,647.50	14,191.00	19,183.08	23.24	21.87	19.40		
C	1,083	1,319	1,652	48.80	50.60	24,450.50	30,970.50	39,429.00	22.58	23.48	23.30		
Dependents	2,808	3,525	4,509	55.99	53.30	63,131.50	80,241.50	94,583.10	22.48	22.76	20.98		
D	...	...	1,344	...	45.64	...	.....	30,849.00	...	...	22.95		
Total	9,545	10,643	14,181	21.09	24.60	\$200,999.19	\$227,455.10	\$297,293.60	\$21.06	\$21.37	\$20.96		

3. Optical Services for Social Service Recipients

The total claim for glasses in 1962 was 8,617 at a cost of \$82,350.03. This represents an increase of 279 in claims and of \$62.90 in payments.

Comparative data for eligible recipients is shown in Table 11.

TABLE 11
SOCIAL SERVICE RECIPIENTS UTILIZATION AND COSTS OF OPTICAL SERVICES
1958 --1962

Year	Average Number of Recipients	Number of Accounts	% of Recipients Obtaining Glasses	Total Cost of Glasses	Cost per Account
1958	40,382	7,766	19.2	\$75,195.90	\$9.69
1959	44,051	7,890	17.9	77,225.30	9.79
1960	47,618	8,523	17.9	82,680.70	9.70
1961	50,459	8,338	16.5	82,287.13	9.88
1962	57,639	8,617	14.9	82,350.03	9.44

The percentage of recipients obtaining glasses was 1.6% lower than in 1961 and the cost per account was 44¢ lower.

The total payment to optometrists was \$37,122.00 for 6,300 claims, an increase of \$1,807.00 or 4.87% in payments and an increase of 290 or 4.6% in claims.

Payments to the medical eye specialist is part of the overall agreement for pensioner medical care made with the College of Physicians and Surgeons.

4. Chiropractic Services for Social Service Recipients

An agreement was concluded between the Alberta Chiropractic Association and the Department of Public Health in June, 1961, whereby in return for a per capita payment of \$1.20 per year by the Department, the Alberta Chiropractic Association provides chiropractic care for all Social Service Recipient Groups except Group D. The total payment to the Association in 1962 was \$69,613.70.

5. Other Treatment Services

These services include physiotherapy and podiatry. Such services are only provided upon the recommendation of the patient's physician and the approval of the Director of Medical Services, Department of Public Health. Expenditure for these services in 1962 amounted to \$2,476.00 and was for physiotherapy. This represented a decrease of \$45.00 or 1.78% in expenditure. Out-patient physiotherapy, received at hospitals is part of the Hospitalization Benefits Program and is not included in the above.

SCHOOLS FOR NURSING AIDES

These schools, started under The Nursing Aides Act, 1947, are intended to give an opportunity for a professional career in nursing to women who might not possess the necessary academic qualifications to enroll in a regular School of Nursing.

This program has been an unqualified success from its beginning and in 1958 a second school was opened in Edmonton, the first school having been started in Calgary in 1948. There is an increasing

demand for the services of these people occasioned by the increase in size and number of acute and auxiliary hospitals and the decreasing time the professional nurse has to spend with the patient. The field of bedside nursing care is becoming the nursing aide's—and she is doing it very well.

TABLE 12
TOTAL NURSING AIDE GRADUATES 1953-1962

1953	208	1958	281
1954	256	1959	451
1955	270	1960	449
1956	254	1961	463
1957	239	1962	541

A total of 4,362 nursing aides have been certified to date. This figure includes those persons certified under Section 16 of the Regulations governing nursing aides in the province.

NURSING RECRUITMENT PROGRAM

With the expansion of Alberta's health program there is a continuing need to maintain the supply of qualified nursing personnel.

Role of Recruitment

The program of Nursing Recruitment has two major phases. It provides a background of information and material for use in provincial programs and gives assistance to local groups in establishing a program that will encourage higher enrollment in all nursing schools.

Approximately 1,800 "Career Folders" of information have been directed to the following groups:

- (a) All secondary schools in Alberta,
- (b) All school counsellors in Alberta,
- (c) 45 Chapters of the Alberta Association of Registered Nurses,
- (d) 24 Health Units,
- (e) 17 Municipal and affiliated nurses,
- (f) 137 hospitals.

Approximately 17,000 pamphlets were distributed.

Each month some 36 letters of enquiry are received. Of this number about 10 are from outside the province.

LABORATORY AND X-RAY SCHOOL

This school was started by the Department of Public Health in 1954 to supply a technician trained in Radiology and Diagnostic Laboratory techniques to smaller hospitals that would be economically unable to hire two such individuals, and whose work load would not justify it.

It has been found necessary and desirable to extend the training course for a period of one month which, by intensive integration with

the existing lecture material, should enable an extended laboratory program to include Bilirubins, Prothrombin Times, B.U.N.'s and Blood Sugar evaluations. This was commenced on October 1st, 1962 and is proceeding until April 1963. One additional instructor has been engaged in laboratory instruction, full time.

The present class numbered twenty-four on enrollment and were selected from over 80 applicants after careful screening, having the extra laboratory program in mind. All students have positions waiting.

To enable the extra laboratory program to be incorporated in the time available, it has been necessary to modify the program concerning orientation periods in active external departments.

On December 31st, 1962, there were 23 students in training with positions awaiting them. To that date 139 had been trained, of these, 101 were active, 64 in rural hospitals, 10 had advanced to a higher degree (Registered Technician), and the remainder in clinics, etc.

DIVISION OF CANCER SERVICES

R. G. Moffat, M.D., D.M.R.E., Director

The number of patients admitted to the three Alberta Cancer Clinics has increased steadily in the past two decades. This increase has been proportional to the increase in population and represents accurately the cancer problem in this area. Cure rates in Alberta compare favorably with those in other centres, both in Canada and throughout the world, which is a tribute to the high standard of surgery and radiotherapy treatment which has been available in the Province.

The most discouraging aspect of the entire cancer picture is the large number of patients who still do not consult a doctor until their disease is generalized. One feels that much of this is unnecessary in view of the generous cancer and hospitalization programs and the universal medical interest in this disease by the profession of the Province, and in spite of the educational program carried out by the Canadian Cancer Society.

While some may still find vexations in the Province's centralized cancer program, it is doubtful if as uniformly high standard of care could be achieved by an unco-ordinated individual effort.

The Cancer Services continue to utilize the efforts of those who are prepared to invest their energies and apply their knowledge in the care of the cancer patient. It owes a tremendous debt to those clinicians who have been responsible for carrying such a high proportion of the load of clinic work in the past. Within the coming year, we shall have admitted one hundred thousand patients to the clinics since their inception in 1941, with the number of visits per year having doubled since 1956.

The increasing patient load and staff requirements bring with them problems of communication, which we hope are offset by the advantage in a greater number of the medical community participating in Clinic programs. The latter factor takes on importance when it is realized that a practitioner is more apt to recognize early malignancy through familiarity with it. The inauguration of peripheral clinics in outlying centres of the Province, in the near future, should go even further in creating a higher index of suspicion of early malignancy by the practitioner. The importance of early treatment is best illustrated by the almost invariable good results for patients when routine cytological examinations have led to diagnosis in patients without conscious symptoms. Need for new facilities is exemplified by a doubling of new malignant cases at the Clinics within ten years, together with the fact that three million of Canada's present population will suffer from this disease in their lifetime.

Despite the remarkable advances in controlling this second cause of death in the last half century, the future progress can be expected to be gradual, painstaking and expensive. The discovery of some magical substance which will produce a cancer cure or immunity seems less likely, on present evidence, than improved preventative measures and more sophisticated treatment.

While acting in the capacity of Temporary Director, the Honourable Minister of Health, Dr. J. Donovan Ross, made a tour of Canadian

and British Cancer centres and, as a result of his intensive efforts, two new radiotherapists, a second physicist and a new Director have been added to the full-time staff of the clinics and further appointments are provided for.

The three Cancer Clinics in the Province of Alberta have experienced a very busy year (1962) as the tables below will reveal:

1. Number of examinations made (Malignant and Benign) January 1-December 31, 1962 is 27,170.

	New		Review		Total	
	1962	1961	1962	1961	1962	1961
Edmonton	2,935	3,030	10,270	10,564	13,205	13,594
Calgary	1,916	1,935	9,907	8,924	11,823	10,859
Lethbridge	532	576	1,610	1,482	2,142	2,058

It will be noted that the total number of examinations made in the Edmonton, Calgary and Lethbridge Clinics is 27,170 as compared with 26,511 in 1961; 24,718 in 1960; 22,075 in 1959 and 19,445 in 1958.

2. Number of examinations made where malignancy was proven 23,008 as compared with 21,874 in 1961 as shown in the following table:

	Edmonton	Calgary	Lethbridge	Total
1962	10,793	10,398	1,817	23,008
1961	10,835	9,311	1,728	21,874

3. EDMONTON CLINIC

New Malignant cases reporting to Clinic—1962	1,239
Previously Benign cases reporting to Clinic—1962	131
Total New Malignant cases reporting to Clinic in 1962	1,370
Non-reporting Malignant cases by—	
Pathological report	185
Autopsy report	53
Reported by Vital Statistics	172
Total	1,780
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1962	8
Cases treated elsewhere reporting to Clinic in 1962	91
Cases who developed a second malignancy in 1962	35

CALGARY CLINIC

New malignant cases reporting to Clinic—1962	869
Previously Benign cases reporting to Clinic—1962	93
Total New Malignant cases reporting to Clinic in 1962	962
Non-reporting Malignant cases by—	
Pathological report	132
Autopsy report	17
Reported by Vital Statistics	133
Total	1,244
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1962	3
Cases treated elsewhere reporting to Clinic in 1962	85
Cases who developed a second malignancy in 1962	43

LETHBRIDGE CLINIC

New malignant cases reporting to Clinic—1962	218
Previously benign cases reporting to Clinic—1962	16
Total New Malignant cases reporting to Clinic in 1962	234
Non-reporting Malignant cases by—	
Pathological report	6
Autopsy report	6
Reported by Vital Statistics	28
Total	40
Total	274
Prior to 1953 Malignant cases reporting to Clinic for the	
first time in 1962	0
Cases treated elsewhere reporting to Clinic in 1962	8
Cases who developed a second malignancy in 1962	10

The total number of New Malignant Cases discovered in Alberta in 1962 was 3,298.

4. Number of examinations made on patients which proved Benign—

1962	2,412	1,425	325	4,162
1961	2,759	1,548	330	4,637

5.(a) The X-ray Department of the Edmonton Clinic has had a particularly busy year as shown in the following tables:

Diagnostic Radiology

	No. of Films	No. of Pts.	No. of Exams.	Average No. of Exams. per day
1962	34,857	8,017	11,140	44.7
1961	26,188	6,504	9,629	38.5
1960	30,405	6,606	10,122	40.4

Outside films reviewed:

1962—9,217 films on 763 patients
 1961—8,390 films on 606 patients
 1960—7,939 films on 654 patients

Non-standard fluoroscopies: 1962— 25
 1961—301
 1960—363

	G.I. Series	Large Bowel and Air Contrast	Barium Fluoroscopies	Urinary Tract	Tomograms
1962 .....	.....	.....	1,179	321	345
1961	640	608	1,248	205	292
1960	700	748	1,448	201	347

Therapeutic Radiology

	1962	1961
New Patients treated with X-ray, Cobalt 60 or Cesium 137	654	639
Patients re-treated with X-ray, Cobalt 60 or Cesium 137	305	498
Patients treated with radium	60	112
Total Patients treated at Clinic	1,019	1,249

Treatments given by

	1962	1961
Cobalt 60	7,927	7,972
Deep X-ray	599	1,383
Superficial X-ray	1,406	1,116
Cobalt 60 and Deep X-ray	217	984
Cesium 137	2,025	2,049
Total treatments	12,174	13,504

Radium insertions, implants and moulds	110	153
Biopsies done at Clinic	65	61
Laboratory examinations in Clinic Laboratory	22,982*	7,789

5.(b) CALGARY CLINIC

Diagnostic Radiology

	No. of Films	No. of Pts.	No. of Exams.	Average No. of Exams. per day
1962	10,427	2,849	3,818	15.3
1961	9,020	2,899	3,231	12.8
1960	7,647	2,236	2,512	10.3

Therapeutic Radiology

	1962	1961
New patients treated with X-ray, Cobalt 60 or Cesium 137	528	591
Patients re-treated with X-ray, Cobalt 60 or Cesium 137	255	167
Patients treated with radium	46	54
Total patients treated at Clinic	829	812

Treatments given by

	1962	1961
Cobalt 60	4,461	4,193
Cobalt rotation	2,083	1,646
Cesium 137	1,889	1,312
Superficial X-ray	1,756	1,426
Combination of Cobalt 60 and Cesium 137	14	14
Total Treatment	10,189	8,591
Biopsies done at Clinic	34	63
Laboratory examinations in Clinic Laboratory	16,856*	5,672

6. NUMBER OF CASES SUPPLIED WITH THE FOLLOWING SERVICES

	Out-Patient Hospital Services		Radiation Therapy	
	1962	1961	1962	1961
Edmonton	388	367	1,019	1,249
Calgary	154	139	829	1,223
Lethbridge	3	10	81	60
	545	516	1,929	2,532

	Diagnostic X-Ray		Major Surgery		Exploratory Laparotomy	
	1962	1961	1962	1961	1962	1961
Edmonton	8,017	6,504	1,112	1,139	172	133
Calgary	2,849	2,918	635	519	85	83
Lethbridge	568	274	137	146	25	23
	11,434	9,696	1,884	1,804	282	239

	Breast Biopsies		Other Biopsies		Diagnostic Curettages	
	1962	1961	1962	1961	1962	1961
Edmonton	455	392	710	690	253	250
Calgary	294	237	610	535	140	123
Lethbridge	105	96	222	179	37	20
	854	725	1,542	1,404	430	393

	Encephalograms, etc.		Bronchoscopy and Esophagoscopy		Sigmoidoscopy	
	1962	1961	1962	1961	1962	1961
Edmonton	15	20	103	108	184	162
Calgary .....	...	...	41	42	13	7
Lethbridge .....	...	...	10	7	7	10
	15	20	154	157	204	179

	Cystoscopy		Investigations and Consultations		Laboratory Tests	
	1962	1961	1962	1961	1962	1961
Edmonton	358	335	172	201	24,587*	8,043
Calgary	151	105	62	52	17,631*	6,817
Lethbridge	54	52	3	7	866*	137
	563	492	237	260	43,084*	14,997

7. Since the opening of the Clinics in 1941 the total number of examinations made is 254,491.

*Units of Laboratory work according to Dominion Bureau of Statistics.

DEPARTMENT OF PUBLIC HEALTH
FIVE YEAR SURVIVALS—EDMONTON CLINIC

Site	Number of Cases	% 5 Year Survivals
Lip	239	78.2%
Tongue	16	60%
Salivary gland	10	40%
Floor of mouth	5	20%
Mouth unspecified	11	45.5%
Oral mesopharynx	6	50%
Nasopharynx	5	0%
Esophagus	27	3.7%
Stomach	343	13.7%
Small intestine	10	60%
Large intestine	292	36.6%
Rectum	225	36%
Liver and biliary tract	63	3.2%
Pancreas	67	0%
Nasal cavity, middle ear and sinuses	8	37.5%
Larynx	18	50%
Lung	214	6.1%
Breast	429	54.1%
Cervix uteri	197	59.9%
Corpus uteri	95	68.4%
Ovary, fallopian tube and broad ligament	90	22.2%
Female genital unspecified	18	66.6%
Prostate	191	27.7%
Testis	22	72.7%
Male genital unspecified	11	72.7%
Kidney	66	30.3%
Bladder	107	42.9%
Cut. Malignant Melanoma	44	45.4%
Skin	678	79.6%
Eye	20	45%
Brain and nervous system	93	23.6%
Thyroid	34	58.8%
Other endocrine	5	63.8%
Bone	14	28.5%
Soft tissue sarcoma	47	63.8%
Secondary nodes (as presenting)	24	16.6%
Lymphosarcoma and Reticulum cell Sarcoma	66	24.2%
Hodgkin's disease	49	38.7%
Other reticulosis	10	50%
Multiple Myeloma	18	0%
Leukaemias	82	9.8%

DIVISION OF SOCIAL HYGIENE

P. L. Rentiers, M.D., Director

The year 1962 has seen greater patient utilization of clinic facilities and services in our three major cities of Edmonton, Calgary and Lethbridge. During the past year the three city clinics handled a total of 37,079 patient visits—an increase of 906 over 1961. It is felt by the Division that this increase, although partially accounted for by increased total population, also reflects, in some measure, a greater awareness of services obtainable by the layman, as well as greater acceptance of the Division on the part of the practising physician. There has been a continued attempt by all members of the Clinics to acquaint both the public and the medical profession with its program.

I should like to comment briefly on some of the pertinent facts revealed in the statistical report to follow.

Gonorrhoea—This disease has shown a very sharp rise in incidence this year. In previous reports it has been mentioned that little reliance can be attached to the total figure, since it is known that many cases of Gonorrhoea are never reported. Thus the rise in incidence (increase of 851 reported cases) serves only as an indicator, the actual increase would be far greater. These rising figures are in part the result of a very disturbing increase in the resistance of the organism of the disease to usual methods of treatment. Penicillin resistant cases are now commonplace—and even the newer antibiotics in several instances have failed to produce clinical cure. This lack of response to treatment greatly facilitates spread of the condition. We are at present evaluating various treatment programs with different antibiotics in an effort to increase the overall cure rate.

Syphilis—In contrast to Gonorrhoea, the incidence of Syphilis has again shown a drop in 1962 from a rate of 10.5 cases per 100,000 population in 1961 to 9.8 per 100,000 in 1962. This drop occurred despite the much publicized discovery of a total of seventeen previously undiagnosed cases in one isolated northern hamlet of the province.

There were five cases of Congenital Syphilis reported in 1962. Of these, three were of the Late, two of the Early type. All five cases occurred in isolated areas where medical (prenatal) care was completely lacking. With the forthcoming improvements in roads and medical facilities to the North, it is hoped that these completely preventable disasters will no longer occur.

Of interest is the fact that sixty-two (46.3%) of the reported cases of syphilis were brought to attention as a direct result of routine blood tests (including the compulsory pre-marital test). It is felt, therefore, that blood testing at every opportunity remains one of our best case finding methods for this disease. Sixty-seven (50%) of the total cases were early infectious, and only three (2.2%) were diagnosed as Late Syphilis. This latter figure emphasizes the effectiveness of epidemiological procedures in finding cases and instituting treatment before progression to the tertiary phase with all its resulting serious disabilities.

Despite the widespread reports of increased incidence of Syphilis in young age groups, Alberta has to date no problem in this regard. After deletion of cases of Congenital Syphilis there remained a total

of eight cases of acquired disease in the 18 years and under age group. Of these eight cases six occurred in patients who were no longer under parental guidance. Of the eight cases seven were of Indian extraction.

The work of the Division continued to be carried on with the valuable assistance of many interested individuals and organizations, but special thanks are extended to the private physicians, the various health and welfare agencies, the Provincial Laboratories, the R.C.M.P. and the local Police. Their support and cooperation is gratefully acknowledged.

DIVISION OF SOCIAL HYGIENE
ALLEGED SOURCES OF OR CONTACTS TO VENEREAL INFECTION
JANUARY 1, 1962 - DECEMBER 31, 1962

	Reported Contacts with Sufficient Information for Investigation			Reported Cases of Venereal Infection with Insufficient or No Information Concerning Contacts
	Number Reported	Number Located	Number No Action Taken	
Totals	3,831	3,565	94	1,283
Residential Status				
Alberta	3,452	3,228	87	....
Non-Alberta	134	92	1	....
Northwest Territories	245	245	6	....
Agents Forwarding Information				
Private Physicians	1,052	997	71	607
Armed Forces	128	108	..	40
Provincial Clinics	2,432	2,314	16	636
Other Provinces	219	146	7	....

EPIDEMIOLOGICAL INVESTIGATIONS CARRIED OUT BY DIVISION OF
SOCIAL HYGIENE

I. Reported Contacts to Venereal Disease

Unit	Processed	Investigated	No Action Taken	Not Investigated Insufficient Information	II. Delinquents		III. Miscellaneous
Edmonton Clinic	2,462	1,912	....	550	491	193
Calgary Clinic	1,638	1,569	....	69	65	165
Lethbridge Clinic	135	121	....	14	2	195
Mobile Clinic	126	123	....	3	....	40
Head Office	5,208	3,831	94	1,283	....	643

PROVINCIAL CLINIC, Alberta Jasper Building, 9815 Jasper Avenue, Edmonton, Alberta
Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Gonorrhoea (All Forms)	1	64	134	1148	309	.....	.....		1656
Syphilis (Congenital)	1	.....	.....	1	
Syphilis (Acquired—Primary)	10	.....	.....	.....	10	
Acquired—Secondary	7	.....	.....	7	
Acquired—Latent	7	4	.....	.....	11	
TOTALS	1	64	134	1166	320	.....	.....	1685	

Number of Cases of Syphilis—Male 18; Female 11 29
 Number of Cases of Gonorrhoea—Male 1,212; Female 444 1,656
 Number and Results of Serological Tests for Syphilis ... 9,508 of which 605 were Reactive
 Number and Results of Darkfield Examinations 85 of which 5 were Positive
 Number and Results of Cerebro-spinal Fluid Tests 2 of which 0 were Positive
 Number and Results of Bacteriological Tests for Gonococci 1,807 of which 1,322 were Positive
 Number and Results of Cultures Taken for Gonococci ... 2,733 of which 866 were Positive
 Total Number of Patient Visits 25,552
 Total Number of New Admissions 1,356
 Total Number of Old Infections for Follow-up First Time in Current Year—
 Syphilis 162
 Gonorrhoea 358

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PROVINCIAL CLINIC—118 - 11th Avenue S.E., Calgary, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms) ..					1		40	31	518	97			687
Syphilis													
(Acquired—Primary) ..							1		9				10
Acquired—Secondary ..									1	1			2
Acquired—Latent ..									1	2			3
TOTALS ..					1		41	31	529	100			702

Number of Cases of Syphilis—Male 12; Female 3 ..	15
Number of Cases of Gonorrhoea—Male 558; Female 129 ..	687
Number and Results of Serological Tests for Syphilis ..	6,915 of which 158 were Reactive
Number and Results of Darkfield Examinations ..	29 of which 6 were Positive
Number and Results of Cerebro-spinal Fluid Examinations ..	7 of which 0 were Positive
Number and Results of Bacteriological Tests for Gonococci ..	3,105 of which 659 were Positive
Number and Results of Cultures taken for Gonococci ..	301 of which 15 were Positive
Total Number of Patient Visits ..	10,980
Total Number of New Admissions ..	1,283
Total Number of Old Infections for Follow-up first time in Current Year—	
Syphilis ..	47
Gonorrhoea ..	370

PROVINCIAL CLINIC, c/o Lethbridge Municipal Hospital, Lethbridge, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms) ..							2	3	64	4			73
Syphilis													
(Acquired—Primary) ..									2	1			3
Acquired—Latent ..										1			1
TOTALS ..							2	3	66	6			77

Number of Cases of Syphilis—Male 2; Female 2 ..	4
Number of Cases of Gonorrhoea—Male 66; Female 7 ..	73
Number and Results of Serological Tests for Syphilis ..	356 of which 18 were Reactive
Number and Results of Darkfield Examinations ..	7 of which 3 were Positive
Number and Results of Cerebro-spinal Fluid Tests ..	2 of which 0 were Positive
Number and Results of Bacteriological Tests for Gonococci ..	163 of which 72 were Positive
Number and Results of Cultures taken for Gonococci ..	22 of which 2 were Positive
Total Number of Patient Visits ..	547
Total Number of New Admissions ..	89
Total Number of Old Infections for Follow-up first time in Current Year—	
Syphilis ..	9
Gonorrhoea ..	1

MOBILE CLINIC—Lac La Biche, McMurray, Fort McKay, Athabasca, Slake Lake Area, Whitecourt, Valleyview, Peace River and Grande Prairie Areas, Red Deer, Drayton Valley and Edson Areas.

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Syphilis (Congenital) ..	1												1
Acquired—Primary ..									4				4
Acquired—Secondary ..							1	3	3	5			12
Acquired—Latent ..							1		4	1			6
TOTALS ..	1						1	4	11	6			23

Number of Cases of Syphilis—Male 16; Female 7 ..	23
Number and Results of Serological Tests for Syphilis ..	1,229 of which 106 were Reactive
Total Number of Treatments Given ..	217

DEPARTMENT OF PUBLIC HEALTH

PROVINCIAL GAOL—Fort Saskatchewan, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....							8	39	49	154			250
Syphilis							1		2				3
Acquired—Latent													
TOTALS							9	39	51	154			253

Number of Cases of Syphilis—Male 3; Female 0 3
 Number of Cases of Gonorrhoea—Male 57; Female 193 250
 Number and Results of Serological Tests for Syphilis 5,823 of which 145 were Reactive
 Number and Results of Cerebro-spinal Fluid Tests 0 of which 0 were Positive
 Number and Results of Bacteriological Tests for Gonococci 76 of which 50 were Positive
 Number and Results of Cultures taken for Gonococci 2,814 of which 420 were Positive

PROVINCIAL GAOL, Lethbridge, Alberta.

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....									7				7
TOTALS									7				7

Number of Cases of Syphilis—Male 0 0
 Number of Cases of Gonorrhoea—Male 7 7
 Number of Prisoners Admitted—2,259
 Number and Results of Serological Tests for Syphilis 870 of which 10 were Reactive

SPY HILL GAOL, Calgary, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....									3				3
TOTALS									3				3

Number of Cases of Gonorrhoea—Male 3 3
 Number of Prisoners Admitted—2,956
 Number and Results of Serological Tests for Syphilis 750 of which 4 were Reactive

PRIVATE PHYSICIANS REPORTING CASES

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....					2	3	76	53	563	116	55	17	885
Syphilis—Congenital	1						1						3
Acquired—Primary							2		7		2		11
Acquired—Secondary					1	2	2	1	1			1	8
Acquired—Latent							1		22	11	1		35
Acquired—Tertiary (Neurosyphilis)									3				3
TOTALS	1				2	5	81	56	596	128	58	18	945

Number of Cases of Syphilis—Male 42; Female 18 60
 Number of Cases of Gonorrhoea—Male 696; Female 189 885
 Number of Doctors in the Province Receiving Consultative Service—90

NEW CASES OF SYPHILIS AND GONORRHOEA REPORTED IN ALBERTA—1962

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Gonorrhoea (All Forms).....					2	5	190	260	2352	680	55		17	3561
Syphilis—Congenital	2				1		1	1					5
Acquired—Primary							3		32	1	2		38
Acquired—Secondary					2	5	2	5	14			1	29
Acquired—Latent							3		36	19	1		59
Acquired—Tertiary (Neurosyphilis)									3				3
TOTALS	2				2	8	201	263	2429	714	58	18	3695
Total Cases Syphilis—Male 93; Female 41													134
Total Cases Gonorrhoea—Male 2,599; Female 962													3,561

TOTAL NUMBER OF CASES REPORTED BY VARIOUS CLINICS OF THE DIVISION OF SOCIAL HYGIENE

Sex	Syphilis	Gonorrhoea	Totals
Male	51	1,903	1,954
Female	23	773	796
TOTALS	74	2,676	2,750

CASES REPORTED BY DOCTORS AND MILITARY AUTHORITIES

	Private Physicians	Armed Forces	Totals
Syphilis	56	4	60
Gonorrhoea (All Forms)	747	138	885
TOTALS	803	142	945

NEW CASES OF SYPHILIS AND GONORRHOEA REPORTED IN NORTHWEST TERRITORIES—1962

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Gonorrhoea (All Forms).....							5	10	86	45	8		2	156
Syphilis													
Acquired—Primary									1				1
Acquired—Secondary										1			1
Acquired—Latent									1		1		2
TOTALS							5	10	88	46	9	2	160
Number of Cases of Syphilis—Male 3; Female 1													4
Number of Cases of Gonorrhoea—Male 99; Female 57													156

REPORT OF THE PROVINCIAL LABORATORIES

R. D. Stuart, M.D., Director

During 1962 the Provincial Laboratories carried out 790,649 examinations, an increase of 103,544 over 1961. The Edmonton laboratory did 76,467 more examinations, the Calgary laboratory 27,077 more examinations, the relative percentage increases being 14 and 16—this year somewhat greater in the Calgary laboratory. In both laboratories the increase was general but throat swab and cervical swab examinations increased more than others.

SPECIAL TRENDS

This year the trend seems to have been towards the development of special reference services, which accords with the Department of Health's policy to assist in the evolution of laboratory diagnostic facilities within the Province. The functions of a reference laboratory include not only the provision of special tests possible only in a central institution but also the testing and appraisal of advances in more generally applicable procedures. A major exhibition of the first function is in exfoliative cytology which is discussed in the next section. Illustrative of the second function is the introduction by the Division of Pathology under Dr. Macgregor of the "Ortho" test, as it is called, for the diagnosis of pregnancy. This test does not require the use of rabbits or frogs which were previously necessary and could do much to overcome the variability of response inevitable in biological investigations. The test is being carried out in parallel with our routine method of pregnancy diagnosis and data are presently being compiled from questionnaires being sent out to physicians to determine its accuracy and reliability. New methods are also being tested by the Division of Bacteriology, the most promising being the fluorescent antibody technique. This has been applied in parallel with established methods to 508 examinations for enteropathogenic *E. coli*, to 148 gonococcal investigations and to 127 serological tests for syphilis in cases where irregular or debatable results were being encountered. The technique is still in an experimental phase but holds much promise for the development of quicker and more accurate diagnostic methods. In the Division of Virology a good deal of preliminary work has been done in developing and expanding facilities for the investigation of infections caused by arboviruses. These viruses are responsible for the principal encephalitides of man which always present major problems in clinical diagnosis and Public Health control. The reference facilities which will soon be provided in this dangerous and exacting field should be able to meet the inevitable and probably increasing demand for them from all areas of the Province.

Along slightly different lines the conception of reference laboratory activity has been instanced in specialist orientation. Dr. Ritzen, who recently took up a Provincial appointment as pathologist to the Red Deer area, spent a preliminary 3 months in the Provincial Laboratory and in the associated Biochemical Division of the University Hospital so that he might be able to utilize fully the reference facilities available.

NEW OR SUPPLEMENTARY SERVICES

Exfoliative cytology in which cancer cells are identified in smear examinations from exudates and which is particularly applicable to the early diagnosis of cervical cancer in women has now reached the status of a service. In both Edmonton and Calgary laboratories the number of examinations carried out more than doubled over the previous year. This imposed a very considerable strain on available staff and necessitated setting up a special program to train extra personnel specifically for this work. The eventual scope and significance of such forms of investigation are still doubtful but it is probably best that the service should develop initially within the ambit of the Provincial Laboratories where specialist professional supervision is available and where the techniques can be controlled by the more thorough, if more time consuming, established histopathological methods. Later developments may better be associated more directly with the Cancer Clinics of the Province.

REGULAR SERVICES

Pathology

In both laboratories the amount of work increased quite substantially. Much of the work done, though of vital importance to medical diagnosis or surgical procedure, is too complicated to review briefly. The identification of malignancy is only one aspect of this work but its continued importance is obvious. In Edmonton, 1,136 and in Calgary 375 such specimens were detected. Another aspect to which Dr. Macgregor draws attention is the significant amount of medico-legal pathology carried out in his Division by Dr. Swallow. This work is done solely for Federal and Provincial organizations. Undoubtedly detailed and accurate pathological examinations are of vital importance not only in criminal cases but also in certain accidents as in determining the cause of air catastrophies. Attendance at Court thus becomes obligatory to the pathologist concerned, and inevitable but unfortunately time consuming part of his duties.

Bacteriology

Last year the importance of *Salmonella thompson* as a cause of bacterial food poisoning was emphasized but my prophecy that the peak of its importance had been reached has not been very conclusively fulfilled. This year the organism was isolated from 184 specimens, only 57 fewer than last year, and it produced at least one very significant outbreak in a large provincial hospital. The origin of the infection was eventually traced to meringue powder, a dried egg-albumin preparation used in the preparation of certain desserts served in the hospital cafeteria. Although some of the resulting illnesses were severe all were of comparatively short duration ending in recovery. The episode, added to evidence appearing from other areas of the country, did much to support the incrimination of egg powders in cake mixes and certain confections as vehicles for the transmission of *Salmonella* food poisoning to man. The firm action by the Federal Government in controlling the quality of such materials has been much appreciated.

Diphtheria has continued to be of Provincial importance and the source of much laboratory work. Dr. Shute from Calgary reports 20 isolates of virulent *C. diphtheriae* mainly from persons in the Blood Indian Reserve at Cardston and in the Peigen Reserve at Brocket and again

comments on the importance of ear infections. In the northern part of the Province, diphtheria appeared particularly in the Indian reserves around Goodfish Lake, although cases were also found in the Northeastern Alberta Health Unit and in the Indian Reserve at Hobbema. Many hundreds of swabs had to be investigated to determine possible carriers. Investigations are still proceeding but it is hoped that the co-operation of our two laboratories in the identification of potential distributors has helped both Federal and Provincial authorities in their mutual concern over the control of the disease.

The suggested resurgence of venereal disease is not indicated in our figures for the control of syphilis (Table 4). The total number of serological tests was approximately equal to last year's. The percentage of positives rose in Calgary and fell in Edmonton but this is of small significance because it is not related specifically to new cases. Investigation for gonorrhoea, however, increased considerably in each laboratory. In Edmonton where much reliance is placed on culture investigation an increase in the percentage of positives from 10% to 16% was noticed in specimens from the Provincial Gaol and from 20% to 23% in the Provincial Clinic. Since the sampling methods of the Division of Social Hygiene are not known to have varied and the laboratory methods have remained the same this increase may have certain ominous implications.

Virology

For the first time this section of our activities merits a special heading. Although at the present stage of development of technical methods it cannot be considered entirely a routine service, the Virology Division of the Provincial Laboratory carried out investigations for health authorities in epidemic situations and for medical practitioners in difficult or puzzling cases from all areas of the Province and from the Northwest Territories. Of chief moment perhaps was the demonstration in January, February and March of the occurrence of widespread though localized outbreaks of Influenza B. Areas involved were Calgary, Hanna, Cold Lake, Barrhead and Edmonton. In the following month Influenza A, the Asian variety, produced a minor epidemic in Penhold. These occurrences were identified by serological methods and by the isolation of the specific virus in each outbreak. After May no further occurrences of Influenza were detected. Polio was of very low incidence in the Province during the year but strains of Polio Type 1 were isolated in July, September and October and of Polio Type 3 in July. Many cases of suspected Polio, usually with clinical symptoms of aseptic meningitis, were also investigated and in a number of instances enteroviruses other than Polio were implicated. Coxsackie A 23 seemed to be of chief importance in this series. Other Coxsackie strains, A 9 and B 5 were identified sporadically mostly from cases of pleurodynia or herpangina. The General incidence of enteroviruses, however, was low which augurs well for the efficacy of the Sabin Vaccine campaign to be initiated next year. A high incidence of these enteroviruses in a population tends to interfere with the immunizing activity of the polio virus strains introduced in the oral vaccination procedure.

In mid-August the possibility of the introduction of virulent Smallpox into the Province had to be met. This raised very considerable problems for the Virus unit since Smallpox investigations are so dangerous that they can be completed only in special areas in which no other work is carried out. Arrangements were made so far as possible to divide the Virus unit in order to set up the special precautions necessary and much work was done chiefly by Dr. Williams in an endeavour to have all facilities available for a possible urgent demand. Fortunately this

demand did not materialize but the incident emphasized the necessity and value of the proposed duplicate virus area to be set up in the near future.

STAFF

During the year the usual staffing problems were encountered in technical and other personnel. The introduction of the 5 day week by the University brought this laboratory for the first time into a situation comparable with that of the usual Civil Service administration. Means to overcome the difficulty of working a seven day week, essential to the provision of these laboratory services to the Province, on a five day week principle are still being sought but both Dr. Shute and I would like to comment on the valuable and understanding support we have received from our respective staffs.

Only one change has to be reported in senior staff. In September, for family reasons, Dr. Williams resigned her appointment as Virologist. Dr. Williams' success in setting up a Virus Laboratory with practically no specifically trained staff and in bringing it to its current phase of development in two years is a remarkable achievement and I wish to record my deep gratitude to her. We were exceptionally fortunate, however, in finding almost immediately a satisfactory replacement in Dr. Odosca Morgante, an experienced medically qualified Bacteriologist who had just returned from the United States after two years training in virological procedures. Dr. Morgante's enthusiasm and special training in more advanced techniques should do much to maintain the progress of this laboratory division and to enhance its achievements.

TABLE 1
EXAMINATIONS PERFORMED IN THE PROVINCIAL LABORATORIES
YEAR 1962

CONTROL OF COMMON INFECTIONS	Edmonton	Calgary
Diphtheria	11,819	3,661
Enteric-dysentery	14,529	2,779
Fungus infections	5,801	1,052
Intestinal parasites	847	121
Naso-pharyngitis	16,402	3,697
Tularaemia serology	1,360	520
Tuberculosis	16,768	3,608
Undulant fever serology	1,360	520
Whooping cough	229	40
OTHER DIAGNOSTIC AND MISCELLANEOUS		
Animal inoculations (other than T.B.)	229	82
Antibiotic etc. sensitivities—disc	254,637	93,534
quantitative	3	327
Blood cultures	1,429	182
Leptospirosis	190	.....
Miscellaneous	25,938	8,585
Paul Bunnell test	1,783	602
P.M. bacteriology	540	.....
Referred cultures	1,360	14
Special investigations	10,745	.....
Trichomonas	12,253	895
Virus infections	19,991	.....
VENEREAL DISEASE CONTROL		
Chancroid etc.	7	.....
Gonorrhoea—Smears	2,817	6,336
Cultures	13,299	890
Syphilis	113,087	42,701
SANITARY BACTERIOLOGY		
Food Products	109	40
Water	18,772	11,356
Restaurant Hygiene	240	.....
Milk and Cream .....	.....	204
PATHOLOGY		
Diagnostic cytology—blood smears	272	164
cervical smears	7,984	3,692
bone marrows	59	8
fluids	767	140
Routine diagnostic histology	27,843	7,281
Routine autopsy histology	12,780	463
Pregnancy diagnosis—frog	896	.....
	<hr/> 597,145	<hr/> 193,504

DEPARTMENT OF PUBLIC HEALTH

TABLE 2
CONTROL OF ENTERIC-DYSENTERY INFECTIONS

EXAMINATIONS	Edmonton	Calgary
Blood and Clot Cultures	1,355	492
Faeces Cultures	7,940	1,696
Urine Cultures	33	18
Other Examinations	831	53
Serological Tests	1,360	520
DETAILS OF ISOLATIONS		
SALMONELLA		
s. typhi	30	23
s. paratyphi B	29	17
s. thompson	167	31
s. heidelberg	114	38
s. typhi murium	103	7
s. oranienburg	9	8
Other Salmonellae	30	
SHIGELLA		
Sh. flexneri	323	29
Sh. sonnei	23	13
ENTEROPATHOGENIC E. coli		
0111:B4	103	
0119:B14	77	
0128:B12	42	
Other	69	

TABLE 3
CONTROL OF TUBERCULOSIS

EXAMINATIONS	Edmonton	Calgary		
Microscopic	7,969	1,580		
(Positives)	367	73		
Cultures	6,854	1,037		
Animal inoculations	1,945	991		
SPECIMENS				
	No.	Positive	No.	Positive
Pulmonary	5,889	416	1,526	70
Meningeal	102	9	15	0
Renal	1,292	67	445	2
Other	749	84	246	1

TABLE 4
CONTROL OF SYPHILIS

	Edmonton	Calgary
CEREBRO-SPINAL FLUIDS—Wassermann (Kolmer)	1,331	1,002
Bloods—		
Presumptive Kahn or VDRL	100,109	31,688
Standard Kahn		4,856
Quantitative Kahn or VDRL	1,853	196
Wassermann (Kolmer)	9,794	4,959
Blood and cerebro-spinal fluid "positive" to reaction	585	129
Blood and cerebro-spinal fluid giving reaction below laboratory diagnostic level	1,494	773
PRE-MARITAL BLOODS submitted according to Provincial Regulations	12,805	8,338
Positive to Reaction	10	6

TABLE 5
SANITARY CONTROL WATER

	Edmonton	Calgary
Water (No. of specimens)	8,983	4,595
Coliform test—Presumptive	8,943	4,271
Confirmed	2,597	1,079
Special	95	1,475
Plate count	7,137	4,531
Waters found bacteriologically unsuitable	643	1,078

TABLE 6
SERA AND VACCINE DISTRIBUTED

	Edmonton	
Tetanus-Polio Vaccine (Biad)	10 cc	2,502
Diphtheria Antitoxin	1,000 units	308
Diphtheria Antitoxin	40,000 units	161
Diphtheria Toxin for Schick Test	25 persons	688
Diphtheria Toxoid	3 x 1 cc	829
Diphtheria Toxoid	6 x 6 cc	57
Diphtheria Toxoid dilute, for reactors	4 x 1 cc	171
Diphtheria Toxoid for sensitivity test	2½ cc	20
Diphtheria Toxoid, Pertussis Vaccine, Tetanus Toxoid (DPT)	3 x 1 cc	1,212
Diphtheria Toxoid, Pertussis Vaccine, Tetanus Toxoid (DPT)	6 x 6 cc	49
Diphtheria Toxoid and Tetanus Toxoid (DT)	3 x 1 cc	3,528
Diphtheria Toxoid and Tetanus Toxoid (DT)	6 x 6 cc	360
Gas Gangrene Antitoxin	10,000 units	745
Immune Serum Globulin	2 cc	3,929
Immune Serum Globulin	5 cc	5,271
Poliomyelitis Vaccine	10 cc	12,500
Diphtheria, Pertussis, Tetanus and Polio Vaccine (QUAD)	10 cc	17,835
Rabies Antiserum	1,000 cc	7
Rabies Vaccine	0.5 cc	1
Rabies Vaccine	14 x 2 cc	5
Rocky Mountain Spotted Fever Vaccine	3 cc	150
Rocky Mountain Spotted Fever Vaccine	20 cc	100
Scarlet Fever Antitoxin	9,000 units	19
Smallpox Vaccine	1 point	4,026
Snakebite Antivenin	10 points	15,340
Staphylococcus Antitoxin	10 cc	6
Staphylococcus Antitoxin	20,000 units	201
Staphylococcus Toxoid	2 x 2 cc	1,451
Tetanus Antitoxin	1,500 units	2,784
Tetanus Antitoxin	20,000 units	60
Tetanus Toxoid	3 x 1 cc	2,755
Tetanus Toxoid	30 cc	421
Diphtheria, Tetanus Toxoid and Polio Vaccine (TRIAD)	10 cc	6,382
Typhoid-Paratyphoid Vaccine (TAB)	1 person	839
Typhoid-Paratyphoid Vaccine (TAB)	10 cc	524
Typhoid-Paratyphoid Vaccine and Tetanus Toxoid (TABT)	3 cc	2,941
Typhoid-Paratyphoid Vaccine with Tetanus Toxoid (TABT)	25 cc	389
Typhoid-Paratyphoid Vaccine with Tetanus and Diphtheria Toxoids (TABTD)	25 cc	79
Anti-Measles Serum	1,000 cc	5
Autogenous Vaccine (Provincial Laboratory)	20 cc	30

TABLE 7
MINIMUM COMMERCIAL VALUE ASSESSED FROM RECOMMENDED
PROVINCIAL SCALES

Examination	Edmonton	Value	Calgary	Value	Total
Diphtheria	11,819	\$ 11,819	3,661	\$ 3,661	\$ 15,480
Enteric-dysentery	14,529	29,058	2,779	5,558	34,616
Fungus Infections	5,801	17,403	1,052	3,156	20,559
Intestinal Parasites	847	847	121	121	968
Naso-pharyngitis	16,402	16,402	3,697	3,697	20,099
Tularaemia serology	1,360	680	520	260	940
Tuberculosis	16,768	33,536	3,608	7,216	40,752
Undulant Fever serology	1,360	680	520	260	940
Whooping cough	229	458	40	80	538
Animal Inoculations (other than T.B.)	229	687	82	246	933
Antibiotic etc. sensitivities—disc	254,637	50,928	93,534	18,707	69,635
—quantitative	3	9	327	981	990
Blood cultures	1,429	2,858	182	364	3,222
Leptospirosis	150	380	—	—	380
Miscellaneous	25,938	25,938	8,595	8,595	34,533
Paul Bunnell Test	1,783	3,566	602	1,204	4,770
P. M. Bacteriology	540	1,080	—	—	1,080
Referred cultures	1,360	2,720	14	28	2,748
Special Investigations	10,745	32,235	—	—	32,235
Trichomonas	12,253	12,253	895	895	13,148
Virus infections	19,991	99,955	—	—	99,955
Chancroid etc.	7	14	—	—	14
Gonorrhoea—smears	2,817	2,817	6,336	6,336	9,153
—cultures	13,299	13,299	890	890	14,189
Syphilis	113,087	226,174	42,701	85,402	311,576
Food Products	109	218	40	80	298
Water	18,772	37,544	11,356	22,712	60,256
Milk and Cream	—	—	204	408	408
Restaurant Hygiene	240	240	—	—	240
Diagnostic cytology—blood smears	272	544	164	328	872
—cervical smears	7,984	15,968	3,692	7,384	23,352
—bone marrows	59	118	8	16	134
—fluids	767	1,534	140	280	1,814
Routine diagnostic histology	27,843	111,372	7,281	29,124	140,496
Routine autopsy histology	12,780	51,120	463	1,852	52,972
Pregnancy diagnosis—frog test	896	4,480	—	—	4,480
TOTALS	597,145	\$808,934	193,504	\$209,841	\$1,018,775

DIVISION OF SANITARY ENGINEERING

H. L. Hogge, B.Sc., P.Eng., Director

The program of this Division during 1962 continued to be influenced by the increasing trend of industrial development, and the expansion and modernization of urban areas in the province.

There were a total of 262 projects for water and sewage system construction approved and 23 of these were for new systems, bringing the number of operating waterworks systems to 203, and sewerage systems to 214. The population served by these systems is 916,513 and 918,975 respectively and this is 68.6 and 68.7% of the provincial population (1962), or about 98.5% of the urban population. Also construction plans for 12 public swimming pools (2 indoor pools) and 6 semi-public pools were approved.

Air pollution control facilities at five industrial plants were reviewed and approved. Air pollution observations by continuous monitoring equipment in our two Mobile Labs for sulfur dioxide and hydrogen sulfide gases were continued in various parts of the province, mainly near some of the sour gas processing plants. Also, the sulfur content of vegetation and corrosion of metal in certain areas were used as indicators of pollution effects. In one area, the Pincher Creek-Waterton district, a survey of 59 families was made to obtain direct information as to their observations of air pollution from two gas processing and sulfur recovery plants, and associated gas wells. During the year no adverse effects of air pollution were confirmed and tests to date have shown no excessive pollution, with the possible exception of recurring odors over appreciable areas in one or two oil field areas. Continued work by the Oil and Gas Conservation Board in controlling the release of hydrogen sulfide at oil field 'batteries' has achieved a significant reduction in the occurrence of the sour gas odors.

A Scientific Advisory Committee on Air Pollution was established this year by the Minister of Health to consider and advise in detail on the adverse effects of air pollution. The first project of this Committee is to evaluate the air pollution occurring and its effect in the Pincher Creek-Waterton area where numerous complaints have been made.

Sanitary Inspection work was carried out in areas not served by Health Units, chiefly the extreme northerly and southerly sections of the province. Inspection of users of radioactive materials and special checks of fires and accidents involving radioactive 'sources' was continued and on a more extensive basis than in 1961 by one of the inspectors.

Plumbing Inspection work was confined mainly to industrial and unincorporated urban areas not having their own 'plumbing inspector', although an increasing number of villages and smaller towns are using the Provincial Plumbing Inspectors. A number of revisions to the Plumbing and Drainage Regulations were approved this year and a general revision of the regulations effected during 1962.

The organization of the Division remained the same as in 1961 with five sections, each supervised by a Section Head. The work of each section is outlined below:

I. MUNICIPAL ENGINEERING SECTION

Head, Wm. Bailey, B.Sc., S.M., P.Eng.

The staff of this Section was increased to three engineers in 1961 and has made it possible to expedite approvals of plans for water and sewerage works and swimming pools. It has also been possible to make field inspections of work approved by this office. In the past, time did not permit this important part of our work.

To improve the efficiency of our operation, specific health unit areas of the province were assigned to Mr. Briggs and Mr. Nelson. They are each responsible for about 90 communities having waterworks and/or sewerage systems. Other work, such as fluoridation reports, water chemical analysis, sewage lagoon research, operator's school planning and special project work was assigned to these men while general correspondence and requests for information was handled by Mr. Bailey, together with general administrative responsibilities.

Mr. Briggs completed his University Course in 'Botany 330' in the spring and is able to supply information on algae identification.

As usual, the greatest portion of our time was spent reviewing plans and in discussion with consulting engineers, manufacturer's representatives and the public.

Our operators' schools continue to be very popular. Two of the four schools were held this year with attendance of 60 and 42 for the first and third year schools respectively. The first year school was the largest class of any school held to date. Attendance figures to date for these schools are as follows:

(a) Completed 1st year	256
(b) Completed 2nd year	153
(c) Completed 3rd year	126
(d) Completed graduate course	28
(e) Number of different systems represented	144

The following tables give information on the 1962 waterworks and sewerage construction:

A. New Systems

	Provisional Certificates		Final Certificates	
	No. Issued	Estimated Cost	No. Issued	Estimated Cost
Water	11	\$ 906,800	9	\$ 810,784
Sewer	12	798,250	14	766,899
Total	23	\$1,705,050	23	\$1,577,683

B. Extensions to Existing Systems

	Provisional Certificates		Final Certificates	
	No. Issued	Estimated Cost	No. Issued	Estimated Cost
Water and Sewer				
Mains	23	\$8,435,572	109	\$5,174,188
Water Supply and				
Treatment	16	1,890,320	25	1,541,391
Trunk Sewers and				
Treatment	13	1,291,610	16	780,630
Storm Sewers	3	65,710	11	353,573
Total	55	\$11,683,212	161	\$7,849,782
Grand Totals				
(A + B)	78	\$13,388,262	184	\$9,427,465

There were 268 certificates issued, of these 6 were superseded.

The Final Certificate estimated cost figure of \$9,427,465.00 is only 50% of this figure for 1961 which was the largest figure on record.

Statistics on December 31/62 show that there were 227 communities with waterworks and/or sewerage systems. There were 204 waterworks systems and 214 sewerage systems in operation, an increase of 9 and 12 respectively over 1961 figures.

The communities which installed waterworks and/or sewerage systems this year are:

	Waterworks	Systems	Sewerage
Arrowwood .....	..	..	1
Beaumont	1	..	1
Blackie .....	..	..	1
Caroline	1	..	1
Cereal	1	..	1
Chipman	1	..	1
Cremona	1	..	1
Halkirk .....	..	..	1
Heisler .....	..	..	..
Killam	1	..	..
Onoway	1	..	1
Slave Lake	1	..	1
Warspite	1	..	1

On January 1, 1962, Forest Lawn amalgamated with Calgary and Beverly amalgamated with Edmonton. In effect, there were 2 waterworks and 2 sewerage systems removed from our lists.

Swimming Pools

Approvals for swimming pools were issued for 12 new public pools, 10 outdoor and 2 indoor, while approvals for semi-public pools numbered 6. Mr. Bailey and Mr. Briggs assisted with the Swimming Pool Schools in Edmonton, Calgary and Lethbridge. Attendance at these schools numbered 30, 56 and 15 respectively.

II. AIR AND WATER POLLUTION CONTROL SECTION

Head, J. J. Rolston, B.Sc., P.Eng.

The work in this section during 1962 is reported in the two fields separately as follows:

A. AIR POLLUTION

The activities of this section are summarized below.

(a) Operation of Mobile Laboratories

Two mobile air pollution detection units were operated in the province on a continuous basis. These units are used to investigate complaints and to observe general air pollution levels in the vicinity of gas processing plants. Surveys were carried out at 14 different locations (three locations were re-surveyed). A total of 18 separate surveys were carried out during the year, comprising of 674 observation days. A total of 56 observation days were lost due to moving the units, mechanical difficulties, etc.

(b) Exposure Cylinder Surveys

During 1962, ten new exposure cylinder stations were established and two stations were abandoned. A total of 86 stations are in operation at the present and the cylinders in each are changed monthly. Analysis of the cylinders is carried out in the Pollution Control Laboratory. In conjunction with the exposure cylinder stations, a total of 23 dustfall samplers (an increase of 2 over 1961) are maintained, along with 3 atmospheric fluoride monitoring stations.

(c) New Industry

Five applications for the approval of air pollution facilities at various plants in Alberta were processed and approved. In addition to this, discussions have been held with a number of companies contemplating future development.

(d) Incinerators

The establishment of a set of design standards for refuse incinerators was started. Seven incinerator designs were reviewed and four were approved.

(e) Studies of Pollution Sources

Four stack sampling surveys were carried out during the year, and the operations of seven industrial processes studied with specific reference to air pollution control.

(f) Effect of SO₂ Upon Vegetation

A study of the effect of the release of SO₂ from high stacks upon timber surrounding two gas processing plants was continued. This study is being carried out in co-operation with the Department of Lands and Forests. Vegetation samples were also obtained in the vicinity of other SO₂ sources to supplement previous year's data. A total of 358 samples were obtained.

(g) Corrosion Study

The study of the rate of metal corrosion in oil field areas was continued this year; this study is being carried out in co-operation with Alberta Government Telephones. Copper and steel wire, together with a variety of jointing devices are exposed.

(h) Miscellaneous Samples

Monitoring for oxides of nitrogen and oxidant has been carried out by automatic instruments. Some difficulty has been experienced with the instruments, therefore, a continuous record is not available. Oxidant has been measured daily by a manual sampler and three Hi-volume samplers have been operated in the City of Edmonton. Observations of smoke concentrations have also been carried out in Calgary and Edmonton.

(i) Assistance was given the Imperial Oil Co. in evaluating the effectiveness of a flare for dispersing SO₂ from its gas plant at Devon.

(j) Assistance was rendered to the Department of Lands and Forests in determining the effect of the emission of fluoride from an industrial process upon antelope. Analysis showed there was no cause for concern.

(k) Complaints of air pollution have been investigated. Approximately 20 specific complaints were studied and solutions recommended where complaints were verified.

- (I) Lectures on air pollution were given at two training courses:
- i. Sanitary Inspectors In-Training Course
 - ii. Petroleum Industry Training Service
- (m) Equipment was purchased and methods for the calibration of atmospheric monitoring apparatus evaluated.

B. WATER POLLUTION

Water pollution control during 1962 involved routine surveys on industrial and domestic wastes, and on most of the major rivers and streams in Alberta. Regular investigations were made on the major industries which contribute significant amounts of liquid wastes to the water courses.

During the winter of 1961-62, the North Saskatchewan River was sampled frequently and in early spring a meeting was held with the Mayor and Council of Battleford, Saskatchewan, to discuss the quality of the North Saskatchewan River water.

A special study was made of the North Western Pulp and Power Mill wastes at Hinton and their effects on the Athabasca River. Both the mill and the Athabasca River were sampled on a monthly basis during the winter of 1961-62.

During the spring and in the early part of the summer, the major sampling surveys were concerned with the disposal of stored industrial wastes.

The summer of 1962 was used to investigate the possibilities of developing an automatic sampler for use in the field besides performing routine and regulatory investigations on industrial wastes. A special study was made of the Row River at Calgary and the sewage treatment plants and industries associated with it.

During the fall a survey of southern Alberta sewage treatment plants and industries was made. Special emphasis was placed on the waste water from the Sugar Factories and its effect on the Oldman River.

Early in the winter of 1962-63 a special study was made of the Edmonton Sewage Treatment Plants to establish a definite pattern of fluctuation in the quality of sewage released to the North Saskatchewan River.

A paper on the Bow River and its pollution absorption capacity was prepared and presented at the Western Canada Water and Sewage Conference.

A detailed account of the survey work carried out during 1962 follows.

In the course of the Stream Sanitation Program, the rivers, industrial wastes, and sewage effluents throughout the Province of Alberta were sampled. The following is a general outline of the efforts in this phase of stream pollution control:

Rivers

1. North Saskatchewan—Grab sampled two to three times per week near Edmonton during the winter of 1961-62 and grab sampled monthly to Lloydminster during the same period. Occasionally a 24 hour sampling study was made at various locations on the River.

Grab samples only were occasionally taken near Edmonton during the summer period.

2. Red Deer River—During the winter of 1961-62 the river was composite sampled from Red Deer to Drumheller on one occasion, and from Red Deer to Nevis on another occasion.
3. Athabasca River—Sampled monthly during winter of 1961-62 and again during the late fall and early winter of 1962-63.
4. Bow River—One intensive survey from Calgary to Carseland during the winter of 1961-62; two week-long surveys during the summer of 1962; and a week-long survey during early winter, 1962-63.
5. Oldman River—One week-long survey during winter of 1961-62, and one week-long survey in fall of 1962.
6. Blindman River—One grab sampling survey in early spring of 1962 in the Rimbey area.

Industries

1. Canadian Chemical Co.—One 24 hour sampling survey during the early part of 1962.
2. Edmonton Oil Refineries—One 24 hour survey during early 1962.
3. Canadian Industries, Building Products and Naugatuck Chemicals—One survey during winter 1961-62; monthly grab samples taken throughout the winter and occasionally during summer. Monthly samples during winter 1962-63.
4. Sherritt Gordon Mines and Dow Chemical—One survey during winter of 1961-62 and monthly samples also for that period. Occasional samples during summer and fall of 1962, with monthly samples being taken during winter of 1962-63.
5. Calgary Oil Refineries—One survey during winter of 1961-62; two summer surveys, and one survey during early winter 1962-63.
6. Southern Alberta Canneries—One survey during fall of 1962.
7. Sugar Beet Factories—One survey in fall of 1962.
8. Hinton Pulp Mill—Monthly surveys during winter of 1961-62 and again during fall and winter of 1962-63.

Sewage Effluents

1. Edmonton Sewage Treatment Plants—Weekly during winter of 1961-62. Occasionally during summer and a week-long survey during early winter of 1962-63.
2. Calgary Sewage Treatment Plants—One winter survey during early 1962; two summer surveys; one survey during early winter 1962-63.
3. Southern Alberta Sewage Treatment Plants—One survey in winter of 1961-62 and another during fall of 1962.

Other industries, streams, and sewage effluents were sampled occasionally with no definite frequency or special survey being made on any one effluent.

III. POLLUTION CONTROL LABORATORY

Head, W. E. Kortsch, Dipl. Chem.

The Pollution Control Laboratory carried out the analysis of samples related to the air and water pollution control program, municipal engineering, and the sewage lagoon project. The number of samples handled were:

1. Stream Pollution		
River	201	
Industrial Wastes	113	
Sewage	150	
Misc.	20	
		484
2. Municipal Engineering	43	
		43
3. Air Pollution		
Exposure Cylinders (H ₂ S & SO ₂)	1,790	
Dustfall	225	
Hi-Volume Samples	167	
Fluorides in Air	23	
Calcium in Dustfall	121	
Total Oxidants in Air	246	
Sulfur in Vegetation	358	
Sulfate in Soil	20	
Misc.	18	
		<u>2,968</u>
Total		<u>3,495</u>

In addition to the analytical work tabulated above, the following special studies were carried out:

1. A detailed study of the method of testing water for fluoride concentration was carried out. A review and correlation of the methods used and results obtained by various water treatment personnel was also carried out.
2. A method for carrying out organic solvent extractions on "Hi-Volume Sampler" samples was evolved. To date only a few determinations have been carried out, however increased activity is expected in the future.
3. A literature study of the determination and effect of pesticides in surface waters was begun.
4. A method of determining the sulfur concentration on the surface of plants was evolved.
5. A method of determining the sulfur content in soil was developed and used.
6. A modification for the A.I.S.I. Automatic Smoke Sampler was developed which resulted in more reliable operation of the apparatus.

IV. SANITARY INSPECTION SECTION

Head, L. E. Stewart

In 1962 there were positions for 64 Sanitary Inspectors in the Provincial Department, City Health Department and Health Units. Most of the vacancies which occurred during the year were filled with limited delay. During most of the year, two Health Unit positions were filled by Student Inspectors who wrote qualifying examinations in November. One of the Health Units concerned was without a qualified Sanitary Inspector during the entire training period, while the other was without a Medical Officer for much of the time. The practice of training Student Inspectors in Health Units which do not have on staff both a Medical Officer of Health and a qualified Sanitary Inspector is undesirable. It is desirable that an adequate training program be considered so that suitable qualified persons will be available to fill vacancies which may be anticipated.

Five employees of Health Units and City Health Departments were successful in the examinations for the Certificate in Sanitary Inspection (Canada) which were held in June and November. The Division of Sanitary Engineering co-operated in the preparation of some of the students for examination. The Chief Sanitary Inspector was Chairman of the provincial examining board.

The Town of Peace River passed a compulsory milk pasteurizing by-law during 1962 and became the fortieth Alberta community to have such a by-law in effect. A plebiscite in the Town of Elk Point approved such a by-law, but at the year's end the council had not brought it into effect.

A new milk pasteurizing plant was opened at Two Hills during 1962. A plant formerly located at St. Albert was moved into the City of Edmonton. Plants at McLennan and Nanton discontinued operations during the year. At the year's end 71 plants were supplying pasteurized milk to the public. The trend of recent years towards fewer milk plants and wider use of transportation continues.

Licenses were issued to two firms to cover the processing of frozen food products. Enquiries were received from other interested parties. Increased activity in this field and other food processing operations may be anticipated. It appears desirable that existing legislation and methods of control be studied to determine whether these are adequate for the protection of public health.

Since their introduction a few years ago, food and beverage vending machines have been appearing in ever increasing numbers. These machines now dispense a wide range of foods and beverages in many cases in places not normally associated with the sale of food and drink. There is some question as to whether or not there is adequate control of the sanitary condition of some of these machines. A study of this matter may be desirable.

Local Boards of Health suspended or refused eight restaurant permits during the year. In 1961 there were seven suspensions and refusals and in 1960 there were 24. Permits were reinstated or issued as soon as necessary measures for the protection of public health were completed.

The three Provincial Sanitary Inspectors were active throughout the year in programs related to environmental health. Major activities

included sanitary inspections in areas outside cities and health units, a radiation hazards' protection program, assistance to the air and stream pollution control section of the Division, health education and activities on Boards and Commissions.

A total of 679 sanitary inspections were made during the year. This is somewhat less than in previous years and reflects changes in the activities of the section, due in part to a direction by the Department issued in mid 1961 to reduce the number of trips for Sanitary Inspectors. Included in this service were inspections of milk pasteurizing plants, restaurants, food stores, food processing plants, hotels, motels, construction camps and trailer coach parks. Also included are 66 inspections made at wells and sewage disposal systems. Mainly these were located at private homes and schools. In most instances the inspections were made following requests from owners or school officials. These inspections provide an excellent opportunity to give advice to the home owner or responsible authority for the purpose of protecting the health of those concerned. Concern has been expressed when it has been necessary to delay a visit.

A total of 231 inspections were made in connection with the 'Radiation Hazards Protection Program'. Visits have resulted in improvements in handling techniques and in equipment and storage facilities with a subsequent reduction in the number of personal radiation exposures reported by the Film Monitoring Service. Several leaking or obsolete radioactive sources were discovered during the year and recommendations were made for their disposal or renovation. An instance of hazardous field operating conditions causing exposure of a member of the general public to radiation was reported to the Atomic Energy Control Board and resulted in temporary suspension of a radio-isotope license. The Division's program provided the Atomic Energy Control Board with liaison and supervisory control in cases of accidents or losses involving radioactive materials.

Provincial Sanitary Inspectors assisted in the control of air and stream pollution in the province. Inspections made in this connection are not included in the figures quoted above. One inspector was directly engaged in these activities for a period of seven weeks. The inspector was engaged in attempts which were made to locate and identify the sources of odors reported in one area in the province. Odors were only detectable for limited periods and a positive identification of the source could not be made. The inspector also assisted in the gathering of soil and vegetation samples in an area downwind from gas processing plants for examination for sulfur content. A survey of individual farms in the vicinity of two gas processing plants was undertaken to determine the existence, prevalence and intensity of air pollution and its possible effect.

Assistance was also given in a stream pollution survey of the Bow River intended to assess the pollution absorption capacity of the river.

The Sanitation Section arranged a five-day Refresher Course for City and Health Unit Sanitary Inspectors. The course was well received. It appears there is need for this form of in-service training.

In the field of health education, Provincial Sanitary Inspectors assisted in a short course for Swimming Pool Operators, lectured on radiation protection at conferences for Civil Defence personnel, nurses and fire chiefs, and gave talks on subjects in the environmental health field on such occasions as presented themselves.

Other activities of the Sanitation Section included participation in sanitary surveys of water supplies in two communities and investigation of environmental conditions related to an outbreak of communicable disease in northern Alberta. In preparation for a more active roll connected to the province's Emergency Measures Organization, one inspector attended a five-day Emergency Public Health Planning Course at Arnprior. Provincial Sanitary Inspectors are members of various Boards including the Boards administering the New Towns of Lodgepole and Swan Hills and the Pembina Planning Advisory Commission. The Chief Sanitary Inspector acts as Secretary of the Provincial Board of Health.

The Provincial Sanitary Inspectors were engaged in a diversified program in the field of public health throughout the year. They assisted local authorities by providing a limited sanitary inspection service in areas outside cities and health units. In addition, various other activities having a bearing on public health were carried out.

V. PLUMBING INSPECTION SECTION

Head, W. A. Milligan

The Plumbing Inspection Section of the Division of Sanitary Engineering received, during 1962, a revenue of \$6,050.75 in the form of plumbing permit fees. The number of plumbing permits issued was 800. Throughout the province the number of plumbing fixtures installed during 1962 totalled 135,682. The value of the plumbing installed is estimated to be approximately 34 million dollars.

The number of individual types of fixtures installed was as follows:

Water Closets	36,108	Lavatory Basins	37,097
Baths	22,506	Sinks	23,842
Laundry Tubs	2,391	Special Fixtures	13,738

The number of privies eliminated as a result of plumbing being installed was 1157.

During 1962 the plumbing inspectors of this Division, in co-operation with the Agricultural Engineering Branch of the Division of Extension, Department of Agriculture, lectured at seven meetings. These lectures are designed to assist farmers or an urban home owner to correctly install a plumbing system in his own home. The attendance at these meetings is very good, averaging 35 persons per meeting.

The Plumbing and Drainage Regulations were amended during 1962 and came into effect on November 1st, 1962. The amendments increased the cost of plumbing permits which will increase the revenue of this section of the Division of Sanitary Engineering. Other changes in the regulations were designed to reduce the initial installation cost of a plumbing system and at the same time assure the public of an adequate installation.

An amendment to these regulations created a Plumbing Advisory Board. This Board is made up of ten members representing the Faculty of Engineering of the University of Alberta, the public at large, the Master Plumber's Association, the Architects, the Professional Engineers, Material Suppliers, the Chief Plumbing Inspectors from the cities of Calgary and Edmonton, the Provincial Sanitary Engineer and

the Chief Provincial Plumbing Inspector. It is the duty of this Board to advise the Provincial Board of Health on matters concerning the approval and use of plumbing materials and fixtures. This Board will be a very useful organization and beneficial to the plumbing industry in all of its aspects.

During 1962, the Provincial Plumbing Inspectors were called upon to arbitrate a number of disputes which occurred between local plumbing inspectors and plumbing contractors. The number of such disputes is diminishing each year as a number of the towns and villages who have been doing their own plumbing inspections are now requesting that the Provincial Plumbing Inspectors take over this responsibility.

This Branch is devoting a considerable amount of time to the correction of hospital plans including active and auxiliary hospitals as well as additions to both types of hospitals. In 1962, construction was started on six active hospitals, five auxiliary hospitals and additions were started on three other hospitals. This checking of hospital plans is resulting in a better quality of plumbing design and a set of plans which is more complete in detail which assists a plumbing firm to properly estimate the cost and labour of the installation and thus prevent a large number of 'extras' being claimed after the installation is underway.

The year, 1962, has been one of considerable advancement and it is hoped that 1963 will continue this trend.

VI. SPECIAL PROJECT

One special project—"A Study of the Operation of Sewage Ponds in Alberta" was continued in 1962. This study, initially operated in 1958 through to the summer of 1960 and then resumed in 1961, is studying the efficiency of both anaerobic and aerobic sewage ponds in treating municipal sewage. In 1962, specific studies were started to measure the rate of 'sludge' accumulation in the anaerobic ponds and also the amount of sludge in the raw sewage to some of the ponds under study. This aspect will receive further study in 1963, as will the temperatures occurring in the sludge mass.

CIVIL SERVICE NURSING BRANCH

K. E. Jorgensen, R.N.

The wheels of progress depend so much on the mental and physical health of the employees. With this in mind we try to give a service to benefit both the mental and physical aspects of the sick and the well.

The first month of this year was our busiest month in history; that is with the exception of the 1957 Asiatic influenza period. The greatest complaint during January and February was a type of influenza associated with unusually extreme body pains.

Although respiratory infections always take the lead in illnesses, we believe that the over-tensed individuals are second in number. Many of these have added symptoms of physical pains and discomforts. It is partially because so many of the younger employees have never experienced the true meaning of a home but have grown up in the media of working parents?

The 1962 opening of the vast Terrace Building—Blocks B. C. and D., have brought about the establishment of two well furnished emergency rooms. Due to the great distances between some of the offices and these rooms, we have found it helpful to furnish some first-aid supplies to several supervisors. This material would be for minor cases only.

The Emco Building which houses the Public Works Maintenance Shops has an allotted 'emergency room' this year with a well qualified attendant. First-aid supplies are also furnished to an outlying area in the building due to the large floor space.

As a portion of the Institute of Technology was unofficially opened this year, we found the need of being at least semi-prepared for mishaps or illnesses. We furnished the Bursar's office with some medical supplies which, of course, will be transferred to the emergency room when completed. We wish to thank the Department of Education for furnishing the stretcher. It is expected the building will accommodate 2,300 (staff and students combined).

This year we:

- (a) established 2 emergency rooms
- (b) furnished supplies for 1 new emergency room
- (c) supplied 8 new first-aid kits
- (d) replenished supplies for 10 sick rooms
- (e) replenished supplies for 21 first-aid kits

Statistics have revealed to us that the 1962 sick time for Alberta Civil Servants was 5% as compared to 7% for the Federal Civil Servants and the Industrial employees throughout the Dominion.

Many of the employees were transferred from the Administration Building to the Terrace and Highways Buildings this year. This caused a great decrease in the number of staff here; consequently the number of office calls was diminished.

In conclusion, we would like to express our gratitude for the services of Dr. P. Rose, Medical Health Services, and all who so willingly rendered help to the sick or injured at various points during the year. A special thank you to Mr. C. V. Heim, Co-ordinator of Public Works and Maintenance, who so kindly procured the furnishings for the two sick rooms in the Terrace Building.

During 1962 approximately 83 employees were driven to their respective homes, to the hospital or to the doctor's office. This would include very ill or injured patients or ones with infectious diseases.

The following figures we wish to submit:

Month	Office Calls	Home Calls	Compen- sation	Certificates
January	600	68	12	68
February	438	61	6	49
March	481	44	14	34
April	459	36	7	37
May	503	54	12	41
June	390	34	7	21
July	323	20	4	18
August	360	27	10	9
September	364	36	14	19
October	357	25	13	23
November	451	41	16	30
December	359	46	6	23
1962	5,085	492	121	372
1961	5,399	488	125	320

DIVISION OF ARTHRITIS SERVICES

R. K. Thomson, B.Sc., M.D., R.C.P.(C), F.A.C.P., Director

The Division of Arthritis, with clinics at 9815 Jasper Avenue, Edmonton, and 2104 - 2nd Street, S.W., Calgary, accepts patients up to the age of twenty-five years. There has been no change in policy during the year 1962.

As will be seen from the statistical report which is attached, there is no essential change in the number of new patients seen during the year. The new cases exceed the cases which became ineligible. An attempt is made, however, to keep in contact with former patients who are now ineligible due to age.

New chemical agents for the treatment of Rheumatoid Arthritis have been provided when their value and need has been established.

STATISTICAL COMPILATION OF CASES TREATED IN 1962

	Edmonton	Calgary	Total
Initial examinations made	19	8	27
Repeat examinations made	72	21	93
Rheumatoid Arthritis cases in 1962—new	11	3	14
Total Rheumatoid Arthritis cases under the Division of Arthritis	118	53	171
Hospital Days	586	1,128	1,714
Physiotherapy treatments	135	50	185

TREATMENTS

January 1st to December 31st, 1962

Hospital days	1,714
Clinic and office visits	120
Physiotherapy treatments	185
Other: including surgical, injections and special procedures	119
Total treatments	<u>2,138</u>

DIVISION OF CEREBRAL PALSY CLINICS

**F. G. Day, B.Sc., M.D., L.M.C.C., F.R.C.S.,(Glas.),
M.Ch. Orth., F.I.C.S., F.A.A.C.P., Director**

The Alberta Cerebral Palsy Clinics in Edmonton and Calgary continued to function through 1962 at an increased capacity. Restrictions on this increase were largely due to the inability to obtain new staff or replacements, therefore, the increase has been held to a minimum. The therapy personnel, physiotherapy, occupational therapy and speech therapy, are almost impossible to obtain in Canada. It is becoming increasingly evident that salary increases and other benefits are essential in order to attract these therapists into the cerebral palsy field.

Statistically, the over-all increase in the new patients seen was approximately 10 per cent of which four-fifths were diagnosed as cerebral palsy. The rate of new cerebral palsy cases in the Province continues at around 80 per year. The case load in Edmonton for daily therapy increased considerably.

We had anticipated that the increased schoolroom facilities would accommodate 50 patients, however, with the School Board taking over the educational system and improving it and recognizing the need for more individual care, our schoolroom case load did not enlarge as much as was expected. Consequently we were unable to accommodate as many new patients as was anticipated. We feel, however, that the educational facilities now being provided are outstanding in quality, but once again we find we need a great increase in the size of the physical and personnel set up. It is hoped that this might be provided in the proposed Hospital for Multiple Handicapped Children.

In Calgary, their staff problem has greatly increased so that they are running at about one-half strength and although they are still carrying a satisfactory case load, it is physically impossible for the children to receive as much treatment as they should be receiving. It is again noted that no provision for extra medical assistance has been provided for the Director of the Calgary Clinic, and it is my belief that this, too, is a most urgent requirement in Calgary.

We again point out that we still have no provision for job replacement officers, sheltered workshops and the other essentials for a continuation program after the ages of 16 to 18 years. This situation is becoming more acute yearly as an increasing number of our trainees attain these ages.

Both in Edmonton and Calgary we have continued our policy of rationally excluding those patients who do not make satisfactory improvement. We are, therefore, once again able to report that in all of the 285 patients treated in the two clinics, satisfactory progression and accomplishment were shown.

Hereto follows a statistical report of the work accomplished in 1962:

	*Edmonton	Calgary	Total
Number of examining clinics	47	39	86
Number of Case Conferences	16	8	24
Total number of patients examined by:			
Orthopedic Surgeon	436	197	633
Pediatrician	99	1	100
Number of rechecks	350	152	532
Number of new cases	56	45	101
Cerebral Palsy	42	42	84
Pending	1	3	4
Miscellaneous	13	.....	13
Total Active Cases	287	278	565
Number of patients treated on rotating basis	166	119	285
Monthly average of those who received treatment	79	60	139
Number of patients under review	106	159	265
Number of patients attending Cerebral Palsy Care Centre	15	20	35

Physiotherapy

Number of treatments	4,080	2,880	6,960
Number of cases benefiting	139	76	215

Progress

Co-ordination	28	26	
Sitting balance	16	8	
4-point kneeling	8	.....
Kneeling balance	4	.....
Standing balance	12	25	
Reciprocation (tricycle)	9	.....
Crawling	4	4	
Walking (a) with help unbraced	4	5	
(b) in walker	2	1	
(c) in parallel bars .....	.....	9	
(d) with crutches	2	.....
(e) with canes	2	6	
(f) unaided (braced)	5	7	
(g) unaided (not braced)	4	8	
(h) with help—braced	4	.....
(i) balance improved	37	17	

General improvement

Minor gait improvement	24	20	
Considerable gait improvement	11	12	
Deformities reduced	21	19	
Group muscle control	2	8	
General muscle control	3	.....
Minor activity increase	14	4	
Greater independence in wheelchair	6	.....
No progress (some new cases)	20	(7 new-cases)	7

Bracing

(a) for control	54	18	
(b) removed	9	5	
(c) increased	4	2	
(d) special chair for posture	5	6	
(e) corrective shoes for the first time	67	9	
(f) standing braces .....	.....	3	
Physiotherapy home program	119	.....
Total parent instructions	339	168	
Home visits	6	.....
Casts	3	5	
Assessments	94	.....
Muscle test	3	.....
Rechecks	17	.....

Occupational Therapy

Number of treatments	3,382	3,829	7,211
Number of cases benefiting	144	77	221

Activities of daily living

(a) dressing	10	14	
(b) feeding	17	6	
(c) other (bathroom, kitchen, household)	5	5	

Upper limb function

(a) range and duration of used movement	23	6	
(b) co-ordination (including hand to eye)	40	4	

Special Skills

	Edmonton	Calgary
(a) handicraft and hobbies*	36	34
(b) typing	10	1
(c) writing and pre-writing (including motor and perceptual difficulties)	34	5
Assessments	34	.....
Initial examination only	46	.....
Upper limb braces and appliances	17	9
Parent instruction and home program	84	30
Emotional problem	14	1

Majority of children are subjected to the socializing influence of various playroom groups.

*—Weaving, basketry, water-colour and oil painting and modelling, simple woodwork, sewing (machine and hand), leatherwork, "jewelcraft", "model-making" paper cutting, mosaic, stoolseating.

Speech Therapy

	*Edmonton (5 mos.)	Calgary (5 mos.)	Total
Number of treatments	985	1,072	2,057
Number of cases benefiting	80	36	116
Pre-speech activities	17	3	.....
Respiration	11	3	.....
Articulation	22	24	.....
Language (comprehension)			
(a) oral	11	1	.....
(b) lip reading	5	8	.....
Language (expression)			
(a) verbal	14	16	.....
(b) non-verbal	6	1	.....
Voice training	3	12	.....
Emotional problem (stammers etc.)	3	.....	.....
Phonetics	3	2	.....

Cases on supervision only

In clinic	7	2
On home program	17	13

General Improvement

Considerable	6	6
Satisfactory	24	20
Little or no progress	26	10
Speech and language assessments	39	11
Audiometric tests (also part of routine assessment)	6	6
Parent interviews	144	33

*Consulting services of Speech Therapist two afternoons a week for 2 months.

Social Service Worker

	Edmonton (6 mos.)	Calgary (2½ mos.)
Interviews	121	100
Telephone calls	272	109
Home visits	14	4
Conferences	184	77
Child Case Contacts	62	75
Inter-agency contacts	24	4
Records	289	66

School

	Edmonton (2 mos.)**
SCHOOLROOM I	
Number of instructions	274
Number of cases benefiting	17
Number of parents instructed	5
Pre-school level—preparation for Grade I	12
Grade I	4
Grade II	1
SCHOOLROOM II	
Number of instructions	304
Number of cases benefiting	8 ^a
Number of parents instructed	8
Grade II	3
Grade III - V	1
Grade V - VI	1
Grade VI	1
Grade VII	1
Grade VII - VIII	1

^a Pupils received full day schooling with exception of therapy time.

** Schooling provided by Department of Public Health for 2 months.

School

	Edmonton (8 mos.)***
SCHOOLROOM I	
Number of instructions	953
Number of cases benefiting	13*
Number of parents instructed	23
Grade I	12
Grade II	1
SCHOOLROOM II	
Number of instructions	1,014
Number of cases benefiting	14*
Number of parents instructed	18
Grade I	5
Grade II	8
Grade III	1
SCHOOLROOM III	
Number of instructions	854
Number of cases benefiting	10*
Number of parents instructed	10
Grade II	1
Grade III	5
Grade IV	3
Grade V	1
SCHOOLROOM IV	
Number of instructions	754
Number of cases benefiting	10*
Number of parents instructed	16
Grade V	3
Grade VI	1
Grade VII	4
Grade VIII	2

* All pupils receiving full day schooling with exception of therapy periods.

*** Schooling provided by Edmonton Public School Board.

School

	Calgary (10 Mos.)*
SCHOOLROOM I	
Number of instructions	2,140
Number of cases benefiting	17**
Number of parents instructed	41
Pre-school level—preparation for Grade II..	5
Remedial tutoring because of handicapped	
Sr. 1	3
Jr. 1	6
Remedial tutoring because of intelligence	
Sr. 1 .....	...
Normal Function	
Jr. 1	3
SCHOOLROOM II	
Number of instructions	1,379
Number of cases benefiting	16**
Number of parents instructed	15
Grade I Jr.	3
Grade I Sr.	3
Grade II Jr.	1
Grade II Sr.	4
Grade III	1
Grade IV	1
Grade V	1
Grade VI	1
Grade VII	1
Remedial .....	..

* Teaching provided by the Calgary School Board.

** Pupils receive a half day of schooling with exception of therapy periods.

Dispensation of Cases

	Edmonton	Calgary
Admitted to regular school	4	4
Admitted to Special Classes in Public Schools	4	4
Admitted to School for Mentally Retarded Served by Public Schools Homebound	4	7
Teachers	1	...
Admitted to Provincial Training School at Red Deer	7	7
Admitted to Unit for physically and mentally handicapped children at Baker Sanatorium .....	...	1
Referred to Edmonton Rehabilitation Centre Attending Cerebral Palsy Association's Centres	2	...
Transfers	15	20
Deceased	4	1
	...	2

Foster Home Program

	Edmonton	Calgary
Total number of boarding cases	30	13
Total days—domiciliary allowance	3,097	2,117

<i>Surgery</i>	16	19
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Braces

Full control, long leg braces with knee lock, fully adjustable, body support	1 pr.	6 pr.
Long leg braces with knee lock, hip joints and pelvic band	1 pr.	...
Long leg braces with no knee joints	3 pr.	3 pr.
Fibreglas body support, pelvic band, corset	2	...
Below knee irons and magnusson splints day and night	48	48
Gutter type night splints	2	...
Ponsetti bars—Fillauer	1	...
Fibreglas hand, arm, thumb, or sandwich splints	2	1
Special feeding, drinking and dressing devices	16	...
Twisters	1 pr.	...
Shoe corrections	88	61
Brace adjustments and repairs	81	70
Special equipment and/or adjustment	4	...

Special Equipment

Edmonton (designed by therapists; made privately)		
Adjustment to furniture and equipment	10	
Adjustment to wheelchairs	6	
Special Tiny wheelchairs	5	
Table tops—trays	4	
Wordboard	1	

Staff Education

Supervisor attended Public Health Nurses Meetings	4 times	
Supervisor took University Extension Course in Psychology		1
Supervisor attended Seminar on Maternal Health	1	
Supervisor attended Rehabilitation Meetings		5
Staff attended Seminar on Disturbed Children		1
Staff attended Exceptional Children's Meetings	4	
Physiotherapists attended Seminar on Proprioceptive Neuromuscular Facilitation at Vancouver	1	
Physiotherapists attended National Physiotherapy Conferences, Edmonton	2	
Staff attended sessions International Great Plains Conference, Edmonton...	4	1
Physiotherapists and Occupational Therapist instructed by physiotherapist in Bobath Technique	(for 5 weeks)	(for 1 week)
Films—reviewed and discussed	5	5

Instructions, Conferences, Tours and Films shown to:

Physiotherapy Students (35 hours training)	5	...
Occupational Therapy Students (66 hours training)	3	...
Physiotherapist, Occupational Therapist, or Interns	10	6
Nurses—Public Health, Graduates, Students or Nursing Aides	135	31
Speech Therapist		3
Doctors, Medical Students	29	7
Educational Officials, Special Teachers and Teachers	15	16
Social Workers, Psychologists, Psychiatrists	13	7
Visiting Board	3	3
University Students—Education and Physical Education	36	15
High School Students	2	3
Craft Students		11
Miscellaneous Visitors	54	45
Volunteers		3
"Billy"	10 times	3 times
"Search"	4	...
"A Day in the Life of a Cerebral Palsied Child"	4	21
Clinic films shown	10	...

Conferences Held by:

Director .....	.....	2
Supervisor	1	.....
Social Worker .....	.....	1

Lectures By Staff

Director	4	2
Supervisor .....	.....	3
Speech Therapist	1	1
Occupational Therapist .....	.....	1
Physiotherapist	2	.....
Social Worker	1	.....

Parent Education

Open House .....	.....	1
Christmas Concert with cerebral palsied children taking part	1	1
Panel Discussion (clinic staff) at Cerebral Palsy Association meeting .....	.....	1

Fire Drill

Practice sessions	2	4
Inspected drill	1

Movie Film Progress Records

Total number of cases filmed	53	29
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Lunches	4,869
Total volunteer periods	861

Mileage

Busses serve both the Cerebral Palsy Clinics and the Cerebral Palsy Centres	39,076	45,059
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Acknowledgements

Our sincere thanks are extended to all who have so generously contributed to the operation of the Cerebral Palsy Clinics in Edmonton and Calgary.

Our appreciation is extended to the Provincial Guidance Clinics and the Provincial Training School at Red Deer for their assistance and interest; also to the Edmonton and Calgary Public and Separate School Boards who have provided us with assistance and co-operation in our educational program.

The Parents' Associations in Edmonton and in Calgary have continued to provide transportation without which it would be most difficult to function.

Our grateful appreciation is extended to the Nursing Supervisors and Staffs of the Clinics for their willing co-operation and valuable services throughout the year.

DIVISION OF TUBERCULOSIS CONTROL

H. H. Stephens, M.D., Director

The problem of tuberculosis control in Alberta during 1962 has continued to be a challenge, not only to those working in Sanatoria, but also to many physicians, Health Unit personnel and those in volunteer organizations whose interest is control and eventual eradication of this disease in the Province. Early detection of new cases, the provision of adequate treatment with patient education, and an extension of follow-up service to assist in the supervision and routine review necessary for Ex-Sanatorium patients, their contacts and other suspect cases have been major projects. This, the forty-fourth year of Provincial Health Tuberculosis Service has again shown some gains in the control of this infectious disease.

The tuberculosis death rate in 1961 was 2.4 per 100,000 and it is anticipated a slight decrease may be expected in 1962 when the official figures are released.

The morbidity rate decreased from 30.6 per 100,000 in 1961 to 28.3 in 1962, there being 377 active cases discovered compared with 402, while both new active and inactive cases totalled 882 in 1962 compared to 925 in 1961. By way of further comparison in 1952 there were 399 active and 336 inactive cases discovered totalling 735 which is about the same as in 1962, although there has been a significant rise and fall during this interval. The morbidity rate among Indians and Metis population while decreasing, is still about ten times that of the general population. This is why there is an indication for the use of B.C.G. vaccination among this group, and more frequent surveys to search out all active cases of tuberculosis in the earliest stage possible.

In the general population about one-fifth are estimated to harbour the germs of tuberculosis, evidenced by a reaction to the tuberculin test, and of these up to 5% may develop clinical disease. It is suggested that all reactors should have periodic chest x-rays throughout their lives, including the recently infected child or adult. This means that with our present control methods, many years of diligent work confront those concerned with eventual eradication of this disease. Public education is still of major importance, since low death rates, a declining incidence, with a few empty beds, due to shortened periods of treatment in hospital has dispelled the fear and gravity of this infection, and in its place over-confidence and complacency may well set the stage for a resurgence. Control of tuberculosis, as set out by World Health Organization standards, may be attained when less than 1% of all 14 year olds are non-reactors to the tuberculin test. However, eradication of a disease that has plagued the human race and animals for hundreds of centuries over the entire World is unlikely, unless there occurs some dramatic changes in the method of treatment and control. Tuberculin testing can identify all persons who have had the germs of tuberculosis in their body. This would appear to be worthwhile knowledge, not only for the individual concerned, but also for those whose responsibility it is to work out a control program.

On September 7, 1962 Miss E. K. Connor, Superintendent of Nurses at the Aberhart Memorial Sanatorium, Edmonton retired after eleven years' service in this position, and preceding this she held the same position at the Baker Memorial Sanatorium, Calgary since 1936. Miss Connor came to the tuberculosis field well trained both by post-graduate studies and experience which has proven by the high standard and quality of nursing service that was maintained by her staff. In 1952 with the opening of the 300 bed Aberhart Memorial Sanatorium the value of her knowledge and organizing ability in establishing adequate nursing service for tuberculous patients was evident. Miss Connor was also interested in teaching and in passing her knowledge in this field of chronic disease to others. An affiliation course for Student Nurses from the Training Schools in the Province allowing them to spend some weeks at one of the Sanatoria was a program in which she had a keen interest.

Miss Connor was one of the original group instrumental in establishing the Nurse's Section of the Canadian Tuberculosis Association, which has been most beneficial in a Canada-wide exchange of ideas. She represented this group on a study tour of Tuberculosis Hospitals in Great Britain which bespeaks the esteem in which she was held, the respect of her knowledge and the quality of her service in the Tuberculosis nursing field.

A farewell party was held in the Auditorium of the Aberhart Memorial Sanatorium by staff and friends upon her retirement, when an original painting was presented to her to express their best wishes for many happy years and as a token for her many years of devoted service in the cause of tuberculosis treatment in Alberta.

Mrs. E. Samuel, Assistant Superintendent of Nurses for several years, was appointed Superintendent of Nurses, and Mrs. J. Richardson, Instructress of Nurses, became Assistant Superintendent of Nurses.

CONSTRUCTION

Last year it was proposed that one building at the Baker Memorial Sanatorium not required for tuberculosis patients was to be re-conditioned and allotted for use by the Division of Mental Health. During 1962 one-half was converted and occupied providing 45 beds for children, and this year it is proposed the balance of the building may be put into use.

The Aberhart Memorial Sanatorium is experiencing a storage problem for records, equipment and stores which it is hoped may be remedied during the coming year.

DIAGNOSTIC AND FOLLOW-UP SERVICES

Clinic services for review of Ex-Sanatorium patients, contacts of known cases and patients referred by practising physicians are available without cost to the patient, at the Sanatoria and at ten other stationary clinics held at intervals throughout the Province. During 1962 there were 24,666 patients who used this service.

The Mobile Chest Miniature X-ray program was carried out with two units in operation and on several occasions a small portable unit is used in areas not accessible by the larger ones. These are operated

jointly with the Alberta Tuberculosis Association. The Surveys are also carried out in co-operation with the Health Units of the Province, where possible, and this method has proven advantageous to them and to us. It is planned to incorporate a tuberculin testing program with the above in some areas, which is actually an extension of the tuberculin testing program now carried on in most Schools of the Province by Health Unit personnel, and Medical Officers of Health.

Hospital admission chest x-rays and admission tuberculin testing promoted by the Alberta Tuberculosis Association are worthwhile case finding procedures, but unfortunately are often not used as extensively as they might be to realize their full value.

B.C.G. vaccination has again been carried out in selected groups where possible exposure to infection is either known or suspected to be above average, and this would apply to our Indian and Metis groups where the incidence is known to be about ten times that of the general population.

TREATMENT SERVICES

The treatment of tuberculosis has not changed appreciably during the past year. Patients who exhibit strains of tubercle bacilli resistant to one or all of the major drugs in use, still cause grave concern. Research for a new, more effective and less toxic drug, antibiotic or a vaccine has not yet produced one, while secondary drugs presently in use require more supervision in their administration, with less effectiveness in many cases. There has been a gradual decline in the number of patients requiring definitive surgery, and this reflects the diagnosis of the disease at an earlier stage. There are however, still too many patients being found with very extensive disease and before their discovery the danger of spread to others is a problem in the control of tuberculosis. In 1962 there were 949 patients treated in the two Provincial Sanatoria compared with 1,083 in 1961, and the average length of stay in hospital was 176 days as compared with 197 in 1961, there being 114,346 patient days in 1962 and 176,639 in 1961. There were 616 admissions, of these 51 were readmissions. Patients leaving hospital against advice numbered 84, any who were infectious being returned under the Communicable Disease Regulations of the Province or the Amended Tuberculosis Act if the former proved not to be effective.

EDUCATION AND REHABILITATION

Academic training for all children of school age is provided, and Grades 1 to 9 are taught by Sanatorium teachers. The higher grades obtain Correspondence School courses and are assisted by a teacher provided by the Alberta Tuberculosis Association. This teacher also gives courses to adults whose early education was limited or selected studies may be given as a means to suitable rehabilitation. There is a very active academic, commercial and rehabilitation program in both Sanatoria which has proven to be most valuable to many patients, and they are grateful for this assistance. The Occupational Therapy Staff augment the above activities and are most helpful in the overall treatment program.

MEDICAL AND NURSING PROGRAM

Weekly clinics and teaching sessions for the 4th year Medical Students of the University are held at the Aberhart Memorial Sanatorium during the university academic year. Both Sanatoria employ undergraduate interns during the summer months.

Several Training Schools for Nurses in the Province have affiliation with the Sanatoria for a four-week course which continues throughout the year, thus providing instruction in the problems of care and treatment peculiar to a chronic infectious disease, and this includes both in and out-patient service.

ACKNOWLEDGEMENTS

The many phases of activity that go into the successful provision and operation of diagnostic, treatment and follow-up services for all types of tuberculous disease in a variety of patients, immediately impresses one regarding the importance of individual interest and effort by all staff, co-operating with their supervisors in carrying out this work. It is my privilege to report that during 1962 there has been some further gains in the control of tuberculosis in the Province. I wish to express my sincere thanks to the staff at the Baker Memorial Sanatorium, Calgary, and to all staff members who assisted me at the Aberhart Memorial Sanatorium for their assistance during the past year.

The Alberta Tuberculosis Association has again carried out an excellent program to assist the Provincial work in this field. The activities are many and varied, but each contributing invaluable service to the people of this Province. Their share in the Mass X-ray Surveys, public, patient and staff educational programs, rehabilitation and research, and additional out-patient Nursing Service are but a few of their projects. These and all other activities that assist in the Control Program are most helpful and gratefully acknowledged.

The Department of Indian and Northern Health Services has carried out an active program among the Indians of this Province. They have been most co-operative in extending the case finding to all non-Indians and Metis adjacent to areas surveyed, and referring these to us. The Division has reciprocated in some of the more isolated areas as well, but the number has been considerably less than that served by the Indian and Northern Health Services. Such assistance has been valuable to us, and gratefully acknowledged.

Patients in both Sanatoria have again been favoured with the attention and assistance from many volunteer groups who have given devoted service to their needs. This assistance in the form of visiting, donations, entertainment and often looking after individual personal needs, by these groups has provided a very worthwhile service and all concerned are most sincere in their praise of it.

The spiritual needs of patients have been well cared for by visiting Clergy of all denominations and services are held at regular intervals in both Sanatoria. Patients and staff are most appreciative for this splendid service.

A Statistical Summary follows outlining the work carried out in the Sanatoria and the Division.

DEPARTMENT OF PUBLIC HEALTH

DIAGNOSTIC CLINICS

1. STATIONARY CLINICS	Number Sessions	New Cases of Active Tub.		Number Examinations
		Pul.	Non-Pul.	
Baker Memorial Sanatorium	100	24	3	3,247
Aberhart Memorial Sanatorium	130	49	5	7,579
Athabasca	1	.....	.....	16
Bonnyville	1	.....	.....	7
Brooks	12	.....	.....	170
Camrose	2	.....	1	30
Drumheller	12	.....	.....	191
Hanna	1	.....	.....	6
Lac La Biche	1	.....	.....	20
Lethbridge	12	2	.....	1,202
Medicine Hat	12	1	.....	575
Red Deer	12	2	.....	487
St. Paul	1	.....	.....	12
Taber	12	.....	.....	192
Vegreville	1	.....	.....	17
TOTAL	310	78	9	13,751
† Miscellaneous Clinics .....	.....	63	.....	10,915
TOTAL ALL CLINICS .....	.....	141	9	24,666

In addition to the above noted 150 cases of active tuberculosis, there were also discovered 427 cases of inactive tuberculosis.

2. TUBERCULIN TESTING AND X-RAY PROGRAM

(Conducted by Public Health Personnel, Teachers, Business Firms, Hospitals, etc.)

	No. Tbn. Tested	No. X-rayed
Miscellaneous, by Public Health Personnel	3,419	24
School Board, Edmonton	278	359
School Board, Rural	17	83
Nursing Aide Trainees	406	852*
Food Handlers	345	349
Red Cross Blood Transfusion Service	7	7
Barbers and Hairdressers, Edmonton	785	210
University Students	1,183	299
Provincial Laboratory Staff	14	108
Industrial	6	62
School Survey (see Table 2b)	78,610	3,707**
TOTAL	85,070	6,060***

* (420 x-rayed by City Hall Unit)

** (289 x-rayed by City Hall Unit)

*** (709 x-rayed by City Hall Unit)

Actual number given service through this program is 85,108, i.e. the number tuberculin tested plus the number x-rayed but not tested and minus the number known to be x-rayed on Mass Survey Programs.

The Hospital Admission Tuberculin Testing Program sponsored by the Alberta Tuberculosis Association has reported 8,287 tests in various hospitals in the Province.

† Films sent in from various points and paid for by the Tuberculosis Division.

2a. Number of injections, out-patients (Aberhart Memorial Sanatorium and Baker Memorial Sanatorium).

Streptomycin 1,482

SCHOOL TUBERCULIN TESTING SURVEY

2b.	No. Tested		No. Reactors		Total Reactors	Total New Cases Tub.	
	School	Contacts	School	Contacts		Active	Inactive
Alberta East Central H.U.	357	10	3	7	10	1	.....
Athabasca H.U.	2,309	577	527	371	898	3	3
Banff National Park H.U.	46	1	.....	.....	.....	.....	.....
Barons-Eureka H.U.	2,361	100	75	26	101	.....	.....
Big Country H.U.	567	10	18	.....	18	.....	.....
City of Calgary	9,301	232	144	63	207	.....	.....
Chinook H.U.	1,533	35	76	2	78	.....	2
Edson H.U.	2,087	56	50	7	57	.....	1
City of Edmonton	17,689	259	516	63	579	2	5
Grande Prairie H.U.	41	.....	.....	.....	.....	.....	.....
Jasper National Park H.U.	125	5	3	1	4	.....	.....
Leduc Strathcona H.U.	5,395	472	125	59	184	.....	2
City of Lethbridge	2,766	438	118	109	227	.....	1
Mount View H.U.	3,030	76	63	11	74	.....	.....
North Eastern Alberta H.U.	1,941	236	201	51	252	1	.....
Peace River H.U.	1,039	115	32	13	45	.....	1
Red Deer H.U.	15,315	645	386	237	623	2	7
Stony Plain-Lac. Ste.							
Anne H.U.	755	22	11	8	19	1	.....
Sturgeon H.U.	2,204	20	56	7	63	.....	1
Vegreville H.U.	1,594	115	36	10	46	.....	1
Wetoka H.U.	3,616	235	89	38	127	1	3
Wabasca Municipal Nurse ...	23	46	23	19	42	.....	.....
Warner Municipal Nurse ...	635	.....	49	.....	49	.....	.....
Swan Hills Municipal Nurse..	172	4	4	.....	4	.....	.....
TOTAL	74,901	3,709	2,605	1,102	3,707	11	27

N.B. There was no report received from Medicine Hat Health Unit but one x-ray taken as a follow-up of this program showed inactive tuberculosis, newly discovered.

3. MASS X-RAY SURVEYS

	Number X-rayed
Surveys at 211 points	160,930
City Hall, Calgary: Industrial	1,102
Nursing Aide Trainees	420
School Survey	289
General Public	7,190
City Hall, Edmonton: General Public	8,462
City Hall, Lethbridge: General Public	1,003
Industrial Survey, Calgary	72
Industrial Survey, Edmonton	279
Gaol: Calgary	1,449
Fort Saskatchewan	2,141
Lethbridge	1,214
Unemployment Insurance Commission, Edmonton	2,881
X-ray Unit No. 6, South	865
X-ray Unit No. 6, North	800
TOTAL	189,097

There were also 11 films taken which were not read. These were of Treaty Indians and were sent to Indian and Northern Health Services.

Number X-rayed	189,097		
Probable Tuberculosis Active	68	(25	previously discovered)
Probable Tuberculosis Inactive	1,024	(781	previously discovered)
Further Examination Requested	1,535		
Non-Tuberculous Chest Conditions	1,850		
Undiagnosed (includes 351 spoiled films)	356		
Pleurisy Active	5	(4	previously discovered)
Pleurisy Inactive	462	(134	previously discovered)
No Disease	183,797		

4. SUMMARY CLINICS AND SURVEYS

	Total
Stationary Clinics	13,751
Other Clinics	10,915
Surveys (Miscellaneous)	6,460
Mass Surveys	189,097
School Surveys	78,610
Department of Indian and Northern Health Services	24,688
*Hospital Admission Program	15,092
TOTAL	338,613

*The Hospital Admission X-ray Program, sponsored by the Alberta Tuberculosis Association in various hospitals in the Province, reports chest films taken as follows:

14 x 17 films	30,895
Miniature films	30,836
TOTAL	61,731

Of the above only those referred to the Sanatorium for interpretation are included in Table 4.

5. SOURCES OF DISCOVERY OF NEW CASES OF TUBERCULOSIS

	1961	%	1962	%
Clinics	533	57.6	578	65.5
Referred for admission by family doctor	203	22.0	143	16.2
Miscellaneous Surveys	3	.3	....	....
No. 6 X-ray Unit .....	....	....	6	.7
Referred by Department of Veterans Affairs or National Defence	3	.3	5	.6
Provincial and Hospital Laboratories	13	1.4	6	.7
Hospital Admission Program	17	1.8	23	2.6
Indian and Northern Health Services	98	10.6	86	9.8
Refugees	21	2.3	....	....
Mental Hospital	30	3.2	32	3.6
Miscellaneous Sources	4	.4	3	.3
TOTAL	925		882	

DEPARTMENT OF PUBLIC HEALTH

The following table sets forth the sources of discovery giving credit to programs actually referring the cases to the Tuberculosis Clinics and for admission to Sanatorium beds for the establishment of diagnoses, i.e. the various programs originally responsible for the 578 cases being referred to Tuberculosis Clinics are credited with the discovery of the cases in the following break-down.

	1961	%	1962	%
Family Doctor	260(163)	28.1	243(154)	27.6
Mass Surveys	164(22)	17.7	164(28)	18.6
No. 6 X-ray Unit .....	.....(.....)	.....	6(1)	.7
Contacts	89(64)	9.7	89(64)	10.1
Indian and Northern Health Services	102(81)	11.0	93(73)	10.5
Previously diagnosed other Provinces or Countries	82(1)	8.8	67(2)	7.6
Hospital Admission Program	36(6)	3.9	40(5)	4.5
Department of National Health and Welfare	52(3)	5.6	44(2)	5.0
School Surveys	13(4)	1.4	39(11)	4.4
City Hall Units	32(13)	3.5	19(8)	2.2
Department of Veterans Affairs and National Defence	7(2)	.8	7(2)	.8
Food Handlers	13(1)	1.4	5(2)	.6
Gaol	8(4)	.9	15(7)	1.7
Provincial and Hospital Laboratories	10(10)	1.1	6(6)	.7
Miscellaneous Surveys .....	.....(.....)	.....	4(.....)	.5
Refugees	21(18)	2.3	.....(.....)	.....
Mental Hospital	29(6)	3.0	32(11)	3.6
Miscellaneous Sources	7(4)	.8	9(1)	1.0
TOTAL	925(402)		882(377)	

Figures in brackets indicate number of active cases.

6. CLASSIFICATION OF NEW CASES OF ACTIVE AND INACTIVE TUBERCULOSIS

	Active	Inactive	Total
Minimal	68	422	490
Moderately Advanced	96	58	154
Far Advanced	36	8	44
Primary	83	.....	83
Tuberculosis Pleurisy with Effusion and evidence of previous Pleurisy	16	7	23
Non-pulmonary Tuberculosis	75	9	84
Miliary	2	1	3
Tuberculin Reactors	1	.....	1
TOTAL	377	505	882

Number of cases reactivated	51
Number of cases of tuberculosis admitted for treatment who have a history of tuberculosis but were never admitted for treatment	17
Number of non-residents diagnosed tuberculosis (includes 14 immigrants)	16
Number of Treaty Indians diagnosed tuberculosis	75
Number of known contacts of newly discovered active and of reactivated cases	3,466
Number known to be checked during 1962	2,609
	75.2%

OLD TUBERCULIN DISTRIBUTED DURING 1962

	BMS	AMS	Total
Dilution No. 2	65	162	227
Dilution No. 3	496	1,144	1,640
Dilution No. 4	46	.....	46
Purified Protein Derivative .....	.....	249	249
	607	1,555	2,162

In addition to the above, Patch Tests were sent on request to Health Units and Family Doctors. The Tuberculosis Division recommends, however, that the Mantoux or Heaf Test be used in preference to the Patch Test.

B.C.G. VACCINATIONS 1962

1. Nurses (a) Graduates	1
(b) Students	564
(c) Other Nursing Personnel	494
2. Other Hospital Personnel	33
3. Medical Students	39
4. Indians and Eskimos (Indian and Northern Health Services)	851
5. All Other Persons	
(a) Newborn contacts	1
(b) Adults and children, contacts	26
(c) Newborn, not contacts .....	.....
(d) Adults and children, not contacts	13
TOTAL	2,022

INSTITUTIONAL REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium
Number of patients under treatment January 1, 1962	129	204
Number admitted during 1962	236	380
Number transferred in during 1962	2	10
Number treated during 1962	367	594
Number discharged or died during 1962	264	383
Number transferred out during 1962	10	2
Number discharged, died or transferred out during 1962	274	395
Number under treatment December 31, 1962	93	199
Number of patients under treatment January 1, 1962		333
Number of admissions during 1962		616
Number of patients treated in Alberta during 1962		949

DIAGNOSIS OF PATIENT ADMISSIONS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium
Non-tuberculosis .....	...	39
For diagnosis	65	24
Pleural effusion	4	11
Tuberculosis inactive	24	2
Primary tuberculosis	11	64
NON-PULMONARY TUBERCULOSIS		
Abscess	1	...
Adenitis	9	19
Addison's Disease .....	...	2
Bazin's Disease	1	...
Bone	10	10
Erythema Nodosum .....	...	2
Eye	1	1
Genito-Urinary	14	9
Ischio-rectal abscess .....	...	1
Lupus Vulgaris	1	...
Mastitis .....	...	1
Meningitis .....	...	5
Pelvic	1	4
Perinephritic abscess	1	...
PULMONARY TUBERCULOSIS ACTIVE		
Minimal	26	60
Moderately Advanced	41	72
Far Advanced	26	51
Miliary .....	...	3
TOTAL	236	380

Number with positive sputum on admission	33	107
Number with negative sputum on admission	203	273
Number of readmissions during 1962	57	88
Number both admitted and readmitted during 1962	3	12
Number left against advice during 1962	11	73
Number of patient days	42,887	70,219
Number of patient days in other provinces under reciprocal agreement		1,240
Total number of patient days including those in other provinces under reciprocal agreement	114,346	
Number of patients in other provinces (reciprocal agreement) January 1, 1962		3
Number of admissions in other provinces under reciprocal agreement		3
Number of institutional patient days provided for non-residents in Alberta under reciprocal agreement		1,527
Number of patients in Alberta Sanatoria (non residents) under reciprocal agreement, January 1, 1962		6
Number of admissions, non residents, under reciprocal agreement		9

OPERATING ROOM REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Aspiration of chest	45	26	71
Bronchoscopy	29	36	65
Bronchogram	34	34	68
Decortication	1	1	2
Lobectomy	20	7	27
Pericardiectomy	1	1	2
Plombage	1	2	3
Pneumectomy	1	4	5
Segmental resection	1	4	5
Thoracotomy	3	1	4
Thoracoplasty	19	1	20
Tracheotomy	1	1	2
Cystoscopy	15	11	26
Nephrectomy	4	2	6
Gastrostomy	1	1	2
Hysterectomy	4	7	11
Implantation D.O.C.A.	3	9	12
Orthopaedic operations	12	24	36
Casts	344	34	378
Miscellaneous procedures			
TOTAL	535	206	741

SUMMARY PNEUMOTHORAX CASES

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Under treatment January 1, 1962	1	1	2
Under treatment December 31, 1962	1	1	2
Refills:			
Resident	1	1	2
Out-patient	8	1	9
	9	2	11

NOTE: There were no cases discontinued or transferred.
There was no pneumothorax given at the
Aberhart Memorial Sanatorium nor at any
outside point.

SUMMARY PNEUMOPERITONEUM CASES

Under treatment January 1, 1962	1	2	3
Number of new cases during 1962	1	9	10
Number of cases under treatment on admission	1	1	2
	1	11	12
Number of cases discontinued	1	5	6
Number transferred out of province	1	5	6
Number transferred to other sections of Division	1	5	6
	1	5	6
Number under treatment December 31, 1962	1	5	6
Refills:			
Resident	4	129	133
Out-patient	4	50	54
	4	179	183

NOTE: There was no pneumoperitoneum given at any
outside point.

NUMBER DISCHARGED ON DRUGS DURING 1962

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Isoniazid	2	8	10
Isoniazid and Cycloserine	5	1	6
Isoniazid and Isoxyl	2	1	3
Isoniazid and Para-amino Salicylic Acid	131	180	311
Isoniazid and Streptomycin	1	36	37
Isoniazid, Isoxyl and Cycloserine	1	1	2
Isoniazid, Para-amino Salicylic Acid and Cycloserine	8	1	9
Isoniazid, Para-amino Salicylic Acid and Streptomycin	1	6	7
Isoniazid, Streptomycin and Cycloserine	1	1	2
Para-amino Salicylic Acid, Pyrazinamide, and Streptomycin	1	2	3
Streptomycin and Para-amino Salicylic Acid	1	6	7
TOTAL	150	239	389

LABORATORY REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
SPUTUM EXAMINATIONS			
Positive	317	428	745
Negative	2,347	2,218	4,565
TOTAL	2,664	2,646	5,310
URINE EXAMINATIONS	5,016	7,276	12,292
BLOOD EXAMINATIONS			
Blood Counts	4,321	4,216	8,537
Sedimentation Rates	2,652	3,013	5,665
Blood Sugars	397	955	1,352
TOTAL	7,370	8,184	15,554
MISCELLANEOUS			
Pleural Fluid	20	5	25
Spinal Fluid	1	111	112
Gastric Analysis .....	.....	5	5
Culture	5,253	1,586	6,839
Guinea Pig Inoculation	804	922	1,726
Other	3,439	1,371	4,810
TOTAL	9,517	4,000	13,517
WASSERMAN REPORT			
Positive	1	17	18
Negative	226	304	530
TOTAL	227	321	548
Basal Metabolism Rate .....	.....	18	18
Cardiograph .....	.....	105	105

DENTAL REPORT

Number of patients (individuals)	166	386	552
Number of treatments	42	510	552
Number of prophylactic treatments	10	9	19
Number of fillings	56	211	267
Number of extractions	106	230	336
Number of new dentures and repairs	16	60	76

X-RAY DEPARTMENT REPORT

	Baker Memorial Sanatorium		Aberhart Memorial Sanatorium		Total		Grand Total
	In-Pts.	Out-Pts.	In-Pts.	Out-Pts.	In-Pts.	Out-Pts.	
RADIOGRAPHS MADE							
Chest—Full Size	1,191	1,036	1,871	2,413	3,062	3,449	6,511
Miniature	7	2,941	.....	7,880	7	10,821	10,828
Ribs .....	.....	1	2	1	2	2	4
Pelvis	23	18	8	4	31	22	53
Extremities	90	136	103	40	193	176	369
Spines—Cervical	6	6	8	.....	14	6	20
Dorsal	20	18	29	11	59	29	88
Lumbar	47	41	44	14	91	55	146
Skull	2	.....	7	1	9	1	10
Sinuses	1	.....	1	1	2	1	3
F.P. Abdomen	12	1	7	.....	19	1	20
G.B. Series	2	.....	1	.....	3	.....	3
G.I. Series	5	.....	3	.....	8	.....	8
Barium Enema	2	.....	1	.....	3	.....	3
Intravenous Pyelogram ..	35	1	33	41	68	42	110
Retrograde Pyelogram ..	12	.....	5	2	17	2	19
Sinogram	2	.....	18	2	20	2	22
Bronchogram	32	.....	49	4	81	4	85
Ordographs	42	6	73	13	115	19	134
Dental	13	3	102	.....	115	3	118
Jaw .....	.....	1	.....	.....	.....	1	1
Sacro-iliac	1	2	1	.....	2	2	4
Shoulder	6	5	.....	.....	6	5	11
Mastoid	2	.....	.....	.....	2	.....	2
TOTAL	1,563	4,216	2,366	10,427	3,929	14,643	18,572
Fluoroscopic Examinations	9	9	82	38	91	47	138
Films sent in for interpretation	13,789	.....	11,904	.....	.....	.....	25,693
Basal Metabolism Rate	2	.....	.....	.....	.....	.....	2
Cardiograph	22	.....	.....	.....	.....	.....	22
Audiogram	3	.....	.....	.....	.....	.....	3

DEPARTMENT OF PUBLIC HEALTH

CLASSIFICATION OF DISCHARGED PATIENTS

	Residence			On discharge				
	On ad- mission	31 days or less	Over 31 days	In.	Q.	AI.	AU.	D.
1. For diagnosis	119	81	38	2	.....	.....	.....	7
2. Primary Tuberculosis	81	4	77	21	.....	58	.....	1
3. Reinfection type pulmonary tuberculosis clinical:								
Minimal	72	16	56	25	1	40	5	1
Moderately advanced ..	72	11	61	31	.....	37	3	1
Far advanced	16	3	13	9	.....	3	1	3
4. Reinfection type pulmonary tuberculosis positive:								
Minimal	24	1	23	4	.....	20	.....	.....
Moderately advanced ..	59	1	58	14	1	43	.....	1
Far advanced	71	4	67	16	1	42	.....	12
Miliary	8	3	5	2	.....	4	.....	2
5. Tuberculosis pleurisy	20	1	19	4	.....	16	.....	.....
6. Non-pulmonary Tuberculosis:								
Addison's Disease	2	2	.....	1	.....	1	.....	.....
Adenitis	38	1	37	8	.....	27	1	1
Bazin's Disease	1	1	.....	.....	.....	1	.....	.....
Bone	27	2	25	10	.....	16	.....	1
Breast	2	1	1	.....	.....	1	1	.....
Erythema Nodosum	2	1	1	.....	.....	2	.....	.....
Eye	3	.....	3	1	.....	2	.....	.....
Genito-urinary	30	9	21	10	.....	17	3	.....
Ischio-rectal abscess ..	1	1	.....	.....	.....	1	.....	.....
Meningitis	4	1	3	2	.....	.....	.....	1
Pevic	5	1	4	1	.....	4	.....	.....
Total active tuberculosis	538	64	474	.....	.....	.....	.....	.....
Total treated .....	.....	.....	.....	131	3	321	5	18
Total untreated .....	.....	.....	.....	30	.....	14	9	13
Grand Total	657	145	512	161	3	335	14	31

EXPLANATIONS OF ABBREVIATIONS AND TERMS USED

The standard classification is that of the National Tuberculosis Association. Minimal, Moderately Advanced and Far Advanced refer to anatomical extent of disease.

In.inactive
 Q.quiescent
 AI.active improved
 AU.active unimproved
 D.died

N.B. Only those in residence over 31 days are classed as "treated".

Three cases were classed as tuberculous on admission but were found to have no tuberculous disease. This accounts for the apparent discrepancy in the above table.

CLASSIFICATION ON ADMISSION OF 657 DISCHARGED PATIENTS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
For diagnosis	70	49	119
Primary tuberculosis	18	63	81
Pulmonary tuberculosis	126	196	322
Tuberculous pleurisy	4	16	20
Non-pulmonary tuberculosis	46	69	115
TOTAL	264	393	657

CLASSIFICATION ON DISCHARGE OF TREATED CASES OF ACTIVE TUBERCULOSIS AND TUBERCULOUS PLEURISY

	On admission Number	On discharge		Died
		Improved	Unimproved	
Minimal	79	76	2	1
Moderately advanced	119	117	.....	2
Far advanced	80	69	1	10
Primary	77	77	.....	.....
Miliary	5	5	.....	.....
Non-pulmonary tuberculosis	95	93	.....	2
Tuberculous pleurisy	19	19	.....	.....
TOTAL	474	456	3	15

RESIDENCE OF DISCHARGED PATIENTS

SUMMARY

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Cities	145	141	286
Health Units	98	207	305
Towns	2	...	2
Counties	6	1	7
Enlarged Municipal Districts	7	...	7
Local Improvement Districts	1	18	19
Non-Resident	5	26	31
TOTAL	264	393	657

SEX OF DISCHARGED PATIENTS

Male	162	209	371
Female	102	184	286
TOTAL	264	393	657

AGE ON ADMISSION OF DISCHARGED PATIENTS

Less than 1 year .....	...	3	3
From 1 - 9 years	30	63	93
From 10 - 14 years	8	11	19
From 15 - 19 years	13	37	50
From 20 - 29 years	37	66	103
From 30 - 39 years	35	45	80
From 40 - 49 years	46	57	103
From 50 - 59 years	37	50	87
From 60 - 69 years	30	28	58
From 70 - 79 years	24	24	48
80 years and over	4	9	13
TOTAL	264	393	657

SOCIAL STATUS OF DISCHARGED PATIENTS

Single	92	170	262
Married	133	170	303
Divorced	10	4	14
Separated	4	19	23
Widowed	25	30	55
TOTAL	264	393	657

RESIDENCE IN ALBERTA

Born in Alberta	119	218	337
1 year or less	15	31	46
1 - 5 years	20	23	43
6 - 9 years	14	14	28
10 - 14 years	21	18	39
15 - 19 years	6	10	16
20 - 29 years	9	11	20
30 or more years	60	68	128
TOTAL	264	393	657

RACIAL ORIGIN

Chinese	7	5	12
East Indian	1	...	1
Indian (treaty)	35	...	35
Japanese	2	...	2
Metis	15	135	150
Negro	2	2	4
TOTAL	62	142	204

DEPARTMENT OF PUBLIC HEALTH

LENGTH OF STAY IN SANATORIUM OF DISCHARGED PATIENTS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total T.B. Division	*Charles Camsell	Total
DEATHS					
Number in Sanatorium under 31 days..	4	9	13	2	15
Number of patient days	35	100	135	25	160
Average number patient days	8.8	11.1	10.4	12.5	10.7
Number in Sanatorium 31 or more days	7	11	18	2	20
Number of patient days	2,628	3,281	5,909	401	6,310
Average number patient days	375.4	278.3	328.3	200.5	315.5
DISCHARGES					
Number in Sanatorium under 31 days....	87	45	132	31	163
Number of patient days	1,202	736	1,938	503	2,441
Average number patient days	13.8	16.4	14.7	16.2	14.98
Number in Sanatorium 31 or more days	166	328	494	127	621
Number of patient days	42,938	64,488	107,426	38,502	145,928
Average number patient days	258.7	196.9	217.5	303.2	234.99
Total number deaths and discharges....	264	393	657	162	819
Total number patient days	46,803	68,605	115,408	39,431	154,839
Average number patient days	177.3	174.6	175.7	243.4	189.1

* Refers to Alberta Indians only. The Charles Camsell Hospital does not come under the Division of Tuberculosis Control but these figures are included for information purposes.

DIVISION OF MENTAL HEALTH

**R. R. MacLean, M.D., Cert. in Neurol. and Psych.,
F.A.P.A., Cert. M.H.A. (A.P.A.), Director**

ADMINISTRATION

The Division of Mental Health is concerned with activities involving matters of mental health and mental illness in the Province. In keeping with the trends of recent years, the demand has increased for both preventive and treatment services. The Annual Reports of the various branches of the Division, which Reports follow, bear this out.

Bursary assistance was again granted many staff members in the disciplines of Psychiatry, Psychology and Social Work. Some who had been granted assistance previously, returned to the service. Notwithstanding this, the shortage of fully trained applicants continued as a major problem.

PREVENTIVE SERVICES

Provincial Guidance Clinics

The total work-load of the Clinics showed some increase. The Clinic Psychiatrists reported generally, that the cases examined were of a severe nature. The majority fell within the categories of the emotionally disturbed and otherwise maladjusted children. About 17 per cent of all new cases seen were in the Intellectually Inadequate group.

There was some variation in the age groups as seen in the different Clinics, in that a higher percentage of adults was seen in areas where there was no local psychiatrist in private practice—especially in the Lethbridge and Medicine Hat areas.

The Clinic personnel did much work in the field of public education in Mental Health. The staff members took part in discussion panels, individual talks, also radio and television appearances.

The Clinics continued to assist in the follow-up work with patients discharged from the Mental Hospitals. Psychiatrists from the Provincial Mental Hospital, Ponoka, visited the Provincial Guidance Clinic in Calgary for the purpose of interviewing former patients and reviewing their progress.

Separate reports from the various Clinics follow:

PROVINCIAL GUIDANCE CLINICS

PROVINCIAL GUIDANCE CLINIC, EDMONTON

A. R. Schrag, M.D., Spec. Psychiatry, Clinic Director

In 1962 there was a very large turn-over of staff due to members resigning to take up domestic duties and five persons going away for further training, four of whom were expected to return to the Clinic staff in the latter part of 1963.

The part-time Psychiatrist terminated his services with the Clinic. The staff was increased by two clerk typists in an effort to improve the standard of the records being kept in the Clinic.

The in-service training program for persons lacking any practical experience in Social Work, Psychology and treatment was continued and was most helpful in assisting junior staff members to become more effective.

There was a request for the re-opening of the Smoky Lake Clinic and for future Clinics to be held at Fort McMurray.

Total cases seen in 1962 were 2,073.

New cases examined numbered 1,447 which was an increase of 128 cases over 1961. Re-examination of cases increased by 52 for a total increase of 180 cases with essentially the same number of staff as previously. The total work load was 19,367 which represented an increase of 969 periods.

Age and Sex Distribution: The sex ratio was 1.75 males to 1.0 females.

Age Distribution	Percentage
0 to 4	13.06%
5 to 19	84.10%
20 and over	2.84%

Classification of Types of New Cases: The percentage of cases in each classification remained essentially the same.

Breakdown of Cases Seen in Edmonton and Rural Areas:

CLINIC AREA	New	RE-REG.	+ or - 1961 Totals	Work Load
Edmonton	773	451	+ 114	16,656
Edmonton Rural	155	12	+ 29	291
Athabasca-Lac La Biche	42	9	+ 4	185
Barrhead-Westlock-Thorhild ...	45	18	+ 2	197
Camrose-Killam	26	9	- 16	140
Edson	27	6	+ 12	104
*Lamont-Smoky Lake-Holden..	32	4	- 2	107
**Peace River-Grande Prairie..	143	57	+ 14	728
Bonnyville-St. Paul-Two Hills	78	12	+ 33	295
Vegreville-Vermillion-				
Wainwright	85	38	- 15	490
Wetaskiwin	41	10	+ 5	174
TOTALS	1,447	626	+ 213 - 33	19,367
			180	

* Lamont-Smoky Lake—A Clinic was held in Smoky Lake for the first time in several years.
 ** Peace River-Grande Prairie—Two two-week trips were made to the Peace River-Grande Prairie area and one three-day trip was made to Grande Prairie in February.

PROVINCIAL GUIDANCE CLINIC, PONOKA

**F. J. Edwards, M.D.C.M., Specialist in Psychiatry, R.C.P.S.(C.),
Clinic Psychiatrist**

During 1962 Guidance Clinics were again conducted by members of the staff of the Provincial Mental Hospital, Ponoka, on a part-time basis. The work was carried out by various members of the medical staff, social workers and psychologists. There was a fairly steady demand for Guidance Clinic services for both children and adults but it was only possible to give rather limited service because of the time element involved, the staff engaging in this work being full-time hospital personnel. For statistical purposes, the writer will in this report include former patients who were seen at the Provincial Mental Hospital, Ponoka, or, periodically, at the Provincial Guidance Clinic office in Calgary, by members of the Provincial Mental Hospital medical staff.

Children were seen at Clinics in Ponoka, Castor and Stettler. In 1962 a total of 146 cases were seen—44 new and 102 re-registered cases.

Ponoka and Calgary: Thirty-two new and 99 re-registered cases were seen for a total of 131 cases. Of these, five cases were seen at a Guidance Clinic held in the Town of Ponoka, all being referred by the school. The majority of cases was referred by general practitioners, parents, self and Health Units.

Stettler and Castor: Two Clinics were held at Stettler and one at Castor, at which a total of 15 cases were seen—12 new and three re-registered. These were referred by the school and Health Unit.

As in previous years, those examined were persons who presented some psychiatric, emotional or educational problem which was causing difficulty in adjustment in the home, school or community. In each case, efforts were made to evaluate the situation, and to come to some conclusion as to its cause. Advice was offered as to ways and means of dealing with the presenting situation, which often involved an attempt at environmental manipulation. Where local practitioners were involved, advice was given as required. In cases where epilepsy was considered in the differential diagnosis, arrangements were made for electroencephalography at the Provincial Mental Hospital, Ponoka.

PROVINCIAL GUIDANCE CLINIC, RED DEER

**L. J. le Vann, L.R.C.P. Edin., L.R.C.S. Edin., L.R.F.P.S.
Glas., Clinic Psychiatrist**

Work Load: The Provincial Guidance Clinic in Red Deer operated with a skeleton staff during the early part of the year due to the fact that the clinic psychiatrist spent one month on a research project and another month overseas, and the one social worker, whose actual appointment was at Linden House, resigned during the spring to take a position in eastern Canada. However, towards the latter part of the summer, with the acquisition of five psychologists to the Provincial Training School staff and the fact that they were willing to spend a part of their working day twice a week dealing with clinic cases, there was an immediate response in referrals and interviews as well as treatments.

Interviews and psychotherapy sessions were carried out by the clinic psychiatrist, psychologists and social worker in the following proportions:

Psychiatrist	358 hours
Psychologists and Social Worker	474 hours

In addition to these interviews, 92 psychometrics were carried out.

Interviews for psychologists and social worker appear as one figure due to the fact that the clinic was without a social worker since May of 1962, and the work of the social worker was undertaken by the various psychologists.

Age and Sex Distribution: The ratio of male to female cases was 1.41 to 1. Of all the new cases 75 per cent were under the age of 20 years—31.4 per cent being in the five to nine year age group.

Referral Agencies: Referrals this year as in previous years came from the school principals and teachers, the Medical Officer of Health and his nursing staff, medical practitioners, magistrates, juvenile and family courts, Juvenile Offenders' Branch and welfare departments, as well as the Medical Review Board of the Pensions' Branch.

PROVINCIAL GUIDANCE CLINIC, CALGARY

N. C. Horne, M.B., M.R.C.S., D.P.M., Clinic Psychiatrist

A most important event of the year was the location of the clinic in more permanent premises in the Regency Building, 118 - 11th Avenue S.E., Calgary, on July 4th, 1962. The Clinic Director and his staff were very grateful to the Departments and persons whose co-operation allowed the construction and design of the area allocated into adequate waiting space, clerical space, fifteen offices and a play-therapy room and a conference room, together with reasonable storage space for clerical and play-therapy supplies. The ventilation, heating and cooling systems are adequate and tend to make more efficient and pleasant working. The parking areas for clients and staff were a very welcome addition and saved the clients much irritation and friction over parking difficulties and offences, especially for out-of-town strangers.

The staff establishment was increased to:

Psychiatrists	3
Psychologists	5
Psychiatric Social Workers	5
Clinic Secretary	1
Stenographers	3

The second psychiatrist is to be congratulated on attaining her Certification in Psychiatry in November, 1962.

There were numerous staff changes, especially among senior trained staff. Two staff members left for further education under Training Grants, one to obtain his Master's degree in Social Work, the other his Ph.D. in Psychology, to the University of British Columbia and the University of Utah, respectively.

During the year the Clinic had a "turnover" of 18 professional staff of whom 10 remain, three of these latter being on half-time, that is, giving an equivalent remainder of eight and one-half professional

staff. Of these, only three and one-half have a continued service of over twelve months. For a period of ten days in September the Clinic was entirely without a Psychiatric Social Worker. The year ended with only one trained and one half-time, partly trained Social Worker. The greatest shortage of professional staff lay in basic, stable, trained Psychiatric Social Workers whether full-time or part-time.

There was an average professional staff deficit over the year of 38 per cent in the minimum requirement for efficient operation.

The demand for Clinic services continued:

Total Services for the Year 1962

New cases	530	(499)	increase	31
Re-registered	514	(399)	increase	115
TOTAL	1,044	(898)	increase	146

Breakdown of Work-Load:

Psychiatrists	3,511	(3997)	decrease	486
Psychologists	3,219	(3065)	increase	154
Psychiatric Social Workers..	2,813	(3553)	decrease	740
TOTAL	9,543	(10,615)	decrease	1,072

The decreased workload resulted from the loss and shortage of basic trained Psychiatric Social Workers. The work slowed down following no Psychiatric Social Work staff for ten days in September, 1962, followed by an orientation period for the one and one-half trained staff, and instruction to the one and one-half untrained staff.

AGE AND SEX DISTRIBUTION:

Age Distribution	Percentages
0 - 4	14.3
5 - 9	37.2
10 - 14	24.9
15 - 19	13.4
19 years and over	10.2
	<u>100.0</u>

PROPORTION OF MALES TO FEMALES—2.3:1

REFERRALS TO THE CLINIC WERE MADE UP AS FOLLOWS:

Referral Source	Percentages
Self and family	31.9
Child Welfare Agencies	20.4
Health Units	14.3
Private Doctors and Medical Clinics	14.0
Schools	11.0
Miscellaneous Sources	8.4
	<u>100.0</u>

Seventy-nine mentally defective cases were examined, an increase of 16 over the previous year. Of these, 15 were recommended for admission to the Provincial Training School, Red Deer.

Three emotionally disturbed children were admitted to Linden House, Red Deer.

Two hundred and fifteen cases were treated in the Clinic, of which 21 were on drug therapy.

Rural Districts

These totals include the rural districts which showed a distribution as follows:

Drumheller—Four visits were made, during which 14 new cases and 9 re-registered cases were seen for a work load of 175 periods.

Hanna—Five visits were made, during which 22 new cases and five re-registered cases were seen for a work load of 196 periods.

Three Hills—Four visits were made, during which 17 new cases were seen for a work load of 148 periods.

This gives a total of 13 "outside" clinics during which 53 new cases and 14 re-registered cases were seen, for a total work load of 519 periods. This represents 5.3 per cent of the work done in the Clinic throughout the year.

Educational Activities

Talks and addresses numbered five, including groups from the Provincial Mental Hospital, Ponoka.

Visiting Psychiatrists

Psychiatrists from the Provincial Mental Hospital, Ponoka, continued to visit regularly in order to follow-up discharged patients and interview others. The liaison continued to be a very satisfactory one to all concerned.

PROVINCIAL GUIDANCE CLINICS—LETHBRIDGE AND MEDICINE HAT AREA

J. Bower, M.D., D.P.M., Clinic Psychiatrist

The area served by these Clinics extends from the United States border northward to a line drawn across the Province from British Columbia to the Saskatchewan border, at the level of Nanton, Alberta. This includes the Medicine Hat area which is now served by an independent branch Clinic under the direction of the Clinic Psychiatrist in charge of the Provincial Guidance Clinic at Lethbridge. There are approximately 165,000 people in this area which includes the third and fourth largest cities in the Province.

Personnel: As well as the Clinic Psychiatrist these two Clinics were staffed by three Psychiatric Social Workers, two Psychologists, and three clerical staff members. In September, 1962, the Social Worker stationed at the Medicine Hat Clinic was granted leave-of-absence so that he might attend the University of British Columbia's School of Social Work, with a view to obtaining his Master's degree. The senior Social Worker at the Lethbridge Clinic returned to his duties in April, 1962, having obtained his Bachelor of Social Work degree during a period of leave-of-absence. Both of these workers were given financial assistance through the Provincial Professional Training Grants.

Treatment Procedures: These were carried out with the use of psychotherapy, play therapy, counselling and other forms of treatment. The Clinic Psychiatrist treated many Guidance Clinic cases in hospital during the year. All the professional staff members took part in therapy procedures. It was felt that the majority of the patients benefited from treatment.

Public Education: Many speaking engagements were carried out by the staff in the evenings, and staff members also participated in a number of educational and social welfare conferences and seminars. On such occasions it was possible to discuss individual problems with teachers and other interested workers and, in addition, to disseminate mental health ideas in these areas. Appearances on radio and television assisted in spreading public understanding of mental health problems and explaining the work of the Guidance Clinic in this field. Good relations were maintained with physicians and clergy, which groups were a source of many referrals to the Clinic. In October a large concourse of Social Workers met in Lethbridge and part of the programme was held at the Guidance Clinic. Staff members participated in the various events which were held.

Work with Other Institutions: Consultant services were carried out again at the School for Retarded Children and for the Courts. Visits were made to the prison as requested. Some in-service training was carried out. Lectures were given to nurses at St. Michael's Hospital.

Comparative Statistics: The following table portrays the increase in the cases seen in 1962 as compared to the previous year.

	Lethbridge		Medicine Hat		Pincher Creek		Blairmore	
	Reg.	Re-Reg.	Reg.	Re-Reg.	Reg.	Re-Reg.	Reg.	Re-Reg.
1962	430	188	85	48	11	....	6	2
1961	210	163	122	30	....	....	....	....

Summary: A general survey of the work done indicates that the majority of cases handled were helped. A great deal of support and encouragement was received from local professional groups and from individuals. Good liaison with other local agencies and institutions was maintained at a most satisfactory level.

TABLE 1
SUMMARY OF NEW AND RE-REGISTERED CASES EXAMINED, TREATMENT PERIODS, INTERVIEWS,
PSYCHOLOGICAL EXAMINATIONS, AND TOTAL WORK LOAD OF CLINICS

CLINIC DISTRICTS	NEW CASES			RE-REGISTERED CASES				DISTRIBUTION OF WORK				TOTAL WORK LOAD
	M		F	T	M	F	T	Pat.	Col.	Gen.	P. E.	
Edmonton and District	921	526	1447	401	225	626	4563	5894	6928	1982	19,367	
Calgary and District	341	189	530	357	157	514	2410	3275	3126	732	9,543	
Lethbridge, Medicine Hat and Districts	253	279	532	144	94	238	1796	2000	365	625	4,786	
Ponoka and Red Deer District	73	53	126	50	80	130	499	455	20	122	1,096	
TOTALS	1588	1047	2635	952	556	1508	9288	11,624	10,439	3461	34,792	

Notes: Total new cases examined since the Clinics opened in 1929 is now 31,845.

Edmonton and District includes all the area served from Wetaskiwin north. It includes Clinics held in the Peace River-Grande Prairie area and such points as Athabasca, Barrhead, Bonnyville, Camrose, Edson, Holden, Killam, Lac La Biche, Lamont, St. Paul, Two Hills, Vegreville, Vermilion, Wainwright, Westlock and Wetaskiwin.

Calgary and District includes the area served south of Didsbury, excluding the Lethbridge-Medicine Hat area. It includes Clinics held at such points as Didsbury, Drumheller, Cochrane, High River and Stratmore.

Lethbridge, Medicine Hat and Districts include the area in the far south of the Province, with Clinics held at such points as Fort Macleod, Claresholm, Cardston and the Crow's Nest Pass.

Ponoka and Red Deer District includes the area from Didsbury on the south to Wetaskiwin on the north. It includes Clinics at such points as Castor, Ponoka, Red Deer, Rimbey, Rocky Mountain House and Stettler.

Re-registered cases are those that have been examined previously at a Clinic, and are seen again for further consultation and/or treatment.

Pat.—Patient contacts including treatment periods.

Col.—Collateral, or contacts with a patient's parents, or relatives, or with others closely interested.

Gen.—General contacts regarding Clinic activities and work, including those with other Agencies and Community Services. It includes as well talks and addresses, and teaching periods by staff members.

P. E.—Psychological examinations and tests.

Total Work Load—This is the sum of the periods of work noted under each of the four headings: Patient, Collateral, General and Psychological Examinations.

TABLE 2
AGE AND SEX CLASSIFICATION OF NEW CLINIC CASES

AGE GROUP	EDMONTON AND DISTRICT			CALGARY AND DISTRICT			LETHBRIDGE, MEDICINE HAT AND DISTRICTS			PONOKA AND RED DEER DISTRICT			TOTALS			PERCENTAGES		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
0 - 4	114	75	189	24	76	100	9	8	17	7	5	12	182	112	294	11.4	10.7	11.2
5 - 9	412	185	597	55	197	252	87	39	126	21	8	29	662	287	949	41.6	27.4	35.0
10 - 14	257	145	402	46	132	178	55	34	89	15	6	21	413	231	644	26.0	22.1	24.1
15 - 19	108	110	218	33	71	104	37	117	154	11	13	24	194	273	467	12.1	26.1	17.7
20 - 24	10	3	13	6	11	17	12	28	40	1	5	6	28	42	70	1.8	4.0	2.7
25 - 29	13	6	19	9	12	21	10	12	22	4	4	5	19	26	45	1.3	2.5	1.8
30 - 34	2	2	4	7	11	18	6	11	20	3	7	10	18	27	45	1.2	2.6	1.8
35 - 39	1	1	2	4	5	9	9	4	10	4	2	7	17	8	25	1.1	0.7	0.9
40 - 44	6	2	8	2	5	7	5	5	10	4	2	6	18	11	29	1.2	1.0	1.1
45 - 49	2	1	3	1	3	4	7	4	11	2	0	2	12	7	19	0.7	0.6	0.8
50 and over	4	1	5	2	2	4	15	16	31	3	1	4	24	22	46	1.5	2.2	1.8
Unknown	0	0	0	0	0	0	1	1	2	0	0	0	1	1	2	0.1	0.1	0.1
TOTALS	921	526	1447	341	530	871	253	279	532	73	53	126	1588	1047	2635	100.0	100.0	100.0

TABLE 3A
DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—PRE-SCHOOL GROUP (0 to 5 years 11 months)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Educational Problem with Adequate Intellect	26	21	47	2	1	3	0	0	0	0	0	0	28	22	50
Intellectual Inadequacy	61	39	100	26	14	40	3	6	9	5	6	11	95	65	160
Emotional Disorder	48	18	66	8	8	16	1	1	2	0	0	1	57	28	85
Thinking Disorder	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1
Speech Disorder	22	5	27	11	0	11	4	0	4	3	0	3	40	5	45
Faulty Feeding Habits	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Sleep Disturbances	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Anti-Social Trends	2	0	2	3	1	4	0	0	0	0	0	0	5	1	6
Sexual Difficulties	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1
Attack Disorders	0	2	2	0	0	0	0	0	0	0	0	0	0	0	2
Psychoneuroses	1	2	3	0	0	0	0	0	0	0	0	0	0	0	2
Psychoses	3	0	3	0	0	0	0	0	0	0	0	0	1	3	4
Non-Psychotic	1	0	1	1	0	1	0	0	0	0	0	0	2	2	4
Normal Child	14	11	25	19	10	29	9	1	9	2	1	1	35	22	57
Undiagnosed	1	0	1	1	1	2	7	6	13	0	0	0	9	7	16
TOTALS	181	98	279	73	35	108	16	14	30	9	7	16	279	154	433

TABLE 3B
DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—SCHOOL AGE GROUP (6 years to 18 years 11 months)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Educational Problem with Adequate Intellect	220	80	300	42	12	54	28	5	33	14	1	15	304	98	402
Intellectual Inadequacy	78	68	146	28	17	45	32	28	60	8	5	13	146	118	264
Emotional Disorder	266	164	430	64	24	88	29	12	41	3	5	8	362	205	567
Thinking Disorder	14	8	22	1	4	5	0	0	0	0	0	4	18	13	31
Speech Disorder	20	4	24	2	2	4	1	0	1	3	1	3	26	6	32
Faulty Feeding Habits	0	0	0	1	0	1	0	0	1	0	0	0	1	1	2
Sleep Disturbances	3	0	3	1	0	1	1	0	1	0	0	0	4	1	5
Anti-Social Trends	41	25	66	44	23	67	19	3	22	4	0	4	108	51	159
Sexual Difficulties	2	4	6	4	1	5	2	2	4	0	4	4	8	11	19
Attack Disorders	8	8	16	2	0	2	0	0	2	0	0	0	12	8	20
Psychoneuroses	2	4	6	6	2	8	2	2	4	0	0	6	6	19	25
Psychoses	1	10	11	2	5	7	0	1	1	3	3	6	6	4	10
Non-Psychotic	4	2	6	1	0	1	1	1	2	0	2	5	11	8	19
Normal Child	7	35	42	80	1	81	11	75	86	0	0	0	97	139	236
Undiagnosed	10	4	14	2	1	3	43	28	71	3	2	5	58	35	93
TOTALS	709	416	1125	245	119	364	169	158	327	44	24	68	1167	717	1884

TABLE 3C
DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—ADULT GROUP (19 years and over)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Educational Problem with Adequate Intellect	5	1	6	2	0	2	1	2	3	0	0	0	8	3	11
Intellectual Inadequacy	12	7	19	2	4	6	2	3	5	1	3	4	17	17	34
Emotional Disorder	3	0	3	1	8	9	1	2	3	1	1	1	6	10	16
Thinking Disorder	2	0	2	0	0	0	0	0	0	1	0	0	3	0	3
Speech Disorder	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
Faulty Feeding Habits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sleep Disturbances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anti-Social Trends	0	0	0	0	1	1	1	2	3	0	0	0	1	3	4
Sexual Difficulties	0	0	0	0	4	5	3	3	6	2	0	2	9	4	13
Attack Disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychoneuroses	2	2	4	3	8	11	6	17	23	4	4	11	15	15	30
Psychoses	3	0	3	1	3	4	11	12	23	1	1	2	16	16	32
Non-Psychotic	3	2	5	7	6	13	8	6	14	3	4	7	21	18	39
Normal	0	0	0	1	1	2	11	36	47	1	1	2	13	38	51
Undiagnosed	1	0	1	2	4	4	24	24	48	6	2	8	33	28	61
TOTALS: Table 3C	31	12	43	23	35	58	68	107	175	20	22	42	142	176	318
Table 3B	709	416	1125	245	119	364	169	158	327	44	24	68	1167	717	1884
Table 3A	181	98	279	73	35	108	16	14	30	9	7	16	279	154	433
GRAND TOTALS	921	526	1447	341	189	530	253	279	532	73	53	126	1588	1047	2635

TABLE 4
SOURCES REFERRING NEW CASES TO THE CLINICS

Referring Source	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Fonoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Schools and School Authorities	326	163	489	41	17	58	64	146	210	21	6	27	452	332	784
Private Doctors and Medical Clinics	119	78	197	45	28	73	42	56	98	18	20	38	224	182	406
Medical Clinics as Rehabilitation, Cerebral Palsy, T.B., O.P.D.	36	22	58	8	6	14	3	7	10	1	3	4	48	38	86
Health Units, Medical Health Officers, Public Health Nurses	143	81	224	55	21	76	46	21	67	14	5	19	258	128	386
Child Welfare Agencies, Provincial and Municipal Juvenile and Family Court, Juvenile Offenders' Branch, Bowden Institution	74	63	137	61	47	108	14	7	21	2	3	5	151	120	271
Provincial Gaols, Adult Courts	8	10	18	6	6	12	8	3	11	3	1	4	25	20	45
Parents, Relatives, Friends, and Self	6	1	7	1	1	2	2	2	14	2	1	3	21	5	26
Department of Public Health	188	95	283	113	56	169	52	26	78	10	12	22	363	189	552
Other Sources	5	4	9	2	2	4	3	4	7	7	0	0	8	10	18
	16	9	25	11	5	16	9	7	16	2	2	4	38	23	61
TOTALS	921	526	1447	341	189	530	253	279	532	73	53	126	1588	1047	2635

TABLE 5
MAJOR RECOMMENDATIONS MADE IN REGARD TO NEW CLINIC CASES

Recommendations	Edmonton, and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Admission to:														
(a) Mental Hospital	11	10	21	1	2	3	12	6	18	6	2	8	30	20	50
(b) Provincial Training School	36	24	60	10	5	15	4	4	8	7	7	14	57	40	97
(c) Deerhome	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Placement in:															
(a) Protective or Correctional Home or Institution	23	28	51	5	4	9	0	0	0	0	1	1	28	33	61
(b) Foster Home	22	15	37	10	4	14	0	1	1	0	1	1	32	21	53
Educational Advice:															
(a) Modified School Program or Special Class Placement	179	98	277	23	6	29	43	20	63	10	3	13	255	127	382
(b) Vocational Counselling	25	21	46	0	2	2	0	0	0	0	1	1	25	32	57
(c) Other	68	28	96	15	9	24	4	3	7	3	1	4	90	41	131
Modified Home Management	196	80	276	30	14	44	36	16	52	8	1	9	270	111	381
Referred for Medical Treatment	81	45	126	2	0	2	20	19	39	15	5	20	118	69	187
Treatment in Guidance Clinic	172	112	284	94	46	140	31	31	62	15	20	35	312	209	521
Other Recommendations	108	65	173	151	97	248	103	170	273	9	11	20	371	343	714
TOTALS	921	526	1447	341	189	530	253	279	532	73	53	126	1588	1047	2635

TABLE 6
SUMMARY OF THE NUMBER OF MENTAL DEFECTIVES EXAMINED, BY YEARS

Year	I. Q. 0 to 25 Probably Idiots			I. Q. 26 to 50 Probably Imbeciles			I. Q. 51 to 75 Probably Morons			I. Q. Unknown, Mental Deficiency Indicated			Totals			Percentage of New Cases	Cumulative Totals
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
1956	7	5	12	65	46	111	88	146	234	27	21	48	245	160	405	25.0%	4523
1957	11	13	24	40	32	72	115	86	201	18	23	41	184	154	338	20.7%	4923
1958	16	11	27	38	29	67	119	80	199	24	27	51	197	147	344	18.7%	5266
1959	13	10	23	56	44	100	159	121	280	27	15	42	255	190	445	22.3%	6055
1960	3	1	4	37	34	71	137	98	235	20	11	31	197	144	341	16.2%	6396
1961	13	14	27	40	33	73	154	118	272	55	38	93	262	203	465	20.2%	6861
1962	10	9	19	51	42	93	142	106	248	46	40	86	234	197	446	16.9%	7307
							Number of Mental Defectives Examined to 1956.....										

Notes: I. Q.—Intelligence Quotient
M—Male F—Female T—Totals

ACTIVE TREATMENT MENTAL HOSPITALS

THE PROVINCIAL MENTAL HOSPITAL, PONOKA
THE PROVINCIAL MENTAL INSTITUTE, EDMONTON

The Provincial Mental Hospital, Ponoka, admitted 985 patients (563 males, 422 females—including re-admissions). The Provincial Mental Institute, Edmonton, admitted 1,397 patients (789 males, 608 females—including re-admissions). The total number of admissions to these hospitals was 2,382 patients (1,352 males, 1,030 females). The total number of admissions (including re-admissions), was 246 greater than the previous year. Again this increase might be explained in part by the increased demand for the admission of seniles, and an increase in the general population of the Province. The Provincial Mental Hospital, Ponoka, admitted 24 remand cases, whereas the Provincial Mental Institute, Edmonton, reported the admission of 141 remand cases in the same period.

The discharge rate of the two hospitals averaged approximately 85 per cent. This was a slight increase over the previous year.

The combined population of the Provincial Mental Hospital, Ponoka, and the Provincial Mental Institute, Edmonton, on December 31st, 1962, numbered 2,561 (1,648 males, 913 females), a decrease of 69 over the previous year.

Both active treatment hospitals reported increased activity in their treatment programs consisting of the use of tranquillizer and antidepressant drugs, groups and individual therapy and activities and occupational therapies. It was again reported that electro-convulsant and insulin coma treatments were reduced in number. Emphasis was placed again on the "open-door" policy.

The Provincial Mental Hospital, Ponoka, transferred 29 mentally deficient patients to Deerhome; and the Provincial Mental Institute, Edmonton, transferred 68 mentally deficient patients to the same institution. The Provincial Mental Hospital, Ponoka, transferred 38 senile patients to Rosehaven, Camrose; and the Provincial Mental Institute, Edmonton, transferred 90 senile patients to the same institution during the year.

The various Nurses' Training Programs continued in both active treatment mental hospitals. Eight students completed the four-year course in General and Psychiatric Nursing at the Provincial Mental Hospital, Ponoka. Eleven male students completed the three-year course in Psychiatric Nursing, and eight Graduate Nurses completed the six-month Post-Basic Course at the same hospital. In addition, 232 undergraduate students from the General Hospital Schools of Nursing of the southern part of Alberta received the eight-week affiliation course in Psychiatric Nursing in the Provincial Mental Hospital, Ponoka. At the Provincial Mental Institute, Edmonton, 20 students (10 men, 10 women) completed the three-year course in Psychiatric Nursing, while 242 affiliating students from the General Hospital Nursing Schools in the northern part of the Province received a period of eight weeks' training.

Of major importance during the year was the commencement of construction of a reception-administration building at the Provincial Mental Hospital, Ponoka. The renovation of one building at the Provincial Mental Institute, Edmonton, was also undertaken.

TABLE 1
TABULATED SUMMARY—INSTITUTIONS—MOVEMENT OF POPULATION

Institutions	Patients in Hospital December 31, 1961			Admissions (Excluding Transfers)			Discharges (Excluding Transfers)			Deaths			Patients in Hospital December 31, 1962		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
ACUTE MENTAL HOSPITALS:															
P.M.H., Ponoka	772	402	1174	563	422	985	510	368	878	68	26	94	703	417	1120
P.M.H., Edmonton	977	479	1456	789	608	1397	644	533	1177	72	37	109	945	496	1441
Total	1749	881	2630	1352	1030	2382	1154	901	2055	140	63	203	1648	913	2561
CHRONIC MENTAL HOSPITALS:															
Rosehaven, Camrose	281	221	502	*0	*0	*0	2	2	4	81	42	123	279	220	499
P.A.M.H., Claresholm	0	108	108	*0	*0	*0	0	0	0	0	3	3	0	107	107
P.A.M.H., Raymond	0	131	131	0	5	5	0	2	2	0	14	14	0	120	120
Total	281	460	741	0	5	5	2	4	6	81	59	140	279	447	726
INSTITUTIONS FOR MENTAL DEFECTIVES,															
RED DEER															
Provincial Training School	408	310	718	110	62	172	26	12	38	5	3	8	446	350	796
Deerhome	388	442	830	18	14	32	2	2	4	8	6	14	465	449	944
Total	796	752	1548	128	76	204	28	14	42	13	9	22	941	799	1740
UNIT FOR EMOTIONALLY DISTURBED CHILDREN,															
Linden House, Red Deer	15	6	21	7	3	10	11	2	13	0	0	0	14	6	20
Overall Total	2841	2089	4940	1487	1114	2601	1195	921	2116	234	131	365	2882	2165	5047

* All admissions were by Transfer from other Alberta Mental Hospitals and are not included.

TABLE 2
FIRST ADMISSIONS DURING 1962 BY PSYCHOSES

DIAGNOSTIC CLASSIFICATION	Male	Female	Total
General Paralysis of the Insane	1	0	1
Syphilis with Psychosis	1	0	1
Schizophrenia (All Categories)	132	111	243
Manic Depressive (All Categories)	16	18	34
Involutional Melancholia	12	41	53
Paranoia and Paranoid States	15	15	30
Senile Psychosis	87	67	154
Pre-Senile Psychosis	2	5	7
Psychosis with Cerebral Arteriosclerosis	80	51	131
Alcoholic Psychosis	25	8	33
Psychosis of Other Demonstrable Etiology	28	11	39
Other and Unspecified Psychoses	15	16	31
Anxiety Reaction	14	7	21
Hysterical Reaction	3	11	14
Neurotic Depressive Reaction	29	65	94
Other and Unspecified Psychoneurotic Reactions	11	25	36
Pathological Personality (All Categories)	78	22	100
Immature Personality	15	18	33
Drug Addiction	1	1	2
Alcoholism Without Psychosis	161	16	177
Mental Deficiency Without Psychosis	14	20	34
Primary Behaviour Disorders	12	7	19
Other and Unspecified Disorders of Character, Behaviour and Intelligence	7	6	13
Epilepsy	8	5	13
Mental Observation Without Need for Psychiatric Care..	25	9	34
Furperpal Psychosis	0	4	4
Other Non-Psychiatric Conditions	1	1	2
TOTALS	793	560	1,353

TABLE 3—TABULATED SUMMARY OF DEATHS IN INSTITUTIONS DURING 1962

DISEASE	P. M. H., Ponoka		P. M. I., Edmonton		P. A. M. H., Claresholm		P. A. M. H., Raymond		Rosehaven Camrose		P. T. S., Red Deer		Deerhome, Red Deer		TOTALS		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
	1. Tuberculosis of Respiratory System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Syphilis and Sequelae	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3. All other Diseases Classified as	0	0	1	1	2	0	0	1	1	0	0	0	0	0	0	0	1
17. Infective and Parasitic	2	3	0	0	2	0	0	0	0	2	0	1	1	0	0	0	2
18. Neoplasms Malignant	1	1	2	0	0	0	0	0	1	1	2	0	0	0	0	0	2
20. Diabetes Mellitus																	
22. Vascular Diseases of Central	5	3	8	4	12	0	1	0	0	3	1	4	1	0	1	14	13
25. Nervous System	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
26. Chronic Rheumatic Heart Disease																	
27. Acute Rheumatoid and Degenerative	27	4	31	22	17	39	0	0	7	30	16	46	0	0	3	6	82
28. Heart Diseases of the Heart	6	1	7	0	0	0	0	0	1	1	0	0	1	0	0	0	7
29. Hypertension with Heart Disease	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2
30. Influenza	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
31. Pneumonia	10	10	20	33	6	39	0	1	3	42	20	62	1	2	3	5	88
33. Ulcer of Stomach and Duodenum	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	2
35. Intestinal Obstruction and Hernia	1	0	1	0	0	0	0	0	0	1	2	3	1	0	1	0	5
36. Gastritis, Duodenitis, Enteritis and Colitis																	
37. Except Diarrhoea of Newborn	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
38. Cirrhosis of the Liver	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
39. Nephritis and Nephrosis	3	0	3	1	2	3	0	0	0	0	0	0	1	0	0	0	5
40. Congenital Malformations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41. Senility	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
45. All Other Diseases	3	1	4	4	4	0	0	0	0	0	0	0	0	0	0	0	5
46. All Other Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49. Suicide and Self-Inflicted Injury	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	5
50. Homicide	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
GRAND TOTALS	68	26	94	72	37	109	0	3	3	81	42	123	5	3	8	6	234
																	131
																	365

NOTE: Linden House—Unit for Emotionally Disturbed Children—No Deaths

PROVINCIAL MENTAL HOSPITAL, PONOKA

T. C. Michie, M.D., R.C.P.S.(C.), Medical Superintendent

PATIENT POPULATION CHANGES

The number of patients in residence on January 1st, 1962, totalled 1,174, of whom 772 were male, and 402 female.

On December 31st, 1962, 1,120 patients were in residence, of whom 703 were male, and 417 female.

ADMISSION OF PATIENTS

Exclusive of transfers from other Provincial psychiatric facilities, 985 patients were admitted, of whom 563 were male, and 422 female. This was an increase of 92 over the previous year.

Nine patients were received by transfer.

Almost half of those admitted under "The Mental Diseases Act" were by Voluntary application.

SEPARATION OF PATIENTS

878 patients were discharged, of whom 510 were male, and 368 female. This was an increase of 132 over the previous year.

81 patients were transferred to other Provincial Mental Institutions.

94 patients died, most of whom were in the advanced senium. The details are as set out in Table I.

ACCIDENTS AND ELOPEMENTS

12 men and 10 women suffered from fractures. These were almost entirely among the aged. A number were transferred to General Hospitals for surgical reduction.

There were no suicides.

A relatively small number of patients left the hospital without permission.

GENERAL HEALTH OF PATIENTS

The physical health of the patients was well maintained. There was one outbreak of intestinal disorder involving a considerable number of female patients. Under treatment, this subsided in two days, but laboratory investigation failed to reveal the cause. There was no recurrence.

Two patients were transferred to the Tuberculosis Unit at the Provincial Mental Institute for investigation and treatment.

CLINICAL WORK

All currently approved methods of treatment were utilized. Tranquillizing and anti-depressive drugs were extensively used. Electroconvulsive therapy was still considered necessary, in certain disorders.

There was an emphasis placed on group and individual psychotherapy.

There was a more comprehensive attitude towards Occupational Therapy. The crafts were felt desirable for short term patients, but for those requiring prolonged care, industrial activities were devised, sometimes with outside assistance. Many patients were placed on a part-time employment basis, and occasionally as full-time workers, in the surrounding community.

Private Practitioners from the Town of Ponoka made the major contribution in the care of the physically ill, in the Hospital.

Consultants from Edmonton and Red Deer were called in, as necessity arose.

Patients were transferred to General Hospitals in Edmonton and Red Deer for surgery, when indicated. The University Hospital and the Red Deer Municipal Hospital offered the utmost co-operation in this regard.

An appreciable number of patients were examined and treated at the Cancer Clinic in Edmonton.

All electroencephalographic tracings were interpreted by a Neurologist at the University Hospital.

The After-Care Clinic continued to function well in Calgary. Discharged patients from that area were invited selectively to attend. The response was gratifying. It is believed help was given to those who might still require medical support. The Clinic was conducted usually three afternoons each month. This service was greatly facilitated by the helpful attitude of the Guidance Clinic Staff.

A Guidance Clinic team from hospital personnel conducted Clinics at various points in central Alberta. An increasing number of out-patients came to the Hospital for help, most having been referred, but some of their own volition.

A limited psychiatric consultant service was provided for patients at Deerhome.

A research project in regard to depressions was undertaken by one of the members of the medical staff. This was not completed at the end of the year.

RECREATIONAL THERAPY

It is felt the recreational needs of patients were adequately met. The program was extremely varied and designed for all age groups, and adapted to the seasons.

RELIGIOUS SERVICES

Clergy from the churches of the leading denominations in the Town of Ponoka conducted services each Sunday. The Clergy had free access to the hospital, and saw many patients individually, for the most part, at the request of the latter.

The women's organization of one of the largest churches in Ponoka, with the encouragement of the hospital administration, invited a number of female patients to participate as a church group,

and become an integral part of the local women's association. A second major church in the community started explorations as to the feasibility of following suit.

SOCIAL SERVICES—SOCIAL WORKER

The Social Worker resigned early in the year, and a replacement was not available until September. In the interim, some of the duties of the Social Worker were carried out by a staff member from a closely related service. Liaison was maintained with welfare agencies, and efforts were made to assist in rehabilitation prior to and after the discharge of patients. The appointment of an industrial therapist to the staff proved to be desirable. His duties varied widely, but in general, were concerned with rehabilitation of patients through the medium of hospital industry, or those in the nearby community.

PSYCHOLOGICAL SERVICES—PSYCHOLOGIST

Two Psychologists were employed throughout much of the year. Almost one thousand formal tests were administered. The Psychologists assisted with group therapy, the nursing educational program, and in many other aspects of hospital activities. The senior Psychologist organized an in-service educational program for Graduate Nurses which was of real value.

DENTAL SERVICES

A full time Dentist was employed. The patients were referred regularly to him, and almost 3,000 examinations were made. Appropriate treatment was given, as indicated. The Dentist also made the regular annual trip to treat patients at the Provincial Auxiliary Mental Hospitals at Claresholm and Raymond.

X-RAY SERVICES

Two Technicians were employed and over 3,700 plates taken. All chest plates were referred to the Medical Superintendent of the Baker Memorial Sanatorium for interpretation, and when necessary, other plates were sent to Specialists in Edmonton and Red Deer.

LABORATORY

One Technician was employed. All routine tests were carried out, and this implied over 11,000 distinct procedures. On occasions, specimens were referred to the Provincial Laboratory. Late in the year, a Pathologist was appointed to give part-time service here, and at other provincial psychiatric facilities.

MEDICAL EDUCATION

Senior medical students continued to come to this hospital in small groups, for clinical instruction in psychiatry throughout the University academic year. Members of the medical staff assisted with teaching at the University.

An Institute of Group Processes covering a period of one week, was held at this hospital, preceded by a similar period at Banff. Members of the medical, psychological and nursing staff of the hospital participated. The Institute was arranged by The Department of Ex-

tension of the University, and the two leaders were from the University of Toronto and the Ontario Hospital Services respectively.

The Clinical Director attended the Post-Graduate Psychiatric Education Conference held in Washington, D.C.

SCHOOL OF NURSING

There were no changes of consequence in the teaching program. There were 43 students in the course leading to qualification in General and Psychiatric Nursing, and of these, four were young men. In August, eight students completed the course and qualified for registration with the Alberta Association of Registered Nurses.

In the three year course in Psychiatric Nursing, the number of men enrolled was 49. In August, 11 completed the course and were awarded Certificates.

There were 232 student nurses from the Schools of Nursing in southern Alberta in attendance for an eight week affiliation course in Psychiatric Nursing.

Classes in elementary Nursing Arts and Psychiatric Nursing were given for nursing aides and institutional attendants.

A two weeks course was given to seven Public Health Nursing students from the University of Alberta.

An innovation during the year was the attendance, for eight weeks, of nine Occupational Therapy students from the University of Alberta. The varied program for this group included some instruction in Psychiatric Nursing.

VISITORS TO HOSPITAL

An increasing number came during the year to visit relatives in the hospital.

A plan was developed by the Calgary Branch of The Canadian Mental Health Association, whereby chartered buses brought the relatives of patients to the hospital. One of the group visits was made during the Christmas season.

A group of Municipal Police, attending a School of Instruction in Calgary, under the aegis of the Calgary City Police Department, spent a day at this hospital, as part of the program.

A number of women's organizations from the local community undertook and carried out valuable projects in relation to patient welfare.

A particularly pleasing event to the patients and staff was an unannounced visit from the Honourable J. Percy Page, the Lieutenant-Governor of Alberta.

At various times during the year, visits were made by the Honourable Dr. J. Donovan Ross, Minister of Health; Dr. M. G. McCallum, Deputy Minister of Health; and Dr. Randall R. MacLean, Director, Division of Mental Health.

The Visiting Board was at the hospital on a number of occasions, and carried out a detailed inspection into all matters pertaining to patient care.

THE EUGENICS BOARD

The Eugenics Board held three meetings at the hospital. Sixteen patients were presented to the Board, and approved for sexual sterilization. Thirteen patients were sterilized.

SURGICAL SERVICES

Surgical services were rendered by visiting Surgeons from Edmonton, Ponoka and Red Deer. Some major surgical cases were transferred for treatment to the Red Deer Municipal Hospital, and to the University Hospital, Edmonton.

HOUSEKEEPING DEPARTMENT

The wards were well maintained during the year. Every effort was made to keep the hospital environment attractive and comfortable.

FIRE PROTECTION

The equipment and personnel of the Fire Brigade were maintained at a high degree of efficiency. There were no fires of consequence. Regular drills were held by the Brigade, and also by the Nursing Staff. All buildings were inspected monthly for hazards, in keeping with a plan laid down by the Fire Chief.

NEW BUILDINGS AND EQUIPMENT

A major project, the construction of a reception-administration building was commenced early in the year. This also involved a service tunnel to the main buildings, and a new corridor. The new building and ancillary facilities were well advanced, but incomplete, at the end of the year.

Reconstruction of the main kitchen and the women's staff residence was completed. Both proved beneficial to hospital services.

One of the male dining rooms was completely renovated, and this greatly added to the comfort of patients.

BUSINESS OFFICE

Many problems were encountered with the introduction of the data processing system of bookkeeping, but the staff was able to function satisfactorily.

PROVINCIAL MENTAL HOSPITAL FARM

As the result of an administrative decision, farm operations were essentially discontinued during the year. The various phases of activity were terminated in stages, the last being dairy production with the sale of the stock in December. It was decided that the production of vegetables is to continue.

THE DEPARTMENT OF PUBLIC WORKS

Maintenance Department

There was a well sustained maintenance program throughout the hospital facilities. Considerable work was carried out on staff residences, and in some instances this entailed a major reconstruction effort.

Mechanical Branch

There was an appropriate supply of heat, power and water. There were no sewage difficulties. The power plant appeared to be well fitted to serve the hospital needs.

CONCLUSION

The admission rate continued to rise but the discharges rose to a greater degree proportionately. From the statistical tables, it is apparent approximately 70 per cent of those discharged spent less than three months in hospital. An appraisal of the situation, however, makes it clear that permanent or at least long term care had to be planned for about 10 per cent of the intake. This did not necessarily mean provision was required for a comparable increase in beds, since a balance was roughly established by the departure of those who had completed the life span.

It can be said with satisfaction the treatment program in 1962 was very successful, and the hospital met the calls placed on it for its services.

Those responsible for the administration are most grateful for the encouragement, help and guidance given by the Minister of Health, the Deputy Minister, the Director of the Division of Mental Health and those in executive positions in The Department of Health.

TABLE 1
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
MOVEMENT OF PATIENT POPULATION DURING THE YEAR 1962

Patients on the books December 31st, 1961							M	F	T
							813	456	1269
ADMISSIONS:							M	F	T
First Admissions:									
Voluntary	116	114	230						
Certificates	75	82	157						
Warrant	153	54	207						
M.D. Act	1	1	2						
				345	251	596			
Re-admissions:									
Voluntary	108	103	211						
Certificates	26	33	59						
Warrant	82	34	116						
M.D. Act	2	1	3						
				218	171	389			
Transfers in:							2	7	9
							565	429	994
							1378	885	2263
SEPARATIONS:									
Discharges:									
Recovered	123	121	244						
Improved	210	179	389						
Unchanged	4	13	17						
Not Psychotic	173	55	228						
				510	368	878			
Deaths				68	26	94			
Transfers out:							60	21	81
							638	415	1053
On the books December 31st, 1962							740	470	1210
On Leave or otherwise absent							37	53	90
In residence December 31st, 1962							703	417	1120

TABLE 2
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
PATIENT POPULATION BY PSYCHOSES—December 31st, 1962

CLASSIFICATION:	Male	Female	Total
Syphilis with Psychosis	27	...	27
Schizophrenia	381	190	571
Manic Depressive	28	29	57
Involuntional Melancholia	10	19	29
Paranoia and Paranoid States	49	36	85
Senile Psychosis	20	40	60
Pre-senile Psychosis	2	8	10
With Cerebral Arteriosclerosis	24	24	48
Alcoholic Psychosis	18	3	21
Other and Unspecified Psychoses	62	27	89
Anxiety Reaction	6	1	7
Hysterical Reaction	1	1	2
Neurotic Depressive Reaction	8	15	23
Other Psychoneurotic Reactions	1	8	9
Pathological Personality	14	4	18
Immature Personality	3	1	4
Alcoholism	17	1	18
Drug Addiction	1	...	1
Mental Deficiency	15	5	20
Epilepsy	6	1	7
Other and unspecified	1	...	1
Mental observation without need for further medical care	3	2	5
Other conditions (Not Psychotic)	6	2	8
TOTALS	703	417	1120

TABLE 3
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
FIRST ADMISSIONS DURING 1962 BY PSYCHOSES

CLASSIFICATION:	Male	Female	Total
Syphilis with Psychosis	1	...	1
Schizophrenia	53	51	104
Manic Depressive	11	4	15
Involuntional Melancholia	7	16	23
Paranoia and Paranoid States	10	9	19
Senile Psychosis	34	32	66
Pre-senile Psychosis .....	...	1	1
With Cerebral Arteriosclerosis	30	9	39
Alcoholic Psychosis	14	4	18
Other and Unspecified Psychoses	14	14	28
Anxiety Reaction	10	3	13
Hysterical Reaction	3	4	7
Neurotic Depressive Reaction	20	41	61
Other Psychoneurotic Reactions	5	21	26
Pathological Personality	34	7	41
Immature Personality	13	13	26
Alcoholism	61	4	65
Drug Addiction	1	1	2
Mental Deficiency	7	5	12
Epilepsy	2	3	5
Other and Unspecified	1	3	4
Mental Observation without need for futher medical care	13	5	18
Other Conditions (Not Psychotic)	1	1	2
TOTALS	345	251	596

TABLE 4
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
AGES OF FIRST ADMISSIONS DURING 1962

Age	Male	Female	Totals
Under 15 years .....	...	3	3
15 to 19 years	13	19	32
20 to 24 years	31	20	51
25 to 29 years	34	22	56
30 to 34 years	43	28	71
35 to 39 years	44	35	79
40 to 44 years	28	21	49
45 to 49 years	29	21	50
50 to 54 years	20	13	33
55 to 59 years	13	12	25
60 to 64 years	14	8	22
65 to 69 years	13	7	20
70 to 79 years	41	23	69
80 years and over	22	14	36
TOTALS	345	251	596

TABLE 5
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
DISCHARGES BY PSYCHOSES AND CONDITION ON DISCHARGE

CLASSIFICATION	Recovered		Improved		Un- changed		Not Psy.		Totals		
	M	F	M	F	M	F	M	F	M	F	T
	Schizophrenia	59	53	109	73	3	168	129	297
Manic Depressive	17	14	13	18	....	....	....	....	30	32	62
Involuntal Melancholia	8	11	5	16	....	1	....	....	13	28	41
Paranoia and Paranoid State .....	....	1	21	14	....	....	....	....	21	15	36
Senile Psychosis .....	....	....	1	3	....	1	....	....	1	4	5
With Cerebral Arteriosclerosis .....	....	....	10	1	....	3	....	....	10	4	14
Alcoholic Psychosis	18	4	6	....	....	....	....	....	24	4	28
Other and Unspecified Psychoses.....	9	10	9	7	3	1	....	....	21	18	39
Anxiety Reaction	1	....	9	6	1	1	....	....	11	7	18
Hysterical Reaction .....	....	2	3	3	....	1	....	....	3	6	9
Obsessive Compulsive Reaction .....	....	....	1	2	....	....	....	....	1	2	3
Neurotic Depressive Reaction	10	23	16	19	....	1	....	....	26	43	69
Other Psychoneurotic Reactions	1	3	7	17	....	1	....	....	8	21	29
Pathological Personality .....	....	....	....	....	....	....	47	12	47	12	59
Immature Personality .....	....	....	....	....	....	....	14	15	14	15	29
Alcoholism .....	....	....	....	....	....	....	80	7	80	7	87
Drug Addiction .....	....	....	....	1	....	1	1	1	1	1	2
Mental Deficiency .....	....	....	....	....	....	....	5	7	5	7	12
Epilepsy .....	....	....	....	....	....	....	5	4	5	4	9
Other and Unspecified .....	....	....	....	....	....	....	3	2	3	2	5
Mental observation without need for further medical care .....	....	....	....	....	....	....	16	6	16	6	22
Other conditions (Not Psychotic) .....	....	....	....	....	....	....	2	1	2	1	3
TOTALS	123	121	210	179	4	13	173	55	510	368	878

TABLE 6
PROVINCIAL MENTAL HOSPITAL—PONOKA, ALBERTA
DISCHARGES BY PSYCHOSES AND DURATION OF RESIDENCE

CLASSIFICATION	Under 3 months		Under 6 months		Under 1 year		Over 1 year		Totals		
	M	F	M	F	M	F	M	F	M	F	T
	Schizophrenia	80	80	43	20	19	14	26	15	168	129	297
Manic Depressive	23	20	1	8	3	3	3	1	30	32	62
Involuntal Melancholia	8	22	4	3	1	1	....	2	13	28	41
Paranoia and Paranoid Conditions.....	10	7	6	4	1	2	4	2	21	15	36
Senile Psychosis .....	....	2	....	1	1	....	....	1	1	4	5
With Cerebral Arteriosclerosis	8	3	2	1	....	....	....	....	10	4	14
Alcoholic Psychosis	17	4	4	....	3	....	....	....	24	4	28
Other and Unspecified Psychosis.....	16	13	3	3	1	1	1	1	21	18	39
Anxiety Reaction	10	6	1	....	....	1	....	....	11	7	18
Hysterical Reaction	3	6	....	....	....	....	....	....	3	6	9
Obsessive Compulsive Reaction	1	2	....	....	....	....	....	....	1	2	3
Neurotic Depressive Reaction	24	34	2	8	....	1	....	....	26	43	69
Other Psychoneurotic Reactions	7	18	....	3	....	....	....	....	8	21	29
Pathological Personality	41	8	2	4	3	....	1	....	47	12	59
Immature Personality	14	13	....	2	....	....	....	....	14	15	29
Alcoholism	66	3	13	4	....	....	1	....	80	7	87
Drug Addiction	1	1	....	....	....	....	....	....	1	1	2
Mental Deficiency	4	6	1	....	....	1	....	....	5	7	12
Epilepsy	3	3	1	....	....	1	1	....	5	4	9
Other and Unspecified	1	....	....	....	1	2	1	....	3	2	5
Mental observation without need for further medical care	15	6	1	....	....	....	....	....	16	6	22
Other conditions (Not Psychotic)	1	1	....	....	....	....	1	....	2	1	3
TOTALS	353	258	84	61	34	27	39	22	510	368	878

TABLE 7
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
CAUSES OF DEATH DURING 1962
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Totals
3. Syphilis and its sequelae	6	1	7
18. Malignant Neoplasms	2	3	5
20. Diabetes Mellitus	1	1	2
22. Vascular Lesions of C.N.S.	5	3	8
25. Chronic Rheumatic Heart Disease .....	....	1	1
26. Arteriosclerotic and degenerative Heart Disease	27	4	31
27. Other Diseases of the Heart	6	1	7
28. Hypertension with Heart Disease .....	....	1	1
30. Influenza	2	....	2
31. Pneumonia	10	10	20
35. Intestinal Obstruction and Hernia	1	....	1
38. Nephritis and Nephrosis	3	....	3
45. Senility without mention of Psychosis	2	....	2
46. All other Diseases	3	1	4
TOTALS	68	26	94

TABLE 8
DEATHS BY PSYCHOSES

	Male	Female	Totals
Syphilis with Psychosis	7	2	9
Schizophrenia	6	4	10
Manic Depressive	2	3	5
Involuntal Melancholia	2	.....	2
Senile Psychosis	21	.....	29
With Cerebral Arteriosclerosis	18	8	26
Other and Unspecified Psychoses	6	1	7
With Psychoneurotic Reactions	2	.....	2
Pathological Personality	1	.....	1
Alcoholism	1	.....	1
Mental Deficiency	1	.....	1
Mental Observation without need for further medical care	1	.....	1
TOTALS	68	26	94

PROVINCIAL MENTAL INSTITUTE, EDMONTON

A. D. MacPherson, M.D., R.C.P.S.(C.), Medical Superintendent

PATIENT POPULATION CHANGES

On December 31, 1961, there were in residence 977 men and 479 women patients, a total of 1,456. The number in residence December 31, 1962 was 945 men and 496 women, a total of 1,441. This was a decrease of 15 patients. However, there were 130 patients on leave or otherwise absent, compared to 157 on leave or otherwise absent in 1961. The total patient population in residence, and on leave or otherwise absent, on December 31, 1962 was 1,571. This was a decrease of 32 over the previous year.

ADMISSION OF PATIENTS

During the year 789 men and 608 women were admitted, for a total of 1,397. In addition, 11 men and 5 women were transferred from different Mental Institutions in the Province, making a total of 800 men and 613 women admitted. A combined total of 1,413 was admitted during the year. This was an increase of 145 from the previous year. Admissions by Voluntary Application were 635, by Medical Certificates 423, by Warrant 328 and under the Mental Defectives Act there were 11.

SEPARATION OF PATIENTS

During the year 644 men and 533 women, a total of 1,177 was discharged. This was an increase of 139 over the previous year. In addition, 130 men and 39 women, a total of 169, was transferred to other Mental Institutions. There were 109 deaths, at least 72 being associated with degenerative changes due to old age, during the year. There were 30 autopsies performed. The total number of separations during the year was 1,455. During the year more than 3,700 patients were out on leave for periods longer than 24 hours.

GENERAL HEALTH

This was good during the year. There were no epidemics. T.A.B.T. immunization was carried out on all admissions and new staff. Chest X-rays were done on all new staff, plus a complete re-survey of all patients and staff.

CLINICAL WORK

The Clinical Work during 1962 was very heavy because of the high admission rate. All acceptable forms of treatment were in use. Tranquillizers and anti-depressant drugs were used extensively. All new preparations of the above group were given control trials. Emphasis was placed on group psychotherapy and individual psychotherapy also played a large part. The electro-convulsive therapy continued to be used on disturbed and depressed patients. Insulin therapy was not used at all.

Emphasis was placed on finding employment, in Edmonton, for patients, allowing them to go to work during the day and spend the night at the hospital. This worked out very well.

Occupational Therapy continued to expand.

In addition to taking care of the psychiatric problems of the patients the medical staff continued to provide treatment for the patients' physical illnesses. Specialists were called in from Edmonton as needed, particularly from the University Hospital.

Special mention must be made of the T.B. work. All patients infected with tuberculosis from the Division of Mental Health were treated at this hospital. The anti-tuberculosis work was very successful.

Continued use was made of the Cancer Clinic for diagnosis and treatment. A number of patients were transferred from the Provincial Mental Hospital for attendance at the Cancer Clinic and for continued treatment.

Rehabilitation continued to be handled quite easily. Actually it never has been a problem here. We were given very extensive help by the various agencies in Edmonton that were operating in this field. The out-door policy remained active at a high level.

The out-patient service continued at its high level. During the year 1,100 female out-patient interviews were held and the number seen on the male side was somewhat higher.

OCCUPATIONAL THERAPY

As mentioned above occupational therapy played a very important part in our treatment program. Our department was reorganized during the year with the addition of two well qualified occupational therapists. Therapy was carried out on all the wards as well as in the centre.

SOCIAL SERVICES

The work in this field continued to increase. With the addition of one extra staff it was possible to expand in the investigation of family background, rehabilitation of discharged patients, and in public relations.

PSYCHOLOGIST

As far as possible, all new patients and especially all remand cases, were given a battery of psychological tests. This work was invaluable in planning the treatment program. In addition the psychologist carried on a group therapy program. He also gave courses to the psychiatric and affiliation nursing students.

RECREATIONAL PROGRAM

The full-time program was continued. This covered all wards and forms of recreational activity. The D.V.A. continued to assist in providing shows, tickets to football and hockey games, etc. During the year the volunteers from the Canadian Mental Health Association continued their extensive program and the Catholic Women's League and the Lutheran Ladies' Group continued their interesting programs. The United Church developed their visiting program further with great success.

RELIGIOUS SERVICES

The Lutheran Minister continued to be very helpful. He held services every Sunday and brought out visiting groups. The Roman Catholic services were held every Sunday. Anglican and United Church services were held alternating Sundays. The Jewish and Ukranian Women's Organizations visited frequently. The Chinese Benevolent Association also visited regularly.

LIBRARY

This department remained very active during the year. It was open daily. During the year the patients were fortunate in receiving a very large number of donations of magazines for the library. The D.V.A. donated a large number of books during the year.

BEAUTY PARLOR

This department remained very active. The number of patients receiving treatment here continued to increase constantly.

DENTAL SERVICES

All patients were examined regularly during the year and, where required, treatment was carried out. All new admissions were also examined and treated. Various types of treatments carried out amounted to 2,492. In addition, the dentist supplied services to Rosehaven, Camrose, and held clinics for students of the University of Alberta.

X-RAY SERVICES

During the year 7,455 examinations were done. This was an increase of approximately 50% over the work done during the previous year. In addition, short-wave diathermy treatments, B.C.G. vaccinations, and tuberculin tests of new staff and patients were done by this department. They also assisted in the training program of X-ray technicians carried out by the Department of Health.

LABORATORY SERVICES

During the year over 20,000 examinations were done. This was an increase of more than 2,500 examinations over the previous year. This department also assisted in the training program given to technicians from the school operated by the Department of Health.

SURGICAL SERVICES

During the year there were 58 major operations, 24 minor operations, three deliveries, 30 other procedures, and fifteen applications of casts. Some of the surgical work was done by our own staff and on other occasions consultants were called in. The results were excellent.

ELECTROENCEPHALOGRAPH

Over 500 E.E.G.'s were done during the past year at this hospital, plus 150 E.C.G.'s and 50 B.M.R.'s. In addition 200 E.E.G.'s were done at the Provincial Mental Hospital at Ponoka. It is quite obvious that this department was very active during the year.

EUGENICS BOARD

The Eugenics Board held four meetings at this hospital during the year. A total of 45 cases were presented to the Board. Seventeen of these were from the Provincial Guidance Clinic. A total of 29 operations were performed.

SCHOOL OF NURSING

During the past year there was considerable discussion and planning regarding changes occurring in the pattern of nursing education. This involved a lot of the time of Senior Administrative Nursing Personnel.

During the year ten women and ten men, a total of 20 students, completed the three-year course in Psychiatric Nursing. At the end of the year there were 75 students, divided as follows: 24 first-year students, 34 second-year students, and 17 third-year students. The affiliation program for student nurses from general hospitals was continued. A total of 242 students (plus three deferred students) were given an eight-week course in Psychiatric Nursing throughout the year. The average number of students in attendance on each course was 40. These affiliation students came from the Edmonton General Hospital, Misericordia Hospital, Royal Alexandra Hospital, St. Joseph's General Hospital, Vegreville, and the Archer Memorial Hospital, Lamont. In addition, six graduate nurses enrolled in the Diploma Course in Public Health Nursing at the University of Alberta, spent two weeks at the Provincial Mental Institute, Edmonton, for field experience. In-service training consisting of ward teaching and short lectures was continued for all staff.

BUILDING AND MAINTENANCE

The maintenance service was excellent as usual. No new construction was done.

FIRE PROTECTION

Regular fire practices were held throughout the year. Instructions were given throughout the hospital to all new staff. The fire equipment was inspected and was kept at a peak of efficiency. No fires occurred during the year.

HOUSEKEEPING

This department continued to function efficiently. The wards were kept comfortable and attractive.

LAUNDRY

The laundry was very busy, due to the very heavy patient load. The work was done very efficiently. A total of 1,804,001 pounds of laundry was done.

TAILOR AND SEWING SHOP

Both departments were very busy. Work consisted mostly of repairs and was very well done, which resulted in a very considerable saving of the clothing.

SHOE REPAIRS

This department was very active and very busy. Excellent work was done.

DIETARY DEPARTMENT

The dietary department continued to function very well. In addition to the large number of ordinary meals to staff, an average daily population amounting to around 2,000, there was also a large number of special diets required.

POLICE COURT

This service continued to be very busy. A large number of cases were sent out on remand. A number of the medical staff appeared in court on numerous occasions in connection with this work. Although this service involved a considerable amount of work, it was felt that this particular service was justified. There was a total of 141 remands during the year. This was a decrease of 73 from the previous year.

BUSINESS OFFICE

This department was very active. The work continued to expand. Further up-to-date equipment was added. The work of this department was very heavy during the past year due to the many changes involved in the Classification Program.

MEDICAL RECORDS

With the large number of admissions and discharges the work of this department was greatly increased and was carried out very efficiently.

HOSPITAL FARM

This was a very good year. Crop production was very high. Due to the decision to discontinue farm operations, milk production ceased and a program of buying milk from local dairies was begun.

GARDENS AND GROUNDS

The garden crop was very good and the yield was high. The quality of vegetables was also very good. The production was sufficient to supply the hospital needs throughout the year and there was a vegetable surplus.

STAFF

The staff situation, both male and female, remains satisfactory. There was very little difficulty keeping the establishment filled, except that there continued to be a marked shortage of graduate nurses.

VISITORS

During the year the Canadian Mental Health Association continued to develop its visiting program and to assist in other activities, such as the White Cross Centre, the Christmas Bazaar, and the Fashion Show, etc. The United Church Program continued to expand. The Lutheran Women's Auxiliary, the Ukrainian Ladies', the Jewish Ladies', and the Chinese Benevolent Association all visited at regular intervals. These visiting programs included all wards and came at regular and frequent intervals. In addition, the Mormon Church had a visiting program during the year. The Nursing Administration instituted a program of orientation seminars to the visitors. These seminars were very well received and it was felt that they were very helpful. In addition to the above regular visitors, various community organizations visited and/or supplied recreational programs. The Visiting Board carried out its annual inspection.

During the year, Dr. M. Martin, Chief of the Mental Health Division of the Department of National Health and Welfare, spent one day here.

The Honorable Dr. J. Donovan Ross, Minister of Health, visited regularly, as well as Dr. Randall R. MacLean, Director of the Division of Mental Health.

PUBLIC WORKS

Maintenance Department: The buildings were well maintained. All repairs and minor alterations were carried out efficiently when required.

Mechanical Branch: The operation of this branch was very efficient during the year.

PUBLIC RELATIONS

Members of the staff continued to address public organizations whenever possible, on the work of the hospital and problems in the psychiatric fields.

CONCLUSION

The admissions during this year reached an all-time high. It is reasonable to expect that this high rate of admission will continue for the present. In addition to the regular admissions there were 65 people admitted under Warrant to Apprehend.

Community interest and participation in the hospital activities continued and was most helpful.

In conclusion, we would like to express appreciation to the Honorable Dr. J. Donovan Ross, and Dr. MacLean, for their sympathetic understanding and help.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1962

	M	F	T	M	F	T
Total on books December 31, 1961				1046	567	1613
On leave or otherwise absent				69	88	157
Total in residence December 31, 1961.....				977	479	1456
ADMISSIONS:						
FIRST ADMISSIONS:						
(a) Voluntary	157	116	273			
(b) Medical Certificates	163	146	309			
(c) Warrants	126	44	170			
(d) Mental Defectives Act	2	3	5			
TOTAL	448	309	757			
READMISSIONS:						
(a) Voluntary	199	163	362			
(b) Medical Certificates	37	77	114			
(c) Warrants	100	58	158			
(d) Mental Defectives Act	5	1	6			
TOTAL	341	299	640			
TRANSFERS IN:	11	5	16			
TOTAL ADMISSIONS:	800	613	1413			
SEPARATIONS:						
DISCHARGES:						
(a) Recovered	264	350	614			
(b) Improved	217	55	272			
(c) Much Improved	122	86	208			
(d) Unimproved	4	7	11			
(e) Unchanged	37	35	72			
TOTAL	644	533	1177			
TRANSFERS OUT:	130	39	169			
DEATHS:	72	37	109			
TOTAL SEPARATIONS:	846	609	1455			
Total on books December 31, 1962				1000	571	1571
On leave or otherwise absent				55	75	130
Total in residence December 31, 1962				945	496	1441

TABLE 2
PSYCHOSES OF THE PATIENT POPULATION—DECEMBER 31, 1962

	Male	Female	Total
300 Schizophrenic Disorders	602	305	907
301 Manic Depressive Reaction	38	37	75
302 Involutional Melancholia	8	23	31
303 Paranoia and Paranoid States	20	7	27
304 Senile Psychosis	43	44	87
305 Presenile Psychosis	3	8	11
306 Psychosis with Cerebral Arteriosclerosis	42	38	80
307 Alcoholic Psychosis	12	2	14
308 Psychosis of Other Demonstrable Etiology	41	10	51
309 Other and Unspecified Psychoses	40	13	53
310 Anxiety Reaction without Mention of Somatic Symptoms...	3	4	7
311 Hysterical Reaction without Mention of Anxiety Reaction...	....	7	7
314 Neurotic-Depressive Reaction	6	10	16
318 Psychoneurotic Disorders, Other, Mixed, and Unspecified Types	4	11	15
320 Pathological Personality	28	7	35
321 Immature Personality	2	3	5
322 Alcoholism	42	4	46
324 Primary Childhood Behaviour Disorders	9	8	17
325 Mental Deficiency	23	12	35
326 Other and Unspecified Character, Behaviour and Intelligence Disorders	3	....	3
020 Juvenile Neurosyphilis	1	....	1
025 General Paralysis of Insane	17	4	21
026 Other Syphilis of Central Nervous System	2	....	2
083 Late Effects of Acute Infectious Encephalitis .....	....	1	1
353 Epilepsy	7	13	20
793 Observation without Need of Further Medical Care	4	....	4
TOTAL	1000	571	1571

TABLE 3
PSYCHOSES BY FIRST ADMISSION—1962

	Male	Female	Total
300 Schizophrenic Disorders	79	60	139
301 Manic Depressive Reaction	5	14	19
302 Involuntal Melancholia	5	25	30
303 Paranoia and Paranoid States	5	6	11
304 Senile Psychosis	53	35	88
305 Presenile Psychosis	2	4	6
306 Psychosis with Cerebral Arteriosclerosis	50	42	92
307 Alcoholic Psychosis	11	4	15
308 Psychosis of other Demonstrable Etiology	28	11	39
309 Other and Unspecified Psychoses	1	2	3
310 Anxiety Reaction without Mention of Somatic Symptoms.....	4	4	8
311 Hysterical Reaction without Mention of Anxiety Reaction.....	4	7	7
314 Neurotic-Depressive Reaction	9	24	33
318 Psychoneurotic Disorders, Other, Mixed and Unspecified Types	6	4	10
320 Pathological Personality	44	15	59
321 Immature Personality	2	5	7
322 Alcoholism	100	12	112
324 Primary Childhood Behaviour Disorders	12	7	19
325 Mental Deficiency	7	15	22
326 Other and Unspecified Character, Behaviour and Intelligence Disorders	6	3	9
025 General Paralysis of Insane	1	.....	1
353 Epilepsy	6	2	8
688 Puerperal Psychosis .....	.....	4	4
793 Observation Without Need for Further Medical (Psychiatric) Care	12	4	16
TOTAL	448	309	757

TABLE 4
AGES OF PATIENTS ADMITTED DURING 1962

Ages	First Admission			Readmission			Transfers			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Under 15 years	7	4	11	2	3	5	.....	1	1	9	8	17
15 to 19 years	27	25	52	11	15	26	.....	.....	.....	38	40	78
20 to 24 years	38	38	76	29	29	58	1	.....	1	68	67	135
25 to 29 years	43	30	73	41	34	75	.....	1	1	84	65	149
30 to 34 years	40	29	69	45	40	85	1	.....	1	86	69	155
35 to 39 years	50	29	79	55	58	113	.....	1	1	105	88	193
40 to 44 years	47	25	72	60	29	89	.....	1	1	107	55	162
45 to 49 years	31	10	41	35	28	63	.....	.....	.....	66	38	104
50 to 54 years	26	17	43	25	17	42	2	.....	2	53	34	87
55 to 59 years	17	14	31	13	14	27	1	.....	1	31	28	59
60 to 64 years	15	9	24	14	21	35	2	.....	2	31	30	61
65 to 69 years	13	14	27	4	3	7	1	.....	1	18	17	35
70 and over	94	65	159	7	8	15	3	1	4	104	74	178
TOTAL	448	309	757	341	299	640	11	5	16	800	613	1413

TABLE 3
DISCHARGES CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES AND CONDITIONS FOR 1962

PSYCHOSES	Recovered			Improved			Much Improved			Unimproved			Unchanged			Total			
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F		
300 Schizophrenic Disorders	152	173	325	4	2	6	21	20	41	1	1	1	1	1	1	177	197	374	
301 Manic Depressive Reaction	17	40	57	...	...	...	...	...	...	...	...	...	...	...	...	17	40	57
302 Involutional Melancholia	12	39	51	...	2	2	...	2	2	...	...	...	...	...	...	12	43	55
303 Paranoia and Paranoid States	3	3	6	1	1	1	4	7	11	...	...	...	1	...	1	6	10	19
304 Acute Psychosis	...	...	...	6	4	10	...	...	...	2	2	...	...	...	...	1	6	12
305 Prenatal Psychosis	...	...	...	...	...	...	1	1	2	...	...	...	1	...	1	1	2	3
306 Psychosis of Cerebral Arteriosclerosis	1	1	1	3	4	7	5	8	13	...	...	...	...	...	...	8	13	21
307 Psychosis of other Demonstrable Etiology	19	4	23	1	1	1	11	4	15	...	...	...	...	...	...	20	24	44
308 Psychosis of other Unspecified Etiology	6	6	12	4	3	7	...	...	...	...	...	...	2	3	5	23	16	39
309 Other and Unspecified Psychosis	5	3	8	1	...	1	...	1	1	...	...	...	...	...	...	6	7	13
310 Anxiety Reaction	2	3	5	...	...	...	2	2	2	...	...	...	...	...	...	4	3	7
311 Hysterical Reaction	...	11	11	...	1	1	...	2	2	...	...	...	...	...	...	...	14	14
312 Obsessive-Compulsive Reaction	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
313 Neurotic-Depressive Reaction	20	37	57	...	1	1	1	1	2	...	...	...	...	...	...	21	39	60
314 Psychoneurotic Reaction, etc.	5	7	12	...	...	...	3	3	6	...	...	...	...	...	...	8	10	18
318 Psychoneurotic Disorders, etc.	8	5	13	26	14	40	25	6	31	1	2	15	11	26	75	37	112	199	
320 Pathological Personality	3	2	5	3	6	9	...	3	3	4	1	1	...	...	7	12	19	31
321 Immature Personality	4	2	4	161	15	176	25	1	26	...	...	...	...	...	...	190	16	206
322 Alcoholism	...	7	13	...	1	1	5	11	16	1	1	1	1	2	13	20	33	46	
324 Primary Childhood Behaviour Disorders	6	7	13	4	1	5	4	4	4	1	2	3	11	14	13	18	18	31	
325 Mental Deficiency	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	4	7
326 Other and Unspecified Character, Behaviour Disorders	1	1	2	2	3	5	1	1	1
026 Other Syphills of Central Nervous System
083 Late Effects of Acute Infectious Encephalitis
353 Epilepsy	...	2	2	3	1	4	12	7	19	1	1	...	...	...	1	16	11	27
688 Puerperal Psychosis	...	5	5	5	5	10
733 Observation without Further Medical Care	15	3	18	18
TOTAL	264	350	614	217	55	272	122	86	208	4	7	11	37	35	72	644	533	1177	

TABLE 6
DISCHARGES DURING 1962 SHOWING DURATION OF RESIDENCE IN HOSPITAL

PSYCHOSES	Under 3 mths.			Under 6 mths.			Under 9 mths.			Under 12 mths.			Under 18 mths.			Under 2 years			Over 2 years			TOTAL		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	300 Schizophrenic Disorders	75	82	157	61	62	123	23	30	53	5	7	12	3	3	4	4	8	9	9	18	177	197	374
301 Manic Depressive Reaction	9	22	31	5	13	18	2	2	4	1	3	4	...	...	...	...	...	...	...	...	17	49	66
302 Involutional Melancholia	7	21	28	1	16	17	3	5	8	1	1	2	...	...	...	...	...	...	...	...	12	43	55
303 Paranoia and Paranoid States	6	6	12	2	2	3	1	1	2	1	1	1	...	...	...	...	...	...	...	...	2	6	19
304 Senile Psychosis	4	3	7	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3
305 Presenile Psychosis	1	7	12	2	3	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3
306 Psychosis with Cerebral Arteriosclerosis	5	3	17	4	1	15	1	...	...	...	...	...	...	...	...	...	...	...	...	...	20	24	24
307 Alcoholic Psychosis	14	13	24	9	2	11	1	...	...	...	...	...	...	...	...	...	...	...	...	...	23	16	39
308 Psychosis, Other Demonstrable Etiology	11	3	6	1	1	2	1	1	2	1	1	1	...	...	...	...	...	...	...	...	2	6	13
309 Other and Unspecified Psychosis	2	13	13	4	3	7
310 Anxiety Reaction	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
311 Hysterical Reaction	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
312 Obsessive-Compulsive Reaction	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
313 Neurotic-Depressive Reaction	16	31	47	2	7	9	1	1	2	...	...	...	...	...	...	...	...	...	...	...	21	39	60
314 Neurotic-Depressive Reaction	4	6	10	3	4	17	2	3	5	1	2	...	...	...	...	...	...	...	...	...	8	10	18
315 Psychoneurotic Disorders, etc.	58	28	86	13	4	17	2	3	5	1	1	2	...	...	...	...	...	...	...	...	75	37	112
320 Pathological Personality	6	10	16	1	1	2	1	1	1	...	...	...	...	...	...	...	...	...	...	...	7	12	19
321 Pathological Personality	177	15	192	11	11	12	2	...	...	...	...	...	...	...	...	...	...	...	...	...	190	16	206
322 Alcoholism	8	12	20	4	4	8	1	...	...	...	...	...	...	...	...	...	...	...	...	...	13	20	33
324 Primary Childhood Behaviour Disorders	10	15	25	1	2	3	1	1	2	...	...	...	...	...	...	...	...	...	...	...	13	18	31
325 Mental Deficiency	1	2	3	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	7
326 Other and Unspecified Disorders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
026 Other Syphilis of C.N.S.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
083 Late Effects of Acute Encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
353 Epilepsy	9	9	18	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	16	17
688 Puerperal Psychosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
793 Observation without Further Medical Care	12	3	15	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	3	18
TOTAL	436	316	752	132	125	257	38	52	90	14	15	29	3	4	7	5	6	11	16	15	31	644	533	1177

TABLE 7
DEATHS DURING 1962 BY ABRIDGED INTERNATIONAL STATISTICS CLASSIFICATION

	Male	Female	Total
1. Tuberculosis of respiratory system.....	1	.....	1
17. All other diseases classified as infective and parasitic	1	1	2
18. Malignant neoplasms, including neoplasms of lymphatic and haemotopietic tissues	2	.....	2
22. Vascular lesions affecting central nervous system	4	8	12
26. Arteriosclerotic and degenerative heart disease	22	17	39
31. Pneumonia	33	6	39
36. Gastritis, duodenitis, enteritis, and colitis, except diarrhoea of newborn .....	.....	1	1
38. Nephritis and nephrosis	1	2	3
45. Senility without mention of psychosis, ill-defined and unknown causes	2	.....	2
46. All other diseases	4	.....	4
49. Suicide and self-inflicted injury, including effects of poisons	1	2	3
50. Homicide and operations of war, and all other injuries	1	.....	1
TOTAL	72	37	109

TABLE 8
DEATHS DURING 1962 BY PSYCHOSES

	Male	Female	Total
300 Schizophrenic Disorders	13	2	15
301 Manic Depressive Reaction	2	.....	2
302 Involutional Melancholia	1	.....	1
303 Paranoia and Paranoid States	3	.....	3
304 Senile Psychosis	16	9	25
305 Presenile Psychosis	1	2	3
306 Psychosis with Cerebral Arteriosclerosis	21	19	40
307 Alcoholic Psychosis	1	.....	1
308 Psychosis of Other Demonstrable Etiology	6	.....	6
309 Other and Unspecified Psychosis	1	1	2
314 Neurotic-Depressive Reaction .....	.....	1	1
320 Pathological Personality .....	.....	1	1
325 Mental Deficiency	2	1	3
025 General Paralysis of Insane	3	.....	3
026 Other Syphilis of Central Nervous System	1	.....	1
353 Epilepsy .....	.....	1	1
793 Observation without Need for Further Medical (Psychiatric) Care	1	.....	1
TOTAL	72	37	109

CHRONIC HOSPITALS

PROVINCIAL AUXILIARY MENTAL HOSPITAL, CLARESHOLM

PROVINCIAL AUXILIARY MENTAL HOSPITAL, RAYMOND ROSEHAVEN, CAMROSE

The patient population of the Provincial Auxiliary Mental Hospital, Claresholm, remained at approximately 112 throughout the year. Six patients were received by transfer during the year from the Provincial Mental Hospital, Ponoka.

The construction of one new ward was completed. During the year preparation was made for the furnishing of previously completed wards, and certain work was carried out on previously constructed buildings in preparation for the transfer of patients from the Provincial Mental Institute, Edmonton, and the Provincial Mental Hospital, Ponoka, and other institutions.

The Provincial Auxiliary Mental Hospital, Raymond, cared for approximately 123 patients. This was a slight reduction in the number to offset some overcrowding in this hospital. Only one patient was received by transfer from other institutions. Five elderly patients were admitted from the nearby communities around Raymond.

Rosehaven, Camrose, cared for a mixed population of male and female patients to the number of 510. There was further decline in the general health of the patients as a result of aging processes. One hundred and twenty deaths occurred during the year, which was a slight increase over the previous year. Thirty-eight patients were received by transfer from the Provincial Mental Hospital, Ponoka, and 90 patients were received likewise from the Provincial Mental Institute, Edmonton. Certain patients were granted leave-of-absence from time to time. Six patients were discharged during the year.

PROVINCIAL AUXILIARY MENTAL HOSPITAL,
CLARESHOLM

**R. R. MacLean, M.D., Cert. in Neurol. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF PATIENTS

There were 108 patients in residence January 1, 1962, and 107 patients in residence December 31, 1962.

Six patients were transferred to this hospital, five from the Provincial Mental Hospital, Ponoka, and one patient returned from a Calgary Hospital where she received Orthopaedic surgery. Five patients were transferred from this hospital, one was transferred to the Provincial Auxiliary Mental Hospital, Raymond, one to a Calgary Hospital, and three to the Provincial Mental Hospital, Ponoka.

There were three deaths during the year.

NEW BUILDINGS

The construction of one new ward was completed.

ACCIDENTS AND ELOPEMENTS

There were no elopements or accidents of a serious nature during the year.

GENERAL HEALTH

The general health of the patients was good. There was an increase in the number of patients who became incontinent and required almost total nursing care.

The Mobile Unit of the Division of Tuberculosis Control X-Rayed all the patients.

Emergency X-Ray and laboratory tests were done at the Claresholm Municipal Hospital.

OCCUPATIONAL DEPARTMENT

The articles made in the Occupational Department were sold locally throughout the year.

One ward aide was assigned to the more regressed and physically handicapped patients on the ward. These patients were encouraged to do simple tasks, knit, or string beads. During the summer months these patients were taken out on the lawn and encouraged to play simple games. A group of patients went out to the garden with a ward aide.

RECREATIONAL ACTIVITIES

There were the usual parties held for the patients by the staff, and an increasing number of activities were organized by volunteer groups from the community.

Local organizations, and groups from Nanton and Stavely entertained the patients after their Callow Coach rides during the summer.

The staff have given many hours of their time and used their cars for the entertainment of the patients all during the year. Their interest and co-operation has helped a great deal.

BEAUTY PARLOUR

Most of the patients had their hair done regularly by staff and volunteer workers.

RELIGIOUS SERVICES

Religious services were conducted every Sunday.

DENTISTRY

The Dentist, from the Provincial Mental Hospital, Ponoka, visited the hospital in July and gave the necessary dental care. Emergency dental work was done by the local dentist.

FIRE PROTECTION

The buildings were inspected by the fire inspector. Fire practices were held and equipment checked regularly.

BUILDINGS

The maintenance staff made the necessary repairs to the buildings and equipment.

GARDENS AND GROUNDS

Due to an extremely dry season the vegetable crop was only fair.

VISITORS

The Visiting Board visited the hospital in September.

Dr. R. R. MacLean, Director, Division of Mental Health, visited the hospital several times and his help and advice were greatly appreciated.

Relatives and friends visited the patients during the year.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1962

	M	F	T	M	F	T
In residence January 1, 1962	108	108
On leave or otherwise absent	4	4
ADMISSIONS:						
FIRST ADMISSIONS:						
(a) Voluntary
(b) Certificate
(c) Warrant
(d) M. D. Act
RE-ADMISSIONS:						
(a) Voluntary
(b) Certificate
(c) Warrant
(d) M. D. Act
Transfers	6	6	...	6	6
Total Admissions	6	6	...	118	118
SEPARATIONS:						
DISCHARGES:						
(a) As Recovered
(b) As Improved
(c) As Unimproved
Total Discharges	5	5	...	5	5
Transfers	3	3	...	3	3
Deaths	3	3	...	3	3
Total Separations	8	8	...	8	8
On leave or otherwise absent	110	110
In Residence December 31, 1962	3	3
In Residence December 31, 1962	107	107

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

	Male	Female	Total
03 Psychoses with Epidemic Encephalitis	2	2
08 Psychoses with Cerebral Arteriosclerosis	2	2
11 (a) Pre-Senile Psychoses	1	1
16 Psychoneuroses	1	1
17 Manic Depressive Psychoses	6	6
18 Dementia Praecox (Schizophrenia)	79	79
91 Paranoia and Paranoid Conditions	4	4
21 Psychoses with Mental Deficiency	5	5
23 Without Psychoses	3	3
12 Involutional Psychoses	1	1
05 Alcoholic Psychoses	2	2
10 Psychosis with Convulsive Disorder	1	1
01 General Paresis	2	2
123 Tabo-Paresis	1	1
	110	110

TABLE 3
CAUSE OF DEATH DURING 1962
ABRIDGED INTERNATIONAL CLASSIFICATION

	Male	Female	Total
31 Pneumonia	1	1
30 Influenza	1	1
22 Vascular Lesions Affecting Central Nervous System	1	1
TOTALS	3	3

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSIS—1962

	Male	Female	Total
Schizophrenia—Type Undefined	1	1
Paranoia and Paranoid Conditions—Paraphrenia	2	2
TOTALS	3	3

PROVINCIAL AUXILIARY MENTAL HOSPITAL, RAYMOND

**R. R. MacLean, M.D., Cert. in Neuro. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF PATIENTS

On December 31st, 1961 there were 131 patients in residence and one patient on Leave of Absence to total 132. Admissions comprised five first admissions, one patient by transfer from other Mental Hospitals and one re-admission. Separations included two transfers to other Mental Hospitals, one discharge to other hospitals, two discharges as improved and 14 deaths. Patients in residence, as of December 31, 1962, numbered 120.

ACCIDENTS AND ELOPEMENTS

Six patients sustained fractures. There were no elopements.

GENERAL HEALTH

Patients and staff were given a course of three Typhoid Vaccine inoculations early in the year. One patient received a course of 20 deep X-Ray treatments for Pagets' disease of the right nipple with satisfactory remission. One patient underwent major surgery for the removal of a large abdominal tumor. Several patients developed an influenza-type illness with dysentery which responded satisfactorily to antibiotics. The dentist made his annual visit doing the necessary work on patients' teeth and repairs to dentures. Emergency dental work was done by the local dentist. A Clinic of four Medical Doctors and Surgeons from Raymond and Magrath was on call as was a Psychiatrist from Lethbridge.

OCCUPATIONAL THERAPY

The Occupational Parlor, a bright, pleasant room, was supervised by a full-time occupational therapist. Here patients were taught and encouraged to do all kinds of needlework, crocheting, knitting, embroidery, rag rug making by braiding, and woven on the loom. Other patients had steady employment in the laundry, sewing room, kitchen, nurses' home, annex, wards and dormitories. All of these departments served afternoon tea and cigarettes and provided a radio for entertainment and relaxation. Some patients on lawn parole helped rake the lawns and kept fresh cut flowers on the wards. A few patients helped in the vegetable garden, weeding and cultivating in the summer and harvesting the crop in the fall. These were also served afternoon tea under the trees.

LIBRARY

One patient catalogued the books in the library and supervised the borrowing and returning of the books by patients. The library was situated in the occupational parlor which also served as a reading room. One new book was purchased each month and some of the popular magazines were subscribed to. The Raymond Library donated a quantity of unusual as well as popular magazines as did many friends from the town. Back issues of magazines were bound together and provided considerable enjoyment and discussion over the changing styles, etc.

RELIGIOUS SERVICES

Once each month a United Church service was held, the pianist being a patient. Several United Church Choir groups from district points gave a choral service. Two Catholic Priests were on call to give Last Rites, hold monthly services and preside at Catholic funerals. The United Church Minister was called for all other funerals.

RECREATION AND ENTERTAINMENT

The picture shows continue to be the most popular form of entertainment to the largest group of patients. These were shown weekly during the winter months and bi-monthly during the fall and spring months. The Lethbridge Ladies' Auxiliary to the Federation of Civic Employees held a birthday party in the Occupational Parlor every other month, entertaining those patients whose birthday fell in the respective months. They provided a beautifully decorated cake, cookies, candy, cards and nicely wrapped gift for each. These parties were very much appreciated, anticipated and discussed. This Ladies' Auxiliary also took a group for a Sunday picnic at Waterton Lakes as well as to occasional dinners in their homes. This year also, the Hope Community Women's Club of Warner, Alberta, provided a picnic for groups of 20 patients taken on trips by the Callow Coach. The coach made weekly trips from early spring to late fall. At Christmas the Raymond Music Club brought their 18th consecutive concert to the patients. Mr. and Mrs. Santa helped serve the cakes, ice cream and oranges. Gifts of candy, jewellery and toiletries were received from the Major Jack Ross Chapter I.O.D.E.

The annual sports day and picnic was held on the lawns. For special days the wards were suitably decorated and dances and bingo parties enjoyed. There was a piano, radio and television in the day-room and annex sitting room.

STAFF CHANGES

There were no staff changes. Part-time staff for the summer holiday period was satisfactory and adequate.

VISITORS

The Honorable, the Minister of Public Health, made two visits.

Periodic visits of inspection were made by the Departments of Public Health, Public Works, Fire Department and Inspector, Electrical and Boiler Inspectors. The Director of the Division of Mental Health made several visits and the Provincial Visiting Board made its annual visit.

GARDENS AND GROUNDS

Continuation of drought conditions was evident in the gardens. The very dry warm fall wilted vegetables in the root cellars causing much spoilage. However, there was an ample supply of leafy and legume vegetables all through the summer and a surplus for pickles in the fall.

Many compliments were received on the appearance of the lawns and the flower beds. Some families visiting patients brought picnic lunches which they had on the lawns in the shade of the trees. The flower beds supplied fresh cut flowers for the dayrooms and infirmary. All of the trees were re-trimmed in the fall.

CONCLUSION

The general health of the patients has been good throughout the year with no outbreaks of epidemic diseases, the higher number of deaths being patients admitted in the year in poor health. The medical attention received from the local clinic of doctors was very satisfactory.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1962

	M	F	T	M	F	T
In Residence January 1, 1962	132	132
ADMISSIONS:						
(a) Voluntary
(b) Certificates	5	5	....	....	....
(c) Warrant
(d) Order
(e) Transfer	1	1	....	6	6
RE-ADMISSIONS	1	1	....	138	138
SEPARATIONS:						
(a) As recovered
(b) As improved	2	2	....	....	....
(c) As unimproved
(d) Transferred to other hospitals	3	3	....	....	....
(e) Eloped
(f) Deported
(g) As with Psychosis
(h) Deaths	14	14	....	19	19
In Residence December 31, 1962	120	120

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

	Male	Female	Total
300 Schizophrenic Disorders	84	84
301 Manic Depressive Reactions	9	9
303 Paranoia and Paranoid states	7	7
304 Senile Psychosis	3	3
305 Presenile Psychosis	1	1
306 Psychosis with Cerebral Arteriosclerosis	4	4
307 Alcoholic Psychosis—Chronic Alcoholic Hallucinations	1	1
308 Psychosis with Other Demonstrable Etiology (Epilepsy)	2	2
309.1 Psychosis with Psychopathic Personality	2	2
309.2 Psychosis with Mental Deficiency	2	2
325 Not Psychotic—Mental Deficiency	3	3
025 General Paresis of Insane	2	2
TOTALS	120	120

TABLE 3
CAUSES OF DEATH DURING 1962
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Total
17 All other diseases classified as Infective and Parasitic	1	1
26 Arteriosclerotic and degenerative Heart Disease	7	7
27 Other Diseases of Heart	1	1
28 Hypertension with Heart Disease	2	2
31 Pneumonia—Bronchopneumonia	3	3
TOTALS	14	14

TABLE 4
DEATHS BY ORIGINAL DIAGNOSIS

	Male	Female	Total
300 Schizophrenic Disorders	5	5
303 Paranoia and Paranoid States	2	2
304 Senile Psychosis	2	2
306 Senile Psychosis with Cerebral Arteriosclerosis	5	5
TOTALS	14	14

ROSEHAVEN, CAMROSE

**R. R. MacLean, M.D., Cert. in Neurol. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF RESIDENTS

On January 1, 1962, the resident population at Rosehaven numbered 502, of which 281 were men and 221 were women. The total number in residence on December 31, 1962 was 499; 279 men and 220 women.

There were 160 residents admitted to Rosehaven during 1961. Of this number, 38 were received from the Provincial Mental Hospital at Ponoka, 90 from the Provincial Mental Institute at Edmonton, one from Raymond Auxiliary Hospital, three were directly admitted and 28 returned from leave of absence.

Separations from Rosehaven during 1962 numbered 163; 123 were attributable to death, two were transferred to other mental institutions, four were discharged following leave of absence and 34 went on leave of absence.

Admissions throughout the year in the form of transfers from other mental hospitals in Alberta filled beds made available by death or discharge. The average daily population was 506.5.

Deaths were due to degenerative causes.

ACCIDENTS AND ELOPEMENTS

During the year a number of residents received injuries either from accidental falls or as a result of interference from other residents. Some of these resulted in contusions and lacerations of a minor nature and required only first aid treatment. There were 63 accidents which required medical care or X-ray investigations. These included 26 fractures, 10 X-ray investigations, 14 severe contusions or injuries and 13 suturings.

GENERAL HEALTH

The general health of the residents was considered good in view of the age of the individual. An ever increasing mental and physical decline in the majority of the residents necessitated a greatly increased amount of nursing care.

An average of 70.4 residents required bed care each day. During the year, 55 residents were admitted to St. Mary's Hospital for medical, surgical or orthopedic attention.

Out-patient work done at St. Mary's Hospital for Rosehaven residents consisted of 159 laboratory tests, 81 X-ray pictures and 24 out-patient procedures. Fifty-one specimens were sent to the Provincial Laboratory.

Medical care was supplied by the Smith Clinic of Camrose.

One visit was made by the dentist from the Provincial Mental Institute and necessary dental care was given. Emergency dental work was done by a local dentist.

OCCUPATIONAL THERAPY

Occupational therapy classes were operated throughout the year. Groups of men and women from each ward attended with an average of 67 residents at classes twice each week. Articles made were readily sold, being purchased by the residents, staff members or friends. An average of 12 residents worked in institutional services, the laundry and kitchen. Work parties for grounds and gardens were discontinued due to the increased debility of the residents. The average number of residents employed on wards in light housekeeping tasks was 63.

RELIGIOUS SERVICES

Weekly Protestant Church services were held at Rosehaven and arranged by the local Ministerial Association. The services of a Roman Catholic priest were available as needed.

RECREATION

Residents were taken out as a lawn group when weather permitted. An average of 114 residents had grounds privileges and were out almost daily. A movie film was shown once every two weeks from September to May with an average attendance of 107 residents. Parties were arranged each month as well as special entertainment at Christmas, Easter and Thanksgiving holidays. Several picnic outings were arranged in the summer months. Cards, games, television and radios were available to residents. Several local organizations and church groups sponsored car rides, concerts and teas for the residents. Ex-servicemen were visited regularly by members of the Ladies' Auxiliary to the Canadian Legion who arranged outings for them. An average interest in the residents was shown by outside groups.

BUILDINGS

The buildings have been well maintained and repairs were done promptly.

GARDEN AND GROUNDS

The garden and grounds were well maintained during the year.

STAFF

The general health of the staff was good. Vacancies arising from resignations were filled although trained personnel was not always available when needed. T.A.B. vaccine was given to all staff members and chest X-rays were done on all staff who were reactors to the Tuberculin test.

VISITORS

Regular visits were made to Rosehaven by the Director of Mental Health.

The annual visit was made by the Visiting Board.

TABLE 1
MOVEMENT OF POPULATION DURING 1962

	M.	F.	T.	M.	F.	T.
In Residence December 31, 1961 .....	....	....	....	281	221	502
ADMISSIONS:						
From P.M.H., Ponoka	26	12	38			
From P.M.I., Edmonton	60	30	90			
From Raymond Auxillary .....	....	1	1			
Admitted directly .....	....	3	3			
Returned from L.O.A.	10	18	28			
	<u>96</u>	<u>64</u>	<u>160</u>	<u>96</u>	<u>64</u>	<u>160</u>
				377	285	662
SEPARATIONS:						
Deaths	81	42	123			
Discharge to P.M.I., Edmonton	1	....	1			
Discharge to Aberhart Memorial .....	....	1	1			
Discharge following L.O.A.	2	2	4			
On L.O.A.	14	20	34			
	<u>98</u>	<u>65</u>	<u>163</u>	<u>98</u>	<u>65</u>	<u>163</u>
In Residence December 31, 1962				279	220	499

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

300 Schizophrenic Disorders	108
301 Manic Depressive Reaction	24
302 Involuntional Psychosis	3
303 Paranoia and Paranoid States	31
304 Senile Psychosis	173
306 Psychosis with Arteriosclerosis	115
307 Alcoholic Psychosis	2
308 Psychosis of Demonstrable Etiology	9
309 Other and Unspecified Psychosis	15
311 Hysterical Reaction	1
320 Pathological Personality	3
322 Alcoholism	1
323 Other Drug Addiction	5
325 Mental Deficiency	2
024 Tabes Dorsalis	2
025 General Paralysis of Insane	2
026 Other Syphilis of Central Nervous System	1
798 Organic Brain Syndrome	1
930 Not Psychotic	2
	<u>499</u>

TABLE 3
CAUSES OF DEATH DURING 1962
ABRIDGED INTERNATIONAL CLASSIFICATION

	Male	Female	Total
2. Tuberculosis, Other Forms .....	....	1	1
18. Malignant Neoplasms	2	....	2
20. Diabetes Mellitus	1	1	2
22. Vascular Disease Central Nervous System	3	1	4
26. Arteriosclerotic and Degenerative Heart Disease	30	16	46
31. Pneumonia	42	20	62
33. Ulcer of Stomach and Duodenum	1	1	2
35. Intestinal Obstruction and Hernia	1	2	3
37. Cirrhosis of Liver	1	....	1
TOTALS	<u>81</u>	<u>42</u>	<u>123</u>

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSIS—1962

	Male	Female	Total
300 Schizophrenic Disorders	7	4	11
301 Manic Depressive Reaction	1	1	2
303 Paranoia and Paranoid States	4	1	5
304 Senile Psychosis	38	26	64
306 Psychosis with Arteriosclerosis	24	6	30
309 Undiagnosed	3	2	5
322 Alcoholism	2	....	2
325 Mental Deficiency	1	....	1
024 Neurosyphilis, Tabes (Dorsalis) .....	....	1	1
025 General Paralysis of Insane	1	1	2
TOTALS	<u>81</u>	<u>42</u>	<u>123</u>

INSTITUTIONS FOR MENTAL DEFECTIVES

THE PROVINCIAL TRAINING SCHOOL, RED DEER DEERHOME, RED DEER

The Provincial Training School patient population increased to approximately 800, from a previous population of approximately 740. Forty-six patients were transferred to Deerhome. There were eight deaths.

During the latter part of the year 45 additional beds became available at the Baker Memorial Sanatorium, for paediatric cases.

The training program at the Training School continued intensively. Thirty-eight trainees were discharged during the year.

Deerhome's patient population reached 944 during the year, from a previous 830. Four patients were discharged and there were 14 deaths.

The new recreational and occupational therapy building was opened during the year. This enabled the staff of the institution to organize the occupational and recreational programs to much better advantage.

PROVINCIAL TRAINING SCHOOL, RED DEER

**L. J. le Vann, L.R.C.P. Edin., L.R.C.S. Edin.,
L.R.F.P.S. Glas., Medical Superintendent**

IN RESIDENCE, ADMISSIONS, DISCHARGES, DEATHS

There were 718 trainees listed in residence on January 1, 1962. This number was elevated during the year so that by December 31, 1962, the population had reached 796. Of these 446 were males and 350 were females. These details have been tabulated in Table I. During the latter part of the year, 45 additional beds became available at the Baker Memorial Sanatorium, for Paediatric cases. This, in effect, meant children confined to bed (non-ambulant) under the age of 5, which in addition to mental deficiency, also had some other physical handicap.

172 children were admitted to the School during the year, of which 110 were males and 62 were females, of these, 15 were readmissions, 9 males and 6 females. These readmissions, as in recent years were mainly for medical check-ups, dental work or reallocation to new employment.

All told the number of trainees, including admissions and readmissions who were in residence during 1962 were 890, of which, 518 were males and 372 were females. 35 children were admitted from Rosecrest towards the end of the year whose care had been the responsibility of the Child Welfare Department. These were mental defective children under the age of 5, who for varying reasons had been wards of the Child Welfare Department.

38 trainees were discharged during the year, 26 males and 12 females. 48 trainees were transferred during the year, 46 to Deerhome and 2 to Linden House.

There were 8 deaths, 5 males and 3 females.

APPLICATIONS FOR ADMISSION

150 applications for admission were received during the year, including 45 who were wards of the Child Welfare Department, of these, 35 were admitted to the Training School and plans made to take an additional 10 at the beginning of 1963.

EUGENICS BOARD VISITS, STERILIZATIONS, ET CETERA

The Eugenics Board visited the School on 4 occasions. There were 42 cases presented for their consideration, 24 were males and 18 were females. 41 of these were passed by the Board for Eugenic surgery. Eugenic surgery was carried out on 56 patients, 40 patients from the Provincial Training School, 2 out-patients and 14 from Deerhome.

STAFF CHANGES AND ACTIVITIES

The nursing situation remained generally good throughout the year and it was not difficult to fill all nursing staff vacancies. 19 nursing students graduated and received their diplomas as Mental Deficiency Nursing Graduates. Amongst the distinguished guests present at

the graduation were His Worship the Mayor of the City of Red Deer, Mr. E. Newman, Dr. M. G. McCallum, Deputy Minister of Public Health and Dr. R. R. MacLean, Director, Division of Mental Health for the Province of Alberta.

It was possible to employ one Medical Officer and also fill the established positions for Psychologists and Social Workers.

HEALTH OF TRAINEES AND STAFF

The general health of both staff and trainees remained good, apart from some sporadic outbreaks of Gastro-intestinal infections which by prompt action were invariably isolated to the Villa where they occurred. There was one case of Infectious Hepatitis in the nursing staff.

Routine immunization procedures were carried out for Enteric Fever, Diphtheria and Pertussis, as well as immunization against Poliomyelitis with Salk Vaccine.

An X-ray survey of patients and staff was carried out by the Mobile X-ray Unit and no new cases of Tuberculosis were detected.

TRAINING PROGRAM FOR NURSES AND ATTENDANTS

The training program leading to the M.D.N.G. diploma carried on as in previous years. There were enrolled in the training program 158 students; 84 first-year students, 50 second-year students and 24 third-year students. This number was somewhat larger than in previous years, and the School received applications from prospective students from several Provinces requesting consideration for admission to the training program carried out here for nurses and attendants.

TRAINING PROGRAM FOR TRAINEES

Sense Training—With the increase of a younger population in the School, there was some relative increase in children attending Sense Training over last year. 102 children were in attendance. Those whose attention span was not sufficient to cope with a full day's instruction attended on a part-time basis. Ten children from the Sense Training group were admitted to the Academic School and others reached a higher level in the Sense Training Program. Nine separate Sense Training groups were held during the year to cope with the variety of young children who were admitted to the School.

Elementary School—139 children attended Elementary School. The curriculum remained similar to that of recent years, however, this year the inauguration of the new Provincial arithmetic course was incorporated. There is little doubt that this new program made the study of arithmetic considerably clearer and more comprehensible for the retarded child.

The School participated in the Edmonton Exhibition school program. 163 exhibits were submitted and 86 prizes were won by the children of the Training School.

The school teachers and the school children put on an Operetta for the Christmas Concert to which many citizens of Red Deer, parents of children here and trainees attended.

The School was visited on several occasions by the Honorable Minister of Health, Dr. J. Donovan Ross, Dr. R. R. MacLean, Director, Division of Mental Health, as well as Health Officials from the Department of Health from the Provinces of Saskatchewan, Manitoba and Ontario, as well as several school teachers.

RECREATIONAL ACTIVITIES

The recreational activities continued to be an integral part in the rehabilitation program for the trainees. In these classes, the children were taught various forms of group participation, both indoors and outdoors; the ability to acquire "team spirit" and other desirable social relationships.

The total year's attendance represented 60,133 trainee attendance days, with an average monthly attendance of 5,012 and a daily average attendance of 167. The monthly average of minor accidents was 2.7, which, compared with that of the normal population of children of this age, again indicated the high level of preventative measures with respect to accidents which were carried out by this Department.

Amongst the activities under the supervision of the recreational department were baseball, touch-football and track events during the summer months and in the winter these gave way to ice-hockey, broomball, skiing, tobogganing and skating and calisthenics, as well as cinema attendance.

AGRICULTURAL ACTIVITIES

Agricultural training was amongst the most valuable activities carried on at the Training School. Alberta being largely an agricultural community presents the opportunity to discharge many of the adult male school population to a farm setting. Despite the expectation that with automation, the majority of tasks possible for the mentally retarded person are gradually being eliminated, the fact emerged that on the farm with increasing automation, it now becomes more possible to train the retarded person to utilize this automated equipment, since its operation has become so much easier.

In addition, the many farm chores which exist, in which automation cannot be applied, further presents opportunities for the well adjusted trainee defective to work on equal terms in the normal community.

The Training School offered the widest possible variety of training with respect to the farm-life. Agricultural classes consisted of two varieties:

1. Presenting to the trainee, the theoretical aspect of the work necessary on the farm.
2. The other type of classes which incorporated a larger number of trainees and stressed the routine mechanical work that had to be carried out on a day-to-day basis.

In the first group, trainees of a higher intelligence were included and in the second group many of the imbecile population were included, who with training were often as successful in their placements away from the School as the trainee of higher intelligence.

During the year many of the boys assisted in the care of calves, as well as animal husbandry necessary to keep the school's large dairy farm free from disease and at a high productive level. From the senior agricultural class, 5 trainees were discharged to work on farms in the community.

OCCUPATIONAL THERAPY

Occupational Therapy remained a conjoint activity with the Academic and Sense Training School. Here the great emphasis was made towards developing manual facilities for many of the children who were admitted, showing physical handicaps. It has been established over the years, that the Occupational Therapy Department has in many ways incorporated the role of physiotherapy, in addition to its own work.

145 trainees attended Occupational Therapy on a daily basis. In addition, special classes were held on the Infirmary Villa and 16 children received craft-training.

During the year, some 727 individual projects were completed and were sold at the annual school auction, which was attended by the Honorable Dr. J. Donovan Ross, Minister of Health for the Province of Alberta, and other Provincial dignitaries.

During the Red Deer Fair, 80 articles were entered which competed against those submitted by the normal adult population in Alberta and of these 80 articles entered, 45 of them received prizes.

In addition to the various courses which were taught at Occupational Therapy classes, dressmaking classes were also included which 17 girls attended. Domestic science and cooking classes were conducted by the school Dietitian. In this latter program, the girls learned to prepare meals, correct table setting and the serving of food. Good manners and hygienic aspects with relation to the preparation of foods were stressed.

SHOEMAKING

The shoemaking instructor was assisted by two trainees who were able to maintain shoe repairs for both the Deerhome Institution, as well as the Training School. Some 1500 pairs of shoes were repaired during the year, skates were kept sharpened and repairs were carried out on a multiplicity of sporting equipment where leather was part of its structure.

VOCATIONAL TRAINING DEPARTMENT

The Vocational Training department had in attendance 48 boys who completed a total of 455 pieces of various types of furniture. These included hardwood lamps, chesterfields, 3 kayaks, in addition to 100 school-safety "Stop" signs, which the School contracted to make for the second year for the Alberta Motor Association.

A new entrance sign with gold block lettering was also built by the trainees under instruction by the Vocational Training Instructor.

Five wood items were entered at the Red Deer Fair, three of which won first prize and one third prize.

The entire emphasis on Vocational Training was oriented to give the boys familiarity and skill with manual, as well as power-driven equipment and many of the boys learned to utilize this additional skill for their various work placements.

EXTRA MURAL ACTIVITIES

The continued impetus of the Parent-School Organization and their assistance to the School and trainees was maintained. Plans were completed to provide the necessary materials and equipment for a curling rink with artificial ice. In addition a small tractor and the necessary materials to construct a train was provided, so that less ambulant patients might have the opportunity to tour the School-grounds, riding in this train during clement weather conditions.

This continuing parental interest in the children was further emphasized by the fact that 203 children went home for Easter, 308 went for summer holidays and 265 for Christmas holidays.

The great attraction for the trainees of the Randall R. MacLean Cottages at Gull Lake was maintained and utilized by the 282 children who went out to Gull Lake to spend periods of between one to two weeks at this summer resort. The parents this year installed a pressure pump as well as providing many new furnishings for the cabins themselves.

RESEARCH

During the year one scientific paper was completed: "Congenital Abnormalities of Children Born in Alberta During 1961: A Survey and an Hypothesis" and accepted for publication by the Canadian Medical Journal. Additional investigation was carried out in a project related to "Deformities in Chick Embryos Subjected to X-ray Radiation". This latter reached the stage, half-way towards completion.

MAINTENANCE OF FURNITURE AND EQUIPMENT

A continuing program of replacement of furniture and equipment and maintenance was carried out during the past year, keeping the physical plant in a reasonably good state of repair.

KITCHEN AND DINING ROOM

The Dietary Department was further reorganized so that there was greater menu variety and more supervision by the Dietitian over food purchasing, preparation and serving. Although every effort was made to keep food costs down, the continuing increase in the price of meats nullified other economies which were practised.

The farm and garden produce added to the variety of diet. This year enough carrots were frozen and stored in Cold Storage Lockers to meet the School's needs until the 1963 crop.

A new inception was the deep-freezing and storing of turnips in the anticipation that waste through spoilage in the Root Cellars would be minimized. School-grown cucumbers and sauerkraut were canned at the Provincial Mental Hospital Cannery, 109 gallons of dills, 154 gallons of mixed pickles and 85 gallons of sauerkraut were processed there for the School.

In addition to providing regular meals for approximately 850 patients and 130 staff members, a number of special functions were catered to, such as, Visiting Boards and Parent Meetings. A highlight of the year was the Smorgasbord Buffet served for approximately 100 guests at the Graduation Exercises. Also a complete turkey-dinner menu was served to staff members on Christmas Day.

LAUNDRY AND LINEN REPAIR

During the 1961-62 fiscal year, the laundry washed 1,720,511 pounds, amounting to an average of 6.5 pounds per patient per day. This high average is brought about by the increasing number of younger admissions to the School and the Infirmary Villa where in excess of 12 pounds of laundry per day per child was required.

The Linen Repair service maintained a daily upkeep of bedding, linen and personal clothing. An effort was being made to provide as many as possible of the manufactured articles through the Stores Department, thus enabling the Linen Repair room to concentrate its efforts on mending and restoration of clothing, linen and uniforms.

STORES

A perpetual inventory of approximately \$105,000.00 was maintained by this Department supplying all Institutional requirements for food, clothing and drugs on a daily basis.

FARM

The rental of new farm-ground provided the School with sufficient land to produce all the livestock and poultry feed, (with the exception of certain concentrates) for the first time in many years. The acquisition of some machinery and equipment from the Provincial Mental Institute at Oliver and the Provincial Mental Hospital at Ponoka greatly aided farm operations. Most crops yielded well although some hail damage was experienced, principally to the barley crop. Facilities were made available for raising foundation stock for the School. Some surplus hay, greenfeed and straw were made available to the Provincial Mental Hospital this fall.

GARDEN

Vegetables generally yielded above average with the exception of potatoes which were not as good a crop as last year, but it was estimated there would be sufficient for current needs until the next crop, depending on keeping qualities.

A large part of the carrots and turnips were prepared for freezing by the garden staff and placed in cold storage for later use. Pickled cucumbers, sauerkraut and other vegetables were canned at Ponoka, which helped to keep spoilage to a minimum and reduced storage problems.

GROUNDS

Lilac hedge plants were planted around the Villa play areas and Cotoneaster hedges were planted along main drive areas last Spring. In addition, two playing fields totalling about five acres in all were graded and seeded down by the Garden staff. The skating rink was also seeded to grass and a new plywood fence erected around it. The unusually open fall enabled a good showing of flowers to be maintained in all flower beds for a longer period than usual.

MAINTENANCE

Following were some of the major jobs completed by the Maintenance Department during the past year:

Carpentry

- (a) Re-shingling of roofs of Birch, Cherry and Fir Villas.
- (b) Installation of acoustic tile in the dayrooms of Cherry and Juniper Villas.
- (c) Re-modelling and re-finishing of 30 closets on Ash Villa.
- (d) Screening of outdoor patio of Infirmary Villa.
- (e) Regular daily maintenance, including repairs to furniture, windows, doors, fences, cupboards, sidewalks, etc.

Painting

- (a) Complete re-finishing of Gymnasium floor.
- (b) Complete repainting of Oak Villa interior and partial interiors of all other Institutional buildings.
- (c) Exterior stucco painting of Maple and Oak Villas.
- (d) Regular maintenance painting including re-finishing of chairs, benches, tables, beds, etc.

PLUMBING AND ELECTRICAL

Completion of routine maintenance work as required including the installation of new equipment and upkeep of lighting fixtures, appliances, radios, water, sewer and telephone systems.

APPRECIATION

The Medical Superintendent would first of all like to thank the staff of the Training School, through whose devotion and effort, the School has maintained its customary high standard of patient-care. He would also like to thank the Honorable Minister of Health, Dr. J. Donovan Ross who visited the School on many occasions through the year and who showed sympathetic interest in all the School's needs. Not least in mind is the appreciation to the Director of The Division of Mental Health, who as in the many previous years, was always available to solve any dilemmas which were encountered through the year.

TABLE 1

MOVEMENT OF FEEBLEMINDED POPULATION	M			T		
	M	F	T	M	F	T
Defectives on Books of Institution as at 1st January, 1962	408	310	718			
ADMISSIONS:						
1. First Admissions—voluntary	101	56	157			
2. Readmission	9	6	15			
3. Transfers .....	.....	.....	.....
Total number of admissions	110	62	172	110	62	172
Total number of defectives on the books during 1962				518	372	890
SEPARATIONS:						
1. Discharges	26	12	38			
2. Transfers: 39 M to Deerhome 7 F to Deerhome 2 M to Linden House	41	7	48			
3. Deaths	5	3	8			
Total number of separations	72	22	94	72	22	94
Defectives on books of the Institution at 31st December, 1962				446	350	796

TABLE 2
AGE OF RESIDENT POPULATION CLASSIFIED WITH REFERENCE TO MENTAL STATUS

AGE GROUP	IDIOT			IMBECILE			MORON			BORDERLINE			TOTALS			
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	
0 - 4 years	6	2	8	17	8	25	1	...	1	...	...	...	...	24	10	34
5 - 9 years	19	24	43	60	36	96	13	5	18	1	...	...	...	92	66	158
10 - 14 years	13	10	23	80	74	154	40	24	64	1	1	1	1	134	109	243
15 - 19 years	8	13	21	56	38	94	47	35	82	5	...	...	...	116	86	202
20 - 24 years	11	13	24	16	10	26	13	14	27	1	1	2	2	41	38	79
25 - 29 years	10	5	15	8	5	13	1	1	2	...	...	...	...	19	11	30
30 - 34 years	4	...	4	1	3	4	1	1	2	...	...	...	...	6	4	10
35 - 39 years	4	4	8	2	3	5	...	2	2	...	...	...	...	9	7	16
40 - 44 years	...	5	5	1	2	3	...	1	1	...	...	...	...	2	5	7
45 - 49 years	...	2	2	1	1	2	...	1	1	...	...	...	...	1	5	6
50 - 54 years	...	2	2	1	2	3	...	...	...	...	...	...	...	1	5	6
55 - 59 years	...	2	2	1	2	3	...	...	...	...	...	...	...	1	5	6
60 - 64 years	...	...	...	1	2	3	...	...	...	...	...	...	...	1	2	3
65 - 69 years	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1
TOTALS	75	78	153	248	185	433	116	84	200	7	3	10	446	350	796	

DEPARTMENT OF PUBLIC HEALTH

TABLE 3
MENTAL STATUS OF FIRST ADMISSIONS, READMISSIONS AND TRANSFERS

Mental Status	First Admissions			Readmissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
Idiot	11	11	22	.....	.....	.....	.....	.....	.....	11	11	22
Imbecile	45	23	68	2	.....	2	.....	.....	.....	47	23	70
Moron	21	10	31	7	5	12	.....	.....	.....	28	15	43
Borderline	5	.....	5	.....	1	1	.....	.....	.....	5	1	6
Paediatric	19	12	31	.....	.....	.....	.....	.....	.....	19	12	31
TOTALS	101	56	157	9	6	15	.....	.....	.....	110	62	172

TABLE 4
AGE GROUP OF FIRST ADMISSIONS, READMISSIONS AND TRANSFERS

Age Group	First Admissions			Readmissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
0 - 4 years	20	12	32	.....	.....	.....	.....	.....	.....	20	12	32
5 - 9 years	55	32	87	1	.....	1	.....	.....	.....	56	32	88
10 - 14 years	19	7	26	2	.....	2	.....	.....	.....	21	7	28
15 - 19 years	7	5	12	.....	.....	.....	.....	.....	.....	7	5	12
20 - 24 years .....	.....	.....	.....	3	6	9	.....	.....	.....	3	6	9
25 - 29 years .....	.....	.....	.....	3	.....	3	.....	.....	.....	3	.....	3
30 - 34 years .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
35 - 39 years .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTALS	101	56	157	9	6	15	.....	.....	.....	110	62	172

TABLE 5
CAUSES OF DEATH DURING 1962
ABRIDGED INTERNATIONAL CLASSIFICATION

	Male	Female	Total
31. Virus Pneumonia .....	.....	1	1
31. Hypostatic Pneumonia .....	.....	1	1
22. Cerebral Thrombosis	1	.....	1
38. Renal Disease	1	.....	1
18. Carcinoma—Head of Pancreas .....	.....	1	1
41. & 27. Cor Pulmonale Pectus Excavatum and Hydrocephalus ...	1	.....	1
31. Pneumonia	1	.....	1
35. Intestinal Obstruction—Congenital Band	1	.....	1
TOTALS	5	3	8

TABLE 6
DEATHS BY INTELLIGENCE LEVELS

	Male	Female	Total
Idiot .....	.....	2	2
Imbecile	4	.....	4
Moron .....	.....	.....	.....
Borderline .....	.....	1	1
Paediatric	1	.....	1
TOTALS	5	3	8

TABLE 7
DENTAL CARE

Upper and lower dentures	1 set
Orthodontic Appliance	1
Orthodontic Adjustments	9
Gold Crown	3
Gold Foil	3
Partial Plates	3
Stainless Steel Caps	4
Impressions	21
Cleaning	7
Scaling	21
Porcelain fillings	1
Bonfil fillings	28
Extractions (G.A.)	16
Extractions (L.A.)	170
X-Rays	87
Examinations	404
Ag fillings	485

DEERHOME, RED DEER

R. R. MacLean, M.D., Cert. Neurol. and Psych., F.A.P.A., Cert. M.H.A. (A.P.A.)

MOVEMENT OF RESIDENTS

The number of patients in residence on 1st January, 1962 was 830, of whom 388 were men and 442 were women. On 31st December, 1962 the number of patients in residence was 944, of whom 495 were men and 449 were women. The details are as set out in Table 1.

ACCIDENTS AND ELOPEMENTS

There were 15 accidents resulting in fractures. There were 22 elopements.

GENERAL HEALTH

The general health of the patients was good. Medical care was provided by Parsons' Clinic, Red Deer, on the basis of a physician visiting regularly, two mornings per week and responding to all emergency calls as the need arose. There was an average of 70 patients per week prescribed for under this scheme. In the interim, supervision was carried out by Registered Nurses.

Surgery was necessary for 38 patients (excluding eugenics cases). Of these, 20 cases were admitted to the Red Deer Municipal Hospital, 13 cases were admitted to the Provincial Training School and 5 cases were attended to at the Parsons' Clinic. Out of the above cases, 16 patients received major surgery. One female patient was discharged to the Provincial Mental Hospital, Ponoka, for surgery and returned to Deerhome following surgery.

Eighteen patients were presented to the Eugenics Board and successful surgery was carried out on 14 patients at the Provincial Training School.

A member of the Provincial Mental Hospital medical staff visited regularly and interviewed and prescribed treatment for any psychotic or disturbed patients.

The Director of Mental Health visited the institution frequently, made rounds and attended to many administrative matters.

The Mobile X-Ray Unit and the Portable X-Ray Unit returned in January, 1962 to complete the survey of both patients and staff. From these it was discovered that three patients required active treatment, necessitating their transfer to the Provincial Mental Institute, Edmonton.

There was a total of 109 diagnostic X-rays taken upon the doctors' recommendation, and a total of 61 dental X-rays at the Provincial Training School or Parsons' Clinic.

The Laboratory Department did extensive blood work as well as urinalyses, and Wassermans were carried out on all new admissions.

Dental Clinics were held regularly; 562 patients were examined, 125 fillings were done and several treatments were carried out. There were 469 extractions with local anaesthetics, 7 patients were supplied with new dentures and many other dental repairs were done.

The local optometrist examined 60 patients and 15 were fitted with new glasses. There were 124 pairs of glasses repaired.

Several patients were referred to the local ophthalmologist for consultation and treatment. Nine new blind pensions were established for some of the eligible patients.

There was an outbreak of scrotal infections on the Infirmary ward, *Candida albicans* followed by *Pseudomonas*, which cleared up with antibiotics. There was also an outbreak of chicken pox on the Infirmary ward which reached epidemic proportions.

OCCUPATIONAL THERAPY

On 14th May classes were commenced in the new Beaver House. The facilities and accommodation were superb in comparison with the make-shift accommodation used in previous years. The number of patients receiving occupational therapy was approximately 600; these patients were supervised by five female and three male staff members.

The female patients occupied their time at embroidery, knitting, weaving, leather and copper work, basketry, rug-hooking and other crafts, and produced many finished articles.

The male patients produced some very fine articles in woodwork such as lawn furniture, bedside tables, sewing cabinets, gun cabinets and china cabinets; a total of 483 articles was produced. In all of the departments in Occupational Therapy a much better quality and greater quantity of work was produced.

Ceramics classes were started in December with a qualified instructor; a keen interest was shown by both male and female patients.

In August the female Occupational Therapy department entered a number of domestic art competitions at the Red Deer Fair and won a total of twelve prizes.

The Annual Sale and Tea on the 7th November was a great success, partly due to good publicity and a display of work from both Male and Female Occupational Therapy Departments in the Hudson's Bay store window. The Female Occupational Therapy department had 2,157 articles for sale.

All patients profited from the valuable work that was done in the Occupational Therapy departments.

Many of the patients were capable of gainful employment off the premises of Deerhome, and many were employed on the premises in various departments, under supervision.

There were nine male patients and fifteen female patients capable of working for private citizens in and about the vicinity of Red Deer; of these, an average of eight male patients and ten female patients went out to work each working day of the year.

Approximately 330 male and female patients assisted with the routine work in various departments of Deerhome, such as laundry, kitchen, stores, male and female staff residences, and at various seasonal occupations.

RELIGIOUS SERVICES

The spiritual needs of the Protestant patients were attended to by the Red Deer Ministerial Association. Each Minister took turns and held Sunday services throughout the year, with the exception of the months of July and August.

The Roman Catholic clergy visited the Roman Catholic and Greek Catholic patients at regular intervals, and Mass was said at least once a month.

RECREATION

The following programme was followed throughout the year on Deerhome premises:—

1. Walking parties (weather permitting) were carried out daily with as many patients participating as were physically fit to do so.
2. Weekly matinee dances, bingo games and film showings were very popular all year. Four evening dances with special decorations, costumes, live music and talented entertainers, were enjoyed.
3. Television sets, radios, record players, piano playing and card games, etc., were enjoyed on the lodges.
4. Many indoor table games were enjoyed with staff participation and supervision.
5. Physical fitness classes were carried out routinely, with ingenious methods used to activate the wheelchair patients.

Special activities:—

Winter: The skating rink and change house were enjoyed by both patients and staff.

Organized hockey games were enjoyed with emphasis on team play. Skating instructions benefited many patients.

The toboggan hill was in use and many pleasant hours were spent by the patients at the site.

Summer: The Third Annual Deerhome Circus in June was attended by approximately 900 patients and 200 staff and was an outstanding success. Entertainment was provided for all, including the wheelchair patients. Many birds and animals were on display to give this project a "circus" appeal, and many rides, booths and noise makers supplied a "carnival" touch.

The patients enjoyed the Red Deer Parade and Fair. More than 300 patients saw the Parade and an additional 250 patients attended the Fair.

The Red Deer swimming pool was made available for Deerhome patients twice weekly for morning swimming periods, when 720 patients enjoyed this opportunity.

Organized games such as fast-ball, soccer, volley ball, basketball, were enjoyed; picnics and wiener roasts were frequent diversions.

The track and field competition, in which 500 patients participated, was another outstanding summer activity.

Christmas was highlighted with many activities. The new recreation hall was used to great advantage for the Christmas concert with patient talent, and two performances were put on to accommodate both patients and staff. A local service club sponsored a project whereby patients were transported to the downtown areas to view the colorful Christmas lights of the city. All the lodges had decorated Christmas trees and Santa Claus visited every ward on Christmas morning; the numerous gifts and treats culminated an eventful holiday season. Approximately 120 patients went home over the Christmas holiday.

The Recreation staff included three males and two females. The cooperation of service clubs and many public-minded citizens is acknowledged in the functioning of this department.

BUILDINGS

The Recreation and Occupational Therapy Building was completed and recreation facilities were much improved.

An extension for soiled linen was added to the Laundry.

GARDEN AND GROUNDS

Further landscaping was done around the completed buildings and preliminary levelling was done in other areas. Approximately eleven acres were in lawn and approximately five more acres were yet to be done. 17,500 bedding plants and 850 potted plants were raised.

Garden produce was again successfully grown and allowed for full utilization of patient assistance. There were 58 acres under cultivation, yielding 210 tons of various vegetables.

STAFF

In general the health of the staff was good. Some home visits were made in cases where there seemed to be an excessive amount of incidental illness.

The routine administration of T.A.B.T. vaccine and poliomyelitis vaccine was carried out.

There was no difficulty in filling vacancies or in obtaining staff for the wards.

Approximately 38 more people were employed to compensate for the increased patient load.

VISITORS

The Director of the Division of Mental Health visited regularly.

The annual visit was made by the Provincial Hospital Visiting Board.

The Alberta Psychiatric Association held a meeting here early in the year.

Special rounds were made by several groups, including ladies attending Conventions for the Alberta Association of Municipalities, the Fish and Game Association, and Fire Chiefs. Groups of student nurses from the Provincial Training School, Red Deer, and Provincial Mental Hospital, Ponoka, visited, as well as ladies from local Women's Institutes.

TABLE 1
MOVEMENT OF POPULATION DURING 1962

	M	F	T	M	F	T
In residence 1st January, 1962				388	442	830
ADMISSIONS:						
From P.M.H., Ponoka	25	4	29			
From P.T.S., Red Deer	39	7	46			
From P.M.I., Edmonton	65	3	68			
Direct	18	13	31			
Re-admitted	1	1	2			
Returned from L.O.A.	123	61	184			
	270	89	359	270	89	359
				658	531	1189
SEPARATIONS:						
Formal discharges	2	2	4			
On L.O.A.	150	65	215			
Deaths	8	6	14			
To P.M.H., Ponoka	1	3	3			
To P.T.S., Red Deer	1	3	4			
To P.M.I., Edmonton	1	3	4			
Elovements	1	3	4			
	163	82	245	163	82	245
Total IN RESIDENCE 31st December, 1962				495	449	944

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

325.0	Idiocy	140
325.1	Imbecile	390
325.2	Moron	192
325.3	Borderline intelligence	12
325.4	Mongol	63
325.5	Mental deficiency, unspecified	16
326.4	Mental deficiency with Psychoneurosis	1
309.2	Mental deficiency with Psychosis:	
	Idiot	2
	Imbecile	31
	Moron	48
	Borderline	2
	Other	52
		135
300	Schizophrenia	49
301	Manic Depressive	4
308.1	Psychosis with Convulsant Disorder	10
308.5	Psychosis with Huntington's Chorea	2
308.7	Traumatic psychosis	1
353	Epilepsy	10
025	Congenital Syphilis	2
020.1	Neurosyphilis	2
026.0	Syphilis	1
		<u>1,030</u>

* This total includes 86 patients who were on L.O.A. from Deerhome on 31st December, 1962.

TABLE 3
CAUSES OF DEATH DURING 1962
ABRIDGED INTERNATIONAL CLASSIFICATION

	Male	Female	Total
22 Vascular lesions affecting Central Nervous System	1	.....	1
26 Arteriosclerotic and degenerative heart disease	3	3	6
31 Pneumonia	2	3	5
41 Congenital malformations	1	.....	1
45 Senility without mention of psychosis, ill-defined and unknown causes	1	.....	1
	8	6	14

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSIS—1962

	Male	Female	Total
Mental Deficiency	5	3	8
Psychosis with Mental Deficiency	2	2	4
Psychosis with Epilepsy	1	.....	1
Schizophrenia catatonic .....	.....	1	1
	8	6	14

LINDEN HOUSE, RED DEER

PILOT PROJECT FOR EMOTIONALLY DISTURBED
CHILDREN

This project has now operated for three years. Reports from parents of discharged patients from Linden House have been favourable. In 1962 eight children were admitted and two children were re-admitted. Thirteen children were discharged. The average number of children resident in Linden House, per month, has been eighteen.

The nature of the treatments, techniques, activities and observations are described in detail in the Annual Report which follows.

The operations of Linden House were reviewed by Departmental authorities during the year. It was decided that the success of these operations warranted the continuation of services which the unit was in a position to provide.

LINDEN HOUSE THIRD ANNUAL REPORT RED DEER

**L. J. le Vann, L.R.C.P. (Edin.), L.R.C.S. (Edin.),
L.R.F.P.S. (Glas.), Medical Superintendent**

INTRODUCTION

The previous two reports on activities at Linden House were full and comprehensive with respect to philosophies of treatment and methods. The following report is therefore, statistical rather than explanatory.

IN RESIDENCE, ADMISSIONS, RE-ADMISSIONS, TRANSFERS, DISCHARGES

Eight children were admitted to Linden House during 1962; six boys and two girls. In addition there were two re-admissions; one girl and one boy. There were three transfers to Linden House from the Provincial Training School. These were children who were initially admitted to the Training School since some doubt existed as to whether they were emotionally disturbed or oligophrenic children. One girl was transferred from Linden House to the Training School. 13 children were discharged to their homes. Two boys for whom poor home situations existed were admitted to supervised areas; Don Bosco Home in Calgary and St. Mary's Home in Edmonton.

Follow-up letters have continued being sent to all the parents of children who have been discharged from Linden House and by the end of the year, all the children were reported as doing well and maintaining their acceptable level of behaviour.

REQUESTS FOR ADMISSION

During the year applications were received for 13 children; 10 males and three females. This proportion of 3+ male, to one female, has been in evidence since Linden House opened.

Eight of these applications for admission were from the Edmonton Guidance Clinic and three from the Calgary Guidance Clinic. All three cases from the Calgary clinic were admitted to Linden House and three from the Edmonton clinic were also admitted. The remaining applications for admission were placed in abeyance until such time that a vacancy might be found for them.

VISITING BOARD AND VISITORS

Linden House was visited by the Visiting Board, the Honorable Dr. J. Donovan Ross, Minister of Health, and Dr. Randall R. MacLean, Director of the Division of Mental Health. In addition, professional groups such as teachers, nurses, medical students and the Canadian Mental Health Association representatives, were taken through the villa.

STAFF CHANGES AND ACTIVITIES

The staff situation was much better insofar as intermediate professional help was concerned. It was possible to fill the establishment of two social workers and two psychologists. These psychologists all carried a combined role of psychologist and social worker.

HEALTH OF CHILDREN AND STAFF

The health of children and staff remained good. Immunological procedures were carried out against diphtheria, tetanus, poliomyelitis and enteric fevers. There were no cases of serious epidemiological significance i.e. tuberculosis, typhoid fever etc.

TRAINING PROGRAM FOR NURSES AND ATTENDANTS

This continued on an in-training basis with meetings being held twice a week with the staff at Linden House. One of these meetings was with the senior staff and the other included both senior and nursing staff.

THERAPY PROGRAM FOR CHILDREN

The therapy program for children continued along conventional lines with play therapy employed essentially with the younger children and discursive techniques employed with the older children.

Nine children from Linden House attended school in the Public School system of Red Deer. It is not unlikely that, were suitable homes available for these children, they might have been treated on an out-patient basis.

The program of a group-therapy once a week with all the children was maintained and proved an interesting "focal" point where the irritations as well as the pleasures that the children experienced during the week, could be recognized.

The villa operated as an open door villa and none of the children made any effort to elope. The observation should be made that in view of the fact that the large portion of the admissions to Linden House for the year was composed of children with a long record of truancy, insubordinate behaviour as well as anti-social behaviour, indicated a high level of staff proficiency.

RECREATIONAL ACTIVITIES

This was provided and supervised by the Recreation Staff of the Training School during the year. The usual games, walks, picnics, swimming lessons et al, were enjoyed by the children and, in addition, it was possible to provide swimming facilities in a new indoor pool which was recently built in the City of Red Deer.

The boys at Linden House had a two week period at the Randall R. MacLean cottages during the summer. This activity was one which caused considerable anticipation and pleasure for the children.

OCCUPATIONAL THERAPY

Occupational therapy was not possible this year since the Occupational Therapy staff lost its graduate Occupational Therapist in February.

None of the children attended carpentry classes due largely to the fact that almost without exception, all the admissions to Linden House were behind in their anticipated school level and most of the time was spent providing remedial class activities. It was felt that when this was finished, it was more to the advantage of the children to spend as much time outside participating in sport activities rather than sending them in to enclosed areas to do work of a sedentary nature.

EXTRA MURAL ACTIVITIES

Home contacts this year as in previous years was encouraged. 19 children went home for Easter holidays, 9 went home for their summer holidays and 12 for Christmas holidays. Their behaviour during the holidays was generally exemplary.

Linden House and Provincial Training School staff were available to talk to interested groups on the care of Emotionally Disturbed children as well as Mental Hygiene.

APPRECIATION

The Medical Superintendent would like to take this opportunity to express his sincere appreciation for the interest shown in Linden House by the Honorable Dr. J. Donovan Ross, Minister of Health for the Province of Alberta, and Dr. Randall R. MacLean, Director of the Division of Mental Health. Appreciation is also extended to Mr. G. H. Dawe, Superintendent of Schools in Red Deer, as well as the Separate School Board, for their co-operation in making it possible for the children to attend the normal school community. The Linden House staff and other departments of the Training School should equally be commended for providing the amenities necessary to carry out the therapeutic functions at Linden House.

TABLE 1
MOVEMENT OF LINDEN HOUSE POPULATION

	M.	F.	T.	M.	F.	T.
Children on books of Linden House as at 1st January, 1962	15	6	21			
ADMISSIONS:						
First admissions—voluntary	6	2	8			
Re-admissions	1	1	2			
Transfers—3 from Provincial Training School	3	....	3			
Total number of admissions	10	3	13	10	3	13
Total number of Children on books during 1962....	25	9	34			
SEPARATIONS:						
Discharges	11	2	13			
Transfers .....	....	1	1			
1 to P.T.S.						
Total number of separations	11	3	14	11	3	14
Children on books of Linden House at 31st December, 1962	14	6	20			

TABLE 2
MENTAL STATUS OF FIRST ADMISSIONS, RE-ADMISSIONS AND TRANSFERS

Mental Status	First Admissions			Re-admissions			Transfers			Totals		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Educational Problems with adequate intellect												
Others							1		1	1		1
Intellectual Inadequacy												
Poor School Progress												
Intellectual Inadequacy												
Primary and Imbecile	2	1	3							2	1	3
Intellectual Inadequacy associated with Autism												
Autism	1	1	2		1	1	1		1	2	2	4
Emotional Disorders												
Others							1		1	1		1
Anti-Social Trends												
Disrespect for Authority												
Others	1		1	1		1				2		2
Psychoses												
Immature Personality	1		1							1		1
Character Disorder	1		1							1		1
TOTALS	6	2	8	1	1	2	3		3	10	3	13

TABLE 3
AGE GROUP OF FIRST ADMISSIONS, RE-ADMISSIONS AND TRANSFERS

Age Group	First Admissions			Re-admissions			Transfers			Totals		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
5 - 7	2	2	4				2		2	4	2	6
8 - 9	1		1				1		1	2		2
10 - 12	3		3	1		1				4		4
13 - 14					1	1					1	1
TOTALS	6	2	8	1	1	2	3		3	10	3	13

THE EUGENICS BOARD

The Eugenics Board for the Province of Alberta held thirteen meetings during the year 1962. These meetings were held at the Provincial Mental Institute, Edmonton, the Provincial Mental Hospital, Ponoka, the Provincial Training School, Red Deer, and Deerhome, Red Deer. The dates of the meetings held during 1962 were as follows:

February 22nd, 1962	—	The Provincial Mental Institute, Edmonton
February 23rd, 1962	—	The Provincial Mental Hospital, Ponoka
February 23rd, 1962	—	The Provincial Training School, Red Deer
February 23rd, 1962	—	Deerhome, Red Deer
June 28th, 1962	—	The Provincial Mental Institute, Edmonton
June 29th, 1962	—	The Provincial Mental Hospital, Ponoka
June 29th, 1962	—	The Provincial Training School, Red Deer
September 27th, 1962	—	The Provincial Mental Institute, Edmonton
September 28th, 1962	—	The Provincial Mental Hospital, Ponoka
September 28th, 1962	—	The Provincial Training School, Red Deer
September 28th, 1962	—	Deerhome, Red Deer
November 29th, 1962	—	The Provincial Mental Institute, Edmonton
November 30th, 1962	—	The Provincial Training School, Red Deer

The Board considered a total of 121 cases, 119 of which were passed for surgery. One case was deferred because it did not fall within the scope of the Sexual Sterilization Act, and the other case was re-presented. Of the 119 cases which were passed by the Board in accordance with the Sexual Sterilization Act (1955-C.311, S.5), 48 were male and 71 female. Of this number 32 were passed subject to their own consent.

Of the 119 cases passed by the Board during the year, 75 had first been examined at a Provincial Guidance Clinic, although some of these had been institutionalized prior to presentation. This group of 75 cases was made up of 36 males and 39 females.

OPERATIONS:

Operations were performed on 98 cases during the year, 33 being male and 65 female. All of these operations were performed at the Provincial Mental Institute, Edmonton, the Provincial Mental Hospital, Ponoka, and the Provincial Training School, Red Deer. The surgical operations mentioned above were performed by the surgeons of the Board, Dr. J. Ross Vant, of Edmonton, and Dr. R. M. Parsons, of Red Deer.

Approval by the Department of Public Health was given for the replacement of Dr. Margaret Thompson by Mrs. C. T. Armstrong, for the year during which Dr. Thompson was to be absent on Educational Leave while pursuing research in her speciality of Genetics at Bar Harbor, Maine, U.S.A.

APPRECIATION:

As in previous years the Eugenics Board wishes to express thanks and sincere appreciation to the Director, Division of Mental Health, to the Medical Superintendents and their staffs, to the Surgeons, and to the Guidance Clinics, for their cooperation in connection with the work of the Eugenics Board.

TABULAR SUMMARY:

A tabular summary of the work of the Provincial Eugenics Board to December 31, 1962, is appended.

CASES PRESENTED AND PASSED

(To 31 December, 1962)

Years	YEARLY TOTALS			CUMULATIVE TOTALS		
	Male	Female	Totals	Male	Female	Totals
1929-1933	87	201	288	87	201	288
1934-1938	557	438	995	644	639	1283
1939-1943	339	299	638	983	938	1921
1944-1948	237	311	548	1220	1249	2469
1949-1953	187	239	426	1407	1488	2895
1954	41	40	81	1448	1528	2976
1955	61	48	109	1509	1576	3085
1956	38	34	72	1547	1610	3157
1957	46	82	128	1593	1692	3285
1958	116	71	187	1709	1763	3472
1959	32	62	94	1741	1825	3566
1960	37	65	102	1778	1890	3668
1961	44	75	119	1822	1965	3787
1962	48	71	119	1870	2036	3906

OPERATIONS ONLY

(To December 31, 1962)

Years	YEARLY TOTALS			CUMULATIVE TOTALS		
	Male	Female	Totals	Male	Female	Totals
1929-1933	48	158	206	48	158	206
1934-1938	198	240	438	246	398	644
1939-1943	122	151	273	368	549	917
1944-1948	87	124	211	455	673	1128
1949-1953	84	162	246	539	835	1374
1954	37	25	62	576	860	1436
1955	45	25	70	621	885	1506
1956	22	24	46	643	909	1552
1957	49	33	82	692	942	1634
1958	54	53	107	746	995	1741
1959	40	50	90	786	1045	1831
1960	21	48	69	807	1083	1900
1961	53	52	105*	860	1145	2005
1962	33	65	98	893	1210	2103

* As corrected

NATIONAL HEALTH GRANTS

Since 1948 the Federal Government has made a series of Health Grants available to the provinces. These relate to various specific problems such as General Public Health, Venereal Disease Control, Hospital Construction, etc. Within these grants the province may prepare a project in which it is proposed that a new health service may be financed. If the project comes within the terms of the federal regulations, it is approved by the federal authorities and the money becomes available to reimburse the province for its expenditure.

In most of the grants the project covers the entire cost of the service as outlined in the project but it is required by the federal authorities, that their grant be matched in the Cancer Control and Hospital Construction Grants.

DEPARTMENT OF PUBLIC HEALTH

The following table shows the amount of these grants for 1962/63, the amount that was committed under the various projects, the amount actually expended and the percentage of the various grants that was expended.

NATIONAL HEALTH GRANTS
ALBERTA
1962-63

Grant	Amount of Grant	Amount Committed	Amount Expended	Percentage of Grant Expended
Professional Training	\$ 134,667.00	\$ 134,649.68	\$ 133,446.72	99%
Hospital Construction	1,482,034.00	2,882,006.52	1,694,020.83	114%
Mental Health	643,984.00	643,984.00	643,984.00	100%
Tuberculosis Control	210,175.00	210,175.00	210,175.00	100%
General Public Health	1,069,935.00	1,069,935.00	1,069,935.00	100%
Cancer Control	257,146.00	257,146.00	257,146.00	100%
Medical Rehabilitation and Crippled Children	193,476.00	130,973.18	110,321.89	57%
Child and Maternal Health	130,510.00	104,903.62	93,178.94	71%
	<u>\$4,121,927.00</u>	<u>\$5,433,773.00</u>	<u>\$4,212,208.38</u>	<u>92%</u>

Note: The Hospital Construction Grant is an accumulative grant and new projects under planning will eventually use up all available funds.

CANADIAN RED CROSS BLOOD TRANSFUSION SERVICE IN ALBERTA

D. I. Buchanan, M.D., D.P.H., (Edmonton)

E. W. Nation, M.B., M.R.C.P., (Calgary)

We are happy to report that there was a great increase in the number of volunteer donors who attended the Red Cross clinics during 1962. For example, in Northern Alberta a total of 37,749 bottles of blood were collected during the whole of 1962, as compared to 32,733 for 1961. This marked improvement was largely due to the excellent response from donors within the City of Edmonton. For the first time in many years there was no marked shortage of blood for transfusion purposes in any of the hospitals in Northern Alberta. To a lesser extent, more donors attended the clinics in Southern Alberta during the 12-month period under review, as noted in Table 1 below.

TABLE 1
BOTTLES COLLECTED, 1962

Jan. 1 to Dec. 31 (inclusive)	Permanent and City Mobiles	Mobile Clinics	
Northern Alberta	21,320	16,429	37,749
Southern Alberta	15,463	16,725	32,188
TOTAL	36,783	33,154	69,937

BLOOD TRANSFUSIONS

The number of blood transfusions administered, and the number of patients receiving these transfusions are listed in Table 2.

TABLE 2
TRANSFUSIONS OF WHOLE BLOOD, 1962

Jan. 1 to Dec. 31 (inclusive)	Blood Transfusions Administered	Patients Transfused
Northern Alberta	23,497½	9,417
Southern Alberta	18,412	9,361
TOTAL	41,909½	18,778

REQUESTS FOR FRESH BLOOD AND PLASMA

In last year's report it was stated that "many of our principal hospitals have now become so large that it is no longer practical to investigate each unusual request for blood, nor is it practical to perform crossmatching in one central laboratory on an indefinite basis". In this connection, the Minister of Health, in consultation with officers of the Canadian Red Cross Blood Transfusion Service and representatives of the medical profession in Alberta, has agreed that crossmatching will be performed in the University of Alberta Hospital and in the Royal Alexandra Hospital sometime during 1963. Similarly, because of the growing demands for fresh blood, as well as bank blood and special fractions, it is anticipated that a crossmatching laboratory will be provided in the new Foothills Hospital in Calgary in due course.

Fresh frozen plasma is also prepared for patients suffering from hemophilia and Christmas disease. During 1962, 201 bottles of freshly frozen plasma were prepared in Edmonton and administered to 62 patients. From Calgary, 278 pools and from Edmonton 315 pools of liquid plasma were shipped to the Connaught Laboratories during 1962 for fractionation.

Rh AND ANTENATAL WORK

The investigation of "routine" and of special blood grouping problems continues, and 42,656 antenatal, postnatal, and related specimens were tested during the year, as shown in Table 3.

TABLE 3
Rh. AND OTHER INVESTIGATIONS, 1962

Jan. 1 to Dec. 31 (Inclusive)	Antenatal Specimens and Others Investigated
Northern Alberta	25,590
Southern Alberta	17,066
TOTAL	42,656

It will be clear from the statistics and other information provided above that the Canadian Red Cross Blood Transfusion Service and the Department of Health of the Government of the Province of Alberta have a very close liaison in maintaining this particular service for the people of Alberta, and indeed, for many patients in hospitals in adjoining provinces and territories serviced from the Edmonton and Calgary centres.

Again we should like to express our gratitude for the generous assistance given by the Department of Public Works in maintaining the two depot buildings in good working order.

TECHNICAL TRAINING

It is regretted that it has not been possible to maintain the one-year program for student technicians in the specific field of blood grouping and associated techniques. It is to be hoped that a certain number of medical technicians will be available to this Service after another two years have elapsed, by which time suitably trained technicians may have become available from the Northern Alberta Institute of Technology.

This complex program depends, as always, on the unstinting work of many volunteers, and we should like to pay a tribute to both the volunteer workers and donors, as well as the many other people who are associated with this service.

PART II

ANNUAL REPORT

OF THE

Division of Vital Statistics

OF THE

DEPARTMENT OF PUBLIC HEALTH
PROVINCE OF ALBERTA

For The Year 1962

(Fifty-Eighth Annual Report)

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DEFINITIONS

- Infant deaths —deaths under 1 year of age.
- Neo-natal —deaths under 28 days (4 weeks) of age.
- Maternal —deaths due to delivery and complications of pregnancy, childbirth and the puerperium (Categories 640 - 689 International List).
- Stillbirths —foetal deaths of 28 or more weeks' gestation.
- Perinatal deaths—foetal deaths of 28 or more weeks' gestation plus infant deaths under 7 days (1 week) of age.
- Natural increase—excess of births over total deaths. (Death figures do not include stillbirths.)

RATES

(Unless otherwise indicated computed as follows)

- Per 1,000 population; Live births, deaths, natural increase, marriages.
- Per 100,000 population; Causes of death, divorces.
- Per 1,000 live births; Infant and neo-natal deaths, stillbirths.
- Per 10,000 live births; Maternal deaths.
- Per 1,000 total births (live- and still-born); Perinatal deaths.

DIVISION OF VITAL STATISTICS

J. COLVILLE, Director

INTRODUCTION

This is the fifty-eighth Annual Report of the Vital Statistics for the Province of Alberta and is for the year 1962. The Report shows that the total numbers and rates follow closely the trend of the previous year. In comparing this year's rates with 1961, it will be noticed there are slight decreases in the birth, marriage, infant death, neo-natal death, peri-natal death rates and slight increases in the death, maternal death and stillbirth rates. For the second consecutive year, the natural increase, excess of births over deaths has declined from that of the previous year after a gradual yearly increase since 1953. This year's rate is 21.5% as compared with the highest rate in history for the Province of 24.2% in 1956.

POPULATION

The population of the Province of Alberta for the year 1962 has been estimated by the Dominion Bureau of Statistics as 1,370,000, an increase of 38,056 or 2.8% from the previous year. All rates in this Report are, therefore, based on that figure. Commencing on Page 10, is a population table by census divisions and between Pages 8-9 a map of the Province by census divisions.

BIRTHS

There were 38,804 children born to residents of the Province in 1962, compared with 38,914 in 1961 with a corresponding decline in the birth rate from 29.2 to 28.3. The number of births by occurrence was 38,667 and this figure includes the births of 2,132 Indians. This is the second consecutive year in which the total number and rate of births has declined from that of the previous year after a steady yearly increase since 1958. The average yearly increase in the number of births in the past ten years was 970.

Of the total births to residents, 19,778 were males and 19,026 females. Birth statistics of the Province show an excess of male over female births, the number of males to every 1,000 females born in the Province has varied between 1,027 and 1,103. In 1962 the sex ratio was 1,039 male to 1,000 female births. The number of illegitimate births has been steadily increasing for a considerable number of years, but the rate of increase has accelerated during the past decade. The rate of illegitimate births to the total births has practically doubled in the past thirty years. In 1932 the rate was 3.6 per 100 births as compared with 6.6 in 1962. The 1962 rate is the highest recorded in the history of the Province.

Prior to World War II, less than 70% of all infants were born in hospitals, but with improved roads, hospital facilities and the Provincial sponsored Hospitalization Plan, very few births now occur outside hospitals. During 1962, 98.7% of the births occurred in hospitals and 98.8% were attended by a doctor. Three sets of triplets and four hundred and thirteen sets of twins were registered during the year.

DIVISION OF VITAL STATISTICS

The number of births to residents of Cities in the Province were as follows: Calgary, 8,025; Camrose, 195; Drumheller, 125; Edmonton, 8,956; Grande Prairie, 388; Lethbridge, 926; Medicine Hat, 641; Red Deer, 688; Wetaskiwin, 149.

The following Table shows the most recent birth rates for Canada and certain other countries:—

Canada	25.3	Ireland (Republic)	21.8
Newfoundland	32.1	United States	22.4
Prince Edward Island	26.5	Australia	22.2
Nova Scotia	26.0	New Zealand	26.3
New Brunswick	27.1	Denmark	16.9
Quebec	25.2	Finland	18.1
Ontario	24.6	France	17.7
Manitoba	24.5	Italy	18.9
Saskatchewan	25.1	Austria	18.6
Alberta	28.3	Norway	17.3
British Columbia	23.0	Netherlands	20.8
Yukon	36.5	Portugal	24.7
N.W.T.	47.3	Spain	21.3
England and Wales	18.0	Sweden	14.2
Scotland	20.1	Switzerland	18.7
Northern Ireland	22.7	Western Germany	18.1

MARRIAGES

The marriage rate of 7.6 per 1,000 population for 1962 is the highest recorded for the Provinces of Canada, but is very modest when compared with the highest rate in the history of the Province of 12.12 in 1913. There were 10,423 marriages registered during the year, a decrease of 51 from 1961. This is the second consecutive year in which the number of marriages has declined from that of the previous year and the decline may partially be attributed to the low birth rate during World War II. The most popular month for celebrating marriage was June, and the most popular single year of age at the time of marriage was nineteen for brides and twenty-one for bridegrooms.

Of the 10,423 marriages, 427 were brides of sixteen years and under, 7,456 were between the ages of seventeen and twenty-four and 78 were sixty-five years of age and over. There were 12 bridegrooms sixteen years of age, 5,669 between the ages of seventeen and twenty-four and 126 who were sixty-five years of age and over. Of the brides, 88% were spinsters, 5% widows and 7% divorcees and of the grooms, 90% were bachelors, 3% widowers and 7% divorced. Of the bachelors, 93% married spinsters, 2% widows and 5% divorcees, and of the widowers, 26% married spinsters, 57% widows and 17% divorcees. Of the divorced men, 58% married spinsters, 14% widows, and 28% divorcees.

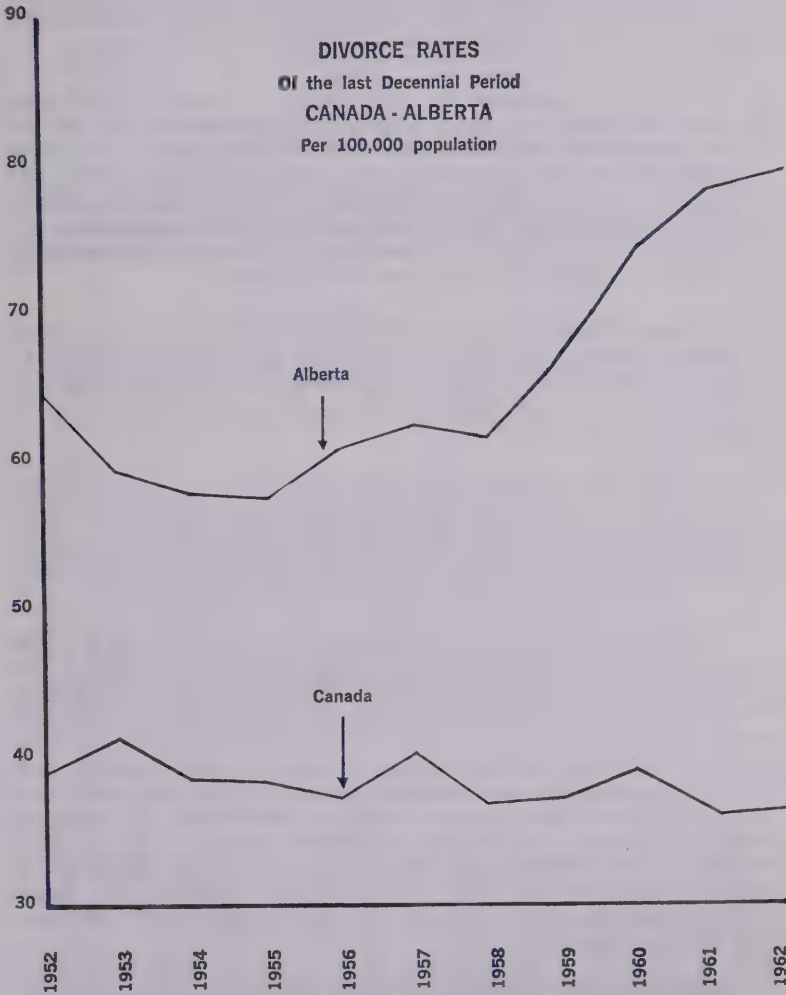
The number of marriages registered in the Cities of the Province were as follows: Calgary, 2,279; Camrose, 75; Drumheller, 57; Edmonton, 3,131; Grande Prairie, 109; Lethbridge, 350; Medicine Hat, 240; Red Deer, 247; Wetaskiwin, 79.

The following Table shows the most recent rates of marriages for Canada and certain other countries:—

Canada	7.0	Ireland (Republic)	5.5
Newfoundland	7.0	United States	8.5
Prince Edward Island	6.4	Australia	7.4
Nova Scotia	7.0	New Zealand	7.9
New Brunswick	7.2	Denmark	8.1
Quebec	6.9	Finland	7.5
Ontario	7.0	France	6.7
Manitoba	6.8	Italy	8.1
Saskatchewan	6.5	Austria	8.4
Alberta	7.6	Norway	6.5
British Columbia	6.7	Netherlands	7.9
Yukon	7.3	Portugal	7.9
N.W.T.	7.3	Spain	7.7
England and Wales	7.5	Sweden	7.1
Scotland	7.7	Switzerland	8.0
Northern Ireland	6.9	Western Germany	9.2

DIVORCES

Prior to 1940, the divorce rate was considered to be moderate, however, immediately after World War II, it skyrocketed to a rate of 119.8 per 100,000 population, thereafter it fluctuated in a downward trend till 1959 when an upward spiral commenced. The divorce rate in 1962 was 79.1% per 100,000 population. There were 1,101 divorces recorded of which 690 were granted to wives and 411 to husbands.



DEATHS

The deaths of 9,264 persons were registered during the year, of which 5,858 were males and 3,406 females. This is an increase of 402 deaths over the previous year with a corresponding increase in the death rate from 6.7 per 100,000 population for 1961 to 6.8. The sex ratio is 1,719 male to 1,000 female deaths. About 11% of all deaths in 1962 comprised infants under one year of age, almost 4% of persons between one and nineteen years of age, slightly over 20% between the ages of twenty and fifty-nine, over 42% between sixty and seventy-nine years and 23% of persons eighty years of age and over.

The five leading causes of death remained in the same position as in the year 1961. Heart disease held the number one position followed by cancer, vascular lesions of the central nervous system, accidents and violence combined and pneumonia (all forms).

Heart disease accounted for 2,818 deaths, an increase of 108 over the year 1961, and there was a corresponding increase in the rate per 100,000 population from 203 to 205. Approximately 30% of all deaths were assigned to this cause and for every female death there were two male deaths. Heart disease occurs generally in the period from mid-adult life to old age and with the lengthening of the life span, there will be a larger number of elder persons exposed to this disease, consequently the number of deaths from this cause will increase.

Although cancer deaths occur throughout the life cycle, the disease is essentially one of mid-adult life and old age. During 1962, 1,542 deaths were assigned to cancer, an increase of 182 over 1961. The rate per 100,000 population jumped back to 112, the same as for 1960 after a decline to 102 in 1961.

The third highest cause of death, vascular lesions affecting the central nervous system accounted for 957 deaths, a decline of 51 deaths from the previous year. The rate per 100,000 population was 69 as compared with 75 in 1961. Of the total deaths assigned to this cause 79% were of persons sixty-five years of age and over.

Violent and accidental deaths totalled 850, an increase of 9 deaths over 1961 and the rate per 100,000 population was 62. Deaths in this group included 142 children under fifteen years of age, 421 persons between sixteen and forty-nine and 287 fifty years of age and over. For every female death due to accidents or violence, there were three male deaths. Other deaths included in this group were, motor vehicle accidents—315; other transport accidents—21; accidental poisoning—46; accidental falls—108; accidents caused by machinery—28; accidents caused by fire and explosion of combustible material—40; accidents caused by hot substance, corrosive liquid, steam and radiation—4; accidents caused by fire-arms—17; accidental drowning—41; injury resulting from operation of war—1; all other accidents—97; suicide—116; and homicide—16.

Pneumonia (all forms) accounted for 388 deaths and the rate was 28 per 100,000 population. About 65% of these deaths were of elder persons, sixty-five years of age and over.

The number of deaths registered in the Cities of the Province were as follows: Calgary, 1,918; Camrose, 188; Drumheller, 46; Edmonton, 1,797; Grande Prairie, 54; Lethbridge, 275; Medicine Hat, 229; Red Deer, 133; Wetaskiwin, 76.

The following Table shows the most recent rates of death for Canada and certain other countries:—

Canada	7.7	Ireland (Republic)	11.9
Newfoundland	6.8	United States	9.5
Prince Edward Island	10.0	Australia	8.7
Nova Scotia	8.5	New Zealand	9.0
New Brunswick	7.9	Denmark	9.8
Quebec	6.9	Finland	9.5
Ontario	8.2	France	11.5
Manitoba	8.0	Italy	9.9
Saskatchewan	7.5	Austria	12.7
Alberta	6.8	Norway	9.3
British Columbia	9.0	Netherlands	7.9
Yukon	5.0	Portugal	10.9
N. W. T.	12.9	Spain	9.0
England and Wales	11.9	Sweden	10.1
Scotland	12.2	Switzerland	9.8
Northern Ireland	10.6	Western Germany	11.1

MATERNAL DEATHS

The number of maternal deaths registered for 1962 was almost double that of the previous year. Sixteen deaths were registered in 1962 as compared with 9 in 1961 and there was a corresponding increase in the rate from 2.3 to 4.1.

MATERNAL DEATH RATES PER 10,000 LIVE BIRTHS

Canada	4.1	Ontario	3.5
Newfoundland	3.3	Manitoba	3.1
Prince Edward Island .....	...	Saskatchewan	2.1
Nova Scotia	4.6	Alberta	4.1
New Brunswick	4.3	British Columbia	4.5
Quebec	5.1		

INFANT DEATHS

The infantile death rate, since the compilation of statistics of the Province, has fluctuated on a downward trend from a high of 134 deaths per 1,000 live births to a low of 24. During 1962, the deaths of 984 infants under the age of one year were recorded and the rate was 25 deaths per 1,000 live births, a drop of 2 from 1961. Of the total infant deaths, 635 or 64% occurred within 28 days of birth. Statistics show an excess of male over female infant deaths and in 1962, 565 male and 419 female deaths were recorded, giving a sex ratio of 1,348 male to 1,000 female infant deaths.

INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS

Canada	28	Ireland (Republic)	29
Newfoundland	40	United States	25
Prince Edward Island	31	Australia	20
Nova Scotia	32	New Zealand	20
New Brunswick	30	Denmark	22
Quebec	32	Finland	19
Ontario	23	France	26
Manitoba	26	Italy	41
Saskatchewan	26	Austria	33
Alberta	25	Norway	18
British Columbia	23	Netherlands	14
Yukon	49	Portugal	79
N. W. T.	120	Spain	42
England and Wales	21	Sweden	15
Scotland	27	Switzerland	21
Northern Ireland	27	Western Germany	29

STILLBIRTHS

On January 1st, 1962, the criteria of a stillbirth was amended by reducing the period of gestation from 24 to 20 weeks and the weight factor from 750 to 500 grams. The definition is as follows: "Stillbirth" means the complete expulsion or the extraction from the mother after at least twenty weeks' pregnancy, or after attaining a weight of five hundred grams or more, of a fetus in which, after the expulsion or extraction there is no breathing, beating of the heart, pulsation of the umbilical cord or unmistakable movement of voluntary muscle.

During the year, 422 stillbirths, 224 male and 198 female coming within the terms of the definition, were registered. For comparison purposes, 384 stillbirths of 28+ weeks gestation were registered as compared to 372 for 1961. The stillbirth rate for 28+ weeks gestation was 10.0 per 1,000 live births and for 20+ weeks gestation 10.8.

ADMINISTRATION

The Vital Statistics Act, The Solemnization of Marriage Act, and the Regulations providing for the licensing of embalmers are administered by the Director of the Division of Vital Statistics.

Under the provisions of The Vital Statistics Act the administrative procedure necessary for matters of civil registration is provided. There are approximately 167 District Registrars located in the larger centres of the province whose duties are to acquire the registration of each vital event (birth, stillbirth, marriage and death) which occurs within their districts for recording and transmission to this Division on a weekly basis. In addition, decrees of dissolution and annulments of marriages, adoptions, and legal changes of names are received for recording. All registrations are edited, etc., arranged and bound in a systematic manner and continuous indexes prepared. Certified copies; photocopies of original registrations; certified extracts; certificates and verifications are issued to applicants or agencies upon receipt of the prescribed fee. Verifications and photocopies of registrations are also supplied free of charge to other government departments and certain authorized agencies.

Listed below is a summary of work processed under the provisions of the Vital Statistics Act during 1962:—

Birth registrations processed	38,690
Stillbirth registrations processed	431
Marriage registrations processed	10,428
Death registrations processed	9,299
Certificates of birth issued	60,104
Certificates of marriage issued	18,264
Certificates of death issued	5,046
Searches	523
Legal Changes of Name Recorded	392
Legal Changes of Christian Names recorded	604
Legitimations	187
Delayed Registrations of Birth and Marriage	923
Adoptions Registered	1,504

Under The Solemnization of Marriage Act the Division provides administrative procedure for the appointment of Marriage License Issuers, Marriage Commissioners, and the registration of clergymen authorized to perform marriages in the province. Approximately 152 Marriage License Issuers are located in the larger centres of the province whose duties are to issue marriage licenses and certificates of publication of banns in accordance with the provisions of The Marriage Act.

The following summary shows work processed under the provisions of The Solemnization of Marriage Act during the year 1962:—

Marriage Licenses Issued	10,452
Certificate of Publication of Banns	82
Clergymen Registered	2,492
Marriage Commissioners Registered	14

Under the provisions of the Regulations provided for the licensing of Embalmers, the Division licenses embalmers and registers apprentice embalmers. During the year, 199 embalmers were licensed and 15 apprentice embalmers registered.

DIVISION OF VITAL STATISTICS

REVENUE AND EXPENDITURE

For the Fiscal Year ending March 31, 1962

REVENUE

MARRIAGE ACT

Marriage Licenses	\$ 58,840.00
Publication of Banns	234.00
	<u>\$ 59,074.00</u>

VITAL STATISTICS ACT

Birth Certificates Issued	\$ 60,297.00
Marriage Certificates Issued	18,355.00
Death Certificates Issued	5,155.00
Certified Copies Issued	1,108.00
Microfilm Transcriptions	5,060.10
Certificates of Authority to Register	1,876.00
Changes of Christian Names	616.00
Legitimations	374.00
Embalmers Licenses	980.00
Apprentice Embalmers Licenses	70.00
Sundries	4,434.46
	<u>\$ 98,325.56</u>

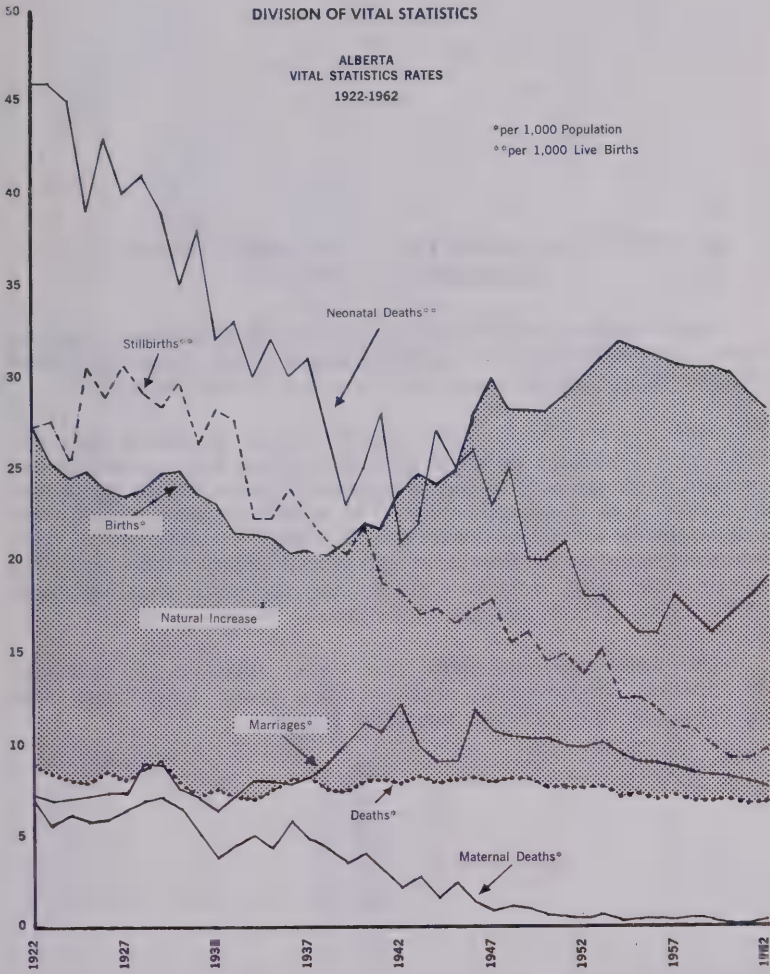
TOTAL REVENUE	<u>\$157,399.56</u>
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EXPENDITURE

Salaries	\$ 85,176.54
Office Expenditures:	
Printing and Stationery	\$13,362.38
Furnishings, Equipment and Tools	355.37
Freight, Express and Cartage	48.79
Fees and Commissions	100.00
Postage	5,507.90
Repairs, Office Furnishings and Equipment	48.64
Repairs, Office Equipment	428.06
Telephones and Telegraphs	83.71
Travelling Subsistence	360.85
Payments to Registrars	9,780.00

Total Expenditure	<u>\$115,352.24</u>
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SURPLUS REVENUE OVER EXPENDITURE	<u>\$ 42,047.32</u>
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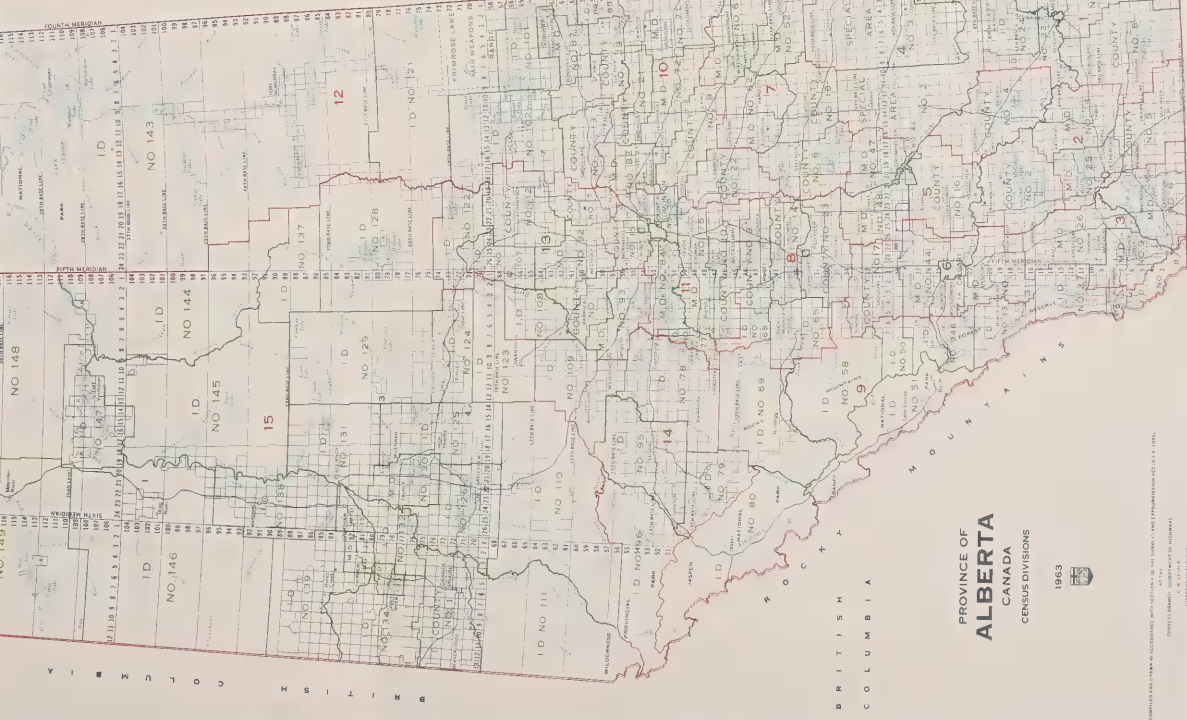
DIVISIONS OF ALBERTA FOR CENSUS AND VITAL STATISTICS PURPOSES

As the Province of Alberta is not completely divided into counties, and the political divisions are not permanently fixed, it has been found advisable to use smaller areas, the Dominion Census Divisions.

Prior to 1956 the Province was divided into 17 census divisions. However, in 1956 the census division boundaries were completely revised and there are now 15 census divisions. These divisions are further sub-divided into municipal areas. The municipal areas which were each originally within the boundaries of a single census division, have been reorganized by the Provincial authorities into larger units, and now, in many cases, part of the new municipality or improvement district is in one census division and part in another.

The following table shows the census divisions, divided into municipalities, improvement districts, cities, towns and villages with the 1961 and 1956 division population figures.

S A S K A T C H E W A N



PROVINCE OF
ALBERTA
 CANADA
 CENSUS DIVISIONS

1963



COMPILED FROM INFORMATION WITH SECTION 4 OF THE STATISTICS ACT AND INFORMATION ACT (S. 4, 1963).
 PRINTED IN CANADA BY THE QUEEN'S PRINTER
 1963

A B R I T I S H C O L U M B I A

B R I T I S H C O L U M B I A

C A N A D A

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
ALBERTA	1,331,944	1,123,116			
Division No. 1	39,140	34,496	Division No. 5	38,115	38,120
11. I.D.—D.A.	4,228	4,076	42. I.D.—D.A.	4,370	5,502
22. I.D.—D.A.	553	592	47. Starland	2,907	2,831
Forty Mile County No. 8	4,716	4,224	48. Kneehill	7,008	7,055
Army Experimental			Vulcan County No. 2	5,018	5,087
Range, I.D.—D.A.—24	786	863	Wheatland County No. 16	5,570	5,582
Cities:			Indian Reserves	1,612	1,507
Medicine Hat	24,484	20,826	Cities:		
Towns:			Drumheller	2,931	2,632
Bow Island	1,122	1,001	Towns:		
Irvine	240	232	Gleichen	426	581
Redcliff	2,221	2,001	Strathmore	924	727
Villages:			Three Hills	1,491	1,095
Burdett	229	225	Vulcan	1,310	1,204
Foremost	561	456	Villages:		
Division No. 2	83,306	74,991	Acme	328	292
14. Taber	7,349	6,730	Arrowwood	195	240
25. Lethbridge	11,184	11,624	Carbon	371	354
Newell County No. 4 ..	6,038	5,943	Carmangay	297	299
Warner County No. 5 ..	4,991	5,157	Champion	419	402
Cities:			Cluny	174	197
Lethbridge	35,454	29,462	Craigmyle	107	138
Towns:			Delia	287	282
Bassano	815	753	Hussar	213	168
Brooks	2,827	2,320	Lomond	244	189
Coaldale	2,592	2,327	Milo	167	167
Milk River	801	642	Morrin	316	267
Picture Butte	978	881	Munson	82	82
Raymond	2,362	2,399	Rockyford	288	226
Taber	3,951	3,688	Rumsey	123	104
Vauxhall	942	713	Standard	266	230
Villages:			Trochu	671	680
Barons	345	352	Division No. 6	317,989	237,886
Coutts	469	.....	31. Foothills	7,896	7,902
Duchess	218	177	44. Rocky View	10,748	12,788
Grassy Lake	274	282	46. I.D.—D.A. ....	.....	4,650
Nobleford	309	263	Mountain View County		
Rosemary	210	158	No. 17	9,348	9,273
Stirling	468	430	Indian Reserves	511	478
Tilley	257	240	Cities:		
Warner	472	450	Calgary	249,641	181,780
Division No. 3	30,967	30,426	Towns:		
6. Cardston	4,905	5,398	Black Diamond	1,043	991
9. Pincher Creek	3,240	3,109	Bowness	9,184	6,217
26. Willow Creek	4,863	6,344	Didsbury	1,254	1,227
Indian Reserves	3,889	3,524	Forest Lawn	12,263	3,150
Towns:			High River	2,276	2,102
Cardston	2,801	2,607	Montgomery	5,077	.....
Claresholm	2,143	2,431	Okotoks	1,043	764
Fort Macleod	2,490	2,103	Olds	2,433	1,980
Granum	290	322	Sundre	853	923
Magrath	1,338	1,382	Villages:		
Nanton	1,054	1,047	Aldrie	524	327
Pincher Creek	2,961	1,729	Belseker	360	321
Stavely	349	338	Blackie	184	198
Villages:			Carstairs	665	449
Cowley	127	92	Cayley	146	146
Glenwood	274	.....	Cochrane	857	707
Hill Spring	243	.....	Cremona	221	192
Division No. 4	15,020	14,294	Crossfield	593	459
34. Acadia	965	914	Irricana	167	158
Special Area No. 2	3,805	3,687	Turner Valley	702	704
Special Area No. 3	4,994	5,036	Division No. 7	40,837	40,214
Towns:			52. Provost	3,328	3,621
Hanna	2,645	2,327	53. Paintearth	3,278	3,515
Villages:			61. Wainwright	4,847	4,481
Cereal	195	154	62. Flagstaff	6,355	6,806
Chinook	114	154	Stettler County No. 6 ..	5,968	6,061
Consort	557	434	Buffalo National Park ..	.....	604
Empress	405	480	Towns:		
Oyen	780	562	Castor	1,025	958
Veteran	239	241	Coronation	864	784
Youngstown	321	305	Daysland	539	499
			Hardisty	582	628
			Provost	1,022	878
			Stettler	3,638	3,359
			Wainwright	3,351	2,653

DIVISION OF VITAL STATISTICS

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961 (Continued)

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
Div. No. 7—Continued:			Div. No. 10—Continued:		
Villages:			Beaver County No. 9	6,476	6,883
Alliance	291	313	Elk Island N't'l. Park	69	56
Amisk	127	151	Cities:		
Big Valley	461	354	Camrose	6,939	5,817
Botha	112	102	Lloydminster (pt.)	2,944	2,506
Chauvin	395	353	Towns:		
Czar	196	153	Mundare	603	650
Donaldia	289	256	Tofield	905	800
Edgerton	295	292	Two Hills	826	713
Forestburg	677	552	Vegreville	2,908	2,574
Gadsby	98	145	Vermilion	2,449	2,196
Galahad	231	215	Viking	1,043	897
Halkirk	172	209	Villages:		
Heisler	214	.....	Andrew	601	602
Hughenden	294	212	Bashaw	614	597
Irma	425	421	Bawlf	203	287
Killam	552	524	Bittern Lake	76	45
Lougheed	217	201	Bruderheim	299	280
Rochon Sands	28	.....	Chipman	174	192
Sedgewick	655	608	Derwent	281	289
Strome	311	306	Dewberry	179	.....
			Edberg	179	167
Division No. 8	76,533	64,168	Ferintosh	174	195
55. Red Deer	13,477	12,830	Hairy Hill	173	183
65. I.D.—D.A.	5,532	5,199	Hay Lakes	233	193
68. I.D.—D.A.	124	81	Holden	556	544
Ponoka County No. 3	8,688	8,611	Innisfree	291	318
Lacombe County No. 14	8,725	8,351	Kitscoty	326	283
Indian Reserves	1,246	1,230	Lamont	705	632
Cities:			Lavoy	131	127
Red Deer	19,612	12,338	Mannville	632	599
Towns:			Marwayne	379	337
Innisfail	2,270	1,883	Minburn	164	150
Lacombe	3,029	2,747	Myrnam	441	440
Ponoka	3,938	3,387	New Norway	263	273
Rimbey	1,266	980	Ryley	469	495
Rocky Mtn. House	2,360	1,285	Willingdon	429	431
Sylvan Lake	1,381	1,114			
Villages:			Division No. 11	410,679	323,539
Alix	631	517	75. Leduc	10,647	11,497
Bentley	588	536	77. I.D.—D.A.	2,384	3,259
Blackfalds	477	340	83. Strathcona	12,075	8,873
Bowden	437	296	84. Stony Plain	9,238	8,491
Caroline	321	296	Wetaskiwin County		
Clive	251	249	No. 10	8,701	9,466
Delburne	450	429	Sturgeon County No. 15	17,837	13,865
Eckville	580	456	Indian Reserves	2,072	1,786
Elnora	214	177	Cities:		
Gull Lake	40	32	Edmonton	281,027	226,002
Mirror	577	591	Wetaskiwin	5,300	4,476
Penhold	319	213	Towns:		
			Beverly	9,041	4,602
Division No. 9	20,274	17,239	Calmar	700	730
8. I.D.—D.A.	80	110	Devon	1,418	1,429
10. I.D.—D.A.	1,844	3,269	Drayton Valley	3,854	2,588
27. I.D.—D.A.	133	100	Fort Saskatchewan	2,972	2,582
33. I.D.—D.A.	34	47	Jasper Place	30,530	15,957
50. I.D.—D.A.	41	75	Leduc	2,356	2,008
58. I.D.—D.A.	534	429	Lodgepole	508	.....
69. I.D.—D.A.	505	152	Morinville	935	957
946. I.D.—D.A.	3,076	2,456	St. Albert	4,059	1,320
Banff National Park	4,101	3,069	Stony Plain	1,311	1,098
Banff (not incorp.)	3,429	2,518	Villages:		
Jasper National Park	2,502	2,322	Betula Beach	7	.....
Jasper (not incorp.)	2,360	2,105	Breton	428	.....
Waterton Lakes			Crystal Springs	13	.....
National Park	344	277	Edmonton Beach	20	.....
Indian Reserves	1,441	1,173	Entwistle	411	354
Towns:			Gibbons	192	.....
Blairmore	1,980	1,973	Itaska Beach	2	2
Coleman	1,713	1,566	Kapasiwin	2	.....
Villages:			Lakeview	12	41
Bellevue	1,323	.....	Legal	524	457
Frank	223	221	Ma-Me-O Beach	142	137
Ghost Lake	.....	.....	Millett	403	427
			New Sarepta	184	.....
Division No. 10	70,177	71,500	Point Allison	6	.....
63. Camrose	9,041	9,626	Seba Beach	113	141
71. Vermilion River	8,862	9,557	Silver Beach	14	17
72. Minburn	6,181	6,742	Spruce Grove	465	309
81. Eagle	6,205	7,114	Thorsby	491	411
82. Lamont	6,754	7,700	Warburg	285	257

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961 (Continued)

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
Division No. 12	47,310	44,947	Div. No. 14—Continued:		
85. I.D.—D.A.	338	348	Towns:		
86. St. Paul	7,421	7,979	Edson	3,198	2,560
87. Bonnyville	10,209	10,058	Hinton	3,529	.....
101. I.D.—D.A.	1,951	2,039	Villages		
102. I.D.—D.A.	4,840	5,066	Evansburg	452	358
121. I.D.—D.A.	323	197	Whitecourt	1,054	.....
143. I.D.—D.A.	1,650	879	Wildwood	479	547
Smoky Lake County					
No. 13	4,913	5,517			
Wood Buffalo			Division No. 15	76,884	70,417
National Park	86	143	110. I.D.—D.A.	552	346
Indian Reserves	3,229	3,530	111. I.D.—D.A.	353	241
Towns:			123. I.D.—D.A.	279	2
Bonnyville	1,736	1,495	124. I.D.—D.A.	3,108	3,216
Cold Lake	1,907	1,097	125. I.D.—D.A.	3,212	3,155
Grand Centre	1,493	.....	126. I.D.—D.A.	2,579	2,427
Lac La Biche	1,314	967	128. I.D.—D.A.	769	947
McMurray	1,186	1,110	129. I.D.—D.A.	577	877
St. Paul	2,823	2,229	130. Smoky River	4,094	3,955
Villages:			131. I.D.—D.A.	2,403	2,413
Bonnyville Beach .....	.....	.....	132. I.D.—D.A.	2,646	3,133
Elk Point	692	594	133. Spirit River	1,318	1,413
Glendon	315	314	134. I.D.—D.A.	2,505	2,633
Smoky Lake	626	563	135. Peace	2,053	1,732
Vilna	400	374	136. Fairview	1,917	1,885
Warspite	153	159	137. I.D.—D.A.	174	127
Waskatenau	305	289	138. I.D.—D.A.	3,194	3,489
Division No. 13	45,431	45,033	139. I.D.—D.A.	2,772	2,635
92. Westlock	7,864	8,731	144. I.D.—D.A.	212	26
93. Lac Ste. Anne	7,151	6,892	145. I.D.—D.A.	144	136
107. I.D.—D.A.	1,571	1,502	146. I.D.—D.A.	662	634
108. I.D.—D.A.	636	781	147. I.D.—D.A.	3,189	2,500
122. I.D.—D.A.	613	557	148. I.D.—D.A.	86	.....
Thorhild County No. 7	5,096	5,596	149. I.D.—D.A.	339	122
Barrhead County No. 11	5,759	5,944	Grande Prairie		
Athabasca County			County No. 1	8,803	8,899
No. 12	6,792	7,367	Indian Reserves	3,022	3,032
Indian Reserves	432	332	Cities:		
Towns:			Grande Prairie	8,352	6,302
Athabasca	1,487	1,293	Towns:		
Barrhead	2,286	1,610	Beaverlodge	897	768
Mayerthorpe	663	563	Fairview	1,506	1,260
Redwater	1,135	1,065	Fahler	741	802
Westlock	1,838	1,136	Grimshaw	1,095	904
Villages:			High Prairie	1,756	1,743
Alberta Beach	135	127	Manning	896	726
Boyle	346	304	McLennan	1,078	1,092
Castle Island	259	.....	Peace River	2,543	2,034
Clyde	259	221	Spirit River	890	743
Fort Assiniboine	216	.....	Swan Hills	643	.....
Island Lake	12	.....	Valleyview	1,077	973
Onoway	302	190	Villages:		
Roway	183	203	Berwyn	347	342
Sandy Beach	4	.....	Donnelly	289	265
Sangudo	325	331	Girouxville	318	300
Sunset Point	14	.....	Hines Creek	398	360
Thorhild	312	288	Hythe	449	481
Division No. 14	19,282	15,846	Kinuso	323	306
78. I.D.—D.A.	3,484	3,444	Nampa	271	.....
79. I.D.—D.A.	667	2,234	Rycroft	500	424
95. I.D.—D.A.	3,638	4,696	Sexsmith	531	345
96. I.D.—D.A.	430	314	Slave Lake	468	.....
109. I.D.—D.A.	2,351	1,693	Wanham	251	.....
			Wembley	303	272

TABLE 1—GENERAL SUMMARY OF VITAL STATISTICS FOR CENSUS DIVISIONS, ALBERTA, 1962

CENSUS DIVISIONS	Live Births			Live births in hospitals		Stillbirths (28 + weeks)		Marriages	Stillbirths (20-27 weeks)		Excess births over deaths	Total Deaths	Hospital deaths	Infant deaths		Neo-natal deaths		Maternal Deaths
	Total	Male	Female	M	F	M	F		M	F				M	F	M	F	
								M			F							
ALBERTA	38804	19778	19026	19533	18777	1333	1239	204	184	10423	14	9264	6569	565	419	362	273	16
Division No. 1	986	512	474	504	469	22	22	1	3	284	1	693	293	10	8	5	7	1
Division No. 2	2129	1106	1023	1083	988	39	36	13	12	573	1	1390	539	26	25	14	15	2
Division No. 3	889	467	422	457	410	66	45	3	5	291	.....	646	243	188	15	10	4	.....
Division No. 4	340	180	160	171	155	6	1	2	2	75	.....	218	122	95	3	4	2	.....
Division No. 5	887	445	442	438	440	31	18	7	6	138	.....	607	280	201	15	7	8	.....
Division No. 6	9368	4722	4646	4707	4627	314	299	43	38	2608	7	7086	2282	1537	127	92	61	3
Division No. 7	1003	475	528	470	527	21	14	9	5	236	.....	657	346	262	16	13	11	8
Division No. 8	2272	1180	1092	1170	1088	81	85	16	11	634	.....	1738	534	389	33	21	16	1
Division No. 9	1587	739	788	796	786	26	25	8	5	148	.....	318	149	105	5	10	3	.....
Division No. 10	1587	739	788	796	786	19	16	6	5	530	.....	915	672	428	23	10	8	.....
Division No. 11	12637	6463	6174	6450	6163	429	420	59	57	3664	2	710146	2491	1831	148	111	99	1
Division No. 12	1660	864	796	829	768	84	77	13	11	281	1	13008	352	250	57	36	28	5
Division No. 13	618	328	290	322	282	25	15	4	4	270	.....	835	327	221	14	11	8	.....
Division No. 14	2799	1412	1387	1325	1295	139	122	17	15	541	.....	488	130	85	10	12	7	.....
Division No. 15 .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2296	504	357	54	24	27	.....

DIVISION OF VITAL STATISTICS

TABLE 2—GENERAL SUMMARY OF VITAL STATISTICS FOR INCORPORATED URBAN PLACES OF 1,000 POPULATION AND OVER ALBERTA, 1952
(Continued)

CITY, TOWN OR VILLAGE	Live Births			Live births in hospitals		Illegitimate births		Stillbirths (28+ weeks)		Marriages		Stillbirths (20-27 weeks)		Excess births over deaths		Total deaths		Hospital deaths		Infant deaths		Neo-natal deaths		Maternal deaths	
	Total	Male	Female	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Lethbridge	926	491	435	491	435	21	19	2	4	350	1	2	651	275	213	10	8	10	3	213	10	8	4	1	1
Lloydminster	118	60	58	60	58	1	1	1	1	7	1	1	93	25	18	1	1	1	1	25	18	1	1	1	1
Magrath	28	16	12	16	11	2	3	1	1	5	1	1	15	13	10	1	1	1	1	13	10	1	1	1	1
McLennan	35	18	17	18	17	3	5	1	1	9	1	1	23	23	8	1	1	1	1	23	8	1	1	1	1
McMurray	29	10	19	10	19	3	5	1	1	5	1	1	19	10	7	1	1	1	1	10	7	1	1	1	1
Medicine Hat	614	321	293	321	293	17	20	1	2	240	1	1	412	229	181	2	4	2	4	229	181	2	4	1	1
Montgomery	148	93	55	93	54	6	5	1	1	28	1	1	127	21	14	1	1	1	1	21	14	1	1	1	1
Nanton	24	17	7	17	7	3	3	1	1	8	1	1	14	10	6	1	1	1	1	14	6	1	1	1	1
Okotoks	28	15	13	15	13	1	1	1	1	17	1	1	19	9	6	1	1	1	1	9	6	1	1	1	1
Olds	89	35	54	35	54	4	8	1	1	17	1	1	19	9	6	1	1	1	1	17	9	6	1	1	1
Peace River	173	86	87	86	86	4	4	1	1	56	1	1	65	24	17	1	1	1	1	24	17	1	1	1	1
Pincher Creek	129	68	61	68	61	3	5	1	1	59	1	1	149	24	22	1	1	1	1	24	22	1	1	1	1
Ponoka	144	72	72	72	72	3	5	1	1	27	1	1	92	37	31	1	1	1	1	37	31	1	1	1	1
Provost	38	17	21	17	21	1	1	1	1	53	1	1	103	41	28	1	1	1	1	41	28	1	1	1	1
Raymond	40	21	19	21	19	1	1	1	1	14	1	1	27	11	6	1	1	1	1	11	6	1	1	1	1
Redcliff	57	36	21	36	21	3	3	1	1	14	1	1	17	23	20	1	1	1	1	23	20	1	1	1	1
Red Deer	40	21	19	21	19	1	1	1	1	14	1	1	17	17	17	1	1	1	1	17	17	1	1	1	1
Rocky Mountain House	688	344	344	344	343	20	15	5	6	247	5	6	555	133	103	8	7	8	10	133	103	8	7	6	6
Rimbeey	40	23	17	23	17	1	1	1	1	36	1	1	36	4	3	1	1	1	1	4	3	1	1	1	1
Ruby	54	25	29	25	29	3	3	1	1	27	1	1	43	9	7	1	1	1	1	9	7	1	1	1	1
Rocky Mountain House	119	54	65	53	65	4	9	1	1	27	1	1	47	23	19	1	1	1	1	23	19	1	1	1	1
St. Albert	187	89	98	88	98	5	2	1	1	26	1	1	117	70	15	2	3	2	2	70	15	2	3	2	2
St. Paul	116	60	56	60	56	3	2	1	1	37	1	1	89	27	21	1	1	1	1	27	21	1	1	1	1
Stettler	124	62	62	62	62	4	4	1	1	50	1	1	83	41	35	1	1	1	1	41	35	1	1	1	1
Stony Plain	56	30	26	30	26	3	3	1	1	31	1	1	28	28	19	1	1	1	1	28	19	1	1	1	1
Sylvan Lake	52	33	19	33	19	3	3	1	1	31	1	1	36	16	13	1	1	1	1	16	13	1	1	1	1
Taber	92	52	40	52	40	3	3	1	1	49	1	1	59	33	24	3	2	2	3	33	24	3	2	2	2
Three Hills	47	24	23	24	23	2	2	1	1	17	1	1	35	12	8	1	1	1	1	12	8	1	1	1	1
Valleyview	57	26	31	26	31	2	1	1	1	17	1	1	48	9	6	1	1	1	1	9	6	1	1	1	1
Vegreville	76	38	38	38	38	2	2	1	1	71	1	1	47	29	25	1	1	1	1	29	25	1	1	1	1
Vermilion	70	29	41	29	41	1	3	1	1	40	1	1	37	33	25	1	1	1	1	33	25	1	1	1	1
Viking	24	10	14	10	14	1	1	1	1	9	1	1	7	17	17	1	1	1	1	17	17	1	1	1	1
Wainwright	36	22	14	22	14	1	1	1	1	14	1	1	24	12	11	1	1	1	1	12	11	1	1	1	1
Wetlock	108	56	52	56	52	4	4	2	2	33	2	2	59	49	40	3	3	3	3	49	40	3	3	2	2
Wetaskiwin	72	31	41	31	41	1	2	1	1	48	1	1	48	24	18	1	1	1	1	24	18	1	1	1	1
Whitecourt	82	46	36	46	36	1	1	1	1	79	1	1	73	76	60	5	4	4	5	76	60	5	4	2	2

TABLE 3—DEATHS BY PLACE OF OCCURRENCE AND PLACE OF RESIDENCE, 1962

PLACE OF OCCURRENCE	Total (Occurrence)	PLACE OF RESIDENCE													
		Nfld.	P.E.I.	N.S.	N.B.	Quebec	Ontario	Manitoba	Sask.	Alberta	B.C.	Yukon	N.W.T.	U.S.A.	Other
Total Residence	144454	3198	1056	6342	4788	37142	52156	7453	7004	9264	14912	75	309	665	90
Newfoundland	3189	3167	.....	4	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	211
Prince Edward Island	1039	.....	1026	5	4	1	1	.....	.....	.....	1	.....	.....	.....	1
Nova Scotia	6363	6	9	6269	32	4	12	1	1	1	.....	.....	.....	.....	20
New Brunswick	4812	3	4	10	4658	46	11	.....	.....	.....	3	.....	.....	.....	72
Quebec	36979	11	4	8	35	36656	138	1	1	5	4	.....	.....	3	93
Ontario	52421	8	6	28	17	307	51604	32	19	16	17	.....	.....	4	333
Manitoba	7533	.....	.....	.....	.....	1	57	7337	65	7	16	1	14	33	2
Saskatchewan	6946	.....	.....	.....	1	4	9	25	6825	54	15	1	.....	10	2
Alberta	9266	.....	.....	.....	.....	3	13	10	54	9076	60	1	17	26	6
British Columbia	14903	.....	1	2	1	3	17	11	23	62	14704	2	2	63	7
Yukon	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	70	.....	.....	1
Northwest Territories	279	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	269	.....	.....
United States	639	3	6	15	40	112	294	36	15	35	83	.....	.....	.....	.....

TABLE 4—DEATHS AND HOSPITAL DEATHS BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1962

CENSUS DIVISIONS	TOTAL DEATHS				DEATHS IN HOSPITAL			
	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere
ALBERTA	9266	9264	190	188	6594	6569	134	109
Division No. 1	291	293	19	21	220	225	11	16
Division No. 2	533	539	55	61	397	395	47	45
Division No. 3	217	243	27	53	159	188	17	46
Division No. 4	98	122	7	31	74	95	7	28
Division No. 5	202	280	17	95	129	201	8	80
Division No. 6	2358	2282	219	143	1626	1537	184	95
Division No. 7	293	346	24	77	217	262	21	66
Division No. 8	582	534	133	85	420	389	108	77
Division No. 9	140	149	28	37	90	105	14	29
Division No. 10	585	672	59	146	338	428	39	129
Division No. 11	2892	2491	547	146	2254	1831	498	75
Division No. 12	278	352	12	86	180	250	6	76
Division No. 13	259	327	20	88	161	221	17	77
Division No. 14	102	130	20	48	45	85	2	42
Division No. 15	436	504	19	87	284	357	8	81

TABLE 5—DEATHS AND HOSPITAL DEATHS BY OCCURRENCE AND RESIDENCE IN URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1962

CITY, TOWN OR VILLAGE	TOTAL DEATHS				DEATHS IN HOSPITAL			
	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere
Athabasca	52	39	21	8	37	25	20	8
Barrhead	50	31	22	3	44	25	22	3
Bellevue	3	16	1	14	1	13	1	13
Black Diamond	4	4	4	4	4	3	3	3
Blairmore	7	33	26	26	22	22	22	22
Bonnyville	26	14	14	2	24	14	12	2
Bow Island	20	17	6	3	17	14	6	3
Bowness	13	43	3	33	28	28	28	28
Brooks	47	30	22	5	41	23	21	3
Calgary	2083	1918	318	153	1477	1292	280	95
Camrose	235	188	55	8	109	59	54	4
Cardston	36	28	15	7	31	24	14	7
Castor	17	12	7	2	14	8	7	1
Claresholm	39	22	23	6	35	16	23	4
Coaldale	13	13	2	2	12	12	2	2
Cold Lake	17	9	11	3	17	8	11	2
Coleman	2	24	22	22	22	22	22	22
Devon	3	5	2	2	1	3	2	2
Didsbury	25	12	15	2	21	7	15	1
Drayton Valley	19	10	11	2	17	8	10	1
Drumheller	84	46	48	10	80	43	46	9
Edmonton	2438	1797	810	169	2067	1381	769	93
Edson	34	42	7	15	30	32	5	7
Fairview	32	23	13	4	31	21	13	3
Fort Macleod	33	27	12	6	25	22	9	6
Fort Saskatchewan	3	20	1	18	16	16	16	16
Grand Centre	4	4	4	4	3	3	3	3
Grande Prairie	80	54	37	11	67	40	35	8
Grimshaw	1	7	6	6	6	6	6	6
Hanna	43	30	17	4	37	25	16	4
High Prairie	39	26	21	3	34	19	21	6
High River	67	30	42	5	57	22	40	5
Hinton	20	18	5	3	15	11	5	1
Innisfail	47	33	21	7	42	27	21	6
Jasper Place	54	130	8	84	75	75	75	75
Lac La Biche	30	24	14	8	30	20	14	4
Lacombe	58	36	29	7	46	24	27	5
Leduc	12	23	1	12	11	11	11	11
Lethbridge	318	275	82	39	264	213	80	29
Lloydminster	4	25	1	22	18	18	18	18
Magrath	11	13	1	3	9	10	1	2
McLennan	20	12	14	6	18	8	14	4
McMurray	15	10	6	1	12	7	6	1
Medicine Hat	248	229	38	19	203	181	34	12
Montgomery	6	21	1	16	14	14	14	14
Nanton	2	10	8	8	8	8	8	8
Okotoks	2	9	7	7	6	6	6	6
Olds	54	24	34	4	50	17	34	1
Peace River	35	24	17	6	33	22	17	6
Pincher Creek	56	37	27	8	52	31	25	4
Ponoka	141	41	107	7	129	28	105	4
Provost	30	11	19	3	25	6	19	4
Raymond	33	23	13	3	30	20	13	3
Redcliff	2	8	6	6	5	5	5	5
Red Deer	148	133	46	31	124	103	41	20
Redwater	2	4	2	2	1	3	2	2
Rimbey	22	9	17	4	20	7	16	3
Rocky Mountain House	30	23	15	8	26	19	14	7
St. Albert	54	70	1	17	1	15	1	15
St. Paul	37	27	17	7	35	21	17	3
Stettler	69	41	39	11	64	35	39	10
Stony Plain	10	28	2	20	19	19	19	19
Sylvan Lake	5	16	2	13	13	13	13	13
Taber	41	33	14	6	33	24	14	5
Three Hills	20	12	10	2	14	8	8	2
Valleyview	2	9	7	7	6	6	6	6
Vegreville	44	29	18	3	39	25	17	3
Vermilion	26	33	6	13	20	25	4	9
Viking	25	17	11	3	24	17	10	3
Vulcan	22	12	13	3	20	11	11	2
Wainwright	54	49	15	10	46	40	15	9
Westlock	62	24	43	5	57	18	41	2
Wetaskiwin	82	76	24	18	69	60	23	14
Whitecourt	4	5	1	2	2	2	2	2

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS (INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1962

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Division No. 1	Division No. 2	Division No. 3	Division No. 4	Division No. 5	Division No. 6	Division No. 7	Division No. 8	Division No. 9	Division No. 10	Division No. 11	Division No. 12	Division No. 13	Division No. 14	Division No. 15
ALL CAUSES	Total	9264	293	539	243	122	280	2282	346	534	149	672	2491	352	327	130	504
	Male	5858	188	340	137	89	193	1349	234	341	105	436	1571	233	227	92	323
	Female	3406	105	199	106	33	87	933	112	193	44	236	920	119	100	38	181
I. INFECTIVE AND PARASITIC DISEASES	Total	80	5	3	2	2	2	16	3	6	6	22	7	3	3	11	
	Male	47	2	2	1	2	12	4	2	2	2	15	3	2	4	7	
	Female	33	3	1	1	1	4	1	1	4	4	7	4	1	1	4	
A 1 Tuberculosis of respiratory system	Male	12	1	1	1	1	6	1	1	1	1	2	2	1	1	1	
	Female	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A Active	Male	11	1	1	1	1	6	1	1	1	1	1	1	1	1	1	
	Female	12	1	1	1	1	1	1	1	1	2	4	2	1	1	1	
B Inactive	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 2 Tuberculosis of meninges and central nervous system	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 5 Tuberculosis, all other forms	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 6 Congenital syphilis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 9 General paralysis of insane	Male	6	1	1	1	1	1	1	1	1	1	1	2	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 10 All other syphilis	Male	4	1	1	1	1	1	1	1	1	1	1	3	1	1	1	
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 15 Brucellosis (undulant fever)	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 16 Dysentery; all forms	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 19 Erysipelas	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 20 Septicaemia and pyaemia	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 22 Whooping cough	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 23 Meningococcal infections	Male	4	1	1	1	1	1	1	1	1	1	1	3	1	1	1	
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 29 Acute infectious encephalitis	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 32 Measles	Male	4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
A 34 Infectious hepatitis	Male	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 43 All other diseases classified as infective and parasitic	Male	6	1	1	1	1	1	1	2	1	1	1	1	1	1	1	
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
II. NEOPLASMS	Total	1584	51	88	41	15	42	421	53	89	27	102	461	49	49	27	69
	Male	949	31	53	20	12	25	228	38	51	19	64	272	36	35	18	47
	Female	635	20	35	21	3	17	193	15	38	8	38	189	13	14	9	22
A 44 Malignant neoplasm of buccal cavity and pharynx	Male	12	1	1	1	1	1	3	1	1	1	1	3	1	1	1	
	Female	9	1	1	1	1	1	3	1	1	1	1	3	1	1	1	
A 45 Malignant neoplasm of oesophagus	Male	17	1	2	1	1	1	4	3	2	1	3	3	1	1	1	
	Female	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 46 Malignant neoplasm of stomach	Male	118	4	7	1	1	2	26	6	7	1	13	29	7	7	2	5
	Female	34	3	2	1	1	2	11	1	2	1	3	8	3	2	1	1
A 47 Malignant neoplasm of intestine, except rectum	Male	76	3	3	2	5	23	4	3	1	4	15	2	4	2	5	
	Female	68	3	3	3	2	23	1	4	1	6	16	3	2	1	5	
A 48 Malignant neoplasm of rectum	Male	47	1	1	2	2	7	2	4	3	6	16	1	1	2	2	
	Female	15	2	1	1	1	3	1	1	1	2	6	1	1	1	1	
A 49 Malignant neoplasm of larynx	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
A 50 Malignant neoplasm of trachea and of bronchus and lung not specified as secondary	Male	165	5	13	3	3	4	39	3	9	5	10	50	6	5	5	5
	Female	30	1	1	2	2	5	2	1	1	3	10	1	1	1	2	
A 51 Malignant neoplasm of breast	Male	114	2	5	4	1	4	40	4	6	1	5	37	2	1	2	
	Female	114	2	5	4	1	4	40	4	6	1	5	37	2	1	2	
A 52 Malignant neoplasm of cervix uteri	Female	42	5	2	1	1	3	10	1	4	1	3	7	1	1	2	2
A 53 Malignant neoplasm of other and unspecified parts of uterus	Female	14	1	1	1	1	5	5	2	1	1	3	1	1	1	1	
A 54 Malignant neoplasm of prostate	Male	119	3	3	6	2	29	8	4	2	5	38	5	5	9	9	
A 55 Malignant neoplasm of skin	Male	9	1	1	1	1	3	1	1	1	1	1	1	1	1	1	
	Female	5	1	1	1	1	2	1	1	1	1	1	1	1	1	1	
A 56 Malignant neoplasm of bone and connective tissue	Male	6	2	2	1	1	4	1	1	1	1	2	4	1	1	1	
	Female	9	1	1	1	1	1	1	1	1	1	2	4	1	1	1	
A 57 Malignant neoplasm of all other and unspecified sites	Male	232	5	15	7	4	6	55	8	8	1	19	66	7	9	6	16
	Female	202	8	16	7	4	4	54	4	13	3	10	62	3	6	2	10

DIVISION OF VITAL STATISTICS

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Division No. 1	Division No. 2	Division No. 3	Division No. 4	Division No. 5	Division No. 6	Division No. 7	Division No. 8	Division No. 9	Division No. 10	Division No. 11	Division No. 12	Division No. 13	Division No. 14	Division No. 15
A Other digestive organs (155-159)	Male	99	1	4	3	2	3	26	3	2	1	7	30	2	3	3	9
	Female	84	3	7	6	1	1	24	1	5	2	3	26	1	1	1	4
B Other respiratory organs (160, 164, 165)	Male	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C Urinary organs (180, 181)	Male	23	1	5	2	1	1	13	1	2	1	4	12	4	4	1	3
	Female	20	1	1	1	1	1	6	1	1	1	1	7	1	1	1	1
D Brain and other parts of nervous system (193)	Male	21	2	2	1	1	1	8	1	2	1	1	2	2	1	1	1
	Female	21	2	2	1	1	1	8	1	2	1	1	2	2	1	1	1
E Other	Male	52	2	4	1	1	11	4	2	1	6	14	1	1	1	3	3
	Female	75	2	6	1	3	16	2	6	5	5	26	1	1	2	2	2
A 58 Leukaemia and leukaemia	Male	67	3	1	1	1	16	4	5	1	2	6	4	4	2	2	2
	Female	36	1	2	1	1	16	1	1	2	2	10	1	1	1	1	1
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	56	4	3	1	1	1	13	2	5	1	2	17	2	2	1	1
	Female	34	3	1	1	1	1	5	1	1	1	1	11	2	1	1	1
A Hodgkin's disease (201)	Male	12	1	1	1	1	1	1	1	1	1	1	4	1	1	1	1
	Female	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B Other	Male	44	4	2	1	1	11	2	5	1	2	13	2	2	1	1	1
	Female	26	3	1	1	1	10	1	1	2	1	6	2	1	1	1	1
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	23	1	1	1	1	3	1	2	1	1	8	2	1	1	1	2
	Female	19	1	1	1	1	7	1	2	1	1	7	1	1	1	1	1
III, IV. ALLERGIC DISORDERS AND ENDOCRINE, METABOLIC AND BLOOD DISEASES	Total	234	11	23	10	3	6	50	9	11	3	20	57	11	8	4	6
	Male	125	8	13	6	2	4	27	5	10	2	7	28	1	4	2	6
	Female	109	3	10	4	1	2	23	4	1	1	13	29	10	4	2	2
A 61 Nontoxic goitre	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 62 Thyrotoxicosis with or without goitre	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 63 Diabetes mellitus	Male	76	6	5	5	1	3	17	3	5	1	4	20	1	2	1	2
	Female	70	2	8	1	1	1	17	4	1	1	8	19	6	1	1	1
A 64 Avitaminosis and other deficiency states	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 65 Anaemias	Male	10	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2
	Female	14	1	1	2	1	4	1	1	1	1	2	1	2	1	1	1
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	Male	39	1	7	1	1	8	2	1	5	1	2	7	2	1	2	2
	Female	21	2	2	1	1	2	1	1	3	8	2	1	1	1	1	1
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Total	21	1	1	1	1	8	2	1	1	1	1	7	1	1	1	1
	Male	13	1	1	1	1	5	1	1	1	1	1	6	1	1	1	1
	Female	8	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Male	6	1	1	1	1	3	1	1	1	1	1	3	1	1	1	1
	Female	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 68 Psychoneuroses and disorders of personality	Male	5	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 69 Mental deficiency	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1061	41	58	25	11	37	262	41	80	17	74	298	24	38	9	46
	Male	577	18	35	18	7	22	135	22	42	9	45	162	13	17	6	25
	Female	484	23	23	7	4	15	126	19	38	8	29	136	11	21	3	21
A 70 Vascular lesions affecting central nervous system	Male	516	15	32	14	7	22	122	19	37	9	43	145	12	15	5	19
	Female	441	22	21	7	3	15	115	18	34	6	27	128	9	18	2	16
A 71 Nonmeningococcal meningitis	Male	6	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2
	Female	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 72 Multiple sclerosis	Male	6	1	1	2	1	1	1	1	1	1	1	3	1	1	1	1
	Female	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 73 Epilepsy	Male	7	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1
	Female	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 74 Inflammatory diseases of eye	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 77 Otitis media and mastoiditis	Male	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 78 All other diseases of the nervous system and sense organs	Male	39	2	3	1	1	11	2	4	1	1	10	1	2	3	3	3
	Female	21	1	1	1	1	8	3	3	1	1	4	1	2	1	1	1
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	3115	118	191	84	56	100	656	131	182	42	245	881	95	137	45	152
	Male	2093	90	120	51	40	74	385	93	126	34	158	597	67	109	39	110
	Female	1022	28	71	33	16	26	271	38	56	8	87	284	28	28	6	42
A 79 Rheumatic fever	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 80 Chronic rheumatic heart disease	Male	46	2	5	1	1	1	11	2	2	1	14	1	3	3	3	3
	Female	46	1	2	3	2	2	14	5	2	11	1	1	1	1	1	2
A 81 Arteriosclerotic and degenerative heart disease	Male	1716	72	98	46	36	62	291	71	105	27	140	511	52	85	33	88
	Female	711	21	50	24	10	18	189	25	34	6	65	206	21	17	3	22

DIVISION OF VITAL STATISTICS

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Division No.														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	16	1	2	2	3	1	1	5	1							
A115 Sepsis of pregnancy, childbirth and the puerperium	Female	1							1								
A116 Toxaemias of pregnancy and the puerperium	Female	5	1			2	1	1									
A117 Haemorrhage of pregnancy and childbirth	Female	2	1									1					
A118 Abortion without mention of sepsis or toxæmia	Female	2			2												
A119 Abortion with sepsis	Female	1					1										
A120 Other complications of pregnancy, childbirth and the puerperium	Female	5	1									3	1				
XII, XIII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	Total	46	3	2	3	2	14	8	2	1	4	12	1	1			1
	Male	21	2	1	1	2	8	1	2	4	1	4	1	1			1
	Female	25	1	2	2	2	6	1	1	2	8						
A121 Infections of skin and subcutaneous tissue	Male	4					1				1		1	1			
	Female	5	1				2				2						
A122 Arthritis and spondylitis	Male	10		1	1	3		1	1	3							
	Female	1				1					1						
A123 Muscular rheumatism and rheumatism, unspecified	Male	1															
	Female	1									1						
A124 Osteomyelitis and periostitis	Male	11	1	1		5	1	1	1	2							1
	Female	14	1	2	1	1	2	1	1	5							
A126 All other diseases of skin and musculoskeletal system	Male	221	1	18	5	1	4	50	11	14	2	12	80	7	3	2	11
	Female	120	9	1	1	4	29	8	7	11	36	6	2	1	5		
	Female	101	1	9	4	1	21	3	7	1	44	1	1	1	6		
XIV. CONGENITAL MALFORMATIONS	Total	8					1		1	1	3	1					1
A127 Spina bifida and meningocele	Male	3								1	1	1	1	1			
	Female	4									1	1	1	1			
A Without hydrocephalus	Male	5									1	1	4				1
	Female	3									1	1	1				
B With hydrocephalus	Male	3										2	5	1			
	Female	3										1	2				
A128 Congenital malformations of circulatory system	Male	60	6	1		2	18	4	3		1	17	3	2	1	2	
	Female	50	8	2		2	10	2	1			24	1		1	1	
A129 All other congenital malformations	Male	52	3		2	11	4	4	1	8	14	2					3
	Female	44	1	1	2	1	10	1	5		1	17		1			4
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	530	11	27	11	6	13	134	13	30	12	19	134	41	14	16	49
	Male	304	4	13	9	4	6	79	6	18	9	13	81	24	6	7	25
	Female	226	7	14	2	2	7	55	7	12	3	6	53	17	8	9	24
A130 Birth injuries	Male	33			1	1		9			1	2	10	3	1	1	4
	Female	26		1	1	1	1	9	2	1			3	2	2		3
A131 Postnatal asphyxia and atelectasis	Male	80	1	3	3	2	1	13		8	5	3	26	7	2		6
	Female	49	5	4			1	10	1	3		2	15		2	2	4
A132 Infections of the newborn	Male	18	2	3				3	2		1		2	1			3
	Female	24					1	7	1	1	1	1	5	4			3
A133 Haemolytic disease of newborn	Male	10		1				2		1			3	1	1		2
	Female	6						2	1	1			1				1
A134 All other defined diseases of early infancy	Male	8				1	1	1					1	2			2
	Female	4						1						2	1		
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Male	155	1	6	5	1	4	53	3	9	2	8	39	10	1	5	8
	Female	117	2	9	1	1	4	26	3	6	2	3	29	9	2	7	13
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	359	1	3	3	1	2	244	7	5	6	25	40	4	4	2	12
	Male	247	3	3	1	1	1	169	6	1	5	15	30	2	4	1	6
	Female	112	1				1	75	1	4	1	10	10	2		1	6
A136 Senility without mention of psychosis	Male	54						44			1		5	1	1		2
	Female	42	1					29		4			4	1			3
A137 Ill-defined and unknown causes	Male	193		3	3	1	1	125	6	1	4	15	25	1	3	1	4
	Female	70					1	46	1		1	10	6	1		1	3

TABLE 7.—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1962

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Montgomery	Red Deer	Wetaskiwin	All urban places 5000+ population	Urban places 1000-4999 pop.	Residual (rural)
ALL CAUSES	Total	9264	43	1918	188	1797	54	130	275	229	21	133	76	4864	1396	3004
	Male	5858	26	1120	126	1139	35	79	169	145	16	76	44	2975	872	2011
	Female	3406	17	798	62	658	19	51	106	84	5	57	32	1889	524	993
I. INFECTIVE AND PARASITIC DISEASES	Total	80	13	1	9	3	4	1	1	1	1	1	1	31	11	38
	Male	47	10	1	7	1	2	1	2	1	1	1	1	21	4	22
	Female	33	3	1	2	2	2	2	2	1	1	1	1	10	7	16
A 1 Tuberculosis of respiratory system	Male	12	5	1	1	1	1	1	1	1	1	1	1	6	1	5
A Active	Male	11	5	1	1	1	1	1	1	1	1	1	1	6	1	5
B Inactive	Male	12	1	1	1	1	1	1	1	1	1	1	1	6	1	5
	Female	12	1	1	1	1	1	1	1	1	1	1	1	3	4	1
A 2 Tuberculosis of meninges and central nervous system	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 5 Tuberculosis, all other forms	Male	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 6 Congenital syphilis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 9 General paralysis of insane	Male	6	1	2	1	1	1	1	1	1	1	1	1	4	1	1
A 10 All other syphilis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	3	1	1
A 15 Brucellosis (undulant fever)	Male	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 16 Dysentery; all forms	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 19 Erysipelas	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 20 Septicaemia and pyaemia	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 22 Whooping cough	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 23 Meningococcal infections	Male	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 29 Acute infectious encephalitis	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 32 Measles	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 34 Infectious hepatitis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 43 All other diseases classified as infective and parasitic	Male	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
II. NEOPLASMS	Total	1584	5	359	14	333	8	21	46	37	4	18	21	866	227	491
	Male	949	4	192	9	190	7	12	28	23	2	8	13	483	135	326
	Female	635	1	167	5	143	1	9	18	14	2	10	8	378	92	165
A 44 Malignant neoplasm of buccal cavity and Pharynx	Male	12	3	2	2	2	1	1	1	1	1	1	1	7	1	4
	Female	9	3	3	3	3	1	1	1	1	1	1	1	6	1	2
A 45 Malignant neoplasm of oesophagus	Male	17	3	2	2	2	2	2	2	2	2	2	2	8	2	7
	Female	3	1	1	1	1	1	1	1	1	1	1	1	3	1	1
A 46 Malignant neoplasm of stomach	Male	118	22	2	23	1	4	3	3	3	2	1	1	58	15	45
	Female	34	9	9	6	1	2	1	2	1	1	1	1	19	3	12
A 47 Malignant neoplasm of intestine, except rectum	Male	76	20	12	2	1	3	1	1	1	1	1	1	41	11	24
	Female	68	22	3	15	1	3	1	1	1	1	1	1	45	7	16
A 48 Malignant neoplasm of rectum	Male	47	6	1	11	1	1	1	1	1	1	1	1	20	10	17
	Female	15	2	1	4	1	1	1	1	1	1	1	1	9	1	5
A 49 Malignant neoplasm of larynx	Male	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	Male	165	31	1	38	3	9	3	1	1	1	1	1	87	29	49
	Female	30	4	7	7	1	1	1	1	1	1	1	1	13	8	9
A 51 Malignant neoplasm of breast	Male	114	39	1	26	2	4	1	3	1	3	1	1	77	11	26
	Female	42	10	7	7	2	2	2	2	2	2	2	2	20	10	12
A 52 Malignant neoplasm of cervix uteri	Male	14	4	2	2	1	1	1	1	1	1	1	1	8	2	6
	Female	119	2	23	2	20	4	2	3	3	3	3	3	59	18	42
A 54 Malignant neoplasm of prostate	Male	9	2	2	2	2	2	2	2	2	2	2	2	5	2	5
	Female	5	2	2	2	2	2	2	2	2	2	2	2	4	1	1
A 55 Malignant neoplasm of skin	Male	6	4	3	3	3	1	1	1	1	1	1	1	5	1	1
	Female	5	2	2	2	2	1	1	1	1	1	1	1	4	1	1
A 56 Malignant neoplasm of bone and connective tissue	Male	9	4	3	3	3	1	1	1	1	1	1	1	4	2	3
	Female	9	4	3	3	3	1	1	1	1	1	1	1	4	2	3
A 57 Malignant neoplasm of all other and unspecified sites	Male	232	2	48	1	46	2	1	8	5	1	5	5	119	30	83
	Female	202	41	46	46	46	1	6	5	5	1	2	3	105	38	59

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Montgomery	Red Deer	Wetaskiwin	Urban places 1000 + population	Urban places 1000-999 pop.	Residual (rural)
A Other digestive organs	Male	99	..	26	..	18	2	1	2	1	..	1	4	55	9	35
(155-159)	Female	84	..	19	..	21	..	1	1	2	..	1	1	47	14	23
B Other respiratory organs	Male	5	..	1	..	1	..	..	..	..	..	..	..	3	..	2
(160, 164, 165)	Female	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..
C Urinary organs	Male	53	..	10	1	9	..	3	1	..	..	..	..	22	10	19
(180, 181)	Female	20	..	4	..	6	..	1	..	..	..	..	..	11	4	5
D Brain and other parts of nervous system (193)	Male	23	..	4	..	8	..	1	..	..	..	..	..	13	3	7
E Other	Female	21	..	5	..	2	..	1	2	..	..	1	..	11	3	7
Male	52	2	7	10	..	2	2	2	..	..	..	1	24	8	20	
Female	75	13	16	..	..	3	..	..	..	..	..	..	2	34	17	24
A 58 Leukaemia and aleukaemia	Male	67	..	13	2	17	1	2	..	1	..	1	2	39	10	18
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Female	36	1	14	..	8	..	..	..	..	..	1	1	24	3	9
Male	56	14	14	1	1	1	..	2	..	1	..	..	33	5	18	
Female	34	11	10	1	1	1	..	3	..	..	..	..	26	4	4	
A Hodgkin's disease (201)	Male	12	..	5	..	2	1	1	..	..	..	..	..	9	1	2
Female	8	..	3	..	5	..	..	..	..	..	..	..	..	8	..	..
B Other	Male	44	..	9	..	12	..	..	2	..	1	..	..	24	4	16
Female	26	..	8	..	5	..	1	1	3	..	..	..	..	18	4	4
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	23	..	3	..	4	1	..	..	..	..	..	..	9	1	13
Female	19	..	5	..	6	..	..	..	1	1	..	..	1	14	3	2
III, IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	234	3	42	3	42	..	4	9	8	..	2	2	115	47	72
Male	125	1	22	2	21	..	1	6	6	..	..	1	1	61	24	40
Female	109	2	20	1	21	..	3	3	2	..	..	1	1	54	23	32
A 61 Nontoxic goitre	Male	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Female	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
A 62 Thyrotoxicosis with or without goitre	Male	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Female	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
A 63 Diabetes mellitus	Male	76	..	14	2	15	..	1	2	5	..	1	1	43	14	19
Female	70	2	14	1	16	..	1	2	2	..	..	1	1	39	15	16
A 64 Avitaminosis and other deficiency states	Male	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Female	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
A 65 Anaemias	Male	10	..	1	..	..	..	..	..	..	..	..	..	..	1	2
Female	14	..	4	..	1	..	..	..	..	..	..	..	..	5	3	6
A 66 Allergic disorders, all other endocrine, metabolic and blood diseases	Male	39	..	7	..	6	..	3	1	..	..	..	..	17	8	14
Female	21	..	2	..	4	..	2	1	..	1	..	..	..	10	4	7
V. MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS	Total	21	..	7	..	5	..	1	..	..	..	..	..	13	2	6
Male	13	..	4	..	4	..	..	..	..	..	..	..	..	8	2	3
Female	8	..	3	..	1	..	1	..	..	..	..	..	..	5	..	3
A 67 Psychoses	Male	6	..	2	..	3	..	..	..	..	..	..	..	5	..	1
Female	3	..	1	..	..	..	..	1	..	..	..	..	..	2	..	1
A 68 Psychoneuroses and disorders of personality	Male	5	..	1	..	1	..	..	..	..	..	..	..	..	2	1
Female	4	..	2	..	..	..	..	..	..	..	..	..	..	2	..	2
A 69 Mental deficiency	Male	2	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Female	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1061	5	221	15	211	3	19	35	36	..	25	12	582	155	324
Male	577	2	114	8	120	2	11	21	15	..	..	14	7	314	88	175
Female	484	3	107	7	91	1	8	14	21	..	..	11	5	268	67	149
A 70 Vascular lesions affecting central nervous system	Male	516	2	104	8	109	1	10	20	12	..	13	6	285	78	153
Female	441	2	97	7	86	1	8	13	20	..	..	9	5	248	60	133
A 71 Nonmeningococcal meningitis	Male	6	..	..	..	1	1	..	1	..	..	..	..	3	2	1
Female	7	..	2	..	..	..	..	..	..	..	..	..	..	3	..	4
A 72 Multiple sclerosis	Male	6	..	1	..	3	..	..	..	..	..	..	..	4	2	..
Female	3	..	..	..	1	..	..	..	..	..	..	..	..	1	1	1
A 73 Epilepsy	Male	7	..	1	..	1	..	..	..	..	..	..	..	2	..	5
Female	7	..	1	..	1	..	..	..	..	..	1	..	..	3	1	3
A 74 Inflammatory diseases of eye	Male	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..
Female	3	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
A 77 Otitis media and mastoiditis	Male	4	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Female	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
A 78 All other diseases of the nervous system and sense organs	Male	39	..	7	..	6	..	1	1	2	..	1	1	19	5	15
Female	21	1	7	..	2	..	..	..	1	..	..	..	..	12	5	4
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	3115	11	543	51	658	22	31	94	94	3	39	18	1564	496	1055
Male	2093	7	315	36	445	12	23	55	70	3	22	13	1001	330	762	
Female	1022	4	228	15	213	10	8	39	24	..	17	5	563	166	293	
A 79 Rheumatic fever	Male	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Female	2	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1
A 80 Chronic rheumatic heart disease	Male	46	..	11	..	12	..	1	2	..	..	..	..	26	6	14
Female	46	..	11	..	6	2	..	1	1	..	..	..	..	24	6	16
A 81 Arteriosclerotic and degenerative heart disease	Male	1716	6	230	33	386	10	17	46	56	3	18	12	817	273	626
Female	711	3	155	12	163	6	6	26	18	..	13	2	404	119	188	

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Montgomery	Red Deer	Wetaskiwin	Tl. urban places 5000 + population	Urban places 1000-4999 pop.	Residual (rural)
A 82 Other diseases of heart	Male	109		23	2	7		1	1			2	1	37	22	50
	Female	86		20	1	7			6			1	1	14	14	36
A 83 Hypertension with heart disease	Male	53	1	13		15		1	5					26	6	21
	Female	51	1	10		10		1	3					28	1	19
A 84 Hypertension without mention of heart	Male	19		2				1	1					12	4	6
	Female	15		4				1	1					9	2	3
A 85 Diseases of arteries	Male	125		31	1	23		2	5					68	20	37
	Female	93		24	2	17		2	3					50	15	28
A 86 Other diseases of circulatory system	Male	25		5		6	1	2	3	1				15	2	3
	Female	18		4		3		1	2					11	4	3
VIII. DISEASES OF THE RESPIRATORY SYSTEM	Total	605	1	92	55	99	2	12	23	11	2	6	4	307	98	200
	Male	402	1	54	38	75	1	9	13	4	2	4		201	67	134
	Female	203		38	17	24	1	3	10	7		2	4	106	31	66
A 87 Acute upper respiratory infections	Male	7		1		1			3					5	1	1
	Female	1														1
A 88 Influenza	Male	24			7				1					8	6	10
	Female	21		2	5	1			1					9	5	7
A 89 Lobar pneumonia	Male	29		5		6			1		1	2		15	5	9
	Female	13										1		1	3	9
A 90 Bronchopneumonia	Male	141		14	30	19		3	2	1	1	1		71	18	52
	Female	94		25	11	8		2	3	5		2		56	11	27
A 91 Primary atypical, other and unspecified pneumonia	Male	71		10	1	18		1	2	1		1		34	11	26
	Female	40		5	1	8			4			2		20	6	14
A 92 Acute bronchitis	Male	6	1			2			1					3	2	3
	Female	4				1			1					2	1	1
A 93 Bronchitis, chronic and unqualified	Male	49		10		8		4	2	1				26	10	13
	Female	8		2		2		1	1					6	1	1
A 94 Hypertrophy of tonsils and adenoids	Male	1														1
	Female	1														1
A 95 Empyema and abscess of lung	Male	3				1	1							2		
	Female	1				1								1		
A 97 All other respiratory diseases	Male	72		14		19		1	2	1				37	16	19
	Female	20		4		4			1	1				11	4	5
IX. DISEASES OF THE DIGESTIVE SYSTEM	Total	376	2	84	7	62	2	4	13	13	4	3	4	198	61	117
	Male	224	1	50	5	33	2	2	9	9	3	3	3	120	29	75
	Female	152	1	34	2	29		2	4	4	1		1	78	32	42
A 99 Ulcer of stomach	Male	23		5		4	1			1	1	1	1	14	3	6
	Female	9			1	4								5	4	4
A100 Ulcer of duodenum	Male	24		8		3			3					14	5	5
	Female	8		4		1		1						6	1	1
A101 Gastritis and duodenitis	Male	1														
	Female	1														
A102 Appendicitis	Male	7		1		1			1					3	1	3
	Female	4				1								2	2	
A103 Intestinal obstruction and hernia	Male	37		11		4	1		3					19	4	14
	Female	29	1	3		8		1	1					13	7	9
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Male	42	1	3		4			1	1		1	1	12	6	24
	Female	40		7	1	5			1	1				16	8	16
A106 Cirrhosis of liver	Male	32		10	3	8			2					23	3	6
	Female	13		5		2			1					8	3	2
A106 Cholelithiasis and cholecystitis	Male	21		4	1	4			1	1				11	2	3
	Female	22		6		3			2	3				14	2	6
A107 Other diseases of digestive system	Male	38		8	1	5		2		4	2	1	1	24	5	9
	Female	26		8		5				1				14	8	4
X. DISEASES OF THE GENITO-URINARY SYSTEM	Total	166		34	1	40	1	2	3	4		2		87	32	47
	Male	107		18		27	2	2	2					51	26	30
	Female	59		16	1	13	1	1	2			2		36	6	17
A108 Acute nephritis	Male	1														1
	Female	1		1										1		
A109 Chronic, other and unspecified nephritis	Male	37		9		8		2						19	9	9
	Female	28		8		5	1							14	3	11
A110 Infections of kidney	Male	25		2		7			2	1				12	4	9
	Female	20		4	1	8				2				15	3	3
A111 Calculi of urinary system	Male	4		1						2				3	1	1
	Female	4		1								1		2	1	1
A112 Hyperplasia of prostate	Male	31		3		7				1				11	11	9
A114 Other diseases of genito-urinary system	Male	9		3		3								6	2	1
	Female	6		2					1					4		2

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Montgomery	Red Deer	Wetaskiwin	Tl. urban places 5000 + populati'n	Urban places 1000-4999 Pop.	Residual (rural)
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	16	2			4			1	1					3	5
A115 Sepsis of pregnancy, childbirth and the puerperium	Female	1														1
A116 Toxaemias of pregnancy and the puerperium	Female	5	2						1					3	1	1
A117 Haemorrhage of pregnancy and childbirth	Female	2				1										1
A118 Abortion without mention of sepsis or toxæmia	Female	2														2
A119 Abortion with sepsis	Female	1														1
A120 Other complications of pregnancy, childbirth and the puerperium	Female	5				3				1				4	1	
XII, XIII. DISEASES OF THE SKIN AND MUSCULO-SKELETAL SYSTEM	Total	46	12	1	8				1	3		2		27	6	13
	Male	21	6	1	3					2		1		13	1	7
	Female	25	6		5				1	1		1		14	5	6
A121 Infections of skin and subcutaneous tissue	Male	4		1	1									2		2
	Female															
A122 Arthritis and spondylitis	Male	5		1		2				1				4		1
	Female	10		3		2								5	3	2
A123 Muscular rheumatism and rheumatism, unspecified	Male															
	Female	1		1												
A124 Osteomyelitis and periostitis	Male	1														1
	Female															
A126 All other diseases of skin and musculoskeletal system	Male	11	4			1				1		1		7	1	3
	Female	14	2			3			1	1		1		8	2	4
XIV. CONGENITAL MALFORMATIONS	Total	221	1	44	1	54	1	11	7		7	3	129	30	62	
	Male	120		25	1	31	1	3	5		4	1	71	15	34	
	Female	101	1	19		23		8	2		3	2	58	15	28	
A127 Spina bifida and meningocele	Male	8				4		1					5	1	2	
	Female	7		1		2						1		5	1	
A Without hydrocephalus	Male	3				1							1	1	1	
	Female	4				1						1		2	2	
B With hydrocephalus	Male	5				3		1						3	1	
	Female	3		1		1		1					4			
A128 Congenital malformations of circulatory system	Male	60	15			14	1	2	3		2	1	38	7	15	
	Female	50	9			12		3	2		2	2	28	8	14	
A129 All other congenital malformations	Male	52	10	1	13			2			2		28	7	17	
	Female	44	1	9		9		4			2		25	7	12	
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	530	5	102	3	92	4	12	8	7	2	11	4	250	107	173
	Male	304	3	63	3	54	3	8	4	4		6	2	150	59	95
	Female	226	2	39		38	1	4	4	3	2	5	2	100	48	78
A130 Birth injuries	Male	33		9	1	8	1							19	7	7
	Female	26		6		3					1	1		11	4	11
A131 Postnatal asphyxia and atelectasis	Male	80		9	2	17		4	1	1		3		37	9	34
	Female	49		6		11		2	2	3				24	11	14
A132 Infections of the newborn	Male	18		1		2			1	2				6	6	6
	Female	24	1	5		2		1				1		10	4	10
A133 Haemolytic disease of newborn	Male	10				2	1							1	4	4
	Female	6		2								1	1	4	2	
A134 All other defined diseases of early infancy	Male	8		1		1	1							3		5
	Female	4						4		1					1	3
A134 Ill-defined diseases peculiar to early infancy, and immaturity unequalled.	Male	155	3	43		24		4	2	1		3	1	81	33	41
	Female	117	1	20		22	1	1	2		1	2	1	51	26	40
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	359	6	221	23	32	1	2	3		2		3	293	13	53
	Male	247	4	149	13	27	1		3		2		1	200	9	38
	Female	112	2	72	10	5		2					2	93	4	15
A136 Senility without mention of psychosis	Male	54		39		5					1			45		9
	Female	42	1	28		1		1					1	32	2	8
A137 Ill-defined and unknown causes	Male	193	4	110	13	22	1		3		1		1	155	9	29
	Female	70	1	44	10	4		1					1	61	2	7
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	850	4	142	13	148	10	9	27	15	3	18	5	394	108	348
	Male	629	3	98	10	102	6	7	21	10	3	13	3	276	83	270
	Female	221	1	44	3	46	4	2	6	5		5	2	118	25	78
AE138 Motor vehicle accidents	Male	234	2	42	1	36	2	4	5	3		7		102	32	100
	Female	81		16	1	18				1		3		42	6	33

DIVISION OF VITAL STATISTICS

TABLE 8—DEATHS, BY CAUSE AND SEX, BY AGE, ALBERTA, 1962 (Continued)

CAUSE OF DEATH (Intermediate List)	SEX	AGE														Total										
		Under 1 year	1 year	2 years	3 years	4 years	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years		50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+	Not stated	
A136 Senility without mention of psychosis	Male	54																								
A137 Ill-defined and unknown causes	Female	42																								
	Male	193	10	1	1		1																			
	Female	70	7	1																						
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	860	41	16	12	8	10	28	27	55	91	62	62	49	47	55	37	38	41	29	31	29	36	46		
	Male	629	23	8	6	7	14	14	22	44	76	54	57	41	32	43	30	25	32	23	22	22	19	22		
	Female	221	18	8	6	1	1	14	5	11	15	8	5	8	15	12	7	13	9	6	9	7	17	24		
AE138 Motor vehicle accidents	Male	234		2	2	4	2	7	7	20	48	18	19	16	13	18	7	7	12	7	15	3	5	2		
	Female	81		3	2	1	1	3	1	9	12	3	2	2	3	6	6	6	6	2	4	2	1	1		
A Traffic accidents (810-825)	Male	225		2	1	3	2	6	6	19	47	18	19	16	13	17	6	7	12	6	14	2	1	2		
	Female	77		1	1	1	1	2	1	9	12	4	2	4	3	5	5	9	6	2	4	1	1	1		
B Non-traffic accidents	Male	4		2						1	1															
AE139 Other transport accidents	Male	21								1	1	4	3	3	4	4	1									
	Female											2	1	1	1	1										
A Submersion of occupant of small boat (850)	Male	4										2	1	1	1	1										
	Female											2	1	1	1	1										
C Other	Male	17								1	1	2	2	3	3	3	1									
	Female											2	2	3	3	3	1									
AE140 Accidental poisoning	Male	30		1	1			1	1	3	5	1	3	3	2	3	2	1	1	2						
	Female	16		1	1			1	1	1	1	1	3	3	2	1	2	1	1	2						
AE141 Accidental falls	Male	58		1	1			1	2	1	2	3	2	2	1	2	2	3	2	3	1	7	11	16		
	Female	50						1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	14	22		
AE142 Accident caused by machinery	Male	27		1	1			1	1	2	5	7	7	2	2	4	1	1	1	3	4	4	4	1		
	Female	1										2	2	4	4	4	2	2	2	2	1	1	2	1		
AE143 Accident caused by fire and explosion of combustible material	Male	27		1	2			2	2	1	1	2	2	2	1	1	2	2	3	2	1	7	11	16		
	Female	13		1	2			2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1		
AE144 Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	4																								
	Female																									
AE145 Accident caused by electric current	Male	16								3	2	1	1	1	1	1	1	1	1	1	1	2	1	1		
	Female																									
AE146 Accidental drowning	Male	37		3				1	1	5	5	5	1	1	2	1	1	1	1	1	1	1	2	1		
	Female	4		1				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
AE147 All other accidental causes	Male	67	21	2	2	1	1	2	1	5	6	6	6	5	1	1	2	4	1	4	1	1	2	1		
	Female	30	16	2	2	1	1	4	3	5	6	6	5	4	1	1	2	4	1	4	1	1	1	1		

TABLE 11—DEATHS, BY CAUSE AND SEX, BY MARITAL STATUS AND AGE, ALBERTA, 1962 (Continued)

CAUSE OF DEATH (Intermediate List)	SEX	SINGLE							MARRIED							WIDOWED AND DIVORCED						
		Under 15 years	Total	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +	Total	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +				
A 29 Acute infectious encephalitis	Male		1																			
	Female	2																				
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	1																				
	Female																					
A 32 Measles	Male	4																				
	Female	1																				
A 34 Infectious hepatitis	Male	3																				
	Female	2																				
A 43 All other diseases classified as infective and parasitic	Male	1																				
	Female	2																				
	Total	1584	491	173	11	5	10	14	32	20	81	968	4	20	68	143	243	128	362	391		
	Male	949	291	137	4	4	8	10	22	17	72	817	9	49	158	278	164	94	273	264		
	Female	635	200	36	7	1	2	4	10	3	9	351	4	11	49	78	94	34	89	227		
II. NEOPLASMS																						
A 44 Malignant neoplasm of buccal cavity and pharynx	Male			3							1	8							1	5		
	Female	12		1							3	1							1	1		
A 45 Malignant neoplasm of oesophagus	Male	17		3							2	13							3	3		
	Female	3		1							2	2							5	5		
A 46 Malignant neoplasm of stomach	Male	118		19			1	6	2	10	80	2	2	6	22	14	36	19	2	2		
	Female	34		2						4	4	3	4	1	3	4	10	10	1	1		
A 47 Malignant neoplasm of intestine, except rectum	Male	76		10			2	3	5	52	34	1	2	2	4	12	7	27	14	1		
	Female	68		1						34	3	13	7	10	33	1	3	4	25	1		
A 48 Malignant neoplasm of rectum	Male	47		8			1	1	2	4	29	4	4	4	13	1	1	1	1	1		
	Female	15		2						9	3	3	3	3	6	1	1	1	5	1		
A 49 Malignant neoplasm of larynx	Male	2									1	1							1	1		
	Female	1																				
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified	Male	165		20			1	3	3	6	7	125	1	1	18	31	24	50	19	3		
	Female	30		1							17	1	1	1	3	5	1	6	10	1		
A 51 Malignant neoplasm of breast	Male	114		14			1	2	5	1	3	69	2	15	22	15	6	9	31	8		
	Female	42									29	1	9	8	9	1	2	13	5	2		
A 52 Malignant neoplasm of cervix uteri	Female	14									7	1							6	1		
A 53 Malignant neoplasm of other and unspecified parts of uterus	Female	119		16					1	1	14	65	2	2	1	2	4	10	47	38		
A 54 Malignant neoplasm of prostate	Male	9		2							6	1							1	1		
	Female	5									3	3	1	2	2	1	1	1	2	2		
A 55 Malignant neoplasm of skin	Male										2	1							4	2		
	Female										1	1							6	1		
	Total										14	65	2	2	2	2	4	10	47	38		
	Male										2	6	1	1	1	1	1	1	2	1		
	Female										1	1							6	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1		
	Female										2	7	1	1	1	1	1	1	7	2		
	Total										3	8	2	2	2	2	2	2	8	3		
	Male										1	1							1	1</		

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1962

CAUSE OF DEATH (Intermediate List)	SEX	MONTHS												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
ALL CAUSES	Total	9264	820	766	813	762	808	765	751	714	771	755	737	802
	Male	5858	505	510	513	473	491	489	501	451	495	481	458	491
	Female	3406	315	256	300	289	317	276	250	263	276	274	279	311
I. INFECTIVE AND PARASITIC DISEASES	Total	80	8	8	7	6	6	5	6	3	10	7	7	7
	Male	47	6	5	4	6	3	4	3	1	4	5	5	4
	Female	33	2	3	3	...	3	1	3	2	6	2	2	3
A 1 Tuberculosis of respiratory system	Male	12	1	1	...	1	1	2	1	1	1	1	1	2
	Female	12	2	1	...	1	1	1	2	4	1	1	1	2
A Active	Male	11	1	1	...	1	1	2	1	1	1	1	1	2
	Female	12	2	1	...	1	1	1	2	4	1	1	1	2
A B Inactive	Male	1	...	...	...	1	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 2 Tuberculosis of meninges and central nervous system	Male	2	...	1	...	...	...	...	...	...	...	1	...	...
	Female	3	...	1	...	1	...	...	...	1	...	...	...	...
A 5 Tuberculosis, all other forms	Male	1	...	...	...	...	...	...	...	...	...	...	...	1
	Female	1	...	...	...	...	...	...	1	...	...	...	...	...
A 6 Congenital syphilis	Male	1	...	...	...	...	...	...	1	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 9 General paralysis of insane	Male	6	1	1	...	1	2	...	...	...	...	1	...	...
	Female	1	...	...	...	...	...	...	...	1	...	...	...	...
A 10 All other syphilis	Male	4	...	1	1	1	...	...	...	...	...	...	...	1
	Female	2	...	...	...	...	1	...	...	...	...	...	...	1
A 15 Brucellosis (undulant fever)	Male	1	...	...	...	...	...	...	...	1	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	1	...	...	...
A 16 Dysentery, all forms	Male	1	...	...	...	...	...	...	...	...	...	...	1	...
	Female	1	...	...	...	...	...	...	...	...	...	...	1	...
A 19 Erysipelas	Male	1	...	...	...	...	...	...	1	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 20 Septicaemia and pyaemia	Male	2	1	...	...	...	...	...	...	...	1	...	...	...
	Female	2	...	...	...	...	...	1	1	...	...	...	...	...
A 22 Whooping cough	Male	1	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	1	...	...
A 23 Meningococcal infections	Male	4	1	...	1	...	...	...	...	1	...	...	1	...
	Female	2	1	...	...	...	...	1	...	...	...	...	...	...
A 29 Acute infectious encephalitis	Male	2	1	...	...	...	...	1	...	...	...	...	...	...
	Female	2	1	1	1	...	...	...	...	...	...	...	...	...
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	1	...	...	...	1	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 32 Measles	Male	1	1	...	...	...	...	...	...	...	...	...	...	...
	Female	4	1	...	...	...	...	...	...	...	...	...	1	2
A 34 Infectious hepatitis	Male	3	...	1	1	...	...	...	1	...	...	...	...	...
	Female	2	...	...	...	...	...	...	...	...	...	2	...	...
A 43 All other diseases classified as infective and parasitic	Male	6	1	1	1	...	1	...	...	1	...	1	...	...
	Female	2	...	1	...	...	...	...	...	...	1	...	...	...
II. NEOPLASMS	Total	1584	126	109	146	137	128	127	132	120	149	132	126	152
	Male	949	77	64	82	81	71	77	88	73	93	78	79	86
	Female	635	49	45	64	56	57	50	44	47	56	54	47	66
A 44 Malignant neoplasm of buccal cavity and pharynx	Male	12	...	1	...	1	1	2	1	...	3	...	1	2
	Female	9	1	1	...	2	2	1	...	1	...	...	1	...
A 45 Malignant neoplasm of oesophagus	Male	17	...	1	1	1	2	2	1	3	1	3	...	2
	Female	3	...	...	...	...	...	...	...	...	...	...	...	...
A 46 Malignant neoplasm of stomach	Male	118	12	6	11	9	8	10	8	14	11	7	5	16
	Female	34	2	5	1	5	3	2	2	8	6	6	7	6
A 47 Malignant neoplasm of intestine, except rectum	Male	76	7	6	5	6	4	7	10	8	6	7	6	3
	Female	68	6	4	6	7	4	5	8	6	7	9	3	3
A 48 Malignant neoplasm of rectum	Male	47	4	4	2	6	2	6	6	6	2	4	3	3
	Female	15	...	1	2	2	1	2	2	3	1	1	...	...
A 49 Malignant neoplasm of larynx	Male	2	...	...	...	...	...	...	...	...	1	...	...	1
	Female	1	...	1	...	...	...	...	...	...	...	...	...	...
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	Male	165	17	12	19	11	9	9	13	13	22	10	13	17
	Female	30	3	...	4	1	1	2	4	6	2	3	2	2
A 51 Malignant neoplasm of breast	Male	114	9	8	11	8	11	5	5	6	10	9	8	24
	Female	42	3	7	2	3	6	3	...	3	1	7	4	3
A 53 Malignant neoplasm of other and unspecified parts of uterus	Female	14	...	3	2	1	1	2	1	2	2	...	...	...
A 54 Malignant neoplasm of prostate	Male	119	10	6	15	15	8	5	11	4	9	17	11	8
A 55 Malignant neoplasm of skin	Male	9	1	...	...	1	1	1	2	1	...	1	...	3
	Female	5	...	...	...	1	...	1	1	1	...	1	...	...
A 56 Malignant neoplasm of bone and connective tissue	Male	6	...	1	...	1	1	...	1	1	...	...	...	1
	Female	9	...	...	1	2	...	...	...	...	...	...	...	...
A 57 Malignant neoplasm of all other and unspecified sites	Male	232	11	20	15	23	24	29	19	18	17	20	22	14
	Female	202	20	13	20	18	19	14	17	16	13	18	16	18
A Other digestive organs (155-159)	Male	89	5	11	6	9	8	15	5	10	6	7	11	6
	Female	84	7	11	5	7	6	8	9	6	3	10	5	7

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List)	SEX	MONTHS												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
B Other respiratory organs (160, 164, 165)	Male	5	.....	.....	.....	1	2	.....	1	1	.....	.....	.....	.....
	Female	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
C Urinary organs (150, 183)	Male	53	2	6	3	7	4	5	5	2	5	5	3	6
	Female	20	4	.....	3	2	2	.....	3	3	.....	.....	1	2
D Brain and other parts of nervous system (183)	Male	21	2	2	2	3	3	1	2	2	4	3	.....	.....
	Female	52	3	3	4	3	5	5	3	6	4	4	5	1
E Other	Male	75	7	3	2	8	9	5	3	6	6	6	3	2
	Female	67	6	3	7	2	7	10	10	4	5	4	3	4
A 58 Leukaemia and a'eukaemia	Male	36	3	4	6	6	6	1	6	1	2	3	3	1
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	56	8	2	3	4	4	5	6	3	3	4	8	6
	Female	34	1	4	1	3	2	3	2	1	5	2	1	9
A Hodgkin's disease (201)	Male	12	1	1	1	1	1	.....	2	1	1	.....	2	1
	Female	8	.....	.....	.....	3	1	2	1	.....	.....	.....	.....	.....
B Other	Male	44	7	1	2	3	3	5	4	2	2	4	6	5
	Female	26	1	4	1	.....	1	1	1	1	4	2	1	9
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	23	1	2	4	1	.....	2	1	3	4	1	1	3
	Female	19	1	.....	2	1	2	2	1	1	5	1	1	2
III, IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	234	22	16	20	16	18	19	28	20	23	15	17	20
	Male	125	11	11	11	11	10	7	18	10	10	6	10	10
	Female	109	11	5	9	5	8	12	10	10	13	9	7	10
A 61 Nontoxic goitre	Male	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 62 Thyrotoxicosis with or without goitre	Male	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
	Female	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
A 63 Diabetes mellitus	Male	76	6	8	6	9	4	4	15	6	5	3	4	6
	Female	70	9	4	4	1	5	5	9	8	6	6	4	9
A 64 Avitaminosis and other deficiency states	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
A 65 Anaemias	Male	10	1	.....	1	.....	3	1	.....	1	2	.....	.....	1
	Female	14	1	.....	3	1	2	1	.....	3	.....	2	1	.....
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	Male	39	4	3	4	2	3	2	3	3	3	3	6	3
	Female	21	1	1	2	3	2	4	.....	2	3	2	1	.....
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Total	21	3	.....	2	3	2	2	1	1	1	4	1	1
	Male	13	2	.....	.....	1	2	1	1	1	.....	4	.....	1
	Female	8	1	.....	2	2	.....	1	.....	.....	1	.....	1	.....
A 67 Psychoses	Male	6	.....	.....	.....	1	1	1	.....	1	.....	2	.....	.....
	Female	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 68 Psychoneuroses and disorders of personality	Male	5	1	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....
	Female	4	1	.....	2	.....	.....	.....	.....	.....	.....	.....	1	.....
A 69 Mental deficiency	Male	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
	Female	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1061	102	109	85	73	109	81	95	70	99	73	87	78
	Male	577	51	66	45	28	64	44	52	42	57	42	48	38
	Female	484	51	43	40	45	45	37	43	28	42	31	39	40
A 70 Vascular lesions affecting central nervous system	Male	516	44	59	43	24	56	39	46	40	50	37	44	34
	Female	441	45	40	34	45	39	34	40	25	40	28	35	36
A 71 Nonmeningococcal meningitis	Male	6	.....	2	.....	.....	.....	.....	.....	.....	1	1	.....	1
	Female	7	1	.....	2	.....	.....	.....	.....	1	.....	.....	1	1
A 72 Multiple sclerosis	Male	6	1	.....	.....	.....	2	.....	2	1	.....	.....	.....	.....
	Female	3	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
A 73 Epilepsy	Male	7	1	.....	1	.....	1	1	1	.....	1	.....	.....	.....
	Female	7	.....	.....	1	.....	1	1	.....	2	1	1	.....	.....
A 74 Inflammatory diseases of eye	Male	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 77 Otitis media and mastoiditis	Male	3	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
	Female	4	1	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1
A 78 All other diseases of the nervous system and sense organs	Male	39	5	4	1	4	5	2	3	1	5	3	3	3
	Female	21	5	1	3	.....	3	2	3	.....	1	.....	1	2
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	3115	285	268	264	277	253	254	235	252	238	258	247	284
	Male	2063	186	199	181	191	158	173	169	159	167	176	156	178
	Female	1022	99	69	83	86	95	81	66	93	71	82	91	106
A 79 Rheumatic fever	Male	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
	Female	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
A 80 Chronic rheumatic heart disease	Male	46	5	2	3	3	3	3	5	5	4	8	1	4
	Female	46	4	1	6	2	8	1	5	7	3	6	1	2
A 81 Arteriosclerotic and degenerative heart disease	Male	1716	153	164	144	155	136	144	142	117	136	147	128	150
	Female	711	71	50	57	62	67	56	46	59	48	52	64	79
	Male	109	7	16	13	12	5	7	6	12	9	10	5	7
	Female	86	7	2	3	10	8	6	9	6	5	10	12	8

DIVISION OF VITAL STATISTICS

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1962—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	MONTHS													
			January	February	March	April	May	June	July	August	September	October	November	December		
A Submersion of occupant of small boat (850)	Male	4					1	2								1
	Female															
C Other	Male	17		3	4			1	3	2	1			2	1	
	Female															
AE140 Accidental poisoning	Male	30	1	2	4	4	3		1	4	1	3	4	3		
	Female	16		2	3	2	1	3	1		1	2	1			
AE141 Accidental falls	Male	58	5	6	5	3	6	4	4	4	3	4	5	9		
	Female	50	3	4	4	5	2	6	5	6	2	4	7	2		
AE142 Accident caused by machinery	Male	27	4	1			1	3	3		6	4	2	1	2	
	Female	1														
AE143 Accident caused by fire and explosion of combustible material	Male	27	7		2	1	3	1	1	1	1	5	3	2		
	Female	13	1		4			6				1				
AE144 Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	4	1					1	1						1	
	Female															
AE145 Accident caused by firearm	Male	16		1	2	2	3						5	3		
	Female	1							1							
AE146 Accidental drowning	Male	37			2	5	3	9	9	5	2	1	1			
	Female	4				2		2	1			1				
AE147 All other accidental causes	Male	67	8	7	3	6	3	8	6	6	9	3	6	2		
	Female	30			6	1	4	2	6	1	5	2	1	2		
AE148 Suicide	Male	97	11	4	10	11	13	6	7	5	5	7	9	9		
	Female	19	3	3	1	2	2	2			1	2	2	1		
AE149 Homicide and injury purposely inflicted by other persons (not in war)	Male	10	1			1					1	2	3	2		
	Female	6						1		1	2	1			1	
AE150 Injury resulting from operations of war	Male	1						1								
	Female															
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	Total	850	55	45	65	63	84	78	81	80	83	83	75	58		
	Male	629	45	34	44	47	58	60	61	61	58	62	55	44		
	Female	221	10	11	21	16	26	18	20	19	25	21	20	14		
AN138 Fracture of skull	Male	125	6	4	9	12	12	10	13	15	16	9	14	5		
	Female	31	1			2	5	2	1	4	10	2	3	1		
AN139 Fracture of spine and trunk	Male	33	4	3	1	1			5	2	4	6	1	5		
	Female	10	1		2			1				1	1	1		
AN140 Fracture of limbs	Male	36	4	5	3	1	2	3	3	3	1	3	3	5		
	Female	46	2	4	3	3	3	3	5	7	3	5	7	1		
AN143 Head injury (excluding fracture)	Male	69	6	5	9	3	5	8	2	5	8	8	7	3		
	Female	23	1	1	2	4	1	1	2	2	2	4	3	2		
AN144 Internal injury of chest, abdomen, and pelvis	Male	137	7	8	8	9	12	12	13	21	10	15	11	11		
	Female	28	1	1			4	5	3	3	3	2	2	4		
AN145 Laceration and open wounds	Male	21	1		1		3	3	1	1	2	3	3	3		
	Female	2				1								1		
AN147 Effects of foreign body entering through orifice	Male	15	3		1	2	1	2	2		1		1	2		
	Female	13			3		1	1	3	1	1	1	1	1		
AN148 Burns	Male	34	8		2	1	5	2	1	1	5	5	2	2		
	Female	13	1		4		6				1	1				
AN149 Effects of poisons	Male	56	5	4	4	8	9		2	4	3	5	6	6		
	Female	25	2	4	4	2	1	3	1		1	2	3	2		
AN150 All other and unspecified effects of external causes	Male	103	1	5	6	10	8	20	19	9	8	8	7	2		
	Female	28	1	1	3	4	3	2	4	2	4	3		1		

TABLE 13—INFANT DEATHS AND HOSPITAL INFANT DEATHS BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1962

CENSUS DIVISIONS	Total Infant Deaths				Infant Deaths in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence, Residence Elsewhere	By Residence, Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence, Residence Elsewhere	By Residence, Occurrence Elsewhere
ALBERTA	985	984	19	18	840	834	19	13
Division No. 1	18	18	..	..	14	14	..	..
Division No. 2	51	51	5	..	41	39	5	..
Division No. 3	24	29	..	5	19	23	..	4
Division No. 4	7	8	..	..	7	8	..	1
Division No. 5	16	22	1	7	13	19	1	7
Division No. 6	229	219	16	6	196	186	16	6
Division No. 7	24	29	3	8	23	28	3	8
Division No. 8	50	54	1	5	42	47	..	5
Division No. 9	12	17	..	5	8	13	..	5
Division No. 10	24	33	2	11	23	32	2	11
Division No. 11	316	259	65	8	294	233	65	4
Division No. 12	86	93	3	10	69	76	3	10
Division No. 13	18	25	1	8	15	22	1	8
Division No. 14	18	22	1	5	10	14	1	5
Division No. 15	92	105	3	16	66	80	2	16

TABLE 15—SELECTED CAUSES OF INFANT DEATH BY SEX AND AGE AT DEATH, ALBERTA, 1962

Int. List No.	CAUSE OF DEATH (7th Rev.)	NEONATAL						POST-NEONATAL																			
		Total Under 1 Year		Under 28 Days		Under 1 day	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
		Total	Male	Total	Male	Female																					
							28 days and under 2 months	2 months	3 months	4 months	5 months	6 months	7 months	8 months	9 months	10 months	11 months										
765-768	Other infections of the newborn																										
	—Without immaturity																										
	—With immaturity																										
769	Maternal immaturity	3	3																								
	—Without immaturity																										
	—With immaturity	3	3																								
770	Erythroblastosis	16	10	6	6	5																					
	—Without immaturity	12	7	5	12	7	5	4	1																		
	—With immaturity	4	3	1	4	3	1	2	1																		
771	Haemorrhagic disease of newborn	1	1																								
	—Without immaturity	1	1																								
	—With immaturity																										
772	Nutritional maladjustment	8	4	4	2	2																					
	—Without immaturity	7	3	4	3	1	2																				
	—With immaturity	1	1		1	1																					
773	Ill-defined diseases peculiar to early infancy	91	53	38	83	49	34	24	18																		
	—Without immaturity	25	13	12	18	10	8	5	4																		
	—With immaturity	66	40	26	65	39	26	19	14																		
774-776	Immaturity	181	102	79	177	99	78	80	55	10	11	5	4	3	1	2	2										
795	Ill-defined and unknown causes	17	10	7	17	10	7	2	1																		
E800-E804	Motor vehicle traffic accidents																										
E916	Accidental falls	1	1																								
E921, E922	Accidents caused by fire																										
E924, E925	Inhalation and ingestion of food or other object	17	11	6	3	2	1																				
Residual	Accidental mechanical suffocation	17	9	8	2	2																					
E800-E962	All other accidents	5	2	3																							
	RESIDUALS																										
Class I	(Infective and parasitic diseases)	7	6	1																							
Class II	(Neoplasms)	1	1																								
Class III	(Allergic, etc. diseases)																										
Class IV	(Blood, etc. diseases)	3	2	1																							
Class V	(Diseases of nervous system etc.)	2	1	1																							
Class VI	(Diseases of circulatory system)	5	1	4	1	1																					
Class VII	(Diseases of respiratory system)	2	1	1																							
Class VIII	(Diseases of digestive system)	7	5	2	1	1																					
Class IX	(Diseases of genitourinary system)																										
Class X	(Accidental and violent causes)	7	5	2	1	1																					
Class XVII	All other causes	6	3	3																							

*Includes Hodgkin's disease, leukaemia and aleukaemia.

TABLE 16—SELECTED CAUSES OF INFANT DEATH BY SEX AND MONTH OF DEATH, ALBERTA, 1962

Int. List No.	CAUSE OF DEATH (7th Rev.)	Total Under 1 Year		MONTH OF DEATH																							
		Total	Female	January		February		March		April		May		June		July		August		September		October		November		December	
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
	ALL CAUSES	984	565	419	59	38	57	32	36	47	40	29	41	43	39	31	41	29	50	29	42	36	43	36	48	36	
001-019	Tuberculosis, all forms																										
020-029	Syphilis	1	1												1								1				
030-039	Dysentery, all forms	1	1																								
040-049	Scarlet fever																										
050-059	Dysphagia																										
060-069	Diphtheria																										
070-079	Whooping cough																										
080-089	Meningococcal infections	2	2	2	1	1	1	1	1								1										
090-099	Measles	2	2	2																							
100-109	All malignant neoplasms ¹																										
110-119	Hodgkin's disease																										
120-129	Leukaemia and leukaemia	1	1																								
130-139	Benign neoplasms																										
140-149	Diseases of thymus gland	1	1	1																							
150-159	Mental deficiency	7	3	4																							
160-169	Otitis media	3	1	2																							
170-179	Acute upper respiratory infection	1	1	1																							
180-189	Influenza	6	4	2																							
190-199	Pneumonia (4 weeks and over)	94	57	37	11	4	6	7	3	3	1	2	3	5	2	2	5	2	7	5	6	3	4	3	4		
200-209	Erysipelas	10	7	3																							
210-219	Stomatitis	1	1	1																							
220-229	Herpetic gingivostomatitis	11	4	7																							
230-239	Hepatitis and ductectasia	46	28	18																							
240-249	Hepatitis and ductectasia	11	4	7																							
250-259	Gastro-enteritis and colitis	172	92	80	8	7	4	7	10	7	9	7	11	8	10	4	5	7	5	9	3	8	8	5	12	4	
260-269	Chronic enteritis and ulcerative colitis	59	33	26																							
270-279	Congenital malformations	20	8	12																							
280-289	Injury at birth—	39	25	14																							
290-299	—Without immaturity	20	8	12																							
300-309	—With immaturity	19	17	2																							
310-319	Postnatal asphyxia and atelectasis—	128	85	49	8	5	7	3	6	4	3	5	7	5	14	5	6	3	4	2	5	4	7	3	4	6	
320-329	—Without immaturity	30	20	10	1	1	2	2	1	1	1	1	2	1	4	2	2	1	1	1	1	1	1	1	1	1	
330-339	—With immaturity	98	60	39	7	4	4	5	5	3	2	4	5	4	10	5	4	2	4	2	4	3	2	2	2	3	

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TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1962
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1961	1962												
A 35 Rabies	1													
A 36 Typhus and other rickettsial diseases														
A 37 Malaria		1						1						
A 38 Schistosomiasis		1								1				
A 39 Hydatid disease		1												
A 40 Filariasis														
A 41 Ankylostomiasis	3													
A 42 Other diseases due to helminths	110	104	4		3	4	34	35	5	2	8	9		3
A 43 All other diseases classified as infective and parasitic	23,961	24,876	514	184	1,064	748	6,654	8,955	1,392	1,201	1,584	2,562	5	13
II. NEOPLASMS														
All malignant neoplasms (A44-A59)														
A 44 Malignant neoplasms of buccal cavity and pharynx	538	529	21	3	23	11	186	166	21	21	21	45		
A 45 Malignant neoplasm of oesophagus	350	423	12			7	11	111	167	21	24	20		1
A 46 Malignant neoplasm of stomach	2,732	2,733	114	23	148	91	749	781	174	153	152	238		1
A 47 Malignant neoplasm of pancreas, except rectum	2,686	2,903	69	28	128	103	881	1,039	135	112	144	243		1
A 48 Malignant neoplasm of rectum	1,069	1,156	17	1	49	34	274	311	67	50	62	118		
A 49 Malignant neoplasm of larynx	161	180	1		7		4	73	62	5	4	20		
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	2,774	3,034	34	12	126	56	680	1,159	181	142	165	204		2
A 51 Malignant neoplasm of breast	2,162	2,216	20	23	92	74	639	861	101	86	114	265		1
A 52 Malignant neoplasm of cervix uteri	629	668	22	5	37	26	171	237	28	19	42	81		
A 53 Malignant neoplasm of other and unspecified parts of uterus	421	466	1	2	18	16	189	142	29	17	14	38		
A 54 Malignant neoplasm of prostate	1,438	1,366	15	12	58	39	324	493	77	81	119	148		
A 55 Malignant neoplasm of skin	2,899	2,936	8	1	13	15	70	117	20	11	14	27		
A 56 Malignant neoplasm of bone and connective tissue	306	281	2		9	11	96	82	16	12	15	18		
A 57 Malignant neoplasm of all other and unspecified sites	5,845	6,059	122	54	255	185	1,545	2,118	381	316	434	644		4
A Other digestive organs (155-159)	2,263	2,332	32	13	87	85	569	760	148	120	183	264		1
B Other respiratory organs (160, 164, 165)	103	101	7	1	2	3	30	32	1	8	7	10		
C Urinary organs (180, 181)	1,232	1,284	22	10	53	38	320	474	78	67	73	126		3
D Brain and other parts of nervous system (193)	645	637	10	8	26	11	173	229	46	39	44	71		
E Other	1,602	1,714	51	22	88	48	423	593	108	82	127	173		
A 58 Leukaemia and leukaemia	1,044	1,126	27	4	34	35	286	381	58	77	103	120		1
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	1,120	1,138	17	7	51	25	273	427	67	64	90	117		

A Hodgkin's disease (201)	238	6	1	20	3	60	83	14	11	20	20	1
B Other	838	900	11	6	31	213	344	53	53	70	97	1
A 60 Benign neoplasms and neoplasms of unspecified nature	311	357	12	12	12	97	132	11	12	42	26	1
III. IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC BLOOD DISEASES	3,620	3,573	59	17	186	1,193	1,140	130	201	234	284	6
A 61 Nontoxic goitre	13	9	1	1	1	3	2	2	1	1	1	1
A 62 Thyrotoxicosis with or without goitre	40	41	1	1	3	13	16	2	3	2	1	1
A 63 Diabetes mellitus	2,164	2,169	30	9	112	81	732	73	11	146	145	3
A 64 Avitaminosis and other deficiency states	84	59	2	1	1	1	9	1	3	1	10	1
A 65 Anaemias	361	335	10	1	17	10	106	10	24	24	24	1
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	933	960	16	7	58	28	302	41	49	60	99	1
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	467	432	13	3	18	16	150	166	9	21	19	1
A 67 Psychoses	182	184	2	1	5	6	61	79	5	9	7	1
A 68 Psychoneuroses and disorders of personality	153	133	2	2	6	2	35	61	4	3	9	1
A 69 Mental deficiency	132	115	11	7	7	8	54	26	4	3	2	1
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	17,057	17,015	438	138	880	636	3,847	6,676	864	727	1,061	6
A 70 Vascular lesions affecting central nervous system	15,999	15,300	379	129	816	567	3,254	6,133	799	666	967	4
A 71 Neuroinfectious meningitis	213	193	4	1	7	4	66	60	11	10	13	5
A 72 Multiple sclerosis	174	197	4	2	11	11	64	63	3	17	20	1
A 73 Epilepsy	304	278	3	1	11	11	126	63	14	15	14	1
A 74 Inflammatory diseases of eye	3	4	1	1	1	1	1	1	1	1	1	1
A 75 Cataract	3	4	1	1	1	1	1	1	1	1	1	1
A 76 Glaucoma	2	1	1	1	1	1	1	1	1	1	1	1
A 77 Otitis media and mastoiditis	98	113	3	1	2	4	57	22	2	7	13	2
A 78 All other diseases of the nervous system and sense organs	958	926	40	5	33	46	286	327	35	24	60	4
VII. DISEASES OF THE CIRCULATORY SYSTEM	54,786	55,915	856	439	2,478	1,881	13,516	21,682	2,910	2,846	3,115	6,166
A 79 Rheumatic fever	64	49	1	1	1	2	24	12	4	2	2	1
A 80 Chorea/stroke heart disease	1,464	1,347	42	11	43	41	381	485	71	63	92	11
A 81 Other diseases of degenerative heart disease	43,233	44,438	535	314	1,921	1,488	10,166	18,076	2,243	2,102	2,427	5,121
A 82 Other diseases of heart disease	2,093	2,167	104	25	111	77	560	572	109	187	195	202
A 83 Hypertension with heart disease	3,079	2,855	30	13	138	32	1,322	916	121	129	104	237
A 84 Hypertension without mention of heart disease	907	876	30	13	138	36	774	411	36	34	54	1
A 85 Diseases of arteries	3,278	3,404	53	24	192	136	1,149	221	278	28	580	1
A 86 Other diseases of circulatory system	566	659	7	2	25	13	128	212	92	53	43	84
VIII. DISEASES OF THE RESPIRATORY SYSTEM	8,022	8,319	291	73	318	276	1,676	2,878	626	442	605	1,057
A 87 Acute upper respiratory infections	128	88	2	9	9	3	18	25	3	8	17	1
A 88 Influenza	537	572	33	8	23	25	160	152	29	33	45	6

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TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1962
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1961	1962												
A 89 Lobar pneumonia	517	552	22	5	23	28	67	187	49	32	42	88	9	9
A 90 Bronchopneumonia	3,262	3,326	120	19	123	115	115	638	255	171	235	406	7	12
A 91 Primary atypical, other and unspecified pneumonia	1,293	1,377	63	27	56	54	169	490	112	69	111	196	3	27
A 92 Acute bronchitis	87	107	3	3	5	5	18	33	9	10	17	17	1	1
A 93 Bronchitis, chronic and unqualified	752	816	18	7	27	15	205	305	53	39	57	90	1	1
A 94 Hypertrophy of tonsils and adenoids	20	21	1	1	1	1	5	8	5	3	4	13	1	1
A 95 Empyema and abscess of lung	69	78	3	1	1	1	23	25	5	3	4	13	1	1
A 96 Pleurisy	37	45	4	2	19	12	35	11	6	1	6	167	1	9
A 97 All other respiratory diseases	1,320	1,337	27	4	46	32	194	416	110	80	92	167	1	9
IX. DISEASES OF THE DIGESTIVE SYSTEM	5,278	5,231	93	23	208	137	1,400	1,884	280	261	376	546	1	22
A 98 Diseases of teeth and supporting structures	12	5	6	1	19	16	124	173	26	31	32	63	1	1
A 99 Ulcer of stomach	440	491	11	3	22	11	77	190	24	17	1	56	1	1
A 100 Ulcer of duodenum	406	443	11	3	22	11	77	190	24	17	1	56	1	1
A 101 Gastritis and duodenitis	483	21	1	1	1	4	7	9	6	9	11	11	1	1
A 102 Appendicitis	167	157	1	2	10	4	39	64	6	9	11	11	1	1
A 103 Intestinal obstruction and hernia	929	862	8	2	46	27	196	326	49	41	66	99	2	2
A 104 Gastro-enteritis and colitis, except diarrhoea of the newborn	864	868	38	5	24	31	248	232	58	63	82	72	1	14
A 105 Cirrhosis of liver	1,083	1,052	12	4	20	13	325	429	50	40	45	114	1	1
A 106 Cholelithiasis and cholecystitis	550	540	4	2	19	15	149	200	25	25	43	57	1	5
A 107 Other diseases of digestive system	784	792	13	4	47	18	233	260	42	34	64	72	1	5
X. DISEASES OF THE GENITO-URINARY SYSTEM	2,984	2,899	54	22	97	94	1,016	901	114	159	166	273	3	3
A 108 Acute nephritis	84	65	4	4	1	1	28	21	2	4	2	3	2	2
A 109 Chronic, other and unspecified nephritis	1,367	1,360	22	14	56	63	644	340	45	57	65	89	1	1
A 110 Infections of kidney	147	160	11	4	16	14	137	228	38	41	45	73	1	1
A 111 Calculi of urinary system	147	118	4	2	10	10	99	85	6	8	8	13	1	1
A 112 Hyperplasia of prostate	510	438	11	2	9	10	99	179	21	36	31	40	1	1
A 113 Diseases of ureter	309	282	2	2	12	3	96	98	7	13	15	34	1	1
A 114 Other diseases of genito-urinary system	309	282	2	2	12	3	96	98	7	13	15	34	1	1
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD BIRTH AND THE PUERPERUM	219	191	5	9	9	7	69	54	7	5	16	17	1	1
A 115 Sepsis of pregnancy, childbirth and the puerperium	27	28	1	2	1	1	11	11	1	1	1	4	1	1
A 116 Toxaemias of pregnancy and the puerperium	34	25	1	1	1	1	6	8	1	1	1	4	1	1

A117 Haemorrhage of pregnancy and childbirth	44	45	2	3	2	21	6	2	2	4	1
A118 Abortion without mention of sepsis or toxæmia	8	8	1	1	1	4	3	1	1	2	1
A119 Abortion with sepsis	16	15	1	1	1	4	8	1	1	1	1
A120 Other complications of pregnancy, childbirth and the puerperium	90	70	2	4	4	29	18	2	1	5	1
XII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM											
A121 Infections of skin and subcutaneous tissue	583	571	14	2	16	164	216	31	15	46	50
A122 Infections and sprynitis	55	59	3	5	5	17	23	2	1	4	8
A123 Muscular rheumatism	241	226	3	5	5	59	94	14	10	15	21
A124 Osteomyelitis and periostitis	13	9	1	2	1	2	5	1	1	1	1
A125 Ankylosis and acquired musculoskeletal deformities	19	10	1	1	2	3	2	1	1	1	1
A126 All other diseases of skin and musculoskeletal system	245	262	6	2	9	82	89	14	4	25	21
XIV. CONGENITAL MALFORMATIONS											
A127 Spina bifida and meningocele ^a	2,822	2,896	90	27	149	96	892	136	123	221	177
A	314	446	16	6	29	20	176	141	18	9	15
B	194	194	8	14	9	77	53	10	3	7	7
C	252	252	2	15	11	99	88	8	6	8	8
A128 Congenital malformations of circulatory system	1,192	1,246	30	6	55	34	409	388	60	64	110
A129 All other congenital malformations ^a	1,316	1,204	44	13	65	42	389	363	58	96	77
XV. CERTAIN DISEASES OF EARLY INFANCY											
A130 Birth injuries	7,159	7,316	288	40	316	259	2,457	2,190	323	356	498
A131 Postnatal asphyxia and atelectasis	1,264	1,338	38	2	42	37	535	398	82	56	59
A132 Infections of the newborn	1,902	1,478	52	7	69	29	440	477	73	84	129
A133 Haemolytic disease of newborn	359	358	35	3	23	21	160	128	35	22	42
A134 All other defined diseases of early infancy	321	538	11	2	10	13	145	96	11	16	17
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	271	240	19	1	4	6	82	76	11	14	12
	3,256	3,369	133	25	166	153	1,095	1,015	111	165	272
XVI. SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS											
A136 Senility without mention of psychosis	1,220	1,277	193	14	53	65	280	171	28	46	359
A137 Ill-defined and unknown causes	500	525	116	7	26	46	101	62	15	23	96
	720	752	77	7	27	19	179	109	13	23	263
XVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)											
AE138 Motor vehicle accidents	11,229	11,681	217	67	498	300	3,453	3,974	535	558	850
A	3,882	4,325	48	23	177	163	1,451	1,395	161	189	315
B	3,782	4,224	47	20	176	156	1,433	1,360	157	182	302
C	100	101	1	3	1	7	18	35	4	7	13
AE139 Other transport accidents	547	508	18	3	35	20	82	166	27	21	21
A	231	248	12	3	24	14	38	95	12	4	30
B	219	249	1	1	11	6	41	3	1	10	10
C	245	241	5	1	10	6	38	14	12	17	6
AE140 Accidental poisoning	391	396	6	2	9	8	61	104	15	16	112
AE141 Accidental falls	1,623	1,594	22	13	59	48	315	714	77	63	108
AE142 Accident caused by machinery	215	225	5	2	11	7	66	56	13	23	28

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TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1962
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1961	1962												
AE143 Accident caused by fire and explosion of combustible material	603	658	22	5	29	25	164	217	24	28	40	91	3	10
AE144 Accident caused by hot substance, corrosive liquid, steam and radiation	37	42	3	...	2	...	12	14	2	...	4	4	...	1
AE145 Accident caused by firearm	176	189	4	1	18	9	46	48	12	14	17	18	...	2
AE146 Accidental drowning	833	820	36	6	45	25	331	191	31	29	41	72	5	8
AE147 All other accidental causes	1,333	1,327	44	7	55	35	238	449	80	83	97	173	3	13
All accidental causes	9,640	10,084	208	62	440	340	2,816	3,370	442	471	717	1,156	18	44
AE148 Suicide	1,366	1,351	9	4	45	36	269	522	79	73	116	171	...	7
AE149 Homicide and injury purposely inflicted by other persons (not in war)	217	259	...	1	13	3	68	79	14	14	16	50	1	...
AE150 Injury resulting from operations of war	6	7	...	...	...	...	...	3	...	...	1	2	...	...
NXVII ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	11,229	11,681	217	67	498	380	3,153	3,974	535	558	850	1,379	19	51
AN138 Fracture of skull	2,451	2,635	29	8	104	86	971	803	91	84	156	302	...	1
AN139 Fracture of spine and trunk	608	722	7	8	30	21	206	267	34	29	43	74	...	1
AN140 Fracture of limbs	1,122	1,124	12	7	52	38	252	504	48	42	82	86	...	1
AN141 Dislocation without fracture	16	8	...	...	...	...	...	5	...	...	...	1	...	...
AN142 Sprains and strains of joints and adjacent muscles	2	2	...	...	...	...	...	1	...	...	...	...	...	...
AN143 Head injury (excluding fracture)	980	1,025	16	2	50	43	237	346	49	67	94	116	...	4
AN144 Internal injury of chest, abdomen and pelvis	1,649	1,724	23	9	60	55	354	592	96	129	165	235	...	5
AN145 Laceration and open wounds	161	194	3	1	11	11	30	78	3	8	23	23	...	3
AN146 Superficial injury, contusion and crushing with intact skin surface	16	17	...	...	...	...	...	8	...	...	...	2	...	...
AN147 Effects of foreign body entering through orifice	467	482	18	3	26	14	100	180	36	37	28	37	...	1
AN148 Burns	483	560	23	4	32	18	144	169	21	16	47	71	...	7
AN149 Effects of poisons	998	941	10	6	18	24	182	342	41	47	181	181	...	6
AN150 All other and unspecified effects of external causes	2,320	2,247	76	19	115	70	663	682	116	96	131	248	...	20

1 Effective 1962, deaths where the underlying cause was reported as 'inactive' 'healed' or 'arrested' pulmonary tuberculosis were classified to tuberculosis; formerly such deaths were classified to the resulting pulmonary condition.

2 Due to changes in classification, 1962 figures are not strictly comparable with previous year.

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1962

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1961	1962												
	773.0	773.8												
ALL CAUSES	8.7	8.1	680.4	986.2	850.1	788.8	692.2	822.4	797.1	753.1	676.2	898.9	500.0	1,287.5
I. INFECTIVE AND PARASITIC DISEASES														
A 1 Tuberculosis of respiratory system	3.7	3.7	8.1	15.5	7.0	9.2	11.1	5.9	7.3	5.2	5.8	6.7		179.2
A 1 Active	3.7	3.3	7.2	2.8	3.2	3.5	6.0	2.3	3.1	3.0	1.8	2.6		45.8
B Inactive (002.2, 008.2)	0.0	0.4	0.9	0.0	2.5	0.2	5.7	1.9	2.4	1.5	1.7	2.4		45.8
A 2 Tuberculosis of meninges and central nervous system	0.2	0.2	1.1	0.0	0.7	0.5	0.3	0.4	0.1	1.5	0.1	0.2		4.2
A 3 Tuberculosis of intestines, peritoneum and mesenteric glands	*	0.1	0.2	0.0	0.1	0.1	0.1	*	0.1	0.2	0.1	0.1		4.2
A 4 Tuberculosis of bones and joints	*	0.3	0.2	0.6	0.4	0.2	0.3	0.1	0.2	0.2	0.1	0.1		4.2
A 5 Tuberculosis, all other forms	*	0.3	0.2	0.6	0.4	0.2	0.3	0.1	0.2	0.2	0.1	0.1		4.2
A 6 Congenital syphilis	*	*	*	*	*	*	0.1	*	*	*	0.1	0.1		4.2
A 7 Early syphilis	*	*	*	*	*	*	0.1	*	*	*	0.1	0.1		4.2
A 8 Tabes dorsalis	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 9 General paralysis of insane	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 10 All other syphilis	0.1	0.1	0.2	0.2	0.2	0.2	0.2	*	*	*	0.5	0.1		4.2
A 11 Gonococcal infection	0.7	0.5	0.4	1.9	0.7	1.0	0.4	0.6	0.2	0.4	0.4	0.7		4.2
A 12 Typhoid fever	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 13 Paratyphoid fever	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 14 Paratyphoid fever and other Salmonella infections	0.1	*	*	*	*	*	*	*	0.1	*	*	0.1		4.2
A 15 Brucellosis (undulant fever)	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 16 Dysentery, all forms	0.2	0.1	0.2	0.2	0.2	0.3	*	*	0.1	0.1	0.1	*		4.2
A 17 Scarlet fever	*	*	*	*	*	0.3	*	*	*	*	0.1	*		4.2
A 18 Streptococcal sore throat	0.1	*	*	*	0.1	0.1	*	*	*	*	0.1	*		4.2
A 19 Erysipelas	0.4	0.3	0.2	0.9	0.1	0.5	0.2	0.4	0.6	0.1	0.3	0.5		4.2
A 20 Septicaemia and pyaemia	0.2	0.1	1.3	0.3	0.3	0.3	0.2	*	*	0.1	0.1	0.1		4.2
A 21 Diphtheria	0.1	0.1	0.2	0.6	0.4	0.2	0.2	0.2	0.4	0.1	0.3	0.1		4.2
A 22 Whooping cough	0.1	0.1	0.2	0.6	0.4	0.2	0.2	0.2	0.4	0.1	0.3	0.1		4.2
A 23 Meningococcal infections	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 24 Plague	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 25 Leprosy	*	*	*	*	*	*	*	*	*	*	*	*		4.2
A 26 Tetanus	*	*	*	*	*	0.2	*	*	*	*	*	*		4.2
A 27 Anthrax	*	*	*	*	*	0.2	*	*	*	*	*	*		4.2
A 28 Salmonellosis	0.1	*	*	*	*	0.2	0.1	*	*	*	*	*		4.2
A 29 Acute infectious encephalitis	0.3	0.3	0.2	0.2	0.1	0.3	0.6	0.2	0.2	0.1	0.3	0.2		4.2
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1		4.2

	19.8	19.2	12.6	16.0	24.9	19.9	22.2	18.0	13.9	21.6	17.1	17.1	13.3	25.0
III. IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES														
A 61 Nontoxic goitre	0.1	0.1	0.2	0.4	0.4	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.1
A 62 Thyrotoxicosis with or without goitre	0.3	0.2	0.2	0.4	0.4	0.2	0.2	*	0.2	0.1	0.1	0.1	0.1	0.1
A 63 Diabetes mellitus	11.9	11.7	6.4	8.5	15.0	13.3	14.0	11.0	7.8	13.0	10.7	8.7	6.7	12.5
A 64 Avitaminosis and other deficiency states	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.1	0.6	0.1	0.6
A 65 Anaemias	2.0	1.8	2.1	0.9	1.5	1.6	2.0	1.7	1.1	2.6	1.8	1.7	0.1	4.2
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	5.1	5.2	3.4	6.6	7.8	4.6	5.6	4.4	4.4	5.3	4.4	6.0	6.7	4.2
V. MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS														
A 67 Psychoses	2.6	2.3	2.8	2.8	2.4	2.6	2.8	2.6	1.0	1.7	1.5	1.1	6.7	0.1
A 68 Psychoneuroses and disorders of personality	0.8	0.9	0.4	1.9	0.5	1.3	0.7	1.1	0.3	0.3	0.7	0.4	0.1	0.1
A 69 Mental deficiency	0.7	0.6	2.3	0.9	0.9	1.3	1.0	0.4	0.4	0.3	0.2	0.1	0.1	0.1
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS														
A 70 Vascular lesions affecting central nervous system	93.5	91.6	53.2	130.2	118.0	104.8	71.7	105.3	92.4	78.2	77.4	103.9	40.0	75.0
A 71 Nonmeningococcal meningitis	83.9	82.4	80.6	121.7	109.4	93.4	60.6	96.7	85.5	71.6	69.9	95.9	26.7	20.8
A 72 Multiple sclerosis	1.2	1.0	1.9	0.9	0.9	0.7	1.0	0.9	1.2	1.1	0.9	0.9	6.7	25.0
A 73 Epilepsy	1.0	1.1	0.9	1.9	1.5	0.7	1.2	1.1	0.5	1.1	0.7	1.2	0.1	0.1
A 74 Inflammatory diseases of eye	1.7	1.5	0.6	0.6	1.5	1.8	2.3	1.0	1.5	1.6	1.0	1.0	6.7	4.2
A 75 Cataract	*	*	.....	.....	.....	.....	.....	*	.....	.....	.....	0.1	.....	.....
A 76 Glaucoma	*	*	.....	.....	.....	.....	.....	*	.....	.....	.....	0.1	.....	.....
A 77 Otitis media and mastoiditis	0.5	0.6	0.6	0.9	0.3	0.7	1.1	0.3	0.3	0.2	0.5	0.8	.....	8.3
A 78 All other diseases of the nervous system and sense organs	5.3	5.0	8.5	4.7	4.4	7.6	5.3	5.2	3.7	2.6	4.4	4.0	.....	16.7
VII. DISEASES OF THE CIRCULATORY SYSTEM														
A 79 Rheumatic fever	300.4	301.1	182.1	414.2	332.2	306.9	251.9	341.9	311.2	306.0	227.4	371.7	73.3	62.5
A 80 Acute rheumatic heart disease	0.4	0.3	0.2	10.4	5.8	6.8	7.1	7.6	7.6	6.8	6.7	7.1	.....	4.2
A 81 Aortic valve and degenerative heart disease	237.0	239.3	113.8	296.2	257.5	245.1	190.0	285.0	239.9	228.0	177.2	308.7	46.7	33.3
A 82 Other diseases of heart	11.5	11.6	22.1	23.6	14.9	12.7	10.4	9.0	11.7	20.1	14.2	12.2	20.8	20.8
A 83 Hypertension with heart disease	17.4	16.1	17.0	50.0	18.5	20.9	14.4	12.9	13.9	13.9	7.6	14.3	20.0	.....
A 84 Hypertension without mention of heart	5.0	4.7	7.0	9.4	6.4	5.9	6.2	3.9	4.4	3.9	2.5	3.3	6.7	.....
A 85 Diseases of arteries	18.0	18.3	11.5	22.6	25.7	21.7	14.4	18.3	24.5	29.4	15.9	21.1	.....	4.2
A 86 Other diseases of circulatory system	3.1	3.5	1.5	1.9	3.4	2.1	2.4	3.3	9.8	5.7	3.1	5.1	.....	.....
VIII. DISEASES OF THE RESPIRATORY SYSTEM														
A 87 Acute upper respiratory infections	44.0	44.8	61.9	68.9	42.6	45.5	31.2	45.4	67.0	47.5	44.2	63.7	80.0	270.8
A 88 Influenza	0.7	0.5	0.4	7.5	1.2	0.5	0.3	0.4	0.3	0.2	0.6	1.0	.....	4.2
A 89 Lobar pneumonia	2.9	3.1	7.0	7.5	3.1	4.1	3.0	2.4	3.1	3.5	3.3	3.4	6.7	25.0
A 90 Bronchopneumonia	2.8	3.0	4.7	4.7	3.1	1.6	1.1	2.9	2.3	3.4	1.7	2.5	.....	50.5
A 91 Primary atypical, other and unspecified pneumonia	17.9	17.3	25.3	27.6	16.5	18.3	11.0	17.5	12.0	18.4	17.1	21.8	48.7	50.5
A 92 Acute bronchitis	0.3	0.4	0.6	2.8	0.7	0.9	3.1	0.7	1.0	0.8	0.7	1.0	20.0	132.5
A 93 Chronic bronchitis and unqualified	1.1	1.4	1.6	3.8	3.6	2.5	3.8	4.8	5.7	4.2	4.2	5.4	6.7	4.2
A 94 Hypertrophy of tonsils and adenoids	0.1	0.1	0.1	6.6	0.1	0.2	0.1	0.4	0.5	0.3	0.3	0.8	.....	.....
A 95 Empyema and abscess of lung	0.4	0.4	0.6	.....	0.1	0.2	0.4	0.1	0.1	0.2	0.1	0.1	.....	.....
A 96 Pleurisy	0.2	0.2	.....	.....	0.5	0.3	0.4	0.2	0.1	0.6	0.1	0.1	.....	.....
A 97 All other respiratory diseases	7.2	7.2	5.7	3.8	6.2	5.3	6.6	6.6	11.8	8.6	6.7	10.1	.....	37.5
IX. DISEASES OF THE DIGESTIVE SYSTEM														
A 98 Diseases of teeth and supporting structures	28.9	28.2	19.8	21.7	27.9	22.6	26.1	29.7	29.9	28.1	27.4	32.9	6.7	91.7
	0.1	*	.....	.....	.....	0.2	*	*	.....	.....	.....	0.1	.....	.....

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1962 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1961	1962												
	A 99 Ulcer of stomach	2.4													2.6	1.3	0.9	2.5	2.6	2.3	2.7	2.8	3.3	2.3	3.8	.....	.....
A100 Ulcer of duodenum	2.7	2.1	2.3	2.8	2.9	1.8	1.4	3.0	2.6	1.8	2.3	3.4	.....	.....
A101 Gastritis	0.2	0.1	.....	.....	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	.....	.....
A102 Intestinal and duodenitis	0.9	0.8	.....	.....	1.3	0.7	0.7	1.0	0.6	1.0	0.8	0.7	.....	.....
A103 Appendicitis	5.1	4.6	1.7	1.9	6.2	4.4	3.7	5.1	5.2	4.4	4.8	6.0	.....	8.3
A104 Intestinal obstruction and hernia	4.7	4.7	8.1	4.7	3.2	5.1	4.6	3.7	6.2	6.8	6.0	4.3	6.7	58.3
A105 Gastro-enteritis and colitis, except diarrhoea of the newborn	5.9	5.7	2.6	3.8	2.7	2.1	6.1	6.8	5.3	4.3	3.3	6.9	.....	.....
A106 Cirrhosis of liver	3.0	2.9	0.9	1.9	2.5	2.5	2.8	3.2	2.7	2.7	3.1	3.4	.....	4.2
A106 Cholelithiasis and cholecystitis	4.3	4.3	2.8	3.8	6.3	3.0	4.3	4.1	4.5	3.7	4.7	4.3	.....	20.8
A107 Other diseases of digestive system	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
X. DISEASES OF THE GENITO-URINARY SYSTEM	16.4	15.6	11.5	20.8	13.0	15.5	18.9	14.2	12.2	17.1	12.1	16.5	.....	12.5
A108 Acute nephritis	0.5	0.4	0.9	.....	0.1	.....	0.5	0.3	0.2	0.4	0.1	0.2	.....	.....
A109 Chronic, other and unspecified nephritis	7.7	7.5	4.7	13.2	7.5	10.4	12.0	5.4	4.8	6.1	4.7	5.4	.....	8.3
A110 Infections of kidney	3.1	3.2	2.3	3.8	2.1	2.3	2.1	3.6	3.3	4.4	3.3	5.7	.....	4.2
A111 Calculi of urinary system	0.6	0.6	0.9	.....	0.4	0.7	0.7	0.6	0.6	0.9	0.6	0.8	.....	.....
A112 Hypertrophia of prostate	3.5	4.7	4.6	3.7	2.4	3.3	3.7	3.6	4.4	7.5	4.4	4.7	.....	.....
A113 Diseases of testes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A114 Other diseases of genito-urinary system	1.7	1.5	0.4	1.9	1.6	0.5	1.8	1.5	0.7	1.4	1.1	2.0	.....	.....
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD-BIRTH AND THE PUERPERIUM	46.0	40.7	33.2	.....	46.3	42.5	51.1	34.6	30.5	21.4	41.2	44.6	182.8	88.2
A115 Sepsis of pregnancy, childbirth and the puerperium	5.7	6.0	.....	.....	10.3	.....	5.9	7.0	4.4	4.3	2.6	10.5	.....	.....
A116 Toxaemias of pregnancy and the puerperium	7.1	5.3	.....	.....	6.1	6.1	4.4	5.1	4.4	4.3	12.9	7.9	.....	.....
A117 Haemorrhage of pregnancy and childbirth	9.2	9.6	13.3	.....	15.4	12.1	15.6	3.8	8.7	8.6	5.2	10.5	.....	88.2
A118 Abortion without mention of sepsis or toxæmia	1.7	1.7	.....	.....	.....	.....	0.7	1.9	.....	.....	5.2	5.2	.....	.....
A119 Abortion with sepsis	3.4	3.2	6.6	.....	.....	.....	3.0	5.1	4.4	.....	2.6	.....	.....	.....
A120 Other complications of pregnancy, childbirth and the puerperium	18.9	14.9	13.3	.....	20.6	24.3	21.5	11.5	8.7	4.3	12.9	10.5	182.8	.....
XII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	3.2	3.1	3.0	1.9	2.1	2.6	3.1	3.4	3.3	1.6	3.4	3.0	.....	4.2
A121 Infections of skin and subcutaneous tissue	0.3	0.2	0.6	0.3	0.4	0.2	0.1	0.3	0.5	4.2
A122 Arthritis and spondylitis	1.3	1.2	0.6	0.7	0.8	1.1	1.5	1.5	1.1	1.1	1.3

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TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1962 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1961	1962												
AE148 Suicide	7.5	7.2	1.9	3.8	6.0	5.9	5.0	8.2	8.4	7.8	8.5	10.3	6.7	23.2
AE149 Homicide and injury purposely inflicted by other persons (not in war)	1.2	1.4	...	0.9	1.7	0.5	1.3	1.2	1.5	1.5	1.2	3.0	6.7	...
AE150 Injury resulting from operations of war .....	*	*	...	...	...	0.2	...	...	...	...	0.1	0.1	...	...
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)														
AN138 Fracture of skull	61.6	62.9	46.2	63.2	66.8	62.6	58.8	62.7	57.2	60.0	62.0	83.1	126.7	212.5
AN139 Fracture of spine and trunk	13.5	14.2	6.2	7.5	13.9	14.2	18.1	12.7	9.7	9.0	11.4	18.2	...	4.2
AN140 Fracture of limbs	3.3	3.9	1.5	7.5	4.0	3.5	4.2	3.6	3.1	3.1	3.1	4.5	...	4.2
AN141 Dislocation without fracture	6.2	6.1	2.6	6.6	7.0	6.3	4.7	7.9	5.1	4.5	6.0	5.2	...	4.2
AN142 Sprains and strains of joints and adjacent muscles	0.1	*	...	...	...	...	*	0.1	...	0.1	...	0.1	...	...
AN143 Head injury (excluding fracture)	5.4	5.5	3.4	1.9	6.7	7.1	4.4	5.5	5.2	7.2	6.9	7.0	...	16.7
AN144 Internal injury of chest, abdomen and pelvis	9.0	9.3	4.9	8.5	8.0	9.1	6.6	9.3	10.3	13.9	12.0	14.2	6.7	20.8
AN145 Laceration and open wounds	0.9	1.0	0.6	0.9	1.5	1.8	0.6	1.2	0.3	0.9	1.7	1.4	...	12.5
AN146 Superficial injury, contusion and crushing with intact skin surface	0.1	0.1	...	...	...	...	0.1	0.1	...	0.2	...	...	...	...
AN147 Effects of foreign body entering through orifice	2.6	3.8	...	2.8	3.5	2.3	1.9	2.8	3.9	4.0	2.0	2.2	6.7	8.3
AN148 Effects of poisons	2.1	3.0	...	2.9	4.3	3.0	2.7	2.7	4.2	1.7	5.9	4.3	46.7	33.3
AN149 Effects of external causes	2.2	5.1	...	5.7	5.4	3.4	3.4	5.1	5.1	5.1	5.1	5.1	6.0	27.3
AN150 All other and unspecified effects of external causes	12.7	12.1	16.2	17.9	15.4	11.5	12.4	10.8	12.4	10.3	9.6	14.9	60.0	83.3

1. Effective 1962, deaths where the underlying cause was reported as 'inactive' 'healed' or 'arrested' pulmonary tuberculosis were classified to tuberculosis; formerly such deaths were classified to the resulting pulmonary condition.

2. Per 100,000 females.

3. Per 100,000 males.

4. Per 100,000 live births.

5. Due to changes in classification, 1962 figures are not strictly comparable with previous year.

TABLE 24—LIVEBIRTHS OF INDIANS BY MONTHS, ALBERTA, 1962

MONTHS												
Total	January	February	March	April	May	June	July	August	September	October	November	December
2132	169	161	196	185	176	177	165	212	167	164	186	174

TABLE 25—LIVE BIRTHS OF LEGAL INDIANS BY MONTHS, ALBERTA, 1962

MONTHS												
Total	January	February	March	April	May	June	July	August	September	October	November	December
1194	88	81	102	116	98	102	89	132	88	99	113	86

TABLE 26—LEGITIMATE AND ILLEGITIMATE BIRTHS OF INDIANS
(EXCLUSIVE OF STILLBIRTHS) ALBERTA, 1962

Total Births			Legitimate			Illegitimate		
Total	Male	Female	Total	Male	Female	Total	Male	Female
2132	1073	1059	1360	672	688	772	401	371

TABLE 27—LEGITIMATE AND ILLEGITIMATE BIRTHS OF TREATY INDIANS
(EXCLUSIVE OF STILLBIRTHS) ALBERTA, 1962

Total Births			Legitimate			Illegitimate		
Total	Male	Female	Total	Male	Female	Total	Male	Female
1194	603	591	729	357	372	465	246	219

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TABLE 28—LIVE BIRTHS OF INDIANS BY AGE OF PARENTS, ALBERTA, 1962

AGE OF MOTHER (years)	AGE OF FATHER											Total born to married mothers	Born to un- married mothers	Born to all mothers			
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over				Not stated		
14 years	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2
15 years	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	16
16 years	2	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	29
17 years	6	15	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	35
18 years	1	27	13	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	46	72
19 years	2	33	23	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69	56
20 years	3	29	26	10	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	71	74
21 years	1	30	32	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70	61
22 years	.....	28	47	14	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	82	40
23 years	1	18	38	17	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	78	32
24 years	.....	10	35	29	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	95	50
25 years	.....	9	29	15	7	2	1	.....	.....	.....	.....	.....	.....	.....	.....	82	40
26 years	.....	3	19	31	6	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	63	33
27 years	2	18	25	14	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	65	32
28 years	.....	15	30	8	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	56
29 years	1	17	30	15	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	70	24
30 years	2	5	29	18	7	1	2	.....	.....	.....	.....	.....	.....	.....	.....	64	16
31 years	.....	5	22	17	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	48	26
32 years	1	4	15	19	11	5	.....	1	1	.....	.....	.....	.....	.....	.....	57	9
33 years	.....	1	12	21	4	4	.....	1	.....	.....	.....	.....	.....	.....	.....	43	21
34 years	.....	4	6	18	8	4	2	.....	.....	.....	.....	.....	.....	.....	.....	42	13
35 years	.....	.....	7	14	2	3	1	1	.....	.....	.....	.....	.....	.....	.....	28	9
36 years	.....	1	2	18	14	1	5	.....	.....	.....	.....	.....	.....	.....	.....	41	12
37 years	.....	1	3	8	13	3	2	.....	.....	.....	.....	1	.....	.....	.....	31	15
38 years	.....	1	9	13	9	1	1	.....	.....	.....	.....	.....	.....	.....	.....	34	8
39 years	.....	1	2	9	9	4	4	1	1	.....	.....	.....	.....	.....	.....	31	9
40 years	.....	1	1	6	4	4	2	1	1	.....	.....	.....	.....	.....	.....	20	5
41 years	.....	.....	.....	7	9	2	2	.....	.....	.....	.....	.....	.....	.....	.....	20	3
42 years	.....	.....	1	5	5	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	5
43 years	.....	.....	.....	2	5	1	1	1	.....	.....	.....	.....	.....	.....	.....	11	2
44 years	.....	.....	.....	1	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....
45 years	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
46 years	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
47 years	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
48 years	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....
49 years	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
50 and over	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not stated	2	2	1
Total fathers	16	213	342	321	216	121	75	33	14	4	3	2	1360	772	2132

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TABLE 29—LIVE BIRTHS OF LEGAL INDIANS BY AGE OF PARENTS, ALBERTA, 1962

AGE OF MOTHER (years)	AGE OF FATHER										Not stated	Total born to married mothers	Born to un- married mothers	Born to all mothers	
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64					65 and over
14 years														1	1
15 years														7	7
16 years	1	3	1										5	16	21
17 years	5	9	1										15	23	38
18 years		15	7										22	47	69
19 years		19	8	3									32	30	62
20 years		14	13	2									31	46	77
21 years	1	20	12	1	1	1							36	38	74
22 years		14	23	6	2	2							45	29	74
23 years	1	7	20	7	2	2	1						42	23	65
24 years		6	21	12	2	2	1	1					42	23	65
25 years		1	19	9	2	2							31	23	54
26 years		3	5	15	4	1							27	21	48
27 years			9	15	8	1							33	21	54
28 years			7	17	4	2							30	15	45
29 years		1	10	17	10	1	2	2					43	13	56
30 years		1	2	19	9	4	1	1					37	9	46
31 years			3	13	10	1							27	12	39
32 years			3	10	12	4	3	1					33	6	39
33 years				6	11	2	3	1					23	10	33
34 years			2	5	13	4	2	2					28	11	39
35 years				5	10		2						17	5	22
36 years				2	14	10		3					29	10	39
37 years			1	1	4	11	1	1		1			20	8	28
38 years				1	8	8							22	4	26
39 years				1	1	6	6	3	4		1		22	4	26
40 years				1		5	5	2	1	1	1		12	2	14
41 years						5	3	1					9	3	12
42 years						2	2	2					7	4	11
43 years						2	2	2				1	5	2	7
44 years						1							3		3
45 years															
46 years							1						1		1
47 years								1					1		1
48 years								1					1		1
49 years															
50 and over															
Not stated			2										2	1	3
Total fathers	12	113	169	168	127	71	38	19	7	1	3	1	729	465	1194

TABLE 30—BIRTHS BY PLACE OF OCCURRENCE AND PLACE OF RESIDENCE, 1962

PLACE OF OCCURRENCE	PLACE OF RESIDENCE														
	Total (occurrence)	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	U.S.A.	Other
Total (residence)	470,210	15,064	2,805	19,432	16,467	135,000	156,053	22,918	23,341	38,804	38,128	547	1,134	495	22
Newfoundland	15,026	15,001		9		7	6		1	1				1	
Prince Edward Island	2,806		2,782			3								1	
Nova Scotia	19,479		19	19,357	9	10		2	1	1	2	1	2	3	4
New Brunswick	16,707	21	1	32	16,353	26	16			2				48	
Quebec	133,577	29	1	32	53	133,472	116	2	2	8	2	2	4	49	7
Ontario	157,208	8	1	12	58	1,242	155,593	25	7	97	19	2	52	285	6
Manitoba	23,289			1	3	5	113	22,789	29	7	12	2	27	34	2
Saskatchewan	23,285				1	1		39	22,840	269	14	7	52	54	6
Alberta	38,667	1				7	37	33	130	38,384	88	7	27	11	3
British Columbia	38,148			1		4	14	6	16	71	37,966	4	3	52	8
Yukon	583					4		1		17		532	1	2	
Northwest Territories	1,061				42	159	122	43	14	18	16		1,042		
United States	424	2	2	5									1		

TABLE 31—LIVE BIRTHS AND LIVE BIRTHS IN HOSPITAL BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1962

CENSUS DIVISIONS	TOTAL BIRTHS				BIRTHS IN HOSPITALS			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
ALBERTA	38,667	38,804	283	420	38,174	38,310	282	418
Division No. 1	986	986	42	42	973	973	42	42
Division No. 2	2,288	2,129	215	56	2,229	2,071	214	56
Division No. 3	849	889	57	97	826	867	56	97
Division No. 4	335	340	46	51	321	326	46	51
Division No. 5	634	887	39	292	627	878	39	290
Division No. 6	9,606	9,368	375	137	9,574	9,334	375	135
Division No. 7	991	1,003	97	109	984	997	96	109
Division No. 8	2,234	2,272	137	175	2,220	2,258	135	173
Division No. 9	402	467	35	100	380	445	33	98
Division No. 10	1,348	1,587	128	367	1,343	1,582	128	367
Division No. 11	13,340	12,637	950	247	13,316	12,613	946	243
Division No. 12	1,630	1,660	110	140	1,565	1,597	107	139
Division No. 13	1,068	1,162	189	283	1,053	1,145	187	279
Division No. 14	369	618	7	256	356	604	7	255
Division No. 15	2,587	2,799	46	258	2,407	2,620	43	256

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TABLE 32—LIVE BIRTHS AND LIVE BIRTHS IN HOSPITAL BY OCCURRENCE AND RESIDENCE FOR URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1962

CITY, TOWN OR VILLAGE	Total Births				Births in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence Residence Elsewhere	By Residence; Occurrence Elsewhere
Athabasca	190	38	158	6	189	38	157	6
Barrhead	307	80	233	6	307	80	233	6
Bellevue	...	25	...	25	...	25	...	25
Black Diamond	...	31	...	31	...	31	...	31
Blainmore	1	41	1	41	1	40	1	40
Bonnyville	216	94	133	11	215	93	133	11
Bow Island	108	29	81	2	107	29	80	2
Bowness	2	239	1	238	1	238	1	238
Brooks	236	76	162	2	235	75	162	2
Calgary	8,982	8,025	1,064	107	8,968	8,011	1,063	106
Camrose	417	195	229	7	416	195	228	7
Cardston	179	90	105	16	179	90	105	16
Castor	107	30	79	2	107	30	79	2
Claresholm	98	44	58	4	98	44	58	4
Coaldale	99	49	58	8	99	49	58	8
Cold Lake	265	88	200	23	265	87	200	22
Coleman	5	53	...	48	4	52	...	48
Coleman	34	34	...	17	34	34	...	17
Devon	140	34	111	5	139	34	110	5
Drayton Valley	330	188	178	36	330	187	178	35
Drumheller	272	125	153	6	272	125	153	6
Edmonton	12,590	8,956	3,728	94	12,577	8,945	3,726	94
Edson	190	141	83	34	190	141	83	34
Fairview	179	58	126	5	179	58	126	5
Fort Macleod	89	61	32	4	89	61	32	4
Fort Saskatchewan	...	92	...	92	...	92	...	92
Grand Centre	1	95	1	95	...	95	...	95
Grande Prairie	707	388	336	17	707	388	336	17
Grimshaw	...	42	...	42	...	42	...	42
Hanna	138	70	70	2	137	69	70	2
High Prairie	322	99	233	10	320	98	232	10
High River	213	40	176	3	213	40	176	3
Hinton	166	133	42	9	166	133	42	9
Innisfail	216	88	135	7	215	88	134	7
Jasper Place	2	1,232	...	1,230	...	1,230	...	1,230
Lac La Biche	254	76	193	15	252	76	191	15
Lacombe	256	67	197	8	255	66	197	8
Leduc	24	87	10	73	24	87	10	73
Lethbridge	1,346	926	443	23	1,345	926	442	23
Lloydminster	...	118	...	118	...	118	...	118
Magrath	75	28	48	1	73	27	47	1
McLennan	166	35	133	2	166	35	133	2
McMurray	61	29	39	7	60	29	38	7
Medicine Hat	867	641	241	15	866	640	241	15
Montgomery	1	148	...	147	...	147	...	147
Nanton	...	24	...	24	...	24	...	24
Okotoks	...	28	...	28	...	28	...	28
Olds	217	89	137	9	217	89	137	9
Peace River	351	173	189	11	348	172	187	11
Pincher Creek	254	129	130	5	254	129	130	5
Ponoka	226	144	94	12	226	144	94	12
Provost	146	38	109	1	146	38	109	1
Raymond	71	40	39	6	69	40	37	6
Redcliff	...	57	...	57	...	57	...	57
Red Deer	934	688	283	37	933	687	283	37
Redwater	...	40	...	40	...	40	...	40
Rimby	167	54	120	7	166	54	119	7
Rocky Mountain House	205	119	97	11	203	118	96	11
St. Albert	1	187	...	186	...	186	...	186
St. Paul	274	116	169	11	274	116	169	11
Stettler	222	124	122	24	221	124	121	24
Stony Plain	1	56	1	56	...	56	...	56
Sylvan Lake	...	52	...	52	...	52	...	52
Taber	296	92	213	9	295	92	212	9
Three Hills	155	47	111	3	155	47	111	3
Valleyview	...	57	...	57	...	56	...	56
Vegreville	167	76	95	4	167	76	95	4
Vermilion	168	70	103	5	168	70	103	5
Viking	102	24	82	4	102	24	82	4
Vulcan	98	36	68	6	98	36	68	6
Wainwright	181	108	86	13	181	108	86	13
Westlock	329	72	261	4	327	72	259	4
Wetaskiwin	348	149	213	14	348	149	213	14
Whitecourt	1	82	...	81	...	81	...	81

TABLE 33—LIVE BIRTHS BY MONTHS IN ALBERTA, 1962

	Total	January	February	March	April	May	June	July	August	September	October	November	December
Province of Alberta	38,804	3,118	2,908	3,235	3,238	3,451	3,440	3,461	3,437	3,261	3,073	3,133	3,049
Male	19,778	1,608	1,501	1,652	1,605	1,764	1,723	1,746	1,763	1,703	1,541	1,587	1,585
Female	19,026	1,510	1,407	1,583	1,633	1,687	1,717	1,715	1,674	1,558	1,532	1,546	1,464

TABLE 34—LIVE BIRTHS FOR CENSUS DIVISIONS BY TYPE OF ATTENDANCE, ALBERTA, 1962

CENSUS DIVISION	Total	Attended by			
		Physician	Nurse	Midwife	Unattended and Not Stated
ALBERTA	38,804	38,341	167	172	124
Division No. 1	986	974	.....	10	2
Division No. 2	2,129	2,079	4	38	8
Division No. 3	889	869	.....	18	2
Division No. 4	340	328	1	11	.....
Division No. 5	887	862	20	2	3
Division No. 6	9,368	9,355	.....	5	8
Division No. 7	1,003	1,000	.....	3	.....
Division No. 8	2,272	2,266	.....	3	3
Division No. 9	467	450	.....	.....	.....
Division No. 10	1,587	1,587	.....	17	.....
Division No. 11	12,637	12,630	1	2	4
Division No. 12	1,660	1,606	21	10	23
Division No. 13	1,162	1,147	8	2	5
Division No. 14	618	608	7	3
Division No. 15	2,799	2,580	112	44	63

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TABLE 35—LIVE BIRTHS IN INCORPORATED URBAN PLACES OF 1,000 POPULATION AND OVER, BY TYPE OF ATTENDANCE, ALBERTA, 1962

CITY, TOWN OR VILLAGE	Total	Attended by			
		Physician	Nurse	Midwife	Unattended and Not Stated
Athabaska	38	38			
Barrhead	80	80			
Bellevue	25	25			
Black Diamond	31	31			
Blairmore	41	41			
Bonnyville	94	94			
Bow Island	29	29			
Bowness	239	239			
Brooks	76	76			
Calgary	8,025	8,024			1
Camrose	195	195			
Cardston	90	90			
Castor	30	30			
Claresholm	44	44			
Coaldale	49	49			
Cold Lake	88	88			
Coleman	53	53			
Devon	34	34			
Didsbury	34	34			
Drayton Valley	188	188			
Drumheller	125	125			
Edmonton	8,956	8,956			
Edson	141	141			
Fairview	58	58			
Fort Macleod	61	61			
Fort Saskatchewan	92	92			
Grand Centre	95	95			
Grande Prairie	388	388			
Grimshaw	42	42			
Hanna	70	70			
High Prairie	99	99			
High River	40	40			
Hinton	133	133			
Innisfail	88	88			
Jasper Place	1,232	1,231			1
Lac La Biche	76	76			
Lacombe	67	67			
Leduc	87	87			
Lethbridge	926	926			
Lloydminster	118	118			
Magrath	28	27			1
McLennan	35	35			
McMurray	29	29			
Medicine Hat	641	640			1
Montgomery	148	148			
Nanton	24	24			
Okotoks	28	28			
Olds	89	89			
Peace River	173	173			
Pincher Creek	129	129			
Ponoka	144	144			
Provost	38	38			
Raymond	40	40			
Redcliff	57	57			
Red Deer	688	688			
Redwater	40	40			
Rimbey	54	54			
Rocky Mountain House	119	119			
St. Albert	187	186			1
St. Paul	116	116			
Stettler	124	124			
Stony Plain	56	56			
Sylvan Lake	52	52			
Taber	92	92			
Three Hills	47	47			
Valleyview	57	56			1
Vegreville	76	76			
Vermilion	70	70			
Viking	24	24			
Vulcan	36	36			
Wainwright	108	108			
Westlock	72	72			
Wetaskiwin	149	149			
Whitecourt	82	81			1

TABLE 41—MARRIAGES BY MONTH OF MARRIAGE, 1962, ALBERTA

Total	10,423
January	367
February	539
March	600
April	720
May	864
June	1,330
July	1,050
August	1,166
September	1,010
October	942
November	948
December	887

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TABLE 43—MARRIAGES, MARITAL STATUS OF BRIDEGROOM BY STATUS OF BRIDE, ALBERTA, 1962

	Total Marriages	MARRIAGES BETWEEN								
		Bachelors and			Widowers and			Div'ced Men and		
		Spinsters	Widows	Divorced Women	Spinsters	Widows	Divorced Women	Spinsters	Widows	Divorced Women
Alberta	10,423	8,719	216	462	86	188	55	402	96	199

TABLE 44—MARRIAGES, MARITAL STATUS BY AGE OF BRIDEGROOM, 1962

AGES	MARITAL STATUS			
	Total	Bachelors	Widowers	Divorced Men
Under 20 years	714	714	.....	.....
20 - 24 years	4,967	4,927	2	38
25 - 29 years	2,419	2,273	8	138
30 - 34 years	986	830	16	140
35 - 39 years	470	333	20	117
40 - 44 years	240	128	20	92
45 - 49 years	206	85	39	82
50 - 54 years	132	45	36	51
55 - 59 years	97	32	41	24
60 - 64 years	66	7	50	9
65 - 69 years	49	8	38	3
70 - 74 years	48	10	35	3
75 and over	29	5	24	.....
Not stated .....	.....	.....	.....	.....
Total	10,423	9,397	329	697

TABLE 45—MARRIAGES, MARITAL STATUS BY AGE OF BRIDE, 1962

AGES	MARITAL STATUS			
	Total	Spinsters	Widows	Divorced Women
Under 20 years	3,857	3,850	3	4
20 - 24 years	4,026	3,902	12	112
25 - 29 years	1,066	866	31	169
30 - 34 years	483	311	41	131
35 - 39 years	300	133	42	125
40 - 44 years	222	71	72	79
45 - 49 years	173	41	76	56
50 - 54 years	102	23	59	20
55 - 59 years	66	6	50	10
60 - 64 years	50	4	40	6
65 - 69 years	41	38	3
70 - 74 years	24	23	1
75 and over	13	13
Not stated
Total	10,423	9,207	500	716

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TABLE 46—MARRIAGES, BIRTHPLACE OF GROOM BY BIRTHPLACE OF BRIDE, ALBERTA, 1962

BIRTHPLACE OF GROOM	BIRTHPLACE OF BRIDE														United States	Other			
	CANADA																		
	Total Grooms	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Province Unspecified			British Isles and Possessions	Europe	Asia
Canada	8,369	12	12	52	28	66	242	268	1,037	5,794	314	3	9	262	240	8	77	5	
Newfoundland	20	1	1	2	1	1	2	4	1	5	2	2	2	2	1	2	1	1	1
Prince Edward Island	25	5	5	8	1	1	2	10	6	8	1	1	1	2	1	1	1	1	1
Nova Scotia	100	1	1	1	1	1	2	10	18	45	4	1	1	6	4	2	1	1	1
New Brunswick	48	1	1	1	1	1	2	2	11	58	4	1	1	7	4	2	1	1	1
Quebec	113	2	3	5	2	11	33	22	43	204	20	1	1	28	12	12	12	12	12
Ontario	377	2	2	2	2	3	13	33	45	229	18	1	1	19	8	19	12	12	12
Manitoba	377	2	2	2	2	4	47	45	328	685	47	2	8	38	39	142	162	12	12
Saskatchewan	1,264	2	2	21	16	35	116	134	524	4,269	180	2	8	142	162	6	41	5	5
Alberta	5,669	1	1	3	1	4	14	12	50	204	37	2	8	16	8	2	2	2	2
British Columbia	352	1	1	3	1	4	4	4	204	4	37	2	8	16	8	2	2	2	2
Yukon	326	1	1	3	1	4	4	4	50	204	37	2	8	16	8	2	2	2	2
Northwest Territories	5	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1
Province unspecified	4	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1
British Isles and possessions	387	2	2	1	1	4	18	16	41	179	12	1	1	79	16	1	17	1	1
Europe	1,359	1	1	13	6	31	25	25	85	419	23	1	1	69	667	1	14	3	3
Asia	35	1	1	1	1	1	1	1	1	7	2	1	1	3	1	22	71	1	1
United States	264	1	1	1	2	8	8	10	18	123	7	1	1	12	11	1	1	1	1
Other	9	1	1	1	1	1	1	1	2	5	1	1	1	1	1	1	1	1	1
Unspecified	8	1	1	1	1	1	1	1	2	5	1	1	1	1	1	1	1	1	1
TOTAL	10,423	13	15	67	31	76	300	319	1,183	6,467	358	3	10	425	936	31	179	10	10

TABLE 48—STILLBIRTHS BY SEX AND PERIOD OF GESTATION, ALBERTA, 1962

PERIOD OF GESTATION	Male	Female
20 weeks	.....	.....
21 weeks	..... 2	.....
22 weeks	..... 1	.....
23 weeks	.....	..... 1
24 weeks	..... 5	..... 4
25 weeks	.....	..... 1
26 weeks	..... 5	..... 6
27 weeks	..... 7	..... 2
28 weeks	..... 9	..... 11
29 weeks	..... 3	..... 10
30 weeks	..... 7	..... 5
31 weeks	..... 8	..... 5
32 weeks	..... 13	..... 15
33 weeks	..... 8	..... 5
34 weeks	..... 12	..... 6
35 weeks	..... 10	..... 13
36 weeks	..... 23	..... 13
37 weeks	..... 13	..... 13
38 weeks	..... 18	..... 12
39 weeks	..... 21	..... 10
40 weeks	..... 41	..... 43
41 weeks	..... 11	..... 9
42 weeks	..... 2	..... 8
43 weeks	..... 2	..... 2
44 weeks	.....	..... 2
45 weeks	.....	.....
46 weeks	.....	.....
47 weeks	.....	.....
48 weeks	.....	.....
Not stated	..... 3	..... 2
Total 28+ weeks	..... 204	..... 184
Total 20 + weeks	..... 224	..... 198

TABLE 49—RATIO OF MALE TO FEMALE BIRTHS AND OF BIRTHS TO DEATHS

Year	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths	Year	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths
1905	1.059	3.13	1934	1.032	3.04
1906	1.094	2.07	1935	1.055	2.81
1907	1.075	2.96	1936	1.049	2.57
1908	1.077	2.73	1937	1.019	2.38
1909	1.086	2.59	1938	1.046	2.70
1910	1.065	2.69	1939	1.046	2.85
1911	1.103	2.43	1940	1.033	2.79
1912	1.084	2.43	1941	1.054	2.71
1913	1.053	2.67	1942	1.058	3.02
1914	1.081	3.30	1943	1.041	2.96
1915	1.000	3.74	1944	1.060	3.06
1916	1.063	3.29	1945	1.061	3.08
1917	1.061	3.25	1946	1.036	3.36
1918	1.069	1.88	1947	1.061	3.76
1919	1.074	2.56	1948	1.049	3.44
1920	1.055	2.92	1949	1.051	3.52
1921	1.055	3.32	1950	1.052	3.74
1922	1.034	3.06	1951	1.039	3.76
1923	1.072	3.13	1952	1.058	3.95
1924	1.036	2.97	1953	1.063	4.10
1925	1.036	2.97	1954	1.073	4.60
1926	1.053	2.80	1955	1.066	4.31
1927	1.065	2.94	1956	1.060	4.48
1928	1.064	2.75	1957	1.055	4.32
1929	1.042	2.71	1958	1.064	4.47
1930	1.027	3.21	1959	1.056	4.49
1931	1.075	3.25	1960	1.056	4.38
1932	1.052	3.08	1961	1.045	4.39
1933	1.053	3.01	1962	1.039	4.18

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TABLE 50—DIVORCES AND NULLITIES, BY JUDICIAL DISTRICTS
FOR THE YEAR 1962, ALBERTA

JUDICIAL DISTRICTS	DIVORCES			NULLITIES		
	Number of Divorces	Granted to Husband	Granted to Wife	Number of Nullities	Granted to Husband	Granted to Wife
Edmonton	490	185	305	5	2	3
Calgary	455	158	297	11	3	8
Lethbridge	44	17	27	1	1	...
Medicine Hat	15	6	9	...	...	...
Peace River	11	6	5	...	...	...
Grande Prairie .....	...	...	...	...	...	...
Hanna	1	1	...	...	...	...
Red Deer	39	16	23	...	...	...
Drumheller .....	...	7	...	...	...	...
Fort Macleod	8	7	1	...	...	...
Wetaskiwin	20	9	11	...	...	...
Vegreville	1	...	1	...	...	...
Totals	1084	405	679	17	6	11

TABLE 51—DIVORCES AND NULLITIES IN ALBERTA SINCE THE PASSING
OF THE ACT

YEAR	Granted to Husband	Granted to Wife	Total
1919	3	3	6
1920	74	26	100
1921	53	37	90
1922	80	49	129
1923	57	32	89
1924	66	53	119
1925	59	42	101
1926	79	75	154
1927	83	66	149
1928	91	84	175
1929	77	71	148
1930	64	87	151
1931	69	87	156
1932	68	81	149
1933	56	79	135
1934	62	106	168
1935	74	135	209
1936	74	135	209
1937	102	139	241
1938	105	162	267
1939	104	163	267
1940	119	154	273
1941	135	176	311
1942	179	201	380
1943	190	223	413
1944	245	243	488
1945	302	273	575
1946	494	480	974
1947	404	478	882
1948	302	357	659
1949	262	332	594
1950	249	311	560
1951	255	334	589
1952	239	391	630
1953	228	375	603
1954	224	384	608
1955	233	394	627
1956	278	410	688
1957	317	409	726
1958	295	457	752
1959	343	509	852
1960	399	566	965
1961	381	675	1056
1962	411	690	1101

TABLE 52—POPULATION, BIRTHS, MARRIAGES, DEATHS AND RATES FOR THE YEARS 1905 - 1962

Year	Population	Number of Births	Birth Rate	Number of Marriages	Marriage Rate	Number of Deaths	Death Rate	Infantile Death Rate per 1,000 Births	Maternal Death Rate per 1,000 Births	Natural Increase
1905	185,000	421	20.41	187	6.77	114	7.36	90.00	....	13.04
1906	196,000	3,003	20.05	1,907	6.77	1,091	6.68	100.27	63.3	13.95
1907	206,000	4,732	22.45	2,032	7.63	1,578	8.21	126.57	60.2	14.27
1908	266,000	5,973	22.45	2,384	7.92	2,662	8.81	129.49	86.3	14.07
1909	301,000	6,897	22.91	2,384	9.18	3,526	10.49	134.46	97.5	14.00
1910	336,000	8,321	24.49	3,630	9.70	3,618	10.58	124.75	82.6	13.88
1911	374,000	10,284	25.71	4,429	11.07	4,232	10.63	120.47	70.7	15.13
1912	400,000	11,871	28.47	5,053	12.12	4,432	9.32	100.54	61.3	17.84
1913	429,000	13,685	30.75	4,623	10.39	4,417	7.73	87.9	57.9	21.43
1914	459,000	15,452	28.90	4,202	9.06	3,888	8.18	90.5	72.0	21.26
1915	480,000	13,331	27.87	4,230	8.53	4,068	8.09	87.30	64.8	18.69
1916	496,000	13,576	27.01	4,270	8.54	4,047	13.86	107.10	55.1	18.92
1917	508,000	14,890	25.72	4,948	6.98	4,924	13.86	107.10	55.1	11.86
1918	522,000	14,130	23.95	5,116	6.98	4,924	13.86	107.10	55.1	14.62
1919	542,000	16,745	27.88	5,116	6.98	5,677	8.33	85.69	72.0	16.57
1920	568,000	16,145	27.88	4,661	7.92	4,945	8.33	85.69	72.0	16.57
1921	588,000	16,163	26.44	4,272	6.99	5,281	8.62	91.93	66.8	17.83
1922	592,000	16,163	26.44	4,272	6.99	5,281	8.62	91.93	66.8	17.83
1923	593,000	15,153	25.75	4,177	6.09	4,843	8.06	90.54	55.0	18.75
1924	597,000	14,598	24.74	4,160	6.09	4,907	8.30	82.40	61.8	18.42
1925	602,000	15,014	25.02	4,363	7.27	4,717	7.86	72.90	57.6	16.16
1926	608,000	14,455	23.79	4,498	7.40	5,156	8.49	81.63	58.2	15.31
1927	623,000	14,897	24.03	4,707	7.58	5,059	8.16	74.51	63.8	15.87
1928	658,000	15,692	24.03	5,776	9.12	5,699	9.00	76.50	67.5	15.79
1929	684,000	16,924	26.19	6,004	9.29	6,239	9.65	77.40	72.6	16.54
1930	708,000	17,649	26.74	5,334	8.08	5,896	8.33	63.57	64.6	18.41
1931	732,000	17,252	23.57	5,142	7.02	5,302	7.24	69.38	50.4	16.32
1932	740,000	16,990	22.96	5,389	7.30	5,321	7.46	58.68	57.7	15.50
1933	740,000	16,990	22.96	5,389	7.30	5,321	7.46	58.68	57.7	15.50
1934	756,000	16,236	21.33	6,053	7.87	5,337	7.04	54.89	49.9	14.01
1935	770,000	16,183	21.00	6,010	7.87	5,729	6.93	57.8	42.6	14.0
1936	772,782	20.4	772.782	6,020	7.8	6,147	8.0	60.0	57.6	12.5
1937	778,000	15,903	20.4	6,345	8.2	6,261	8.0	63.0	48.4	12.4
1938	783,000	15,891	20.3	6,993	8.9	5,871	7.5	51.0	42.8	12.8
1939	789,000	16,470	16.470	7,838	9.9	5,789	7.3	46.0	35.8	13.6
1940	790,000	17,359	21.8	8,782	11.0	6,203	7.8	48.0	39.7	14.1
1941	796,169	17,308	21.7	8,470	10.7	6,385	8.0	51.0	31.2	13.7
1942	805,000	18,317	22.7	9,034	11.2	6,091	7.5	38.0	23.5	15.2
1943	792,000	19,290	24.3	7,771	9.8	7,345	7.6	27.0	22.4	16.1
1944	818,000	19,373	23.7	7,299	8.9	7,545	8.2	42.0	16.0	16.1
1945	828,000	17,539	21.1	6,320	7.50	6,524	8.2	46.0	14.1	16.9
1946	836,000	17,539	21.1	6,320	7.50	6,524	8.2	46.0	14.1	16.9
1947	852,000	22,634	27.1	8,797	11.8	6,404	7.6	48.9	8.9	19.3
1948	846,000	24,075	28.5	8,844	10.5	6,543	8.0	42.5	12.0	22.0
1949	871,000	24,935	28.7	9,037	10.4	6,987	8.0	39.0	10.0	20.5
1950	895,000	25,625	28.7	9,294	10.4	7,083	8.2	33.0	7.4	20.5
1951	939,501	27,003	28.7	9,305	9.9	6,856	7.7	32.0	5.6	21.0
1952	970,000	29,105	30.0	9,514	9.8	7,646	7.6	30.0	5.2	23.7
1953	1,002,000	31,376	31.3	10,126	10.1	7,167	7.6	26.0	6.7	21.1
1954	1,039,000	33,593	32.3	9,960	9.6	7,520	7.2	26.0	3.3	22.3
1955	1,066,000	34,357	32.2	9,844	9.2	7,956	7.5	26.0	4.0	23.1
1956	1,123,116	34,951	31.1	9,965	8.9	7,786	6.9	25.0	3.4	24.2
1957	1,160,000	35,719	30.8	10,117	8.7	8,255	7.1	27.0	3.7	23.8
1958	1,201,000	36,642	30.6	10,409	8.3	8,237	6.9	25.0	3.7	23.8
1959	1,243,000	38,000	30.6	10,409	8.3	8,237	6.9	25.0	3.7	23.8
1960	1,283,000	39,009	30.4	10,482	8.2	8,983	6.9	26.2	1.8	23.5
1961	1,331,944	39,914	29.2	10,474	7.9	8,863	6.7	27.0	2.3	22.5
1962	1,370,000	38,804	28.3	10,423	7.6	9,264	6.8	25.0	4.1	21.5

