Saskatchewan Health

A Surveillance Report of Deaths in Saskatchewan Regional Health Authorities

Non-Communicable Disease 1995 to 1999
Infant Mortality 1997 to 2001
Communicable Disease 1995 to 1999

Population Health Branch
March 2005

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Prepared by:

Population Health Branch, Saskatchewan Health

William Osei and Sharon Miller

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Executive Summary

This report contains selected mortality information on Saskatchewan residents for the years 1995 to 1999. We have used information from death registrations to represent the burden of chronic conditions on Saskatchewan's residents. It should be noted that deaths represent only a portion of the burden of chronic conditions on the people of Saskatchewan. There is significant morbidity attached with chronic conditions, as well.

The information in the report contains five-year averages. They include crude death rates, age-sex standardized death rates, and potential years of life lost. Also included are age specific death rates and average age at time of death for selected causes. While all of the data are presented for Saskatchewan as a whole, some of the data has been broken down by health regions.

Although communicable disease deaths and infant mortality are usually reported elsewhere, to provide a more complete picture, latest available data are presented separately within this report. All other analyses are based on non-communicable disease and injury deaths.

In the report you will find:

- ***43,201 Saskatchewan residents died in Saskatchewan between 1995 and 1999, for an average of 8,640 per year. (Appendix A.1)***
- ***On average, 23 people die in Saskatchewan every day. (Appendix A.1)***
- ***The average crude death rate in Saskatchewan is 823.5 per 100,000 population per year. (Page 23)***
- ***The leading cause for potential years of life lost is suicide for Saskatchewan males and motor vehicle traffic accidents for Saskatchewan females. (Page 14)***
- ***The leading cause of death in Saskatchewan is heart attack (acute myocardial infarction), with a rate of 83.3 per 100,000 population. (Page 24)***

- ***The second leading cause of death in Saskatchewan is Ischemic heart disease with a rate of 80.1 per 100,000. (Page 25)***

- ***A child born in Saskatchewan is expected to live for 75.4 years or 81.4 years, for males and females respectively. (Page 19)***

- ***Male and female residents of Saskatchewan turning 65 can expect to live 16.7 or 20.8 more years of life, respectively. (Appendix A.3)***

- ***A child born in Saskatchewan can expect to live 68.3 years free from disability. (Page 19)***

- ***Mamawetan Churchill River Health Region and Keewatin Yatthé Health Region at 69.2 and 114.5 per 100,000, respectively reported the highest crude death rates for cancer of the lung, trachea and bronchus. (Pages 99 and 105)***

- ***Average age of death is youngest for congenital anomalies (18.3 years), homicide (35.3 years) and fire or burns (38.1 years). (Page 15)***

- ***The report also includes information on infant mortality and communicable disease deaths. The average annual infant mortality rate for Saskatchewan (1997 to 2001) is 6.9 per 1,000 live births. (Figures 72 to 84; Pages 120 to 126)***

- ***Infectious diseases were the cause of about 6.5% of all deaths reported in the period under study. (Page 12)***

Introduction

This document contains selected mortality information on Saskatchewan residents for the years 1995 to 1999. It includes information on total Saskatchewan death from all causes. Although communicable disease deaths and infant mortality are usually reported elsewhere, we have included the latest available data separately within this report to provide a more complete picture. All other analyses are based on non-communicable disease and injury deaths.

The information includes mainly five-year average rates for the 'top twenty' causes of death from non-communicable conditions in the province. Mortality data are often used in the surveillance of chronic conditions[1]. Death records can be used as an indicator of the burden of chronic conditions. Mortality data are traditionally used as indicators of population health status, reflecting the health status of the general population. In general, death statistics are more reliable than morbidity data, as they are often more readily available than prevalence or morbidity data.[2] Death reporting is mandatory and being population-based, it can be used to monitor trends within the population. It must be noted that although the data are often more available and reliable, mortality data may not give an accurate picture of the true burden of chronic conditions. Owing to the nature of chronic conditions, there is often a much larger proportion of the population affected by specific diseases than death records would indicate.

Examining death records could also give us some insights into the risk factors for chronic conditions. We can determine age, sex and location of those dying from chronic conditions, but little else from their life experience. Death registrations do not include information on people's lifestyles or risk factors for chronic diseases.

The information in this report is presented in tables and charts. It is based on the Saskatchewan Health Vital Statistics database, which is derived from death certificates and coroners reports of deaths that occurred from 1995 to 1999. Most of the data provided here are averaged over the five-year period. The denominator is the 1997 mid-year provincial covered or insured population.

The selected mortality information included in this report will be updated and released for the years 2000 to 2004, as soon as the data are available. Five year averages smooth out yearly fluctuations and will provide compatible information for comparison of trends in chronic disease mortality countrywide.

[1] Last, John M., Ed. *A Dictionary of Epidemiology.* Toronto: Oxford University Press, 2001. P 129.

[2] Centres for Disease Control and Prevention; *Mortality and Morbidity Weekly Review*, November 19, 1993/ 42 (SS-05); 29-35.

Chronic Conditions

Chronic conditions are described as chronic illnesses, non-communicable diseases or degenerative diseases and injuries. They are characterized by an insidious onset and lasting for more than three months.[3] Some chronic conditions are arthritis, diabetes, asthma, cancer, and heart disease.

In general, causes of chronic diseases are not specifically known. They are often the result of lifelong behaviours or lifestyles, not one single cause.[4] They are usually associated with a number of risk factors. Risk factors may include genetic makeup, environmental factors, smoking, obesity and socio-economic status. Access to preventive and curative services may also affect outcomes. A number of these risk factors may be present in one individual. The interaction of these risk factors will also have an impact on outcomes.

Most chronic diseases are permanent or characterized by residual disability. They are usually not contagious and may not be completely curable. These conditions may result in permanent partial or full functional impairment or disability. They are often the result of non-reversible conditions and may require long periods of care.[5] In view of this, chronic conditions tend to be more prevalent in late adult life. As such, populations with higher proportions of seniors would have higher rates of morbidity and death from chronic conditions.

Methods

The data used in this report were obtained from Saskatchewan Health, Vital Statistics database. It included all deaths to Saskatchewan residents occurring in Saskatchewan. Deaths occurring outside of Saskatchewan are not included. Registered Indians have been assigned to regional health authorities using residence as recorded on the Saskatchewan Health Vital Statistics file or using postal code. Districts and health authorities were assigned based on the 1999 health district boundaries.

Underlying causes of death were assigned using ICD9 codes. According to the W.H.O's International Statistical Classification of Diseases and Related Health Problems, Volume 2 (10th Revision), the underlying cause of death is: "(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury." These ICD9 codes were grouped together under the Canadian List Diagnosis codes. These groupings can be found in Appendix B.

[3] Last, John M., Ed. *A Dictionary of Epidemiology.* Toronto: Oxford University Press, 2001. P 29.
[4] Centres for Disease Control and Prevention; http://www.cdc.gov/nccdphp/index.htm, July 2, 2003.
[5] World Health Organization Website, http://www.who.int/health_topics/chronic_disease/en/.

Definitions

Death Rates

The average five-year mortality or death rate is calculated by dividing the number of deaths in a given period by the number of years (in our case five years, 1995 to 1999) divided by the total mid-period population (1997). It is often expressed as deaths per 1,000 or 100,000 population.[6]

$$\equiv \left[\frac{average\ annual\ \ number\ of\ \ deaths}{annual\ \ mid-period\ \ population} \right] \times 100{,}000$$

Age-Sex Standardized Mortality rates

Age-sex standardized mortality rates are calculated to account for differences in the age and sex composition of various population groups.[7] In this report, crude mortality rates for each regional health authority are adjusted using the direct method of standardization and the 1997 Saskatchewan population as the standard. As stated above, chronic disease morbidity and mortality are age-dependent and would have higher rates in populations with higher proportions of older residents.

Potential years of life lost

Potential years of life lost (PYLL) is an indicator of premature mortality. It is the ratio of total years of life lost before the age 75 divided by the total population under 75.[8]

$$\equiv \frac{\sum m^i \left(75 - x^i\right)}{n}$$

Where ***m*** is the number of people dying before age 75 and ***n*** is the population under 76 years. Age at death, under 75 years, is represented by ***x***.

In this report, age 75 was used for the PYLL calculation based on the current life expectancy of the Canadian population. Also, the deaths were averaged over the five-year period with the result of an average PYLL. For all premature deaths in 1995 to 1999, age at time of death was subtracted from 75 and the results were summed. The total was divided by five with the result of an average PYLL over the five-year period.

Life expectancy

Life expectancy[9] is defined as the number of years a person is expected to live, on average, based on current mortality statistics.

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[6] Pagano, Marcello and Kimberlee Gavreau, Principles of Biostatistics, 1993, California. P. 150.

[7] Pagano, Marcello and Kimberlee Gavreau, Principles of Biostatistics, 1993, California. P. 61-68.

[8] Working Group on Community Health Information Systems, S. Chevalier, R. Choicier, M. Ferland, M. Pageau, and Y. Sauvageau, Directions de la sante publique, Quebec, Community Health Indicators: Definitions and Interpretations, Ottawa, Ontario, Canadian Institute for Health Information. P. 150.

[9] Health Indicators, Statistics Canada, volume 2002, no. 2, Catalogue number 82-221-XIE, October 2002.

Disability-free life expectancy

Disability-free life expectancy[10] is defined as the number of years a person, on average, is expected to live free of disabilities. It is based on current mortality statistics and activity limitation rates calculated for a given time period.

Average age at time of death

Average age at death was calculated for each of the major causes of death. Age at death, for each cause, was summed over the number of deaths to obtain the average.

Age-specific death rates

Death rates were calculated for each ten-year age group. The number of deaths in each age group was summed and divided by the population in that age group. The rates are expressed per 100,000 population.

Logarithmic Scale

A logarithmic scale, or ratio scale, uniformly presents percent changes rather than point changes. In other words, the distance from 1 to 2 (100% increase) is the same as the distance from 2 to 4 (another 100% increase). A constant growth rate (e.g., 7% per annum) is a straight line on a log scale.[11]

Semi-logarithmic Scale

A logarithmic scale, or ratio scale, uniformly presents percent changes rather than point for the y axis only.[12]

What can be done about chronic conditions?

A) Introduction

"Chronic diseases are largely preventable diseases. The currently available scientific evidence provides a sufficiently strong and plausible basis to justify taking action now. Beyond the appropriate medical treatment for those already affected, the public health approach of primary prevention is considered to be the most cost-effective, affordable and sustainable course of action to cope with the chronic disease epidemic worldwide."[13]

B) Primary Prevention

Primary prevention is…"reducing the incidence of disease by controlling causes and risk factors. The high incidence of coronary heart disease in most industrialized countries is due to the high levels of risk factors in the population as a whole, not due to the problems of a minority."[14] Chronic conditions are often the result of a number of risk factors including genetic makeup and environmental factors such as smoking, physical activity and nutrition.
A person who has, for example, a genetic risk for diabetes or cardiovascular disease may not develop the condition if he or she does not smoke, is physically active and eats well. It is,

[10] Health Indicators, Statistics Canada, volume 2002, no. 2, Catalogue number 82-221-XIE, October 2002.
[11] http://archives.math.utk.edu/cgi-bin/interactive.html, July 2, 2003.
[12] http://archives.math.utk.edu/cgi-bin/interactive.html, July 2, 2003.
[13] World Health Organization, Diet, Nutrition and the Prevention of Chronic Diseases, Geneva, 2003.
[14] World Health Organization: Basic Epidemiology. 1993.

however, often difficult to change these risk factors because the environments in which people live do not support good health practices.

C) Secondary Prevention[15]

The purpose of secondary prevention is to cure or treat patients and/or reduce consequences through early diagnosis and treatment. It consists of early detection and timely and effective interventions. It focuses on the time between disease onset and time of diagnosis with the goal to reduce the prevalence of the disease.

Secondary prevention is most useful in diseases that are easily identifiable in the early stages so that treatment may begin and progression may be halted. Successful secondary prevention requires accurate and safe detection methods and effective methods of treatment.[16]

D) Tertiary Prevention[16]

The aim of tertiary prevention is reducing disease progression and complications. Its goal is to reduce impairments and disabilities, minimize suffering, and promote patients' adjustment to incurable conditions. Tertiary prevention is similar to treatment in that both have the goal to prevent recurrence.[17]

Tertiary Prevention aims at supporting independent living and reducing the progression of the disease into serious stages or complications. This involves rehabilitation for patients, for example, those with sequalae of strokes or spinal injuries. It also involves providing them with prostheses and ambulatory aids to enable them to participate in daily social life.

E) Population Health Promotion Approach for Primary Prevention

Population health promotion addresses the root causes of ill health by changing the conditions and environments in which people live.[18] While physical inactivity, tobacco and poor eating habits may be risk factors for a number of chronic illnesses, it isn't enough to tell people to change. What are the economic, geographical, cultural or social barriers to healthier living? How can they be reduced? Population health promotion uses strategies that strengthen community action to create more supportive places for people to live, work and play. Healthy public policies may be formal or more informal "ways of living."[19] For example, a community may have a policy of opening its recreational facilities at no cost at certain times. A less formal change might be if the food served at meetings or community gatherings includes healthier choices.

The Action Plan for Saskatchewan Health Care released in December 2001 called for an increased focus on population health promotion throughout the province and recommended the development of a **Provincial Population Health Promotion Strategy.**[20] Saskatchewan Health, working with Regional Health Authorities and a host of partners from many sectors, was given the task of creating a strategy to guide health promotion activities across Saskatchewan. The top priority areas for health promotion were to be identified and used by health regions as a foundation for their own regional health promotion plans – which they would report on annually.

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[15] World Health Organization, Basic Epidemiology, Geneva 1993.
[16] World Health Organization, Basic Epidemiology, Geneva, 1993.
[17] World Health Organization, Basic Epidemiology, Geneva, 1993.
[18] Saskatchewan Health, A Population Health Promotion Framework for Saskatchewan Health Districts, 1999.
[19] Saskatchewan Health, Using a Population Health Promotion Approach: Lessons Learned from the Population Health Promotion Demonstration Sites for Primary Prevention of Type 2 Diabetes, 2003.
[20] Saskatchewan Health, The Action Plan for Saskatchewan Health Care, 2001.

A number of issues were identified during regional consultation in spring 2003. In summary, the highest level priorities identified were:

1. ***Risk factors related to chronic disease prevention***
   There were several layers of risk factors/root causes in this category. For example, some groups ranked heart disease, diabetes, cancer and/or respiratory disease. Others listed nutrition, physical activity, tobacco and obesity. Still others listed risk factors such as food security, poverty and supportive environments as priorities.

2. ***Conditions contributing to positive mental health***
   There were several levels of issues identified in this category. Issues were named as mental health, depression, child and youth at risk, unhealthy relationships, family violence, suicide and addictions. There were also many cross connections with the alcohol and drugs category.

3. ***Alcohol and drugs or addictions***
   This was more commonly named as **addictions**. This issue was often identified under the mental health heading. There were close links with other categories ranging from injuries to nutrition to fetal alcohol syndrome. Gambling and tobacco were sometimes listed under the addictions category.

A number of other issues were also identified throughout the process. They included injury prevention; early childhood development; youth issues; seniors issues; unhealthy relationships; physical environments; poverty; inequitable/limited access to services; approaches; and communicable disease.

Clearly population health promotion requires partnership with many other agencies and individuals. The Provincial Population Health Promotion Strategy has been developed to complement other initiatives outside the health sector, including education, physical activity, social services, and justice.

Effective primary prevention and population health promotion programs offer opportunities to reduce chronic diseases. Reversing this tide requires long-term changes in thinking and action at the individual and societal levels.[21] Making real and sustainable changes in communities requires co-ordinated action by many partners including all levels of government, non-government agencies, community groups, business and individual citizens.

[21] World Health Organization, Diet, Nutrition and the Prevention of Chronic Diseases, Geneva, 2003.

Figure 1. Intervention Strategies Applicable to Selected Major Disease Groups[22]

	Cardiovascular Disease	Cancers (Certain types)[23]	Chronic Lung Diseases	Diabetes	Cirrhosis	Musculoskeletal Diseases	Neurologic Disorders
Health education	+	+	+			+	?
Adequate and appropriate diet for all ages	+	+	?	?		+	?
Regular sustained physical activity	+	+		+		+	
Body weight control	+	+		+		+	+
Stress reduction	+	?					
Legislation and community mobilization	?	+	+				
Workplace safety and health		+	+		?	+	?
Environmental quality management		+	+				+
General improvement in the individual and population socioeconomic conditions	+	+	+	+	+	+	

NOTE: + = ESTABLISHED RISK FACTOR; ? = POSSIBLE RISK FACTOR

Figure 2. Intervention Programs for Chronic Diseases[24]

Prevention Strategy	Disease Status	Outcome
Primordial	Population exposure to societal and environmental risks	Reduce population risk factors
Primary	Susceptible	Reduced disease incidence
Secondary Prevention	Pre-clinical	Reduced prevalence/ consequence
Tertiary Prevention	Symptomatic	Reduced complications/disability

[22] Adapted from Chronic Disease Epidemiology, American Public Health Association, 1993
[23] Does not apply in all cases.
[24] Adapted from Chronic Disease Epidemiology, American Public Health Association, 1993.

Figure 3. Risk Factors Associated with Selected Major Disease Groups[25]

	Cardiovascular Disease	Cancers (Certain types)[26]	Chronic Lung Diseases	Diabetes	Cirrhosi	Musculoskeletal Diseases	Neurologics
Tobacco use	+	+	+			+	?
Alcohol use	?	+			+	+	+
High cholesterol	+						
High blood pressure	+						
Diet	+	+	?	?		+	?
Physical inactivity	+	+		+		+	
Obesity	+	+		+		+	+
Stress	?	?					
Environmental tobacco smoke	?	+	+				
Occupation		+	+		?	+	?
Pollution		+	+				+
Low socioeconomic status	+	+	+	+	+	+	

NOTE: + = ESTABLISHED RISK FACTOR; ? = POSSIBLE RISK FACTOR

[25] Adapted from Chronic Disease Epidemiology, American Public Health Association, 1993.
[26] Does not apply in all cases.

Section One: Saskatchewan Overview

This section includes provincial level data. It includes mortality numbers and rates for the Saskatchewan population. A chart of the top 20 causes of death in Saskatchewan for 1995 to 1999 is included. A comparison of Saskatchewan and other Canadian provinces is included. These deaths are presented by province of residence and province of occurrence. To give an historical prospective, a chart of proportion of total mortality for selected causes in Saskatchewan over time is included.

Where appropriate, numbers of deaths in males and females are shown. Information on potential years of life lost (PYLL) is included for the province. It is divided by cause and by sex. A table including average age at time of death can be found in this section. Age-specific death rates are calculated and are presented for the provincial population and by sex.

This information precedes a further breakdown of numbers and rates by regional health authorities. We have not included population group analysis in this section.

Figure 4. Average annual age-sex standardized death rates, top 20 causes, Saskatchewan, 1995 to 1999

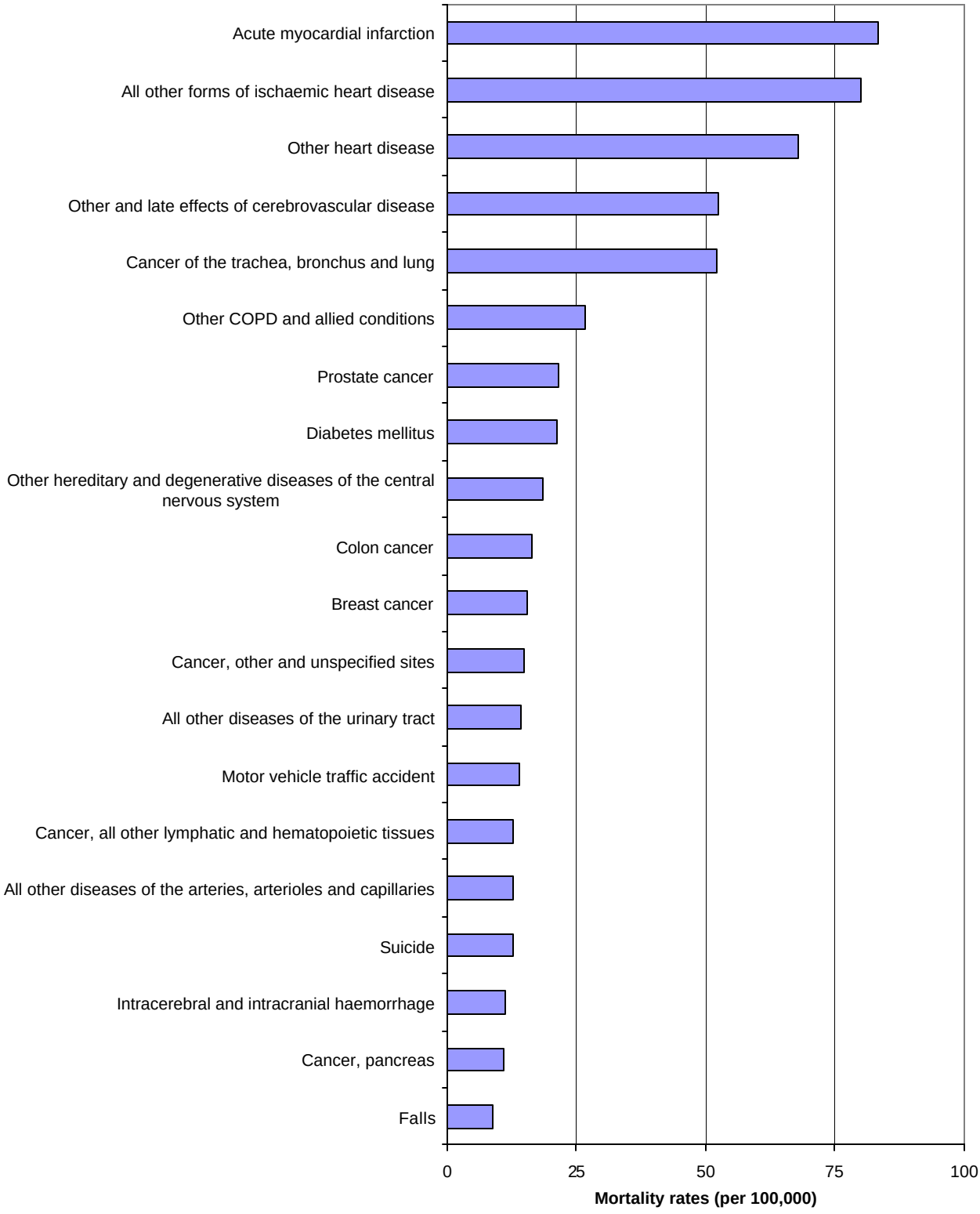


Table 1 : Deaths by place of occurrence and province or territory of residence, 2000 (1)

Province of occurrence	*Province of residence*															
	Newfoundland	PEI	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	NT	Nunavut	Unknown (2)	Other	Total (1) (2)
Newfoundland	4,292	-	4	1	2	1	1	-	1	-	-	-	-	-	12	4,314
PEI	-	1,184	4	5	-	12	-	-	-	-	-	-	-	-	2	1,207
Nova Scotia	17	17	7,820	27	2	15	-	1	3	7	-	-	-	-	14	7,923
New Brunswick	4	20	23	6,025	48	6	1	-	-	1	-	-	-	-	22	6,150
Quebec	x	-	x	16	52,832	86	x	x	-	x	-	x	x	x	90	53,040
Ontario	14	8	15	6	227	80,872	28	11	15	22	1	-	11	3	275	81,504
Manitoba	-	-	1	-	1	57	9,803	29	5	4	-	1	5	1	11	9,918
Saskatchewan	-	-	1	1	2	7	23	8,813	91	11	-	-	-	-	8	8,957
Alberta	4	2	x	3	7	28	13	78	17,081	112	-	x	x	3	58	17,416
British Columbia	4	-	4	2	5	45	13	13	60	27,281	13	1	-	1	133	27,575
Yukon	-	-	-	-	-	1	1	-	-	6	140	1	-	-	4	153
NT	-	-	-	-	-	1	-	1	4	-	2	133	3	-	-	144
Nunavut	-	-	-	-	-	-	2	3	-	-	-	-	105	-	-	110
USA	x	2	2	2	64	159	x	x	13	x	-	-	-	x	-	280
Total	4,339	1,229	7,879	6,088	53,190	81,290	9,892	8,956	17,273	27,460	156	157	130	23	629	218,691

(1) Source: Statistics Canada, Deaths 2000, Shelf Tables, April 2003, Catalouge no. 84F0211XPB.

(2) Includes deaths of non-residents of Canada which occurred in Canada.

(3) Includes 23 deaths of residents of Canada, province or territory of residence unknown.

(4) X Suppressed to meet the confidentiality requirements of the Statistics Act.
(5) - No deaths reported.

Figure 5. Proportion of total mortality for selected causes in Saskatchewan, 1950 - 1999

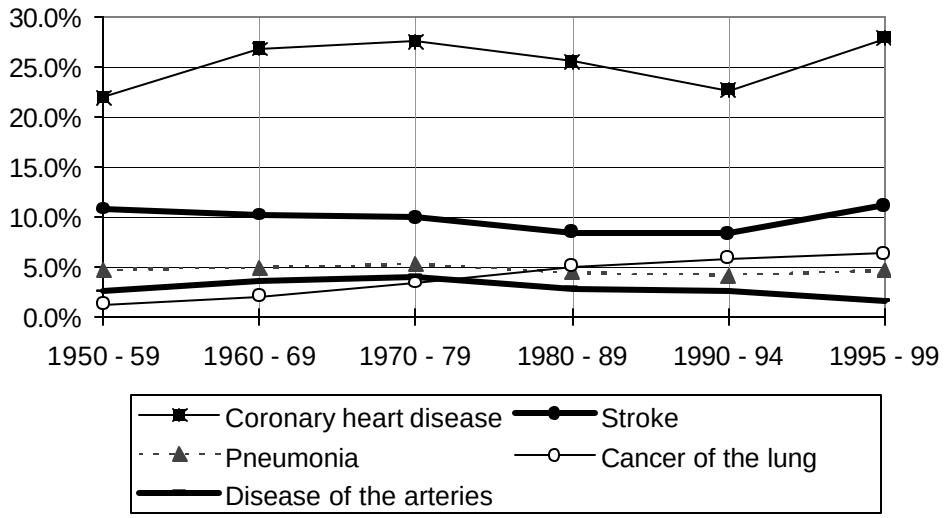


Table 2. Infectious condition deaths compared to total deaths, Saskatchewan, 1995 to 1999

Cause of Death	***Deaths***
Pneumonia	1,928
Infectious and Parasitic Diseases	392
Bronchitis and emphysema*	327
Influenza	86
Other Infectious Conditions	91
Total deaths due to all infectious diseases	2,824
Infectious deaths as a percent of total deaths	*6.4%*
Total deaths from all causes	*43,201*

*Note: Includes non-infectious cases, as the ICD9 codes used did not allow for separate analysis from infectious cases.

Table 3. Infectious Condition Deaths, Saskatchewan, 1995 to 1999

Cause of Death	1995	1996	1997	1998	1999	Total
Pneumonia	**352**	**430**	**377**	**381**	**388**	**1928**
Influenza	**11**	**11**	**13**	**14**	**37**	**86**
Bronchitis and emphysema	**68**	**75**	**60**	**64**	**60**	**327**
Infectious and Parasitic Diseases	**83**	**82**	**73**	**78**	**76**	**392**
Salmonella infections and other food poisoning (bacterial)	1	0	0	1	0	2
Other Intestional infections	0	1	3	4	3	11
Tuberculosis	8	6	3	4	2	33
All other bacterial diseases	37	41	49	49	46	222
Viral hepatitis	4	4	3	4	8	23
Other viral and arthropod-borne diseases	5	11	8	7	9	40
Syphillis and other venereal diseases	0	1	0	1	0	2
AIDS	19	13	3	5	1	41
Late effects of tuberculosis	1	1	2	0	0	4
Late effects of acute poliomyelitis	1	1	0	0	2	4
All other infectious and parasitic disease and late effects of other infectious and parasitic diseases	7	3	2	3	5	20
Other Infectious conditions	**18**	**23**	**17**	**20**	**13**	**91**
Meningitis, and inflammatory diseases of the CNS	2	4	2	6	1	15
Otitis Media	0	0	0	0	1	1
Mastoiditis	0	0	0	0	1	1
Acute upper respiratory infection	2	1	1	1	1	6
Other diseases of the upper respiratory tract	1	2	2	2	0	7
Appendicitis	0	0	4	1	0	5
Infections of the kidneys	6	3	3	3	5	20
Infections of the skin and subcutaneous tissue	5	11	3	4	2	25
Osteomyelitis, periostitis and other infections of the bone	2	2	2	3	2	11
Total Deaths Due to Infectious Conditions	**513**	**608**	**537**	**552**	**574**	**2824**
Percent of Total Deaths	**6.1%**	**7.0%**	**6.4%**	**6.3%**	**6.5%**	**6.5%**
Total Deaths	**8446**	**8688**	**8442**	**8771**	**8854**	**43201**

Figure 6. Potential years of life lost (PYLL), five-year average rates, by cause and sex, Saskatchewan, 1995 to 1999

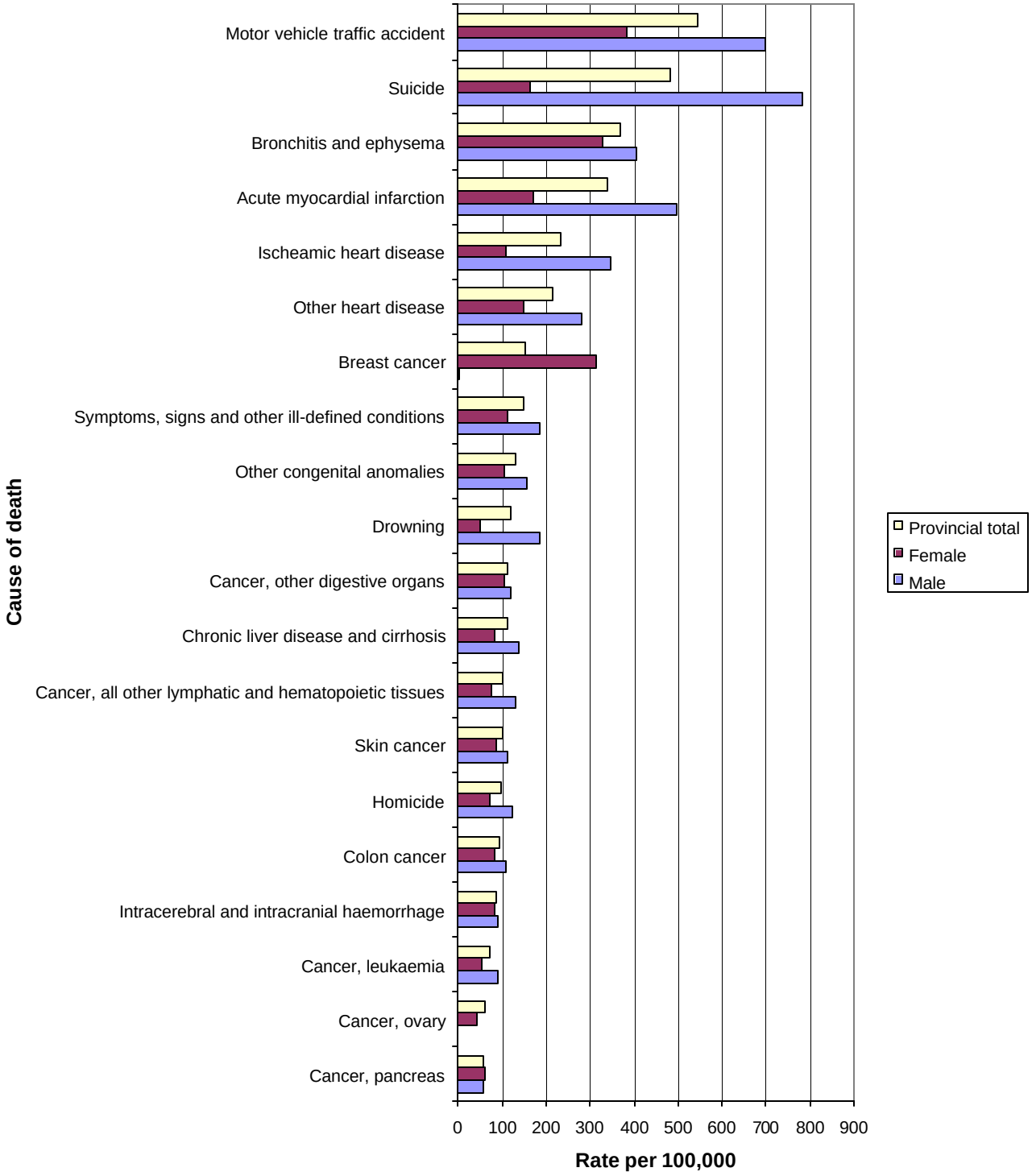
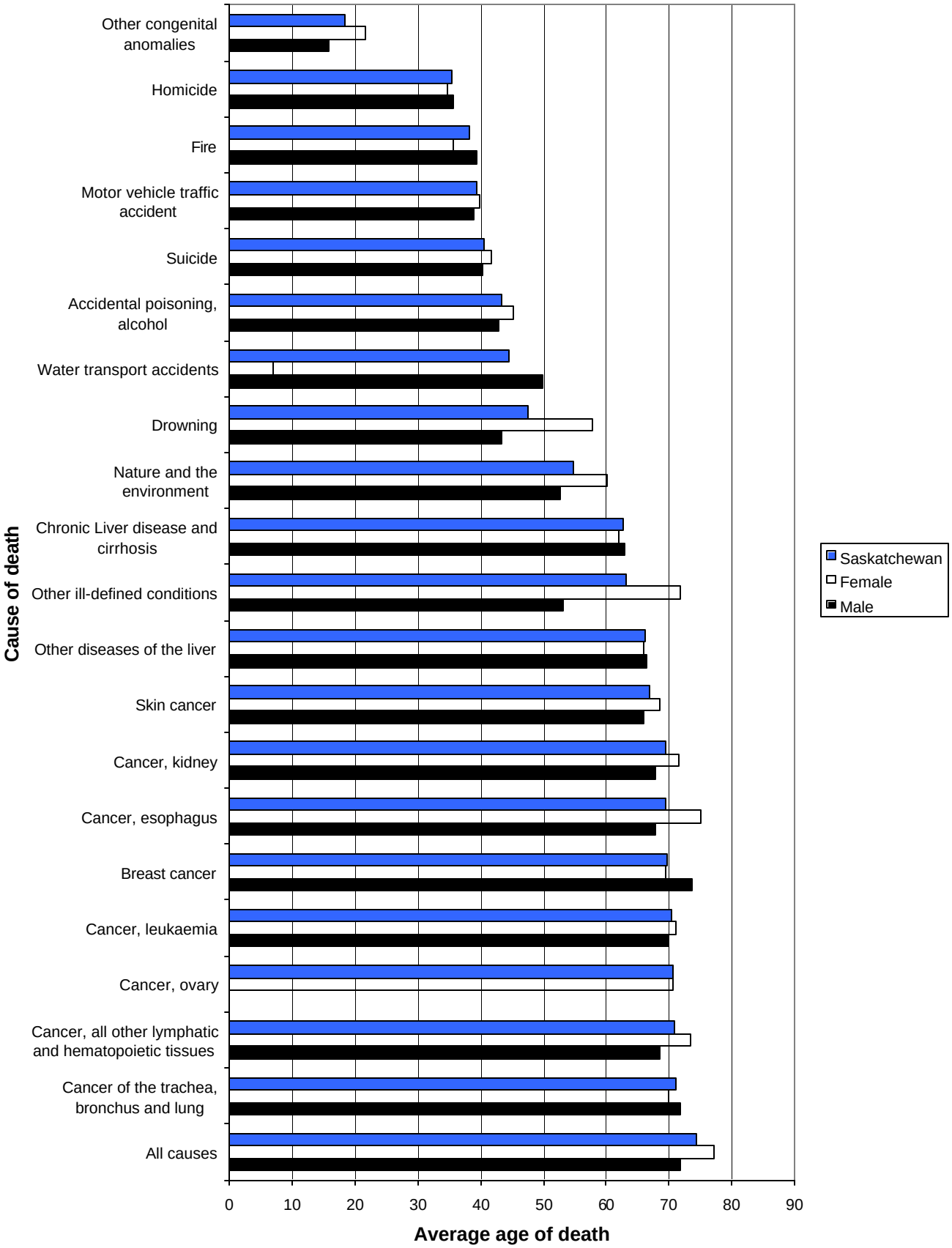


Table 4. Average age at time of death, Saskatchewan, 1995 to 1999

Condition	*Total*	*Male*	*Female*
Other congenital anomalies	18.3	15.9	21.8
Homicide	35.3	35.7	34.7
Fire	38.1	39.3	35.6
Motor vehicle traffic accident	39.3	39.0	39.9
Suicide	40.6	40.4	41.7
Accidental poisoning, alcohol	43.5	42.9	45.1
Water transport accidents	44.5	49.9	7.0
Drowning	47.5	43.3	57.9
Accidental causes due to nature and the environment	54.7	52.8	60.0
Chronic Liver disease and cirrhosis	62.6	62.8	62.1
Symptoms, signs and other ill-defined conditions	63.1	53.2	71.7
Other diseases of the liver	66.2	66.5	66.0
Skin cancer	66.8	65.9	68.5
Cancer, kidney	69.4	67.9	71.5
Cancer, esophagus	69.6	67.7	75.0
Breast cancer	69.6	73.7	69.6
Cancer, leukaemia	70.4	69.9	71.1
Cancer, ovary	70.5	N/A	70.5
Cancer, all other lymphatic and hematopoietic tissues	70.7	68.5	73.3
Cancer of the trachea, bronchus and lung	71.1	71.8	69.9
Intracerebral and intracranial haemorrhage	71.8	72.7	70.8
Cancer, other and unspecified sites	71.8	70.1	73.4
Cancer, stomach	72.1	71.5	73.0
Metabolic disorders and immunity disorders	73.2	71.4	75.0
Cancer, rectum, rectosigmoid junction and anus	73.3	72.4	75.3
Cancer, liver, gall bladder and bile ducts	73.4	70.6	76.4
Other mental disorders	73.7	66.8	80.1
Colon cancer	74.0	73.1	75.1
Cancer, pancreas	74.2	72.7	75.4
All causes of death	**74.3**	**71.8**	**77.2**
Neoplasm, other digestive organs	75.5	74.1	76.6
Diseases of pulmonary circulation	75.5	75.4	75.7
Other diseases of the respiratory system	75.7	73.8	78.1
Diabetes	76.6	75.4	77.9
Cancer, bladder	76.7	76.0	78.4
Non-infective enteritis and colitis	76.8	75.0	77.8
Acute myocardial infarction	76.9	74.5	80.4
All other diseases of the arteries, arterioles and capillaries	77.7	76.2	79.7
Bronchitis and ephysema	77.7	78.5	75.9
Prostate cancer	78.9	78.9	N/A
Other chronic obstructive pulmonary disease and allied conditions (COPD)	79.8	80.4	78.8
Pneumoconioses and allied conditions	79.9	78.2	82.7
Ischaemic heart disease	80.0	77.0	83.8
Cerebral embolism and thrombosis	80.1	78.4	81.8
All other diseases of the urinary tract	80.4	78.9	82.1
Other heart disease	81.1	77.9	84.1
Other hereditary and degenerative diseases of the central nervous system	81.4	79.6	82.6
Pneumonia	81.7	78.8	85.1
Falls	81.7	76.6	86.0
Parkinson's disease	81.8	81.6	82.2
Hypertensive disease	82.2	78.6	84.1
Other diseases of the digestive tract	82.5	79.9	84.7
Other and late effects of cerebrovascular disease	83.9	81.9	85.3
Artherosclerosis	84.3	79.8	87.9
Other psychosis	86.7	85.0	87.6
Senile and presenile organic pyschotic conditions	86.8	84.4	88.0
Senility, without psychosis	92.3	92.2	92.4

Figure 7. Average age at death, by cause of death for the youngest twenty average ages, by sex, Saskatchewan, 1995 to 1999



Saskatchewan, 1995 to 1999

		Age groups									
	All ages	*<10*	*10-19*	*20-29*	*30-39*	*40-49*	*50-59*	*60-69*	*70-79*	*80-89*	*90+*
Total	8.2	0.9	0.4	0.8	1.0	1.9	5.0	17.2	31.6	75.2	202.9
Male	8.8	1.1	0.6	1.1	1.3	2.3	6.2	17.2	42.2	97.5	236.3
Female	7.7	0.8	0.3	0.5	0.6	1.6	3.8	17.2	23.1	61.3	188.4

Figure 8. Average age-specific death rates, Saskatchewan, 1995 to 1999

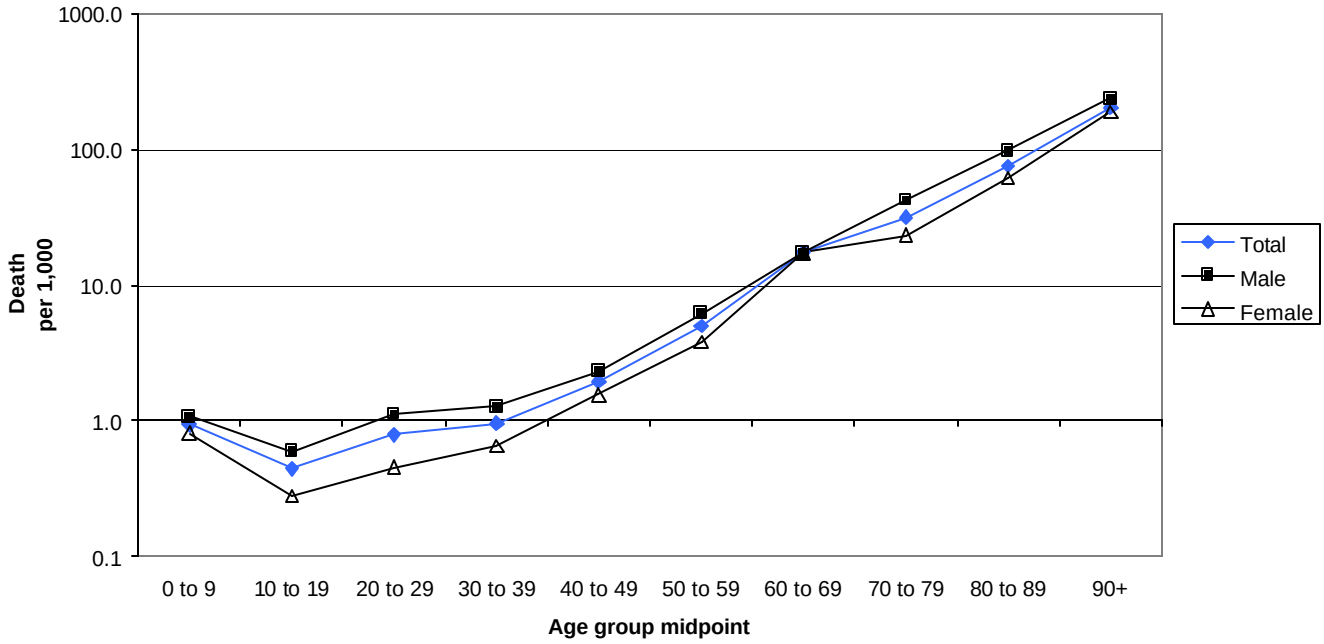


Table 6. Five-year average, all cause age-specific death rates per 1,000 population, both sexes, Saskatchewan and Health Authorities, 1995 to 1999

	Age groups									
	0 to 9	*10 to 19*	*20 to 29*	*30 to 39*	*40 to 49*	*50 to 59*	*60 to 69*	*70 to 79*	*80 to 89*	*90+*
Saskatchewan	0.9	0.4	0.8	1.0	1.9	5.0	17.2	31.6	75.2	202.9
Sun Country	0.5	0.5	0.7	0.7	2.1	4.8	12.1	27.8	74.3	203.2
Five Hills	0.7	0.5	0.9	0.9	2.2	4.7	14.2	32.9	69.4	226.0
Cypress	0.5	0.5	0.6	0.6	1.7	3.7	12.3	30.4	68.8	158.6
Regina Qu'Appelle	1.0	0.4	0.8	0.9	1.9	5.1	13.8	33.5	75.7	211.3
Sunrise	0.5	0.5	0.5	0.8	2.0	5.7	12.8	32.0	76.4	206.6
Saskatoon	0.9	0.3	0.7	0.9	1.7	4.5	12.6	31.5	76.1	197.6
Heartland	0.7	0.4	0.4	0.9	1.7	5.1	11.9	28.5	72.2	200.7
Kelsey Trail	1.0	0.6	1.2	1.2	2.0	5.7	13.1	30.8	77.4	201.0
Prince Albert Parkland	1.1	0.6	0.9	1.3	2.4	5.3	14.9	31.3	79.3	207.0
Prairie North	1.3	0.5	0.8	1.2	2.4	5.1	14.0	31.9	79.7	210.0
Mamawetan Churchill River	2.1	1.2	1.6	1.5	2.9	7.0	14.5	31.0	46.9	107.7
Keewatin Yatthé	1.3	0.6	2.1	1.7	2.7	9.9	23.6	46.1	78.2	300.0
Athabasca	0.3	0.0	4.1	3.1	6.4	8.6	18.2	56.3	25.0	200.0

Table 7. Five-year average, all cause age specific death rates per 1,000 population, males, Saskatchewan and Health Authorities, 1995 to 1999

	Age groups									
	0 to 9	*10 to 19*	*20 to 29*	*30 to 39*	*40 to 49*	*50 to 59*	*60 to 69*	*70 to 79*	*80 to 89*	*90+*
Saskatchewan	1.1	0.6	1.1	1.3	2.3	6.2	17.2	42.2	97.5	236.3
Sun Country	0.6	0.6	1.1	0.8	2.7	6.3	15.5	39.3	93.9	257.1
Five Hills	0.9	0.6	1.2	1.4	2.7	5.4	18.9	44.1	92.9	225.2
Cypress	0.8	0.5	1.1	0.6	1.9	4.8	17.2	42.2	85.4	176.4
Regina Qu'Appelle	1.1	0.5	1.0	1.1	2.2	6.4	18.4	44.7	102.3	279.2
Sunrise	0.5	0.7	0.7	0.9	2.6	7.4	15.9	42.3	100.3	240.9
Saskatoon	1.0	0.4	0.9	1.3	2.0	5.3	16.0	41.9	99.3	226.6
Heartland	0.9	0.6	0.6	1.3	1.6	5.6	16.2	38.7	95.3	208.9
Kelsey Trail	1.3	0.8	1.5	1.6	3.1	7.7	15.8	38.8	97.5	220.6
Prince Albert Parkland	1.2	0.9	1.2	1.7	2.4	6.2	18.3	41.4	98.0	238.4
Prairie North	1.5	0.7	1.3	1.6	3.0	6.8	18.4	42.0	99.1	244.1
Mamawetan Churchill River	1.9	1.7	2.6	2.2	3.2	8.3	19.3	45.2	57.6	150.0
Keewatin Yatthé	1.3	0.6	3.7	2.0	4.6	13.8	25.9	47.5	68.1	400.0
Athabasca	0.7	0.0	4.9	3.8	7.5	16.1	14.5	83.3	66.7	200.0

Table 8. Five-year average, all cause age specific death rates per 1,000 population, females, Saskatchewan and Health Authorities, 1995 to 1999

	Age groups									
	0 to 9	*10 to 19*	*20 to 29*	*30 to 39*	*40 to 49*	*50 to 59*	*60 to 69*	*70 to 79*	*80 to 89*	*90+*
Saskatchewan	0.8	0.3	0.5	0.6	1.6	3.8	17.2	23.1	61.3	188.4
Sun Country	0.5	0.3	0.2	0.6	1.4	3.5	8.4	18.2	61.5	179.5
Five Hills	0.5	0.4	0.5	0.5	1.7	4.0	9.7	24.0	54.8	226.4
Cypress	0.2	0.4	0.2	0.5	1.5	2.6	7.5	20.6	57.7	151.0
Regina Qu'Appelle	0.9	0.2	0.5	0.7	1.6	3.8	9.5	25.1	61.6	189.3
Sunrise	0.6	0.2	0.4	0.7	1.4	3.9	9.9	23.2	60.3	191.8
Saskatoon	0.7	0.2	0.4	0.5	1.3	3.8	9.4	23.5	63.0	184.4
Heartland	0.6	0.2	0.1	0.4	1.7	4.5	7.8	19.8	56.1	196.5
Kelsey Trail	0.6	0.3	1.0	0.7	1.0	3.5	10.4	23.9	61.5	189.1
Prince Albert Parkland	0.9	0.4	0.6	0.9	2.4	4.4	11.4	22.5	66.9	190.4
Prairie North	1.0	0.3	0.4	0.8	1.8	3.3	9.4	23.6	66.0	193.7
Mamawetan Churchill River	2.4	0.7	0.5	0.9	2.6	5.6	8.8	18.2	37.7	88.9
Keewatin Yatthé	1.4	0.6	0.4	1.3	0.5	5.0	20.8	44.7	90.0	280.0
Athabasca	0.0	0.0	3.3	2.5	5.3	0.0	24.2	40.0	0.0	0.0

Table 9. Life expectancy, at birth, by sex, Canada, Saskatchewan and health regions, 1996[27]

Life expectancy - at birth	Both sexes	Males	Females
Canada	78.3	75.4	81.2
Saskatchewan	78.3	75.4	81.4
Sun Country	79.1	75.7	82.5
Five Hills	78.7	75.9	81.6
Cypress	79.9	76.8	83.0
Regina Qu'Appelle	78.3	75.0	81.5
Sunrise	78.3	75.4	81.1
Saskatoon	78.9	76.0	81.8
Heartland	78.6	76.2	81.0
Kelsey Trail	78.6	75.4	81.8
Prince Albert Parkland	78.4	75.9	80.9
Prairie North	77.3	73.8	80.8
Northern Saskatchewan	73.3	70.6	76.0

Table 10. Disability-free life expectancy, at birth, by sex, Canada, Saskatchewan and health regions, 1996[28]

Disability-free life expectancy - at birth	Both sexes	Males	Females
Canada	68.6	66.9	70.2
Saskatchewan	68.3	66.6	70.2
Sun Country	69.4	67.3	72.5
Five Hills	68.2	66.5	70.8
Cypress	70.8	69.1	73.4
Regina Qu'Appelle	68.4	66.4	70.8
Sunrise	68.5	66.8	71.0
Saskatoon	68.3	66.9	70.0
Heartland	70.4	69.2	72.5
Kelsey Trail	69.3	67.6	72.0
Prince Albert Parkland	67.2	65.8	69.6
Prairie North	66.9	64.7	70.1
Northern Saskatchewan	62.5	61.8	65.1

[27] Statistics Canada. Health Indicators, May 2002 (Catalogue 82-221-XIE). Ottawa: Minister of Industry, 2002.

[28] Statistics Canada. Health Indicators, May 2002 (Catalogue 82-221-XIE). Ottawa: Minister of Industry, 2002.

Section Two: Comparison Of Regional Health Authorities, Age-Sex Standardized Death Rates

In this section, death rates for regional health authorities are compared with the provincial rates for the entire five-year period. The chart depicts the age-sex standardized death rates for regional health authorities for the period. The standard population is the 1997 covered Saskatchewan population.

The age-sex standardization enhances the inter-regional health authorities comparison, as explained in the definitions above. Age-sex standardization calculates mortality rates for regional health authorities using the same population distribution as the province as a whole. This adjusts for different population composition and facilitates comparison among RHA's. The adjusted rates are important for comparison purposes. For programming purposes, it is important for Regional Health Authorities to also consider crude death rates.

It should also be noted that northern regional health authorities, Mamawetan Churchill River, Keewatin Yatthé, and Athabasca Health Authority, all have relatively small populations. As such, caution should be used when using these numbers for comparison. Small populations can easily bias mortality and PYLL rates.

Figure 9. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999, All causes

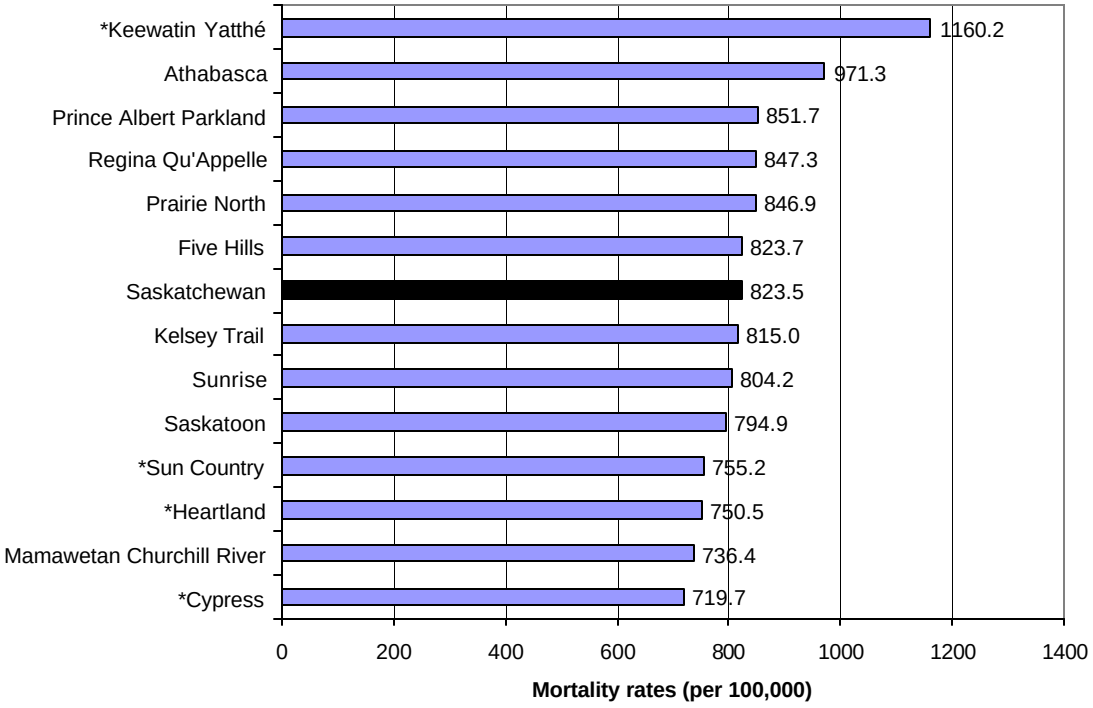
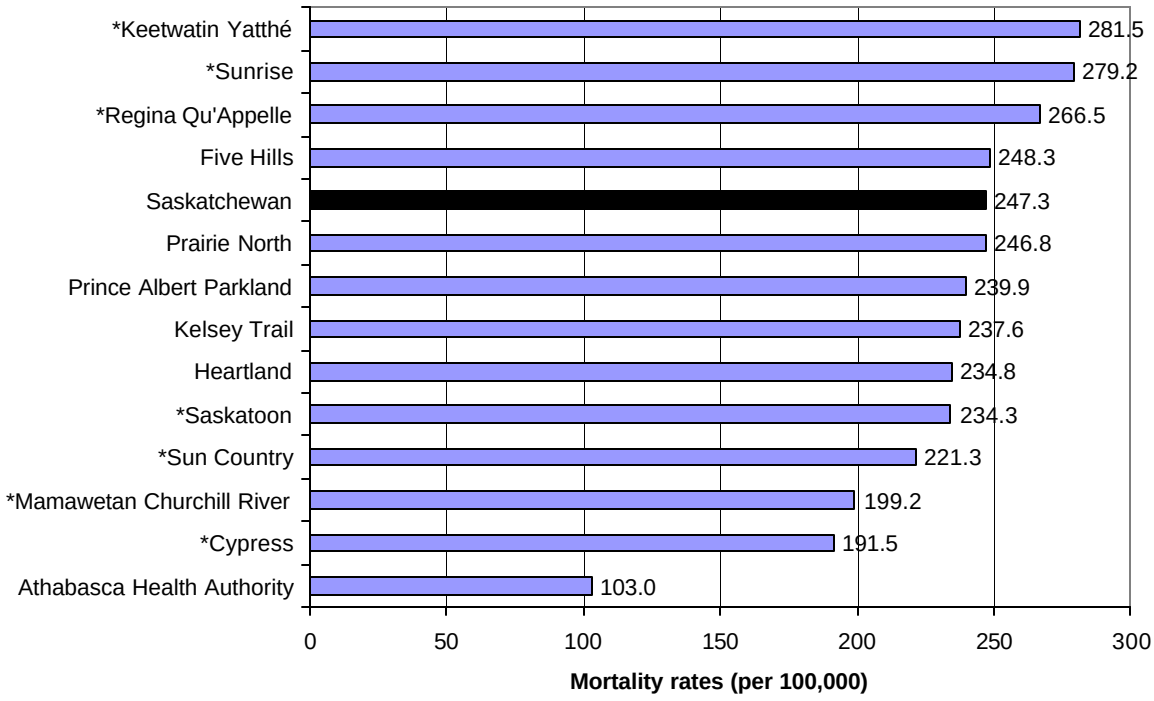


Figure 10. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999, All heart conditions



* Statistically different from provincial rate at 95% significance

Figure 11. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999

All cancers

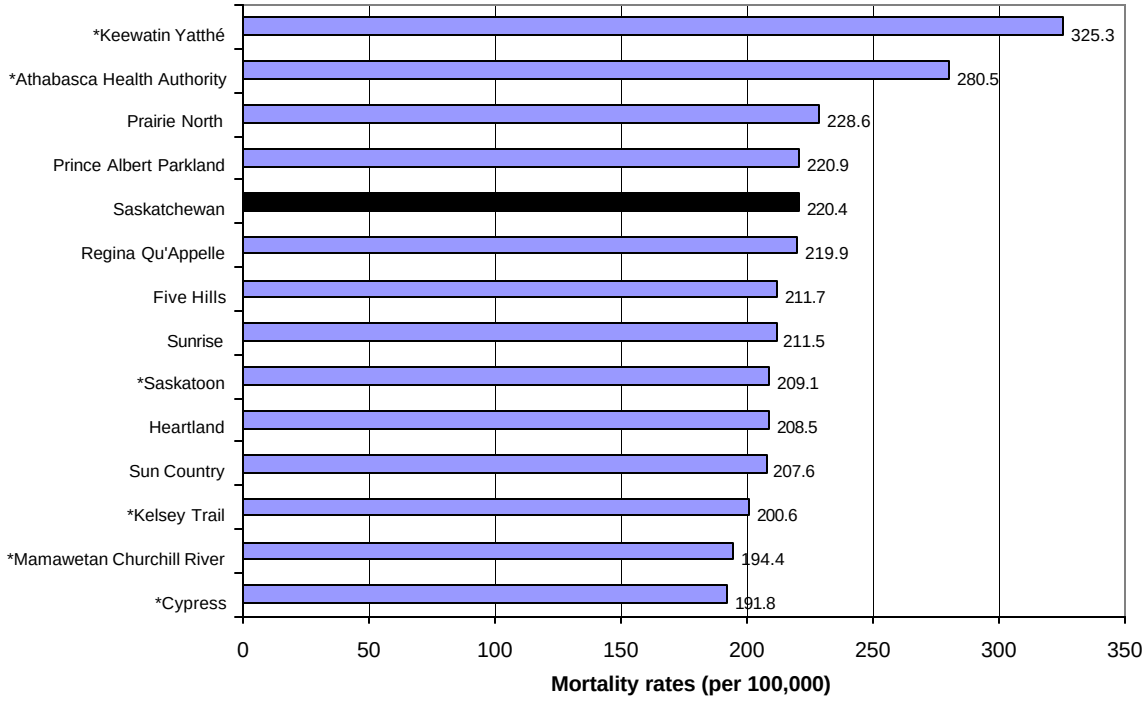
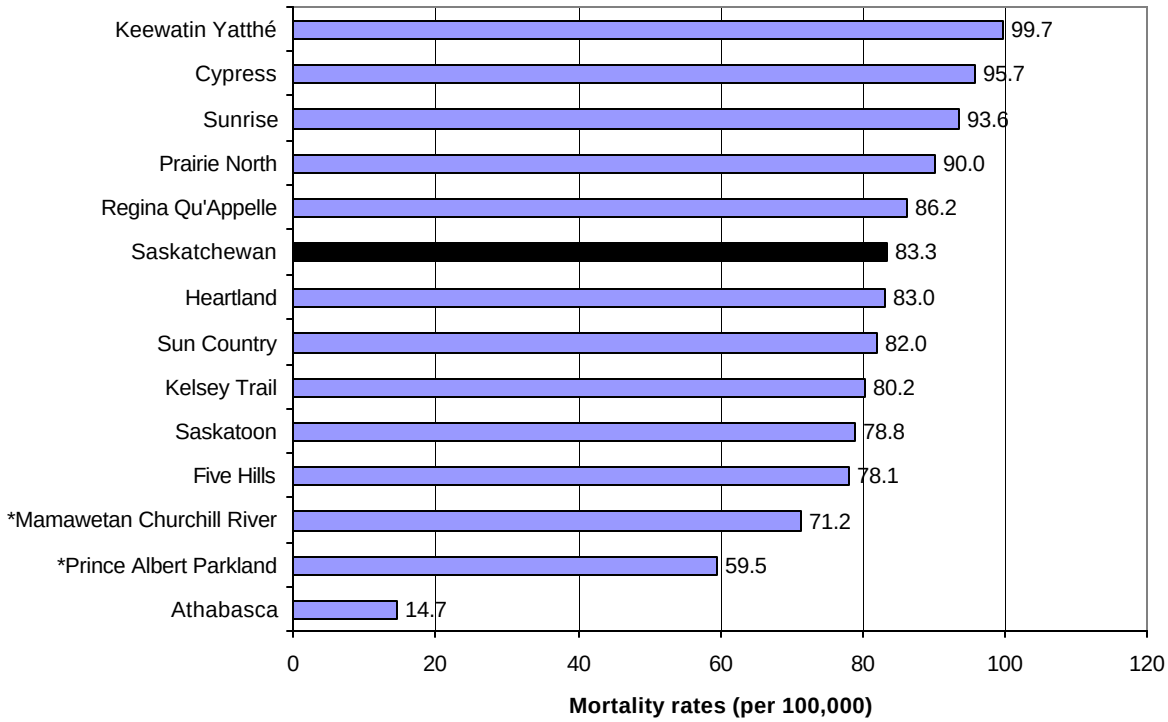


Figure 12. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999, Acute Myocardial Infarction



* Statistically different from provincial rate at 95% significance

Figure 13. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999
Ischemic heart disease

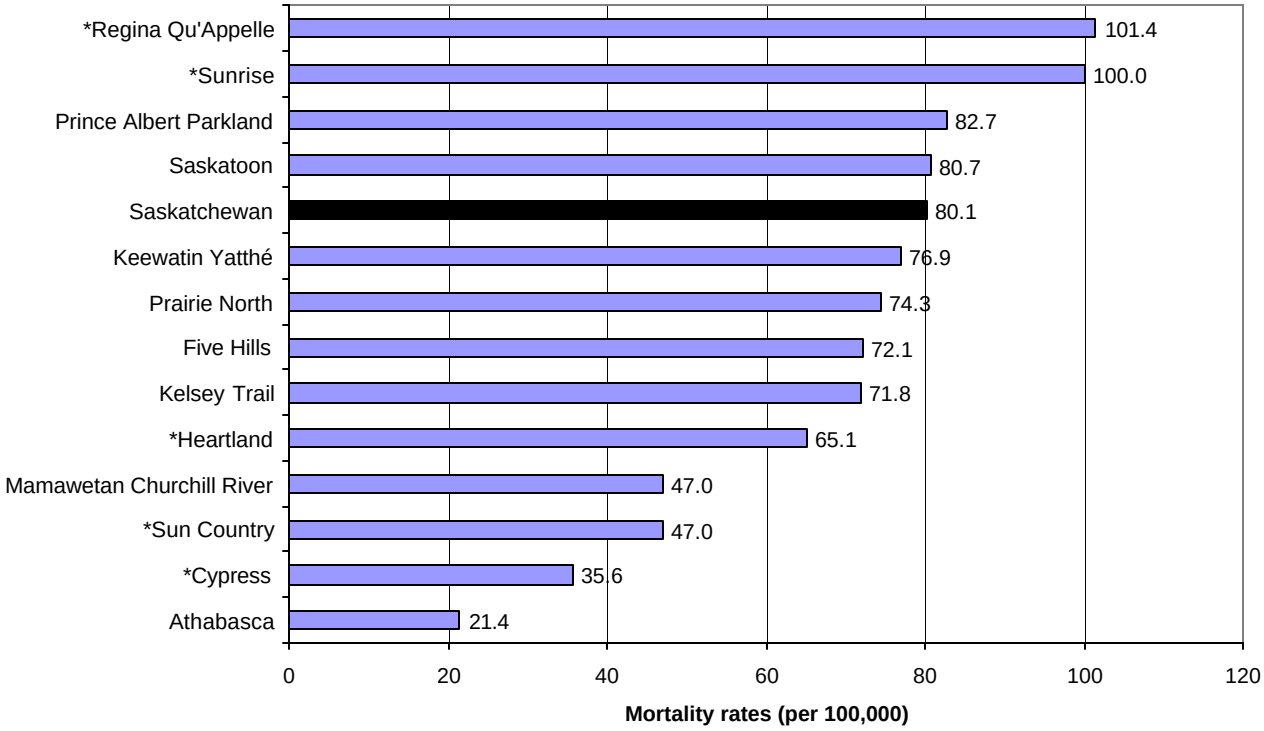
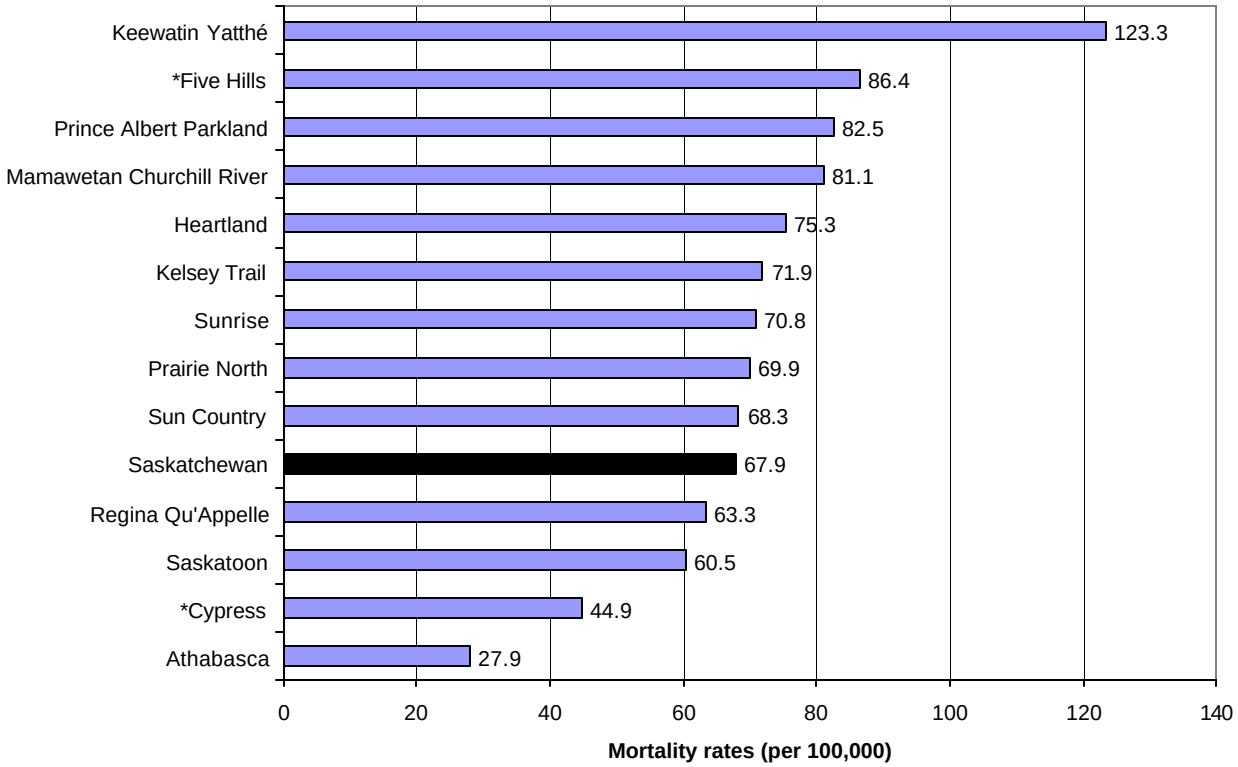


Figure 14. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999,
Other forms of heart disease



* Statistically different from provincial rate at 95% significance

Figure 15. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999, Other and late effects of Cerebrovascular disease

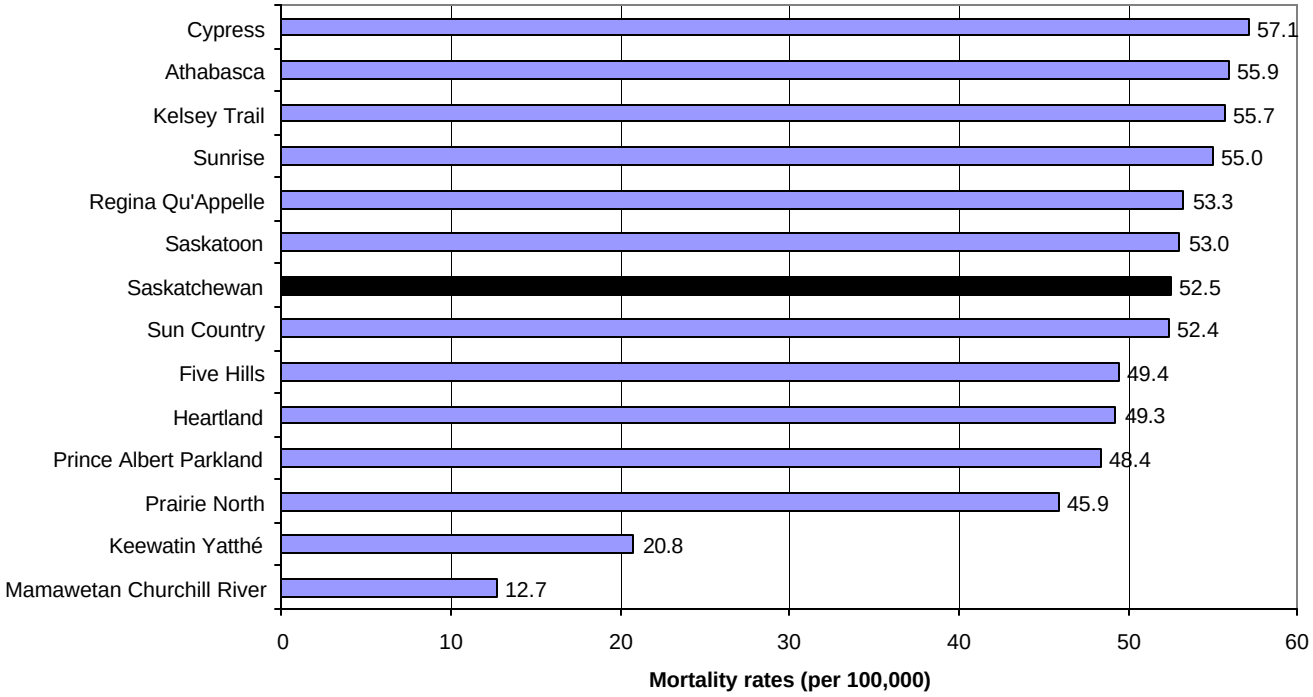
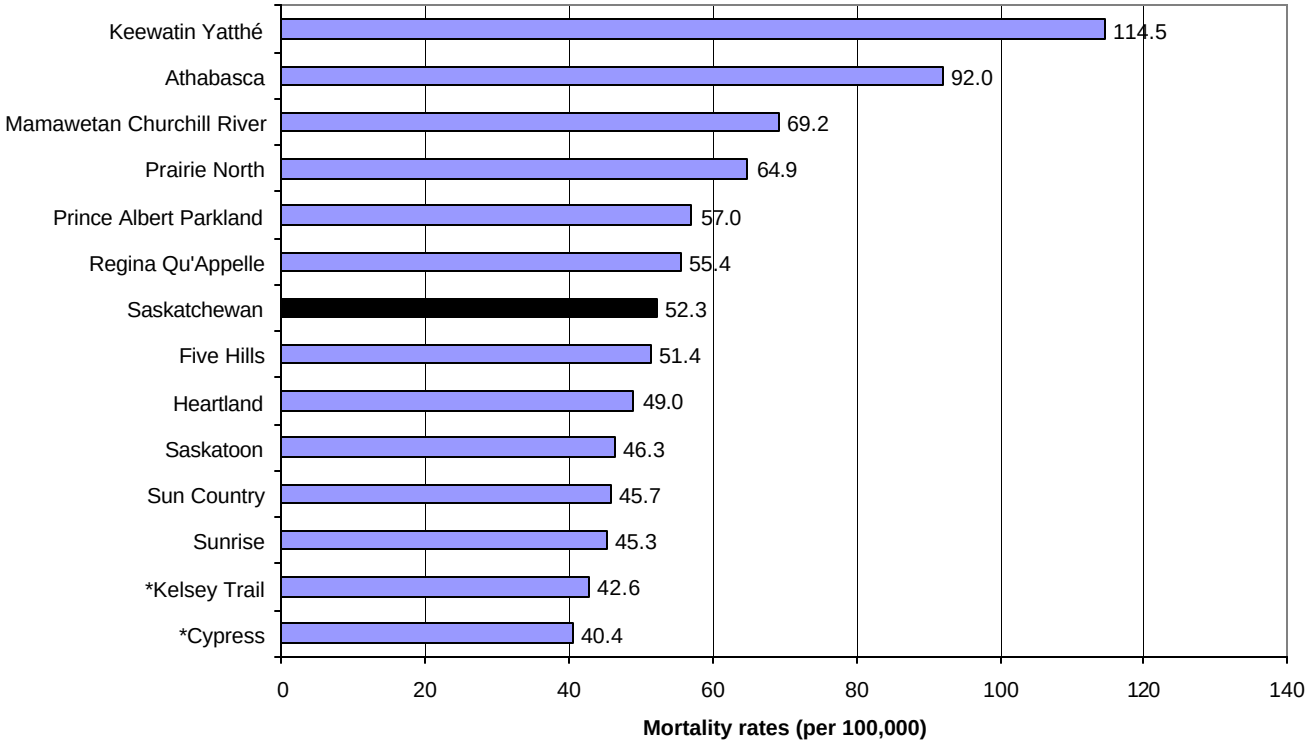


Figure 16. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Cancer of the lung, trachea, and bronchus



* Statistically different from provincial rate at 95% significance

Figure 17. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Other COPD and allied conditions

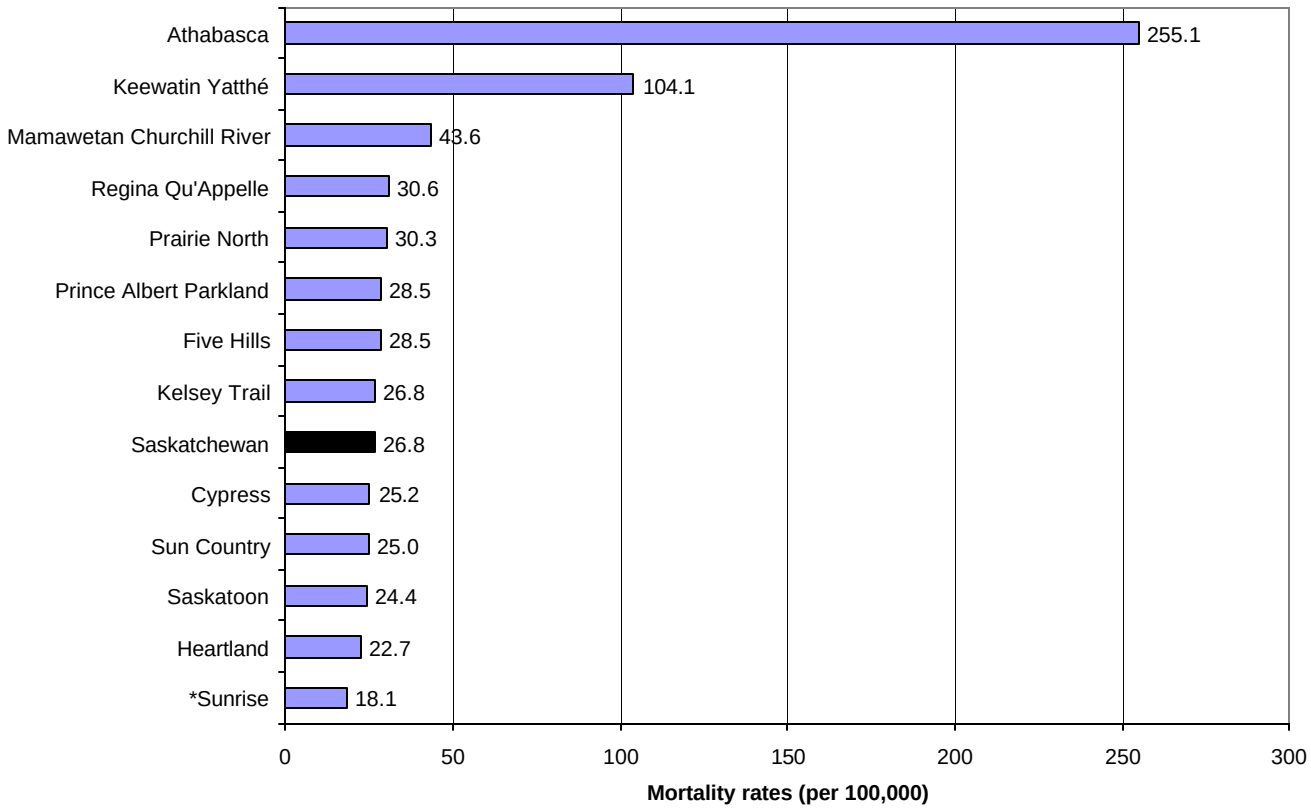
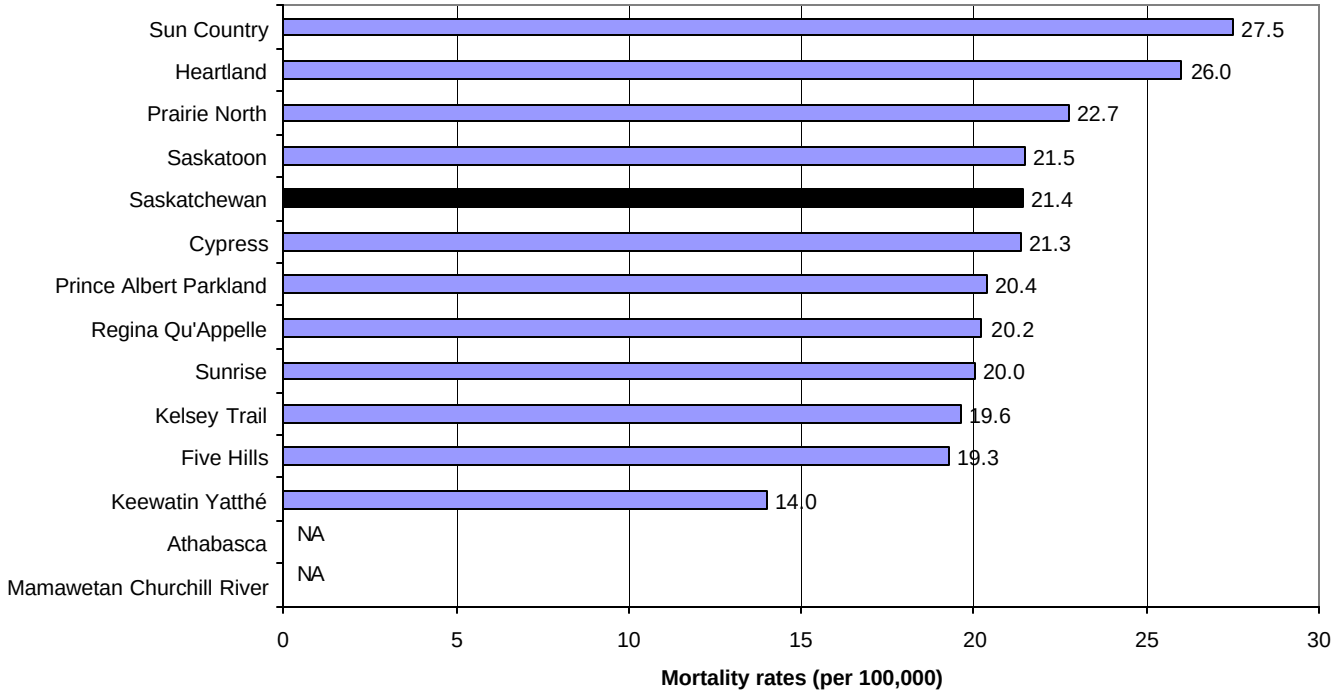


Figure 18. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Prostate cancer



* Statistically different from provincial rate at 95% significance

Figure 19. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Diabetes mellitus

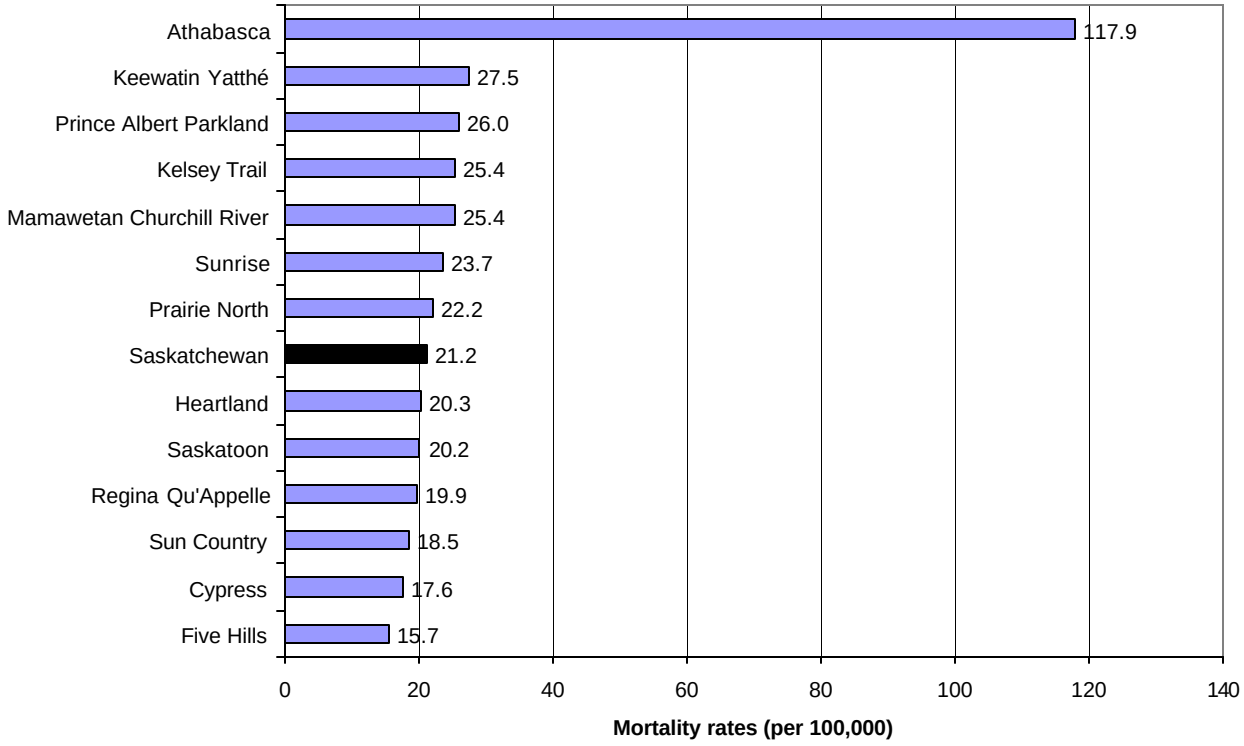
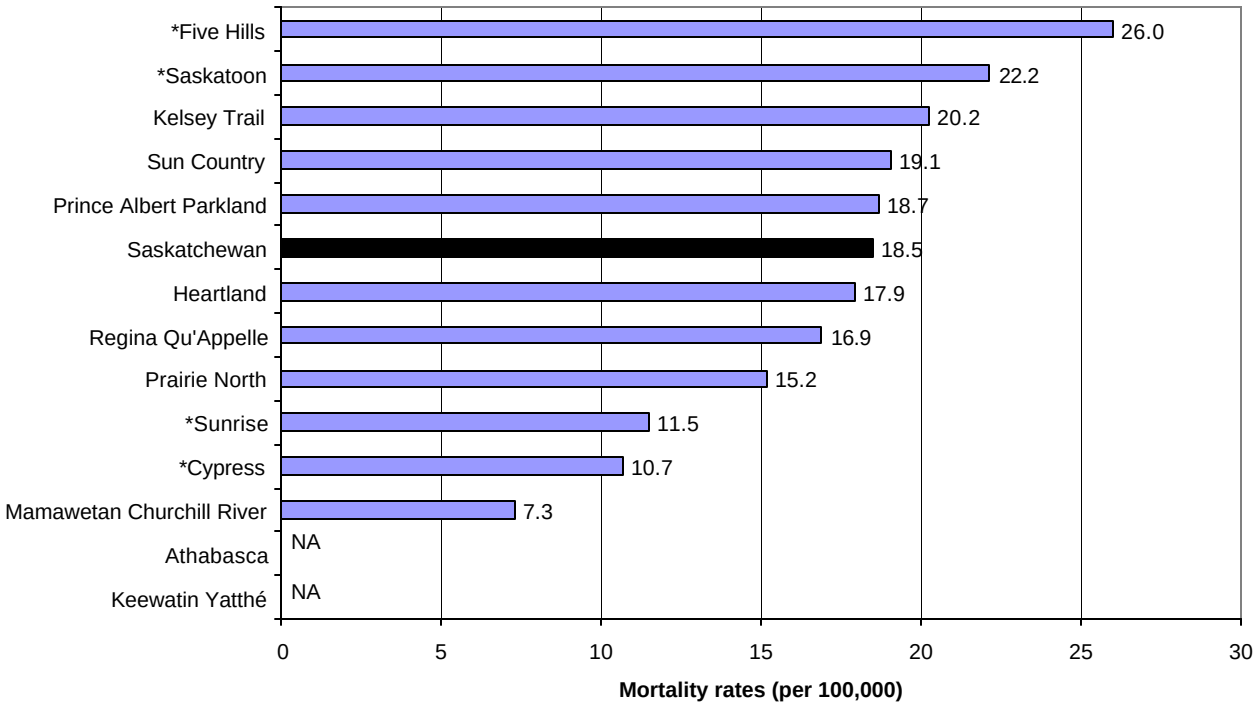


Figure 20. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Other hereditary and degenerative diseases of the central nervous system



* Statistically different from provincial rate at 95% significance

Figure 21. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Colon cancer

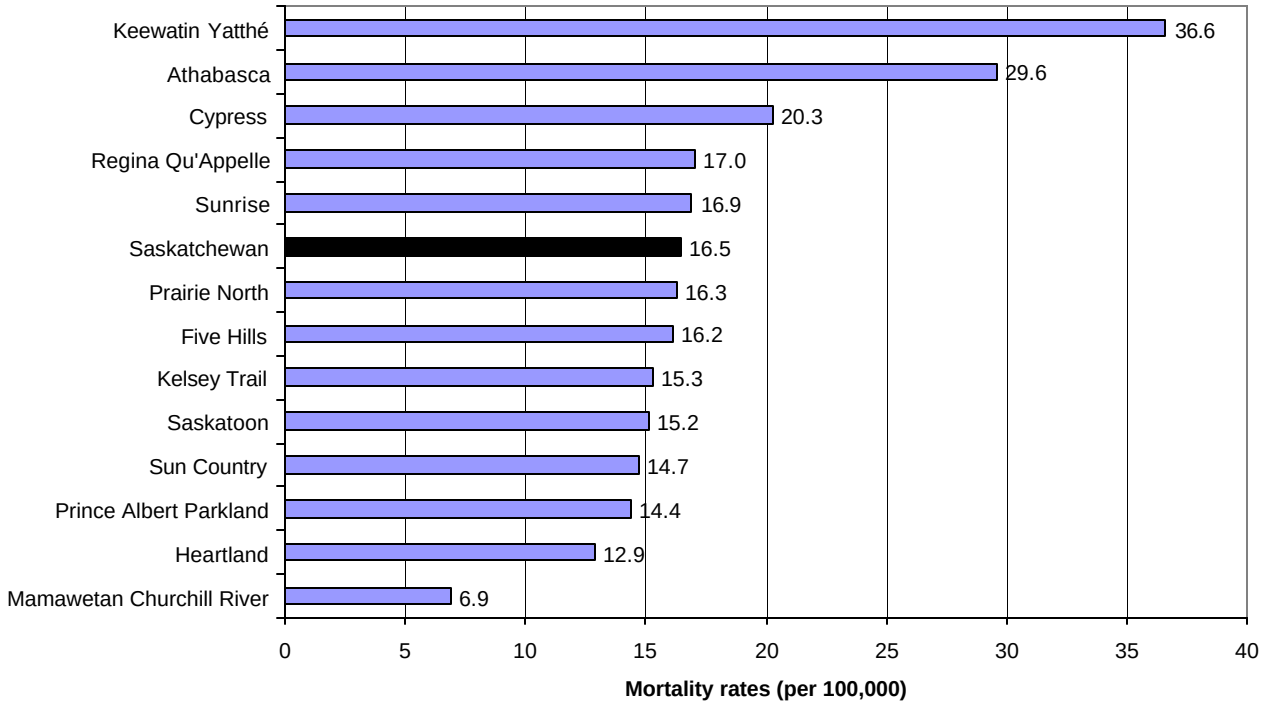
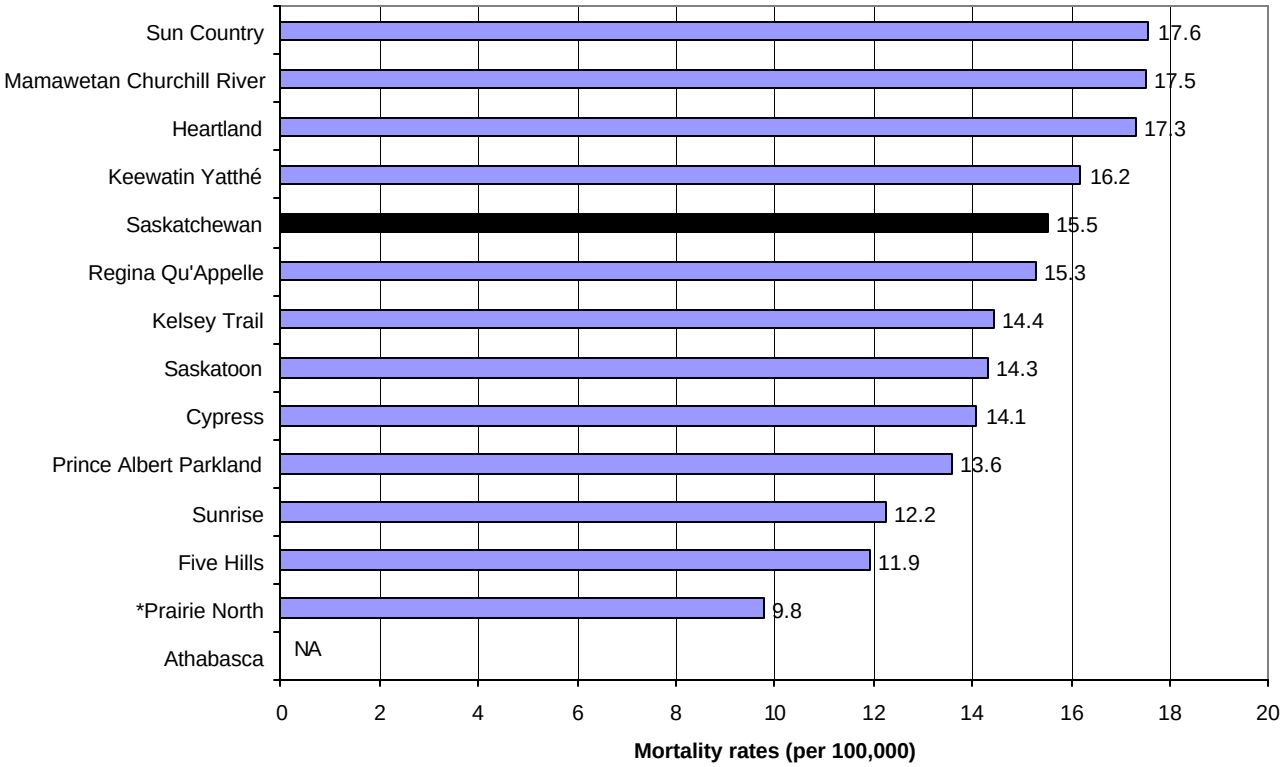


Figure 22. Average annual age-sex standardized death rates, Saskatchwan, 1995 to 1999, Breast cancer



* Statistically different from provincial rate at 95% significance

Figure 23. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Other and unspecified cancer

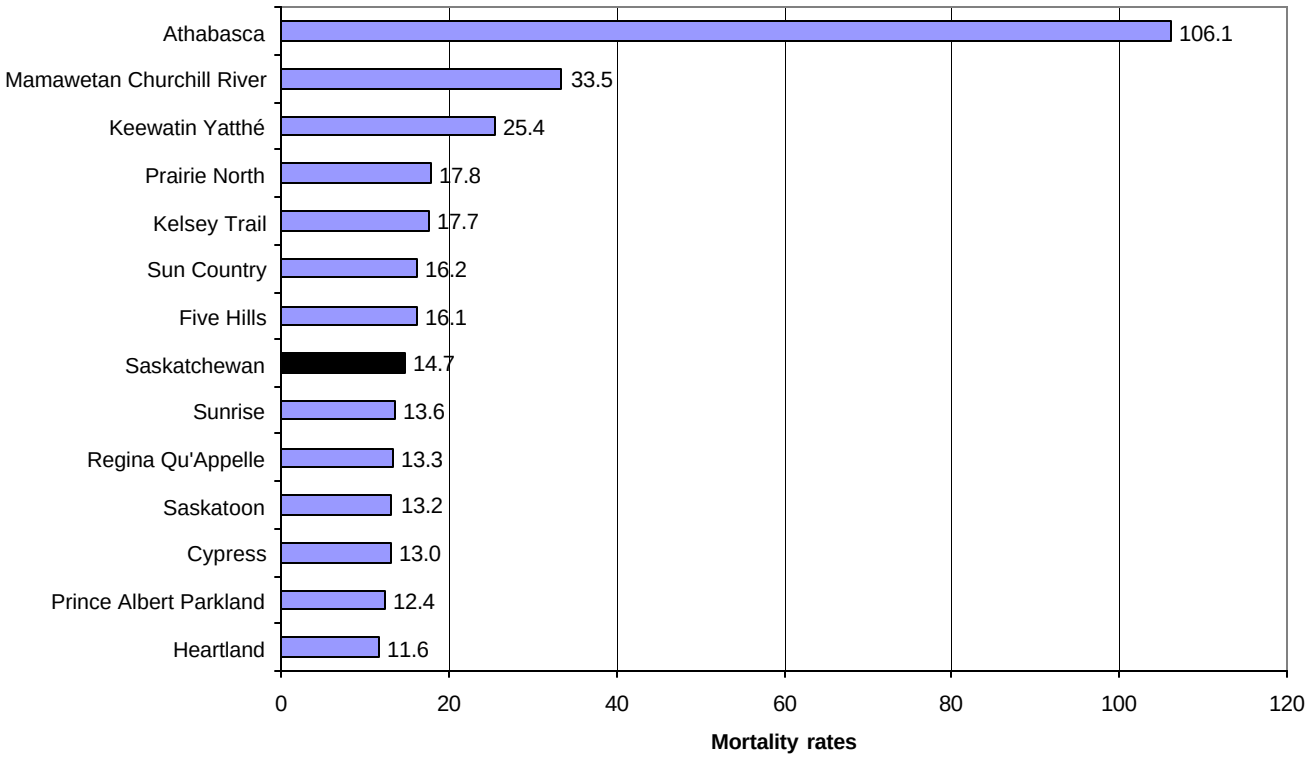
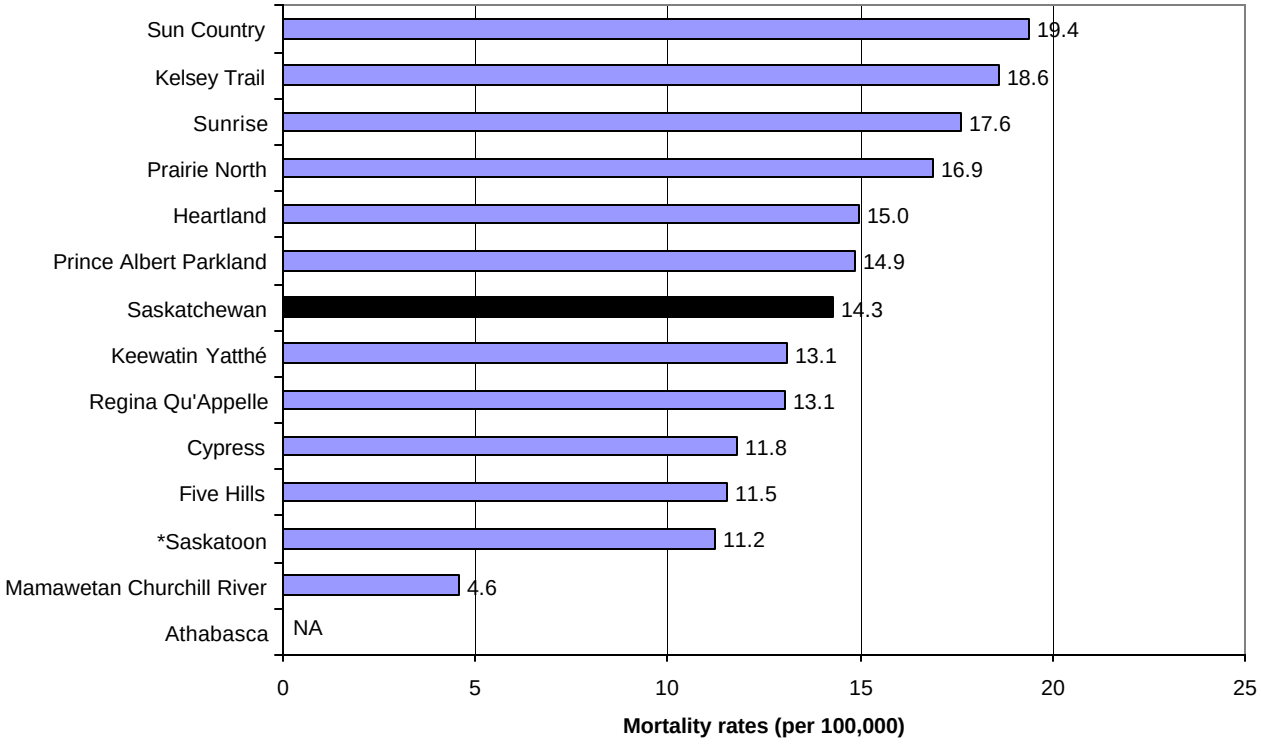


Figure 24. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, All other diseases of the urinary tract



* Statistically different from provincial rate at 95% significance

Figure 25. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999,
Motor Vehicle Traffic Accident

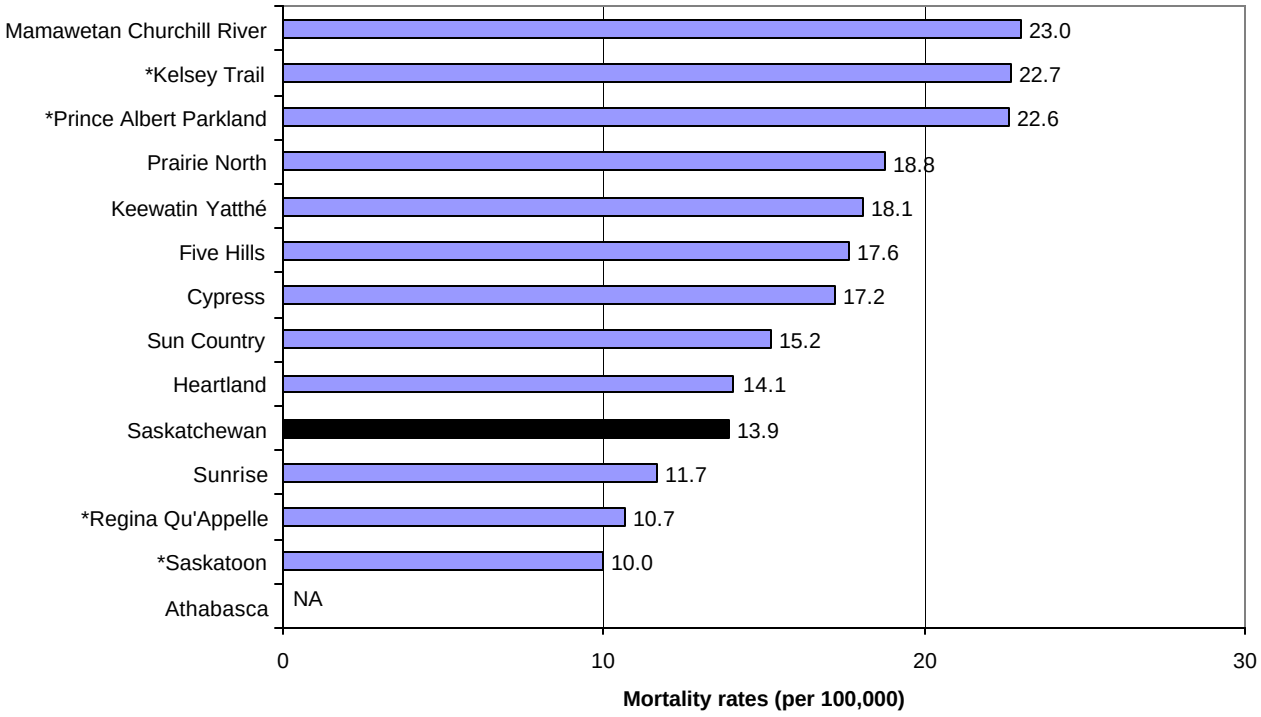
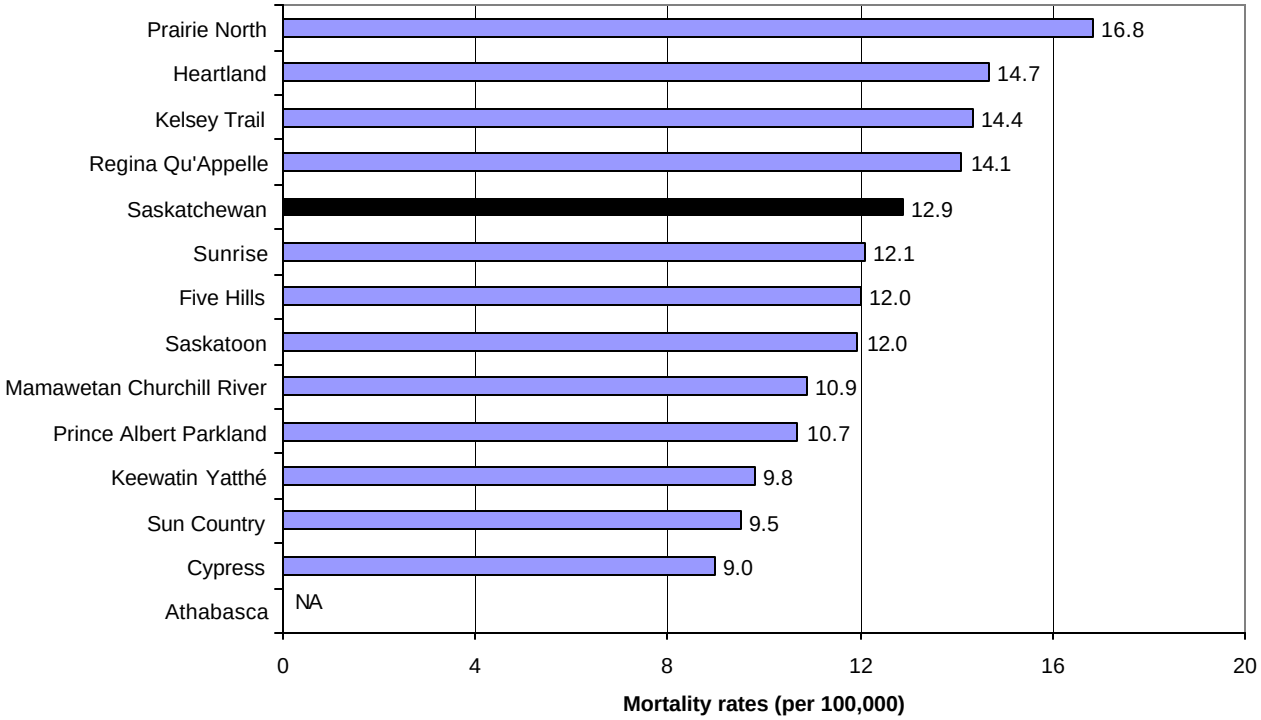


Figure 26. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999,
Cancer, all other lymphatic and hematopoietic tissues



* Statistically different from provincial rate at 95% significance

Figure 27. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, All other diseases of the arteries, arterioles and capillaries

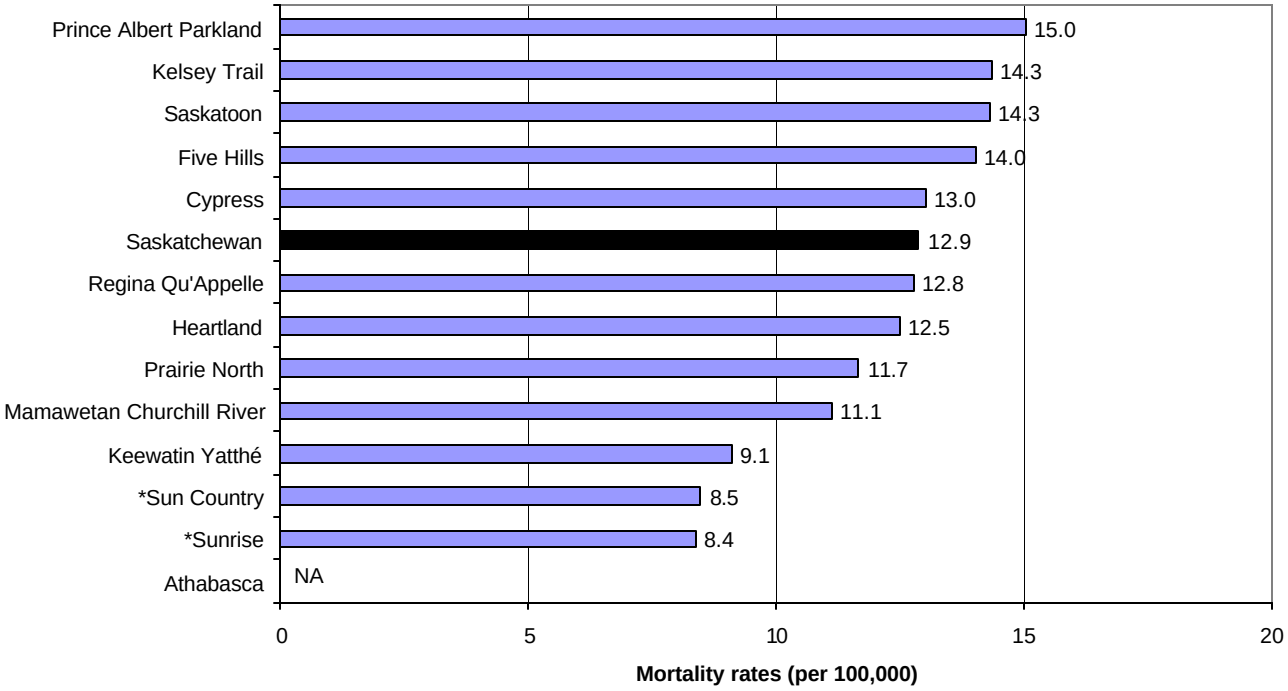
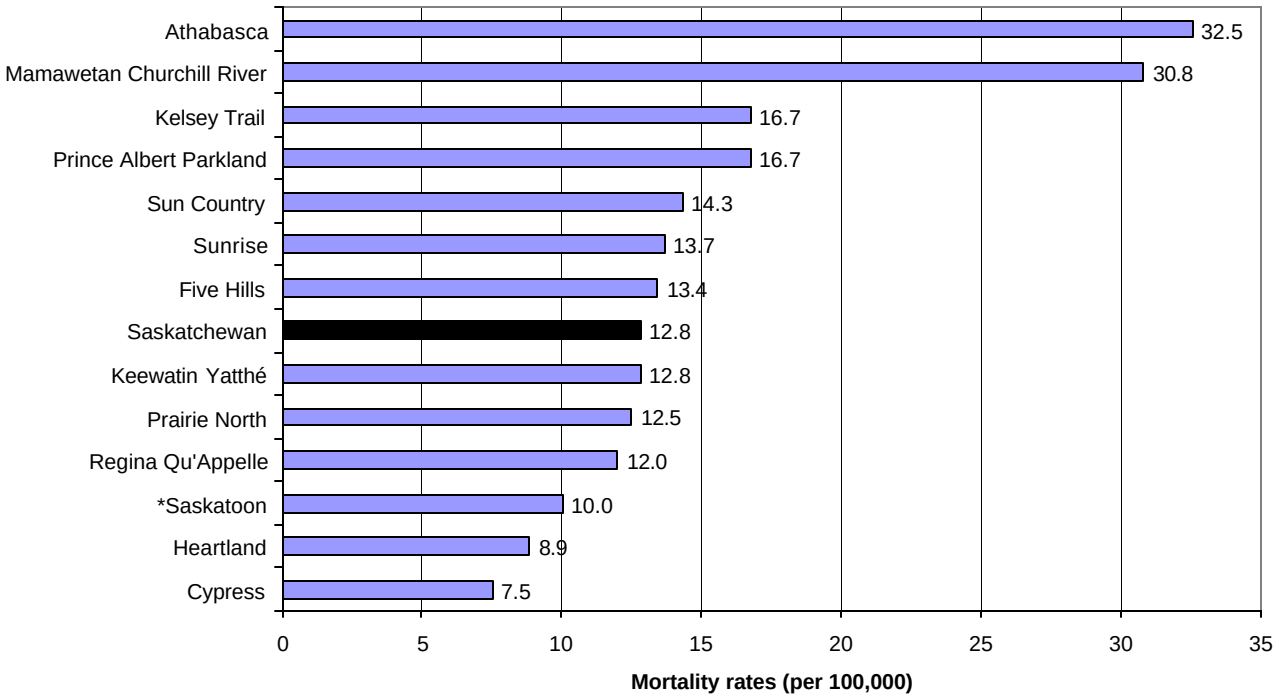


Figure 28. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Suicide



* Statistically different from provincial rate at 95% significance

Figure 29. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Intracerebral and intracranial haemorrhage

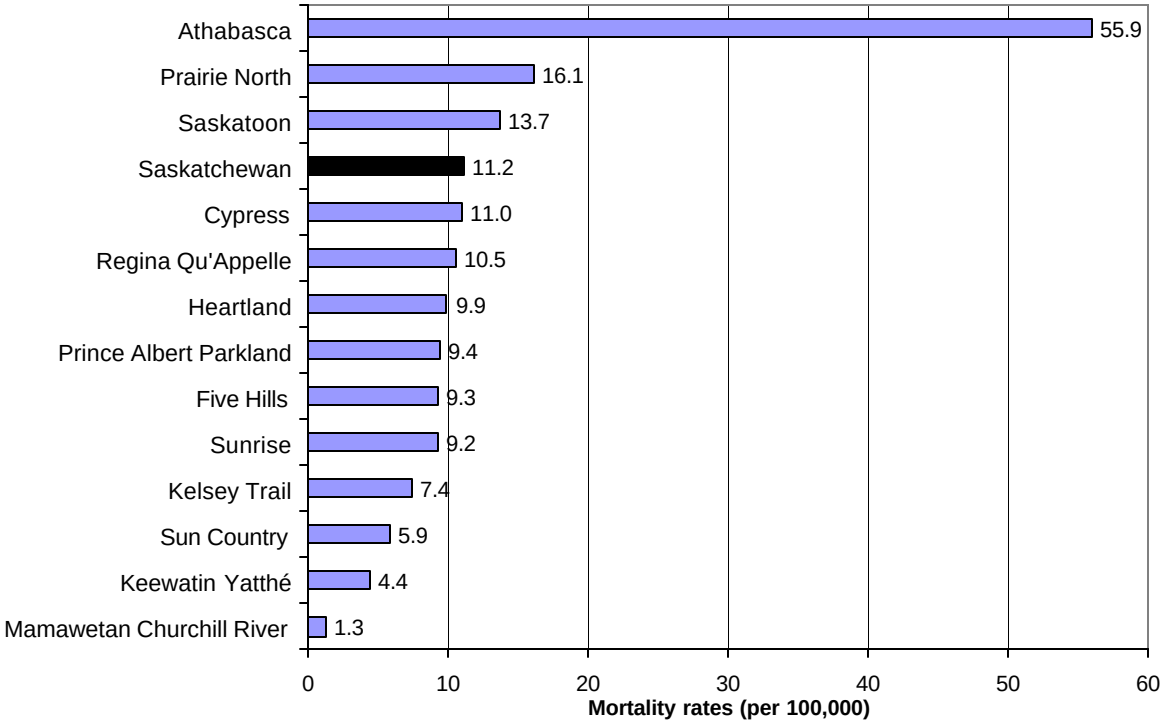
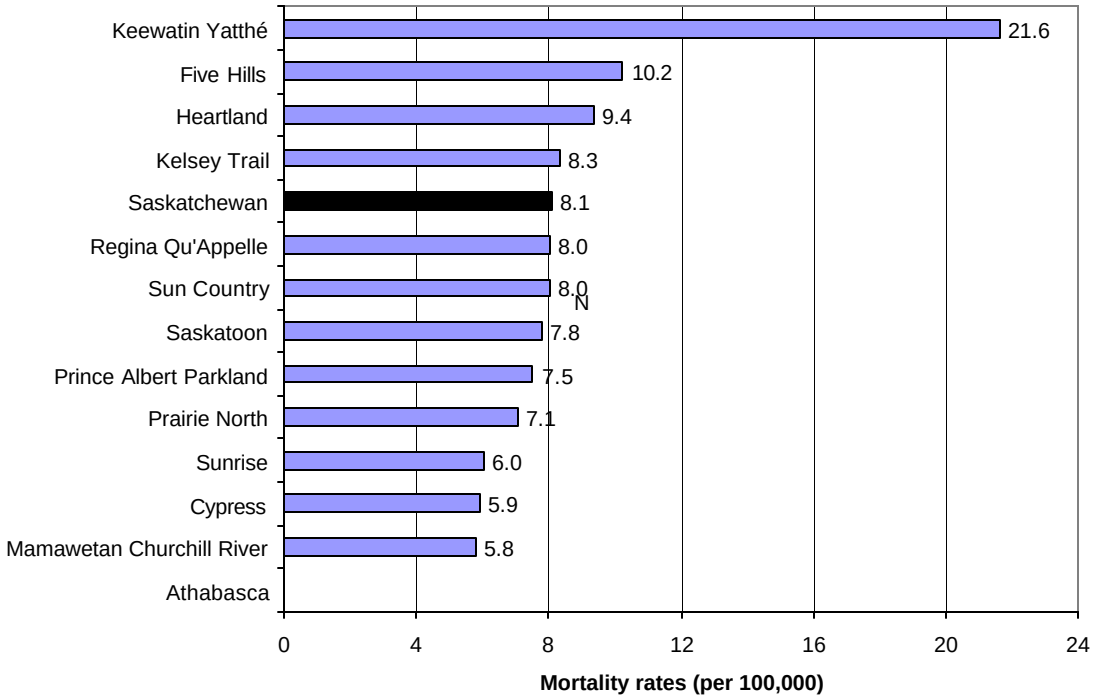
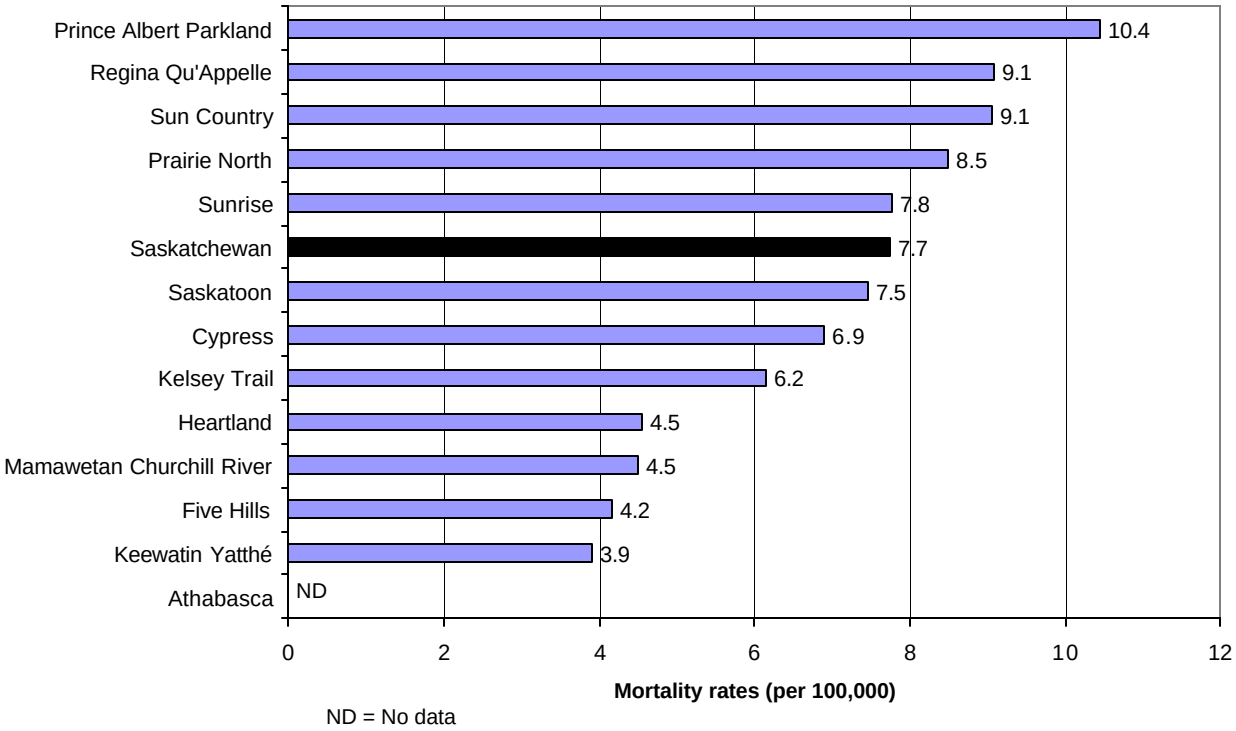


Figure 30. Average annual age-sex standardized death rates, Saskatchewan, 1995 to 1999, Other diseases of the respiratory system



*Statistically different from provincial rate at 95% significance

Figure 31. Average annual age-sex standardized death rates, Saskatchewan 1995 to 1999, Hypertensive disease

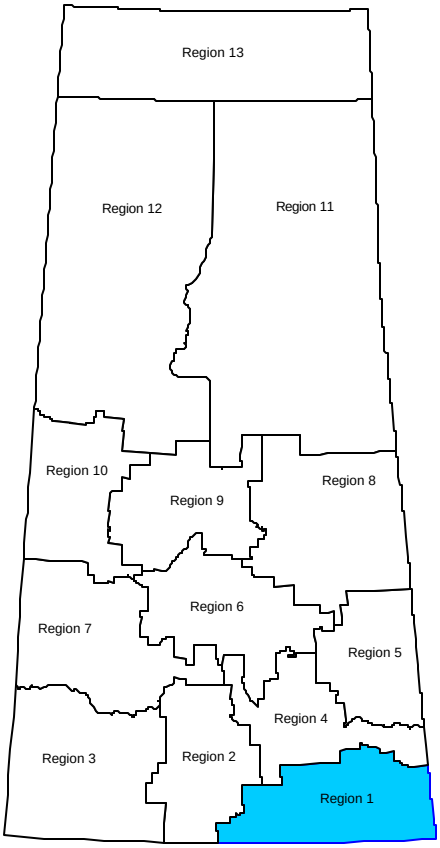


ND = No data

Section Three: Health Regions Summary, Map, Top 20 Causes Of Death, Average Potential Years Of Life Lost, Average Age At Time Of Death.

This section has detailed information on deaths in each regional health authority. A brief cartographic and demographic introduction precedes the death data presentation. Each health region is covered on six pages.

Death rates by major causes are presented as both crude and age-sex standardized. Average age of death by major causes has been included. Also, rates of potential years of life lost are provided. In each of these analyses, the comparable provincial figures are provided.



Sun Country Health Region

Sun Country Health Region is located in the bottom southeast corner of Saskatchewan. It covers an area of 33,239 square kilometres. The perimeter of the region is 939 kilometres. By area, it is the sixth smallest health region in the province and as such represents roughly five percent of Saskatchewan's total area.

The major centres located in the region are Estevan and Weyburn. The covered population for the entire region for the mid-year of the report, 1997, was 58,264. This represents five percent of Saskatchewan's population. Of this total, there were 29,395 males and 28,869 females living in the Sun Country. The population density is 1.75 persons per square kilometre compared with the provincial figure of 1.58 persons per square kilometre.

The leading causes of death for the region were acute myocardial infarction, other heart disease and other and late effects of cerebrovascular disease. The leading causes for potential years of life lost within the region were motor vehicle traffic accidents, suicide and lung cancer.

Table 11: Sun Country Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Sun Country Age-sex standardized rate*	Sun Country Crude Rate	Saskatchewan
Acute Myocardial Infarction	82.0	104.0	83.3
Other heart disease	68.3	89.6	67.9
Other and late effects of Cerebrovascular Disease	52.4	69.3	52.5
All Other forms of Ischaemic Heart Disease	49.9	64.5	80.1
Cancer of the Trachea, bronchus and lung	45.7	56.0	52.3
Prostate cancer	27.5	35.7	21.4
Other COPD and allied conditions	25.0	32.6	26.8
All other diseases of the urinary tract	19.4	25.7	14.3
Other hereditary and degenerative diseases of the central nervous system	19.1	25.7	18.5
Diabetes mellitus	18.5	24.0	21.2
Breast cancer	17.6	22.7	15.5
Cancer, Other and unspecified sites	16.2	19.2	14.7
Motor Vehicle Traffic Accident	15.2	15.4	13.9
Colon Cancer	14.7	18.5	16.5
Suicide	14.3	14.4	12.8
Symptoms, signs and other ill-defined conditions	11.1	15.1	7.0
Metabolic Disorders and immunity disorders	10.1	13.4	5.4
Cancer, all other lymphatic and hematopoietic tissues	9.5	12.4	12.9
Hypertensive disease	9.1	12.0	7.7
Cancer, pancreas	8.9	11.0	11.0
All Causes	**755.2**	**956.3**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 32. Annual average age-sex standardized death rates, Sun Country Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

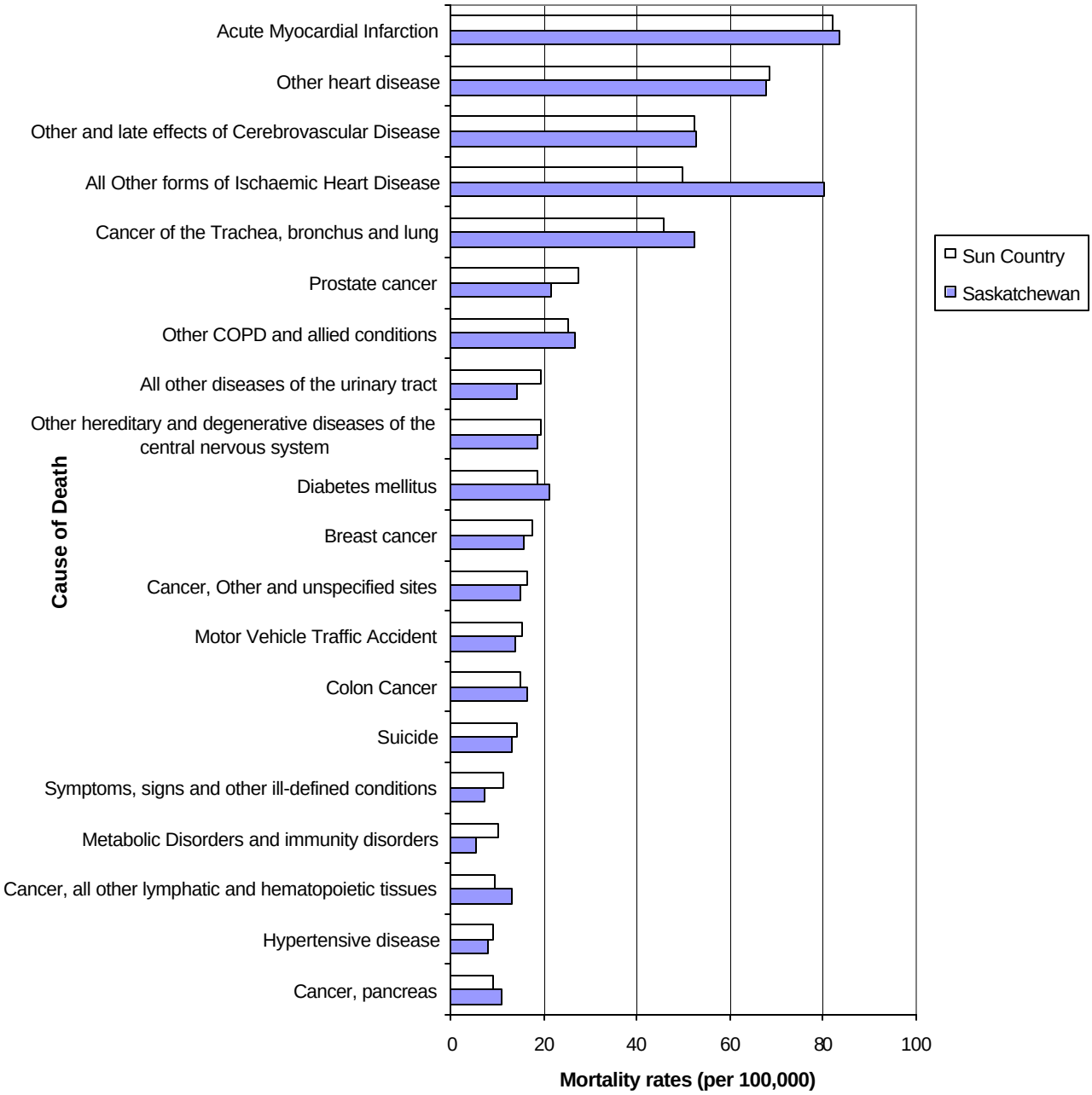


Table 12. Potential Years of Life Lost, five-year average, Saskatchewan and Sun Country Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Sun Country*
Motor vehicle traffic accident	546.4	552.0
Suicide	483.1	522.5
Lung cancer	369.0	386.8
Acute myocardial infarction	339.8	347.8
Breast cancer	153.1	232.1
Other heart disease	215.9	225.9
Ischeamic heart disease	231.9	201.1
Other cancer	112.4	138.6
Colon cancer	96.1	107.0
Chronic liver disease and cirrhosis	112.3	96.4
Cancer, leukaemia	72.8	80.9
Cancer, all other lymphatic and hematopoietic tissues	103.0	80.5
Other hereditary and degenerative diseases of the central nervous system	52.6	77.1
Prostate cancer	47.8	72.2
Diseases of pulmonary Circulation	28.6	66.5
All other diseases of the urinary tract	47.7	60.9
Neoplasm, kidney	48.2	59.7
Other congenital anomalies	131.4	56.3
Cancer, ovary	45.9	54.1
Metabolic disorders and immunity disorders	53.3	50.3
All causes	6072.4	5354.5

Figure 33. PYLL rate, five-year average, Saskatchewan and Sun Country, per 100,000, 1995 to 1999

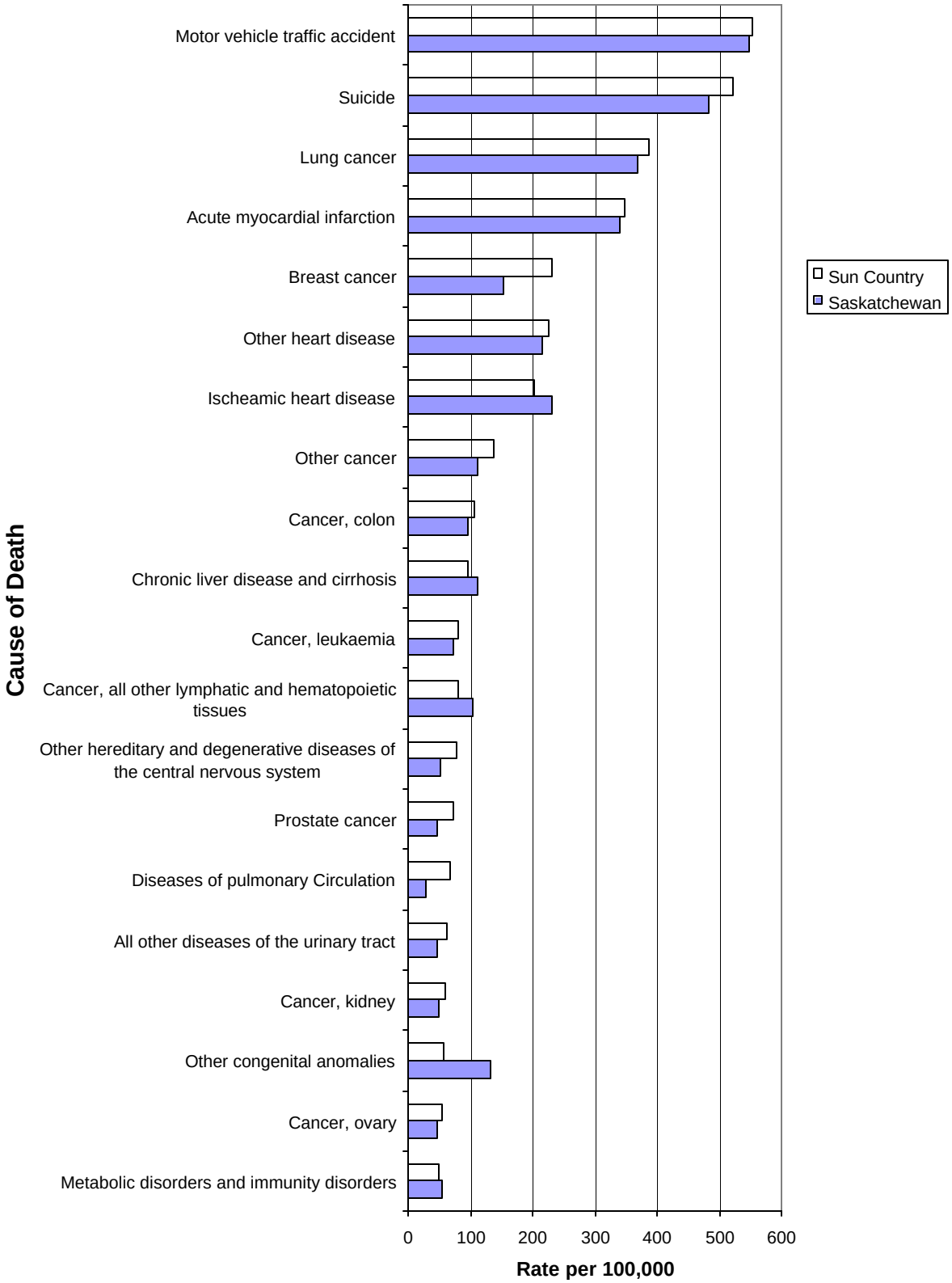
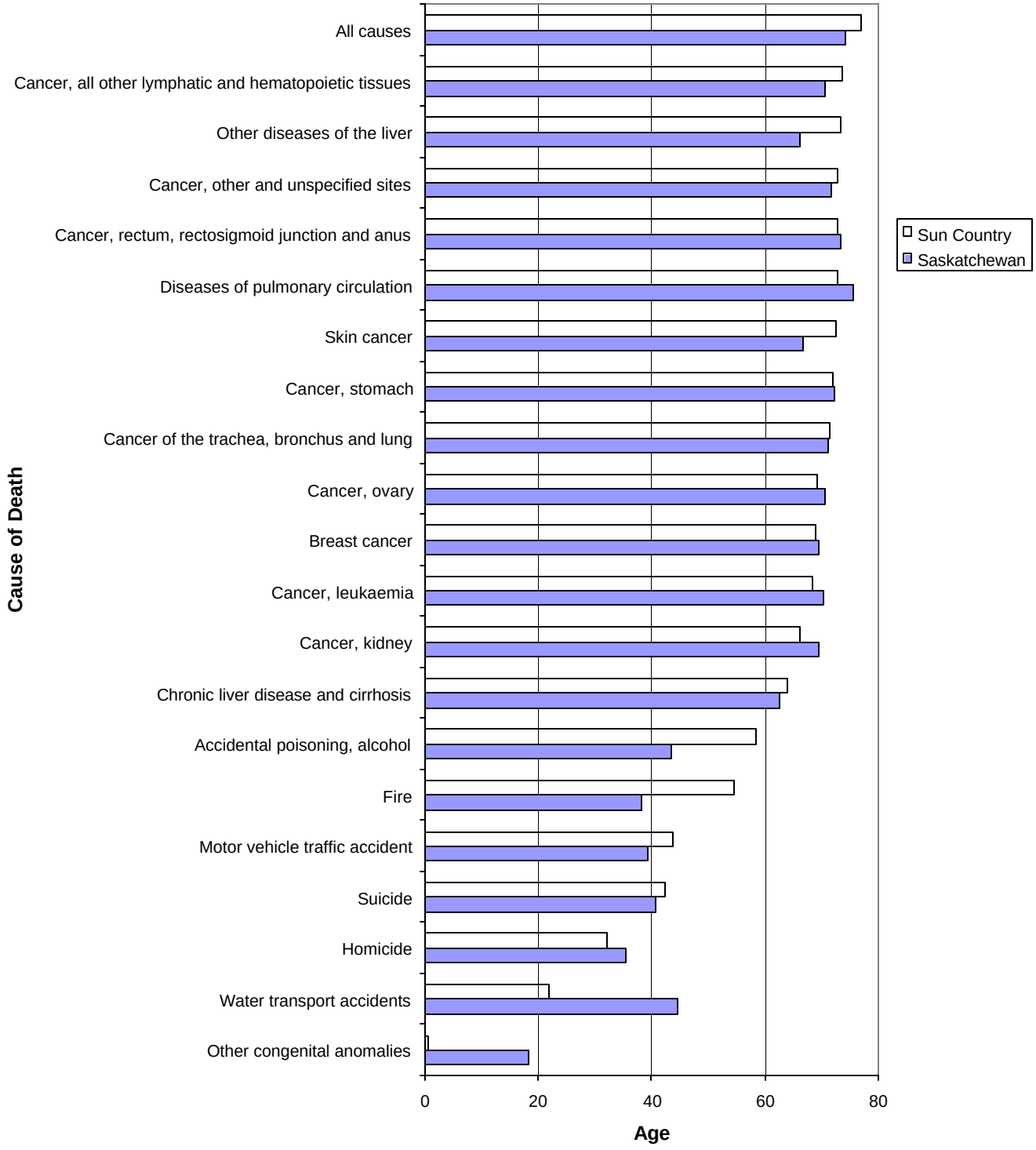
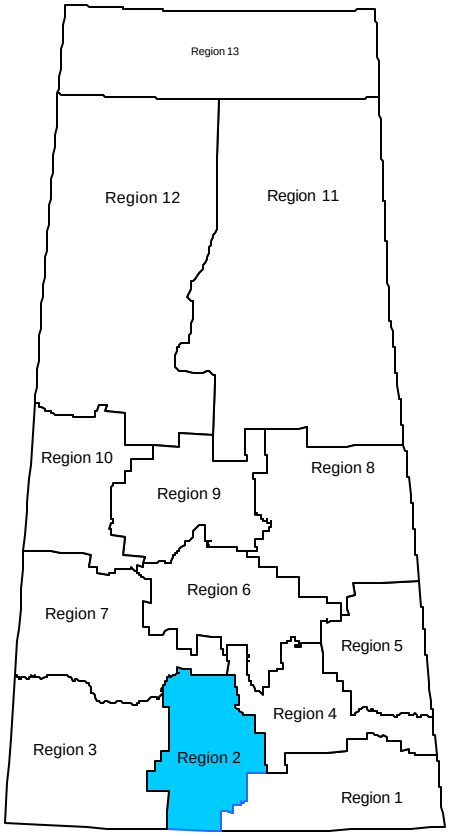


Figure 34. Average Age at time of Death, by Cause, Saskatchewan and Sun Country, 1995 to 1999





Five Hills Health Region

Five Hills Health Region is located in south central Saskatchewan. It is the third smallest health authority in the province covering 4% of the total area. It has an area of 27,730 square kilometres and a perimeter of 918 kilometres. Moose Jaw is the only city in the region. Other urban centres include Gravelbourg, Assiniboia and Central Butte.

The population for Five Hills represents five percent of the Saskatchewan total with a 1997 mid-year population of 57,923. Of the total there are 28,446 males and 29,476 females living in Five Hills. The population density in the region is 2.08 persons per square kilometre.

The top three causes of death in Five Hills are other heart disease, acute myocardial infarction and all other forms of ischaemic heart disease. Within 1995 to 1999 the leading causes for potential years of life lost are motor vehicle traffic accidents, suicide and lung cancer. These are the same three causes as the leading causes for Sun Country Health Authority.

Table 13: Five Hills Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Five Hills age-sex standardized rate*	Five Hills Crude Rate	Saskatchewan
Other heart disease	86.4	106.0	67.9
Acute Myocardial Infarction	78.1	96.3	83.3
All Other forms of Ischaemic Heart Disease	72.1	88.7	80.1
Cancer of the Trachea, bronchus and lung	51.4	64.2	52.3
Other and late effects of Cerebrovascular Disease	49.4	61.8	52.5
Other COPD and allied conditions	28.5	35.6	26.8
Other hereditary and degenerative diseases of the central nervous system	26.0	31.8	18.5
Prostate cancer	19.3	24.2	21.4
Motor Vehicle Traffic Accident	17.6	17.3	13.9
Colon Cancer	16.2	20.7	16.5
Cancer, Other and unspecified sites	16.1	19.7	14.7
Diabetes mellitus	15.7	19.0	21.2
Other Psychosis	14.2	16.9	5.5
All other diseases of the arteries, arterioles and capillaries	14.0	17.6	12.9
Suicide	13.4	13.1	12.8
Cancer, all other lymphatic and hematopoietic tissues	12.0	15.2	12.9
Breast cancer	11.9	14.8	15.5
Falls	11.5	13.8	8.7
All other diseases of the urinary tract	11.5	13.8	14.3
Cancer, leukaemia	11.2	14.2	7.9
All Causes	**823.7**	**1000.3**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 35. Annual average age-sex standardized death rates, Five Hills Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

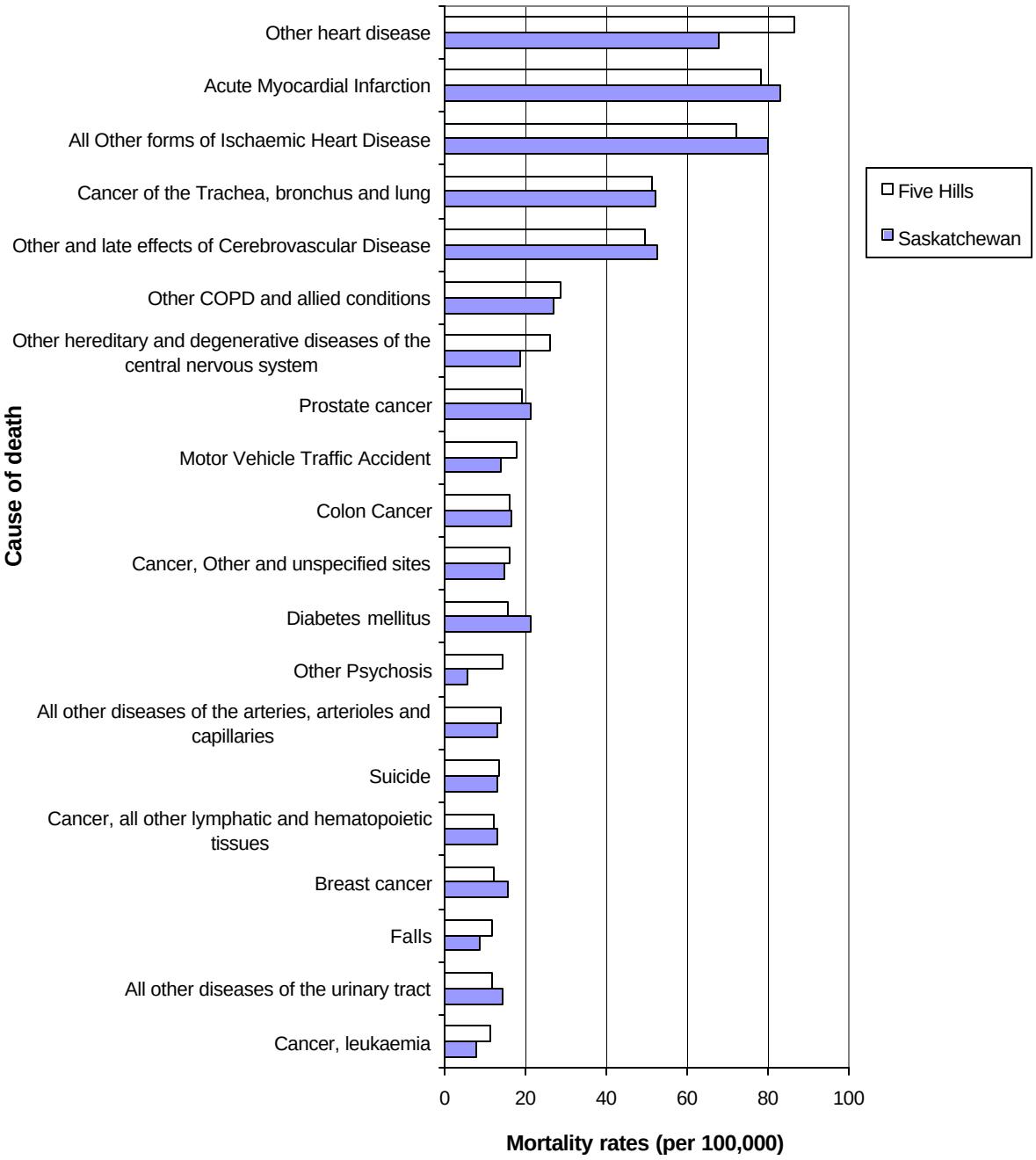


Table 14. Potential Years of Life Lost, five-year average, Saskatchewan and Five Hills Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Five Hills*
Motor vehicle traffic accident	546.4	711.2
Suicide	483.1	505.8
Lung cancer	369.0	354.1
Acute myocardial infarction	339.8	327.8
Ischeamic heart disease	231.9	257.5
Other heart disease	215.9	187.5
Breast cancer	153.1	146.0
Intracerebral and intracranial haemorrhage	86.4	130.8
Other cancer	112.4	127.4
Drowning	119.0	119.8
Colon cancer	96.1	117.5
Other diseases of the respiratory system	52.1	108.4
Diabetes mellitus	100.4	108.0
Cancer, all other lymphatic and hematopoietic tissues	103.0	105.7
Chronic liver disease and cirrhosis	112.3	101.9
Cancer, liver, gall bladder and bile ducts	37.6	93.8
Cancer, pancreas	59.0	80.6
Other congenital anomalies	131.4	78.0
COPD	51.9	74.9
Other hereditary and degenerative diseases of the central nervous system	52.6	66.9
All causes	6072.4	6124.0

Figure 36. PYLL rate, five-year average, Saskatchewan and Five Hills, 1995 to 1999

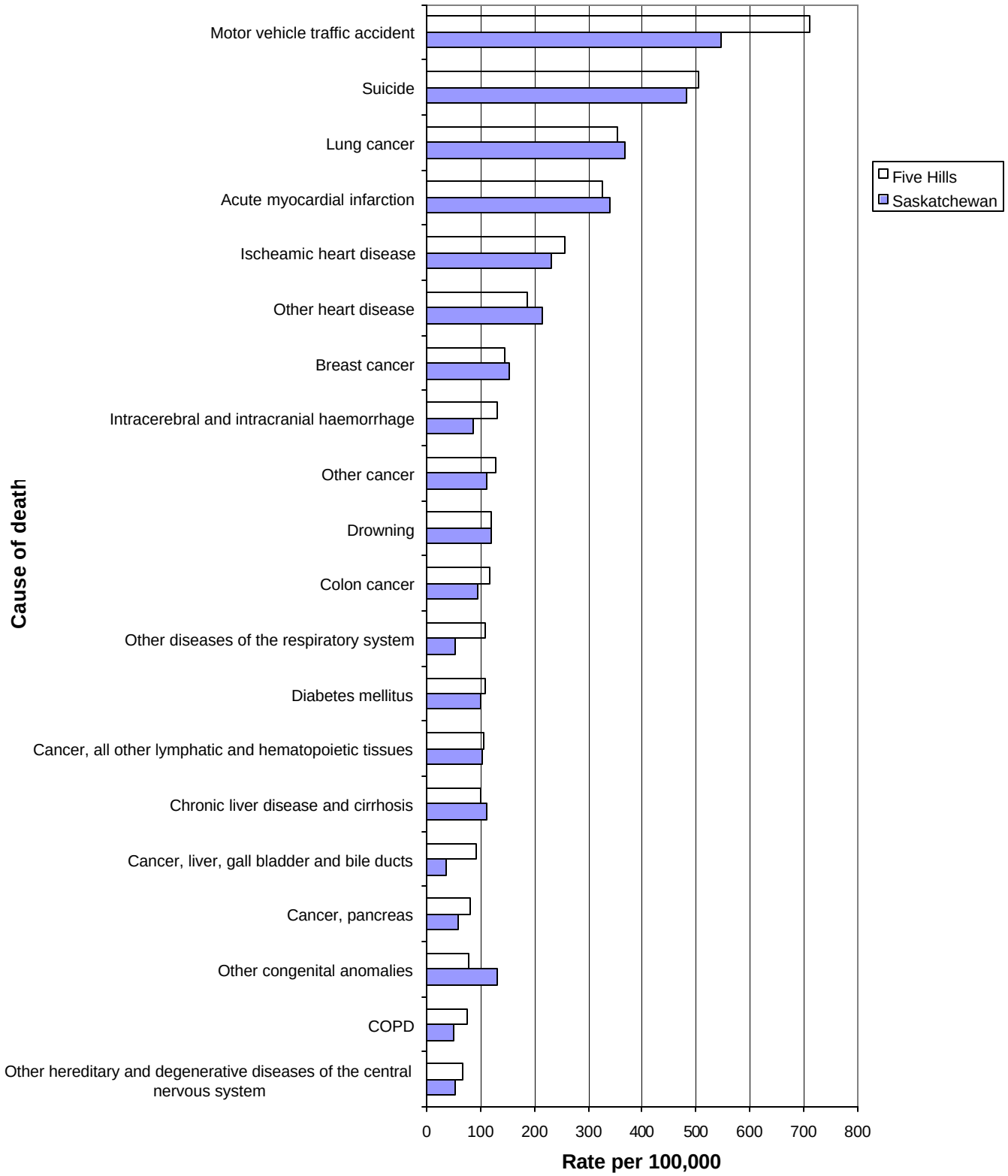
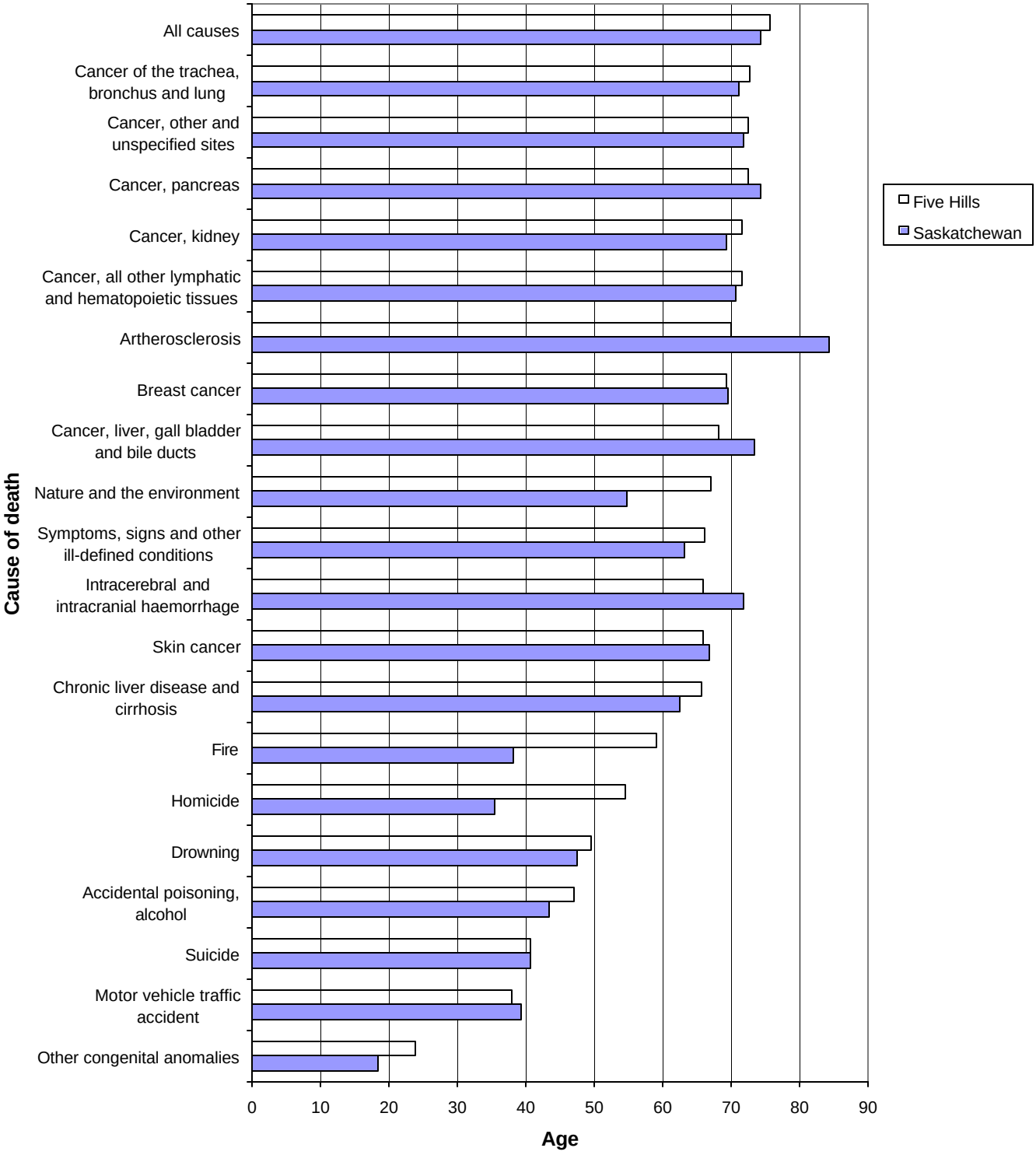
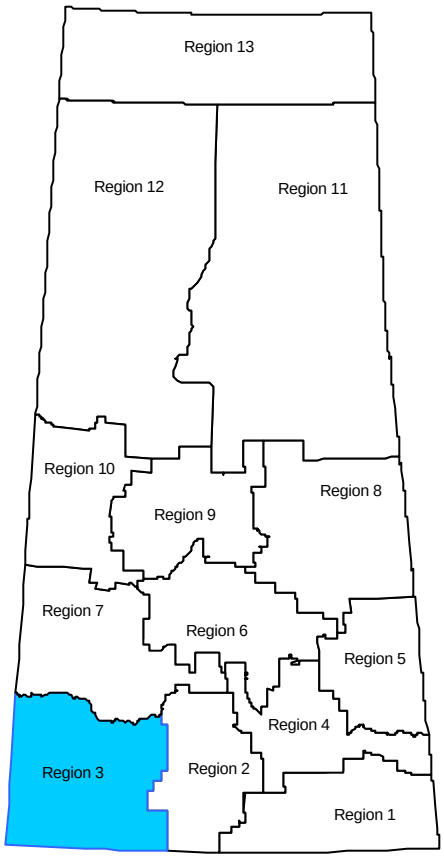


Figure 37. Average age at death, Saskatchewan and Five Hills, 1995 to 1999





Cypress Health Region

Cypress Health Region is the fifth largest in Saskatchewan in terms of land mass. At seven percent of the provincial total, it has an area of 45,233 square kilometres. The perimeter of Cypress region is 1096 kilometres. The main urban centres in the region include Swift Current and Maple Creek.

Four percent of Saskatchewan's population resides in the Cypress Regional Health Authority. The 1997 mid-year population was 46,712. Of this total, there were 23,084 males and 23,628 females. The population density is 1.03 persons per square kilometre.

As with the first two Health Regions, the leading causes of death in Cypress are acute myocardial infarction, other and late effects of cerebrovascular disease and other heart disease. The leading causes of potential years of life lost for this five-year time period are motor vehicle traffic accidents, lung cancer and acute myocardial infarction.

Table 15: Cypress Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	*Cypress age-sex standardized rate**	*Cypress Crude Rate*	*Saskatchewan*
Acute Myocardial Infarction	95.7	117.3	83.3
Other and late effects of Cerebrovascular Disease	57.1	69.8	52.5
Other heart disease	44.9	54.8	67.9
Cancer of the Trachea, bronchus and lung	40.4	50.1	52.3
All Other forms of Ischaemic Heart Disease	35.6	43.7	80.1
Other COPD and allied conditions	25.2	31.3	26.8
Prostate cancer	21.3	26.5	21.4
Colon Cancer	20.3	24.8	16.5
Diabetes mellitus	17.6	21.4	21.2
Motor Vehicle Traffic Accident	17.2	18.0	13.9
Breast cancer	14.1	17.6	15.5
All other diseases of the arteries, arterioles and capillaries	13.0	16.3	12.9
Cancer, Other and unspecified sites	13.0	15.4	14.7
Pneumonia	13.0	15.8	7.7
Arthereosclerosis	12.2	15.0	6.1
All other diseases of the urinary tract	11.8	14.6	14.3
Cerebral embolism and thrombosis	11.6	14.1	6.2
Intracerebral and intracranial haemorrhage	11.0	14.1	11.2
Other hereditary and degenerative diseases of the central nervous system	10.7	12.8	18.5
Cancer, pancreas	9.7	11.6	11.0
All Causes	**719.7**	**872.6**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 38. Annual average age-sex standardized death rates, Cypress Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

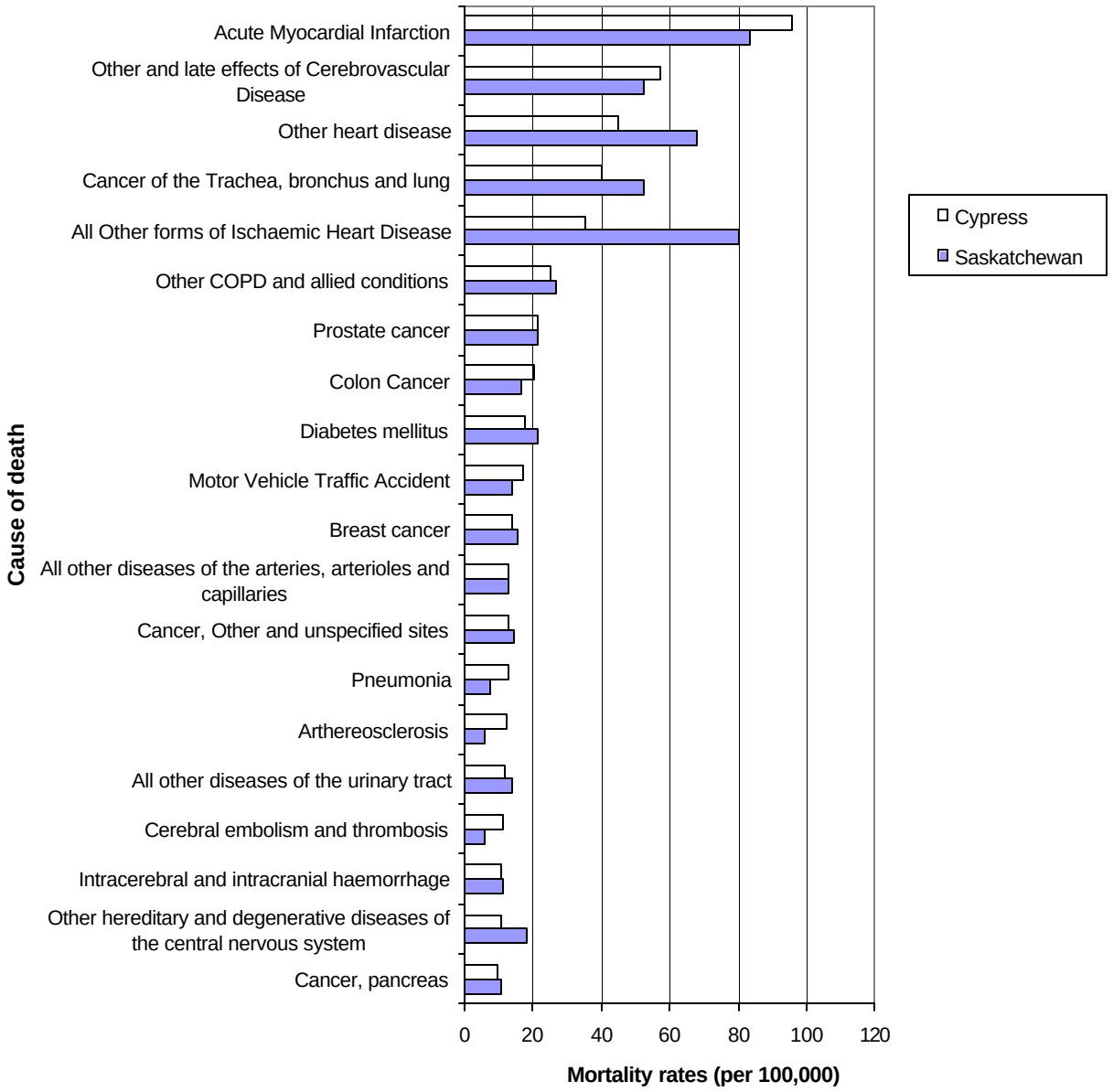


Table 16. Potential Years of Life Lost, five-year average, Saskatchewan and Cypress Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Cypress*
Motor vehicle traffic accident	546.4	672.1
Lung cancer	369.0	383.4
Acute myocardial infarction	339.8	377.8
Suicide	483.1	232.3
Breast cancer	153.1	137.5
Other cancer	112.4	122.0
Cancer, all other lymphatic and hematopoietic tissues	103.0	115.0
Other heart disease	215.9	113.6
Drowning	119.0	111.0
Chronic liver disease and cirrhosis	112.3	97.6
Other congenital anomalies	131.4	94.8
Colon cancer	96.1	93.9
Intracerebral and intracranial haemorrhage	86.4	84.0
Ischeamic heart disease	231.9	79.8
Cancer, ovary	45.9	78.8
Cancer, pancreas	59.0	76.5
Symptoms, signs and other ill-defined conditions	150.5	71.3
Cerebrovascular disease	49.5	66.2
Other hereditary and degenerative diseases of the central nervous system	52.6	59.8
Cancer, liver, gall bladder and bile ducts	37.6	58.2
All causes	6072.4	4926.2

Figure 39. PYLL rate, five-year average, Saskatchewan and Cypress, 1995 to 1999

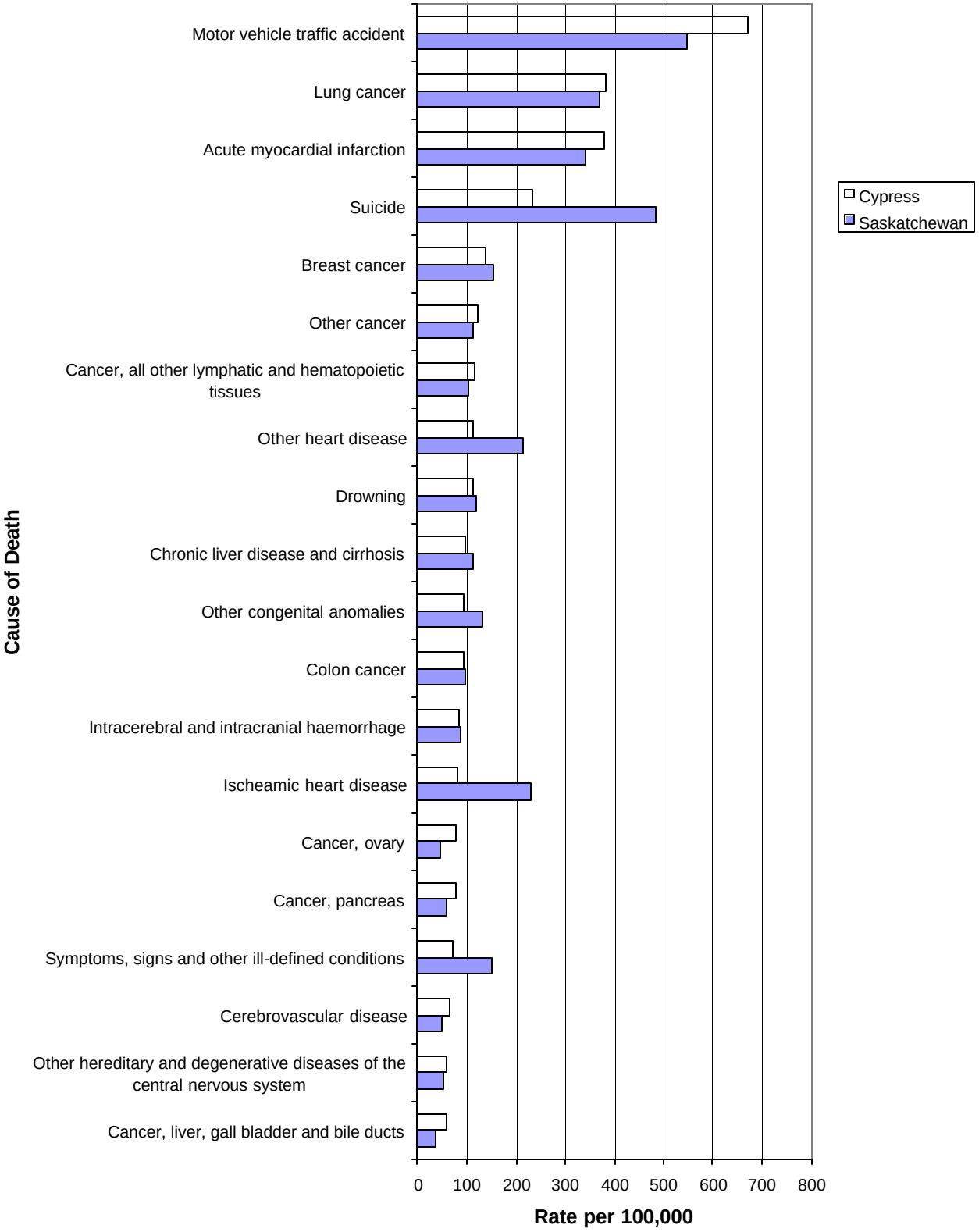
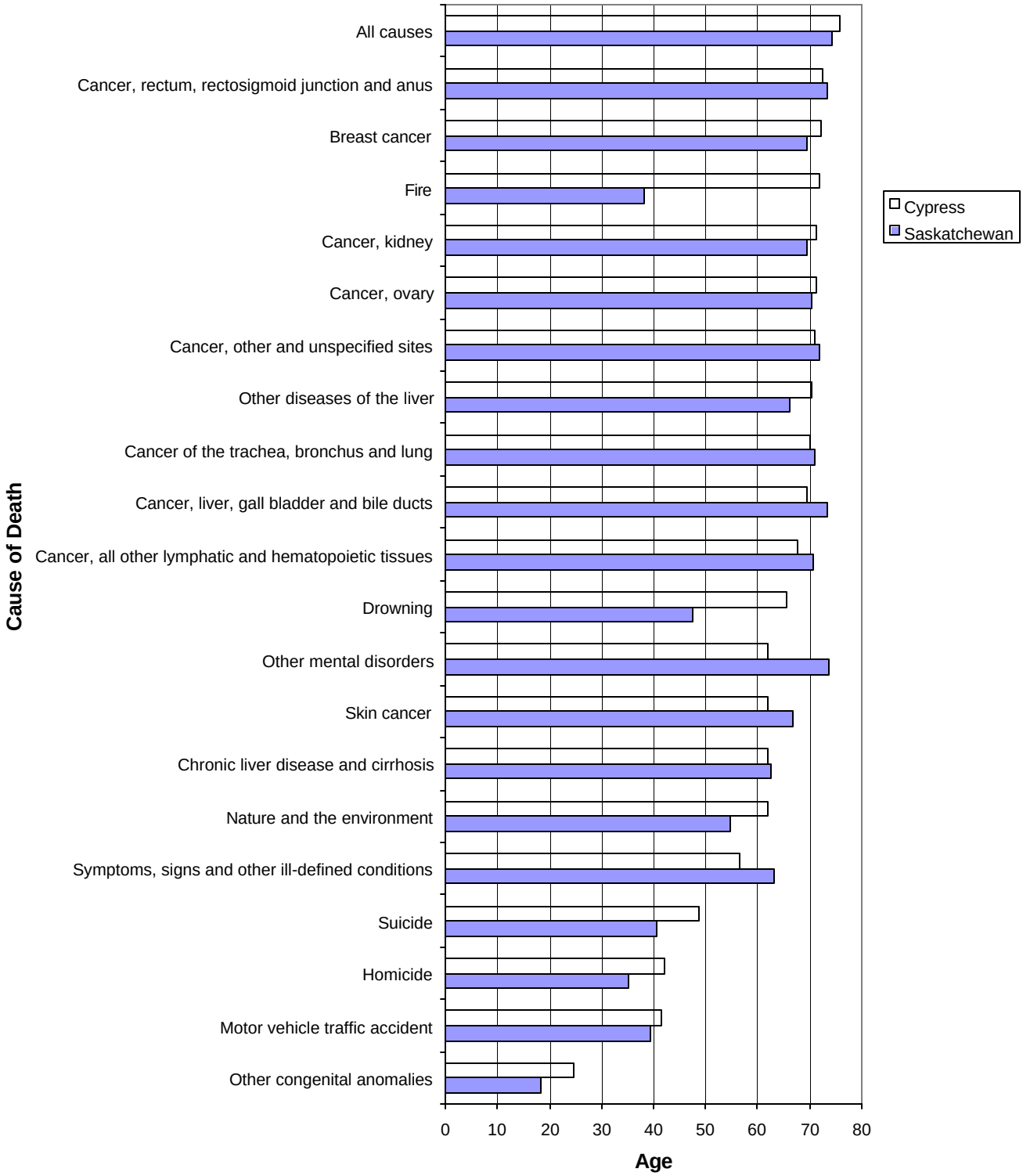
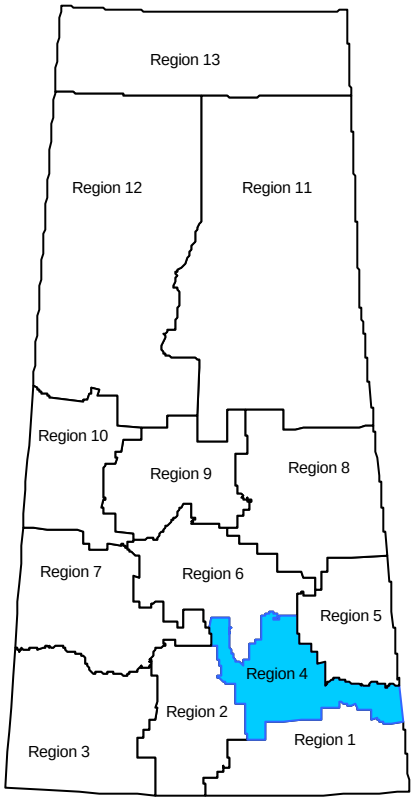


Figure 40. Average age at death, Saskatchewan and Cypress, 1995 to 1999





Regina Qu'Appelle Health Region

Regina Qu'Appelle Health Region is the second smallest health region geographically with the second largest population in Saskatchewan. It is four percent of the total provincial area at 26,632 square kilometres. It has a perimeter of 1401 kilometres. The only city in the region is Regina. Other urban centres include Lumsden, Balgonie, Raymore and Imperial in the north. It extends as far east as Moosomin and Rocanville.

Regina Qu'Appelle is second only to Saskatoon RHA in population in Saskatchewan. The 1997 mid-year population was 245,598. This accounted for 24% of Saskatchewan's population. There were 120,931 males and 124,666 females. At 9.22 persons per square kilometre, Regina Qu'Appelle is the most densely populated health region in Saskatchewan. This figure is much higher than the provincial average of 1.58 persons per square kilometre.

As with the first three Health Authorities, the leading causes of death are all other forms of ischaemic heart disease, acute myocardial infarction, and other heart diseases. Again, the leading cause of premature mortality is motor vehicle traffic accidents. The next leading causes of potential years of life lost in Regina Qu'Appelle include suicide and acute myocardial infarction.

Table 17: Regina Qu'Appelle Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Regina Qu'Appelle age-sex standardized rate*	Regina Qu'Appelle Crude Rate	Saskatchewan
All Other forms of Ischaemic Heart Disease	101.4	86.2	80.1
Acute Myocardial Infarction	86.2	74.0	83.3
Other heart disease	63.3	54.2	67.9
Cancer of the Trachea, bronchus and lung	55.4	51.2	52.3
Other and late effects of Cerebrovascular Disease	53.3	45.0	52.5
Other COPD and allied conditions	30.6	25.2	26.8
Prostate cancer	20.2	16.2	21.4
Diabetes mellitus	19.9	17.3	21.2
Colon Cancer	17.0	15.3	16.5
Other hereditary and degenerative diseases of the central nervous system	16.9	14.4	18.5
Breast cancer	15.3	15.4	15.5
Cancer, all other lymphatic and hematopoietic tissues	14.1	12.9	12.9
Cancer, Other and unspecified sites	13.3	12.1	14.7
All other diseases of the urinary tract	13.1	11.2	14.3
All other diseases of the arteries, arterioles and capillaries	12.8	11.0	12.9
Suicide	12.0	12.2	12.8
Falls	10.8	9.1	8.7
Motor Vehicle Traffic Accident	10.7	10.6	13.9
Intracerebral and intracranial haemorrhage	10.5	9.7	11.2
Cancer, pancreas	9.1	8.3	11.0
All Causes	**847.3**	**745.0**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 41. Annual average age-sex standardized death rates, Regina Qu'Appelle Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

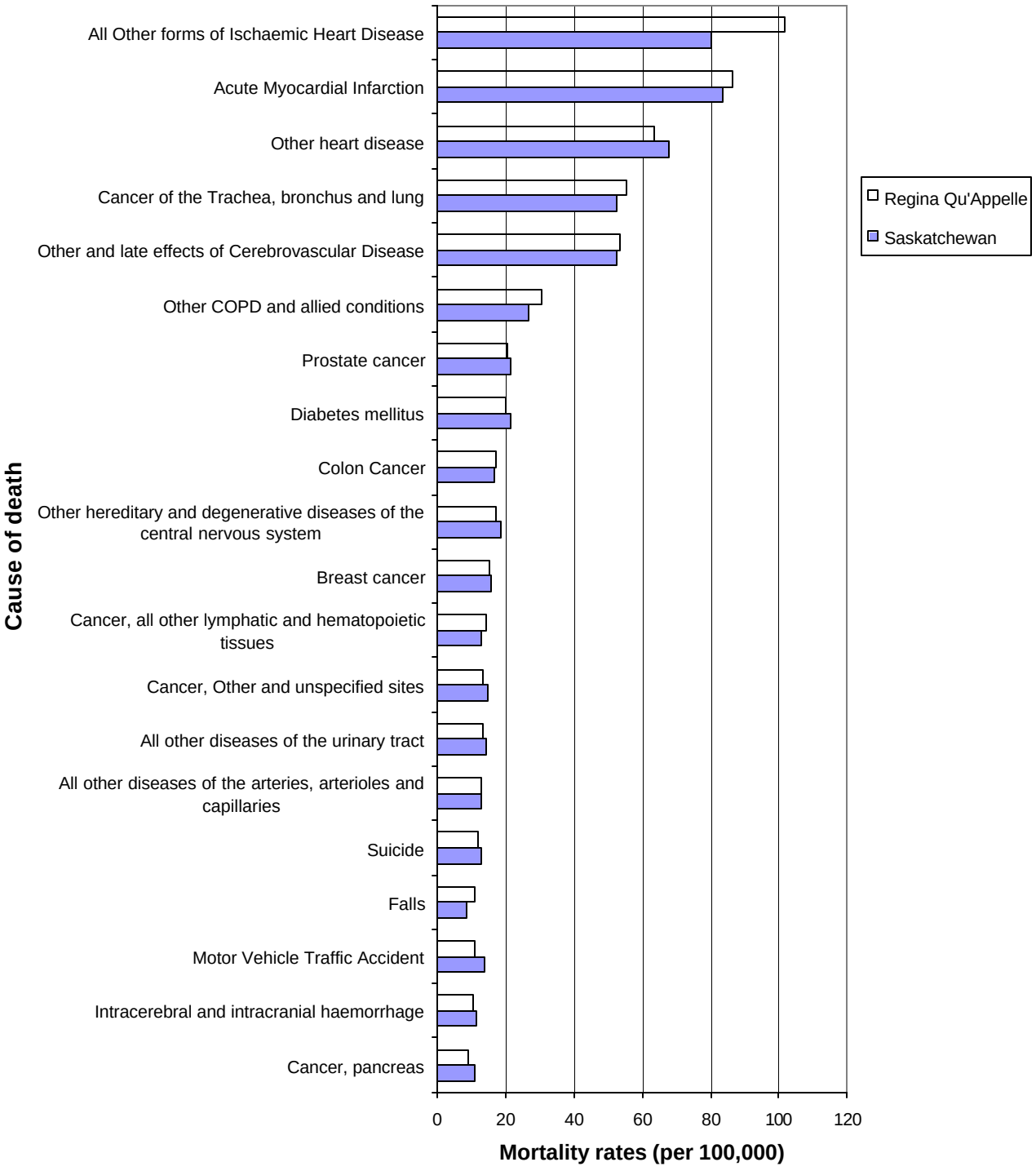


Table 18. Potential Years of Life Lost, five-year average, Saskatchewan and Regina Qu'Appelle Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Regina Qu'Appelle*
Suicide	483.1	480.7
Motor vehicle traffic accident	546.4	409.9
Lung cancer	369.0	377.3
Acute myocardial infarction	339.8	314.6
Ischeamic heart disease	231.9	263.1
Other heart disease	215.9	208.0
Symptoms, signs and other ill-defined conditions	150.5	181.9
Breast cancer	153.1	153.1
Homicide	98.3	135.2
Colon cancer	96.1	114.1
Cancer, all other lymphatic and hematopoietic tissues	103.0	113.4
Other congenital anomalies	131.4	105.9
Other cancer	112.4	99.8
Chronic liver disease and cirrhosis	112.3	96.5
Diabetes mellitus	100.4	84.5
Intracerebral and intracranial haemorrhage	86.4	83.4
Metabolic disorders and immunity disorders	53.3	68.6
Fire	61.6	64.3
Cancer, stomach	50.0	63.6
Cancer, ovary	45.9	59.7
All causes	6072.4	5940.2

Figure 42. PYLL rate, five year average, Saskatchewan and Regina Qu'Appelle, 1995 to 1999

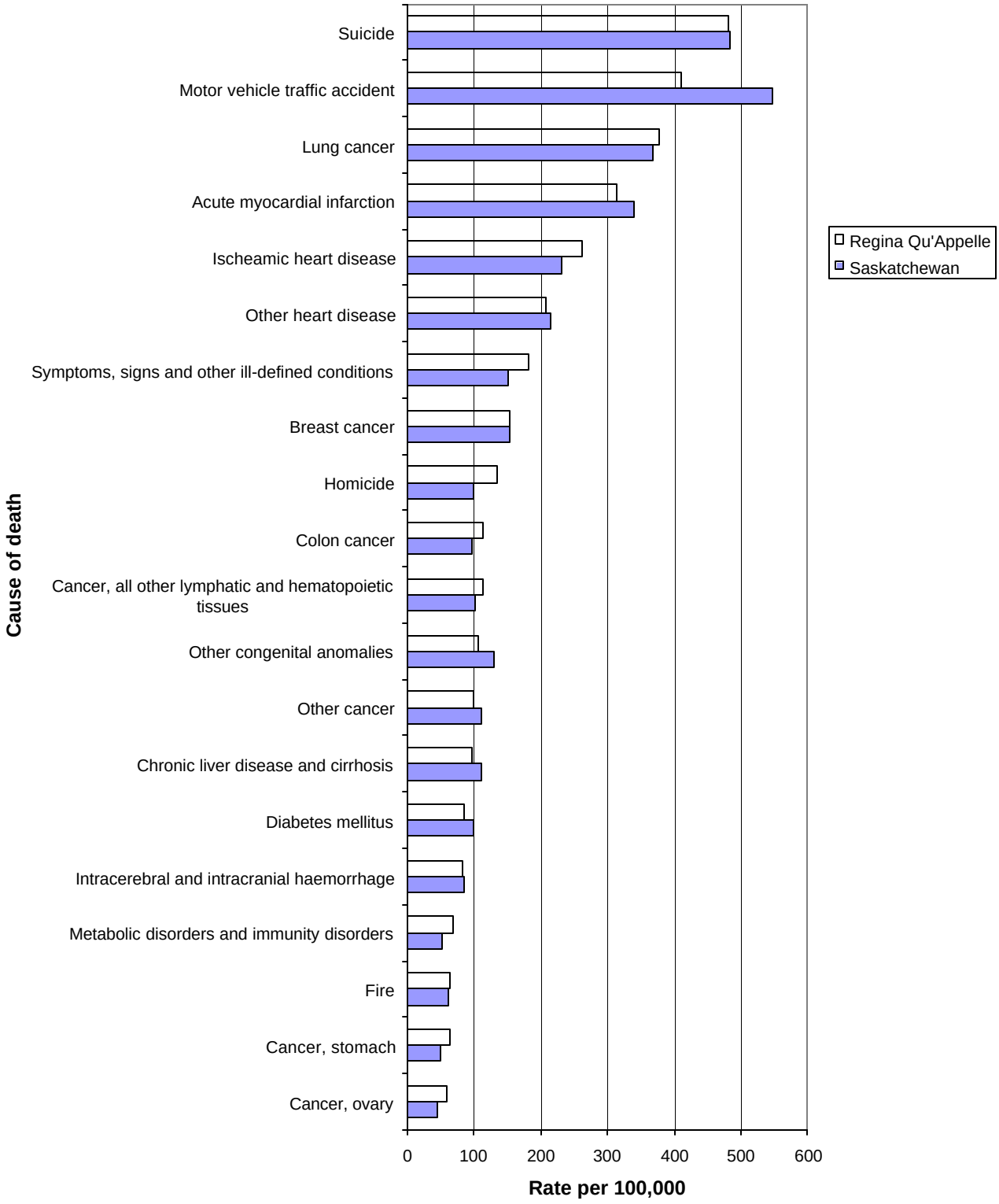
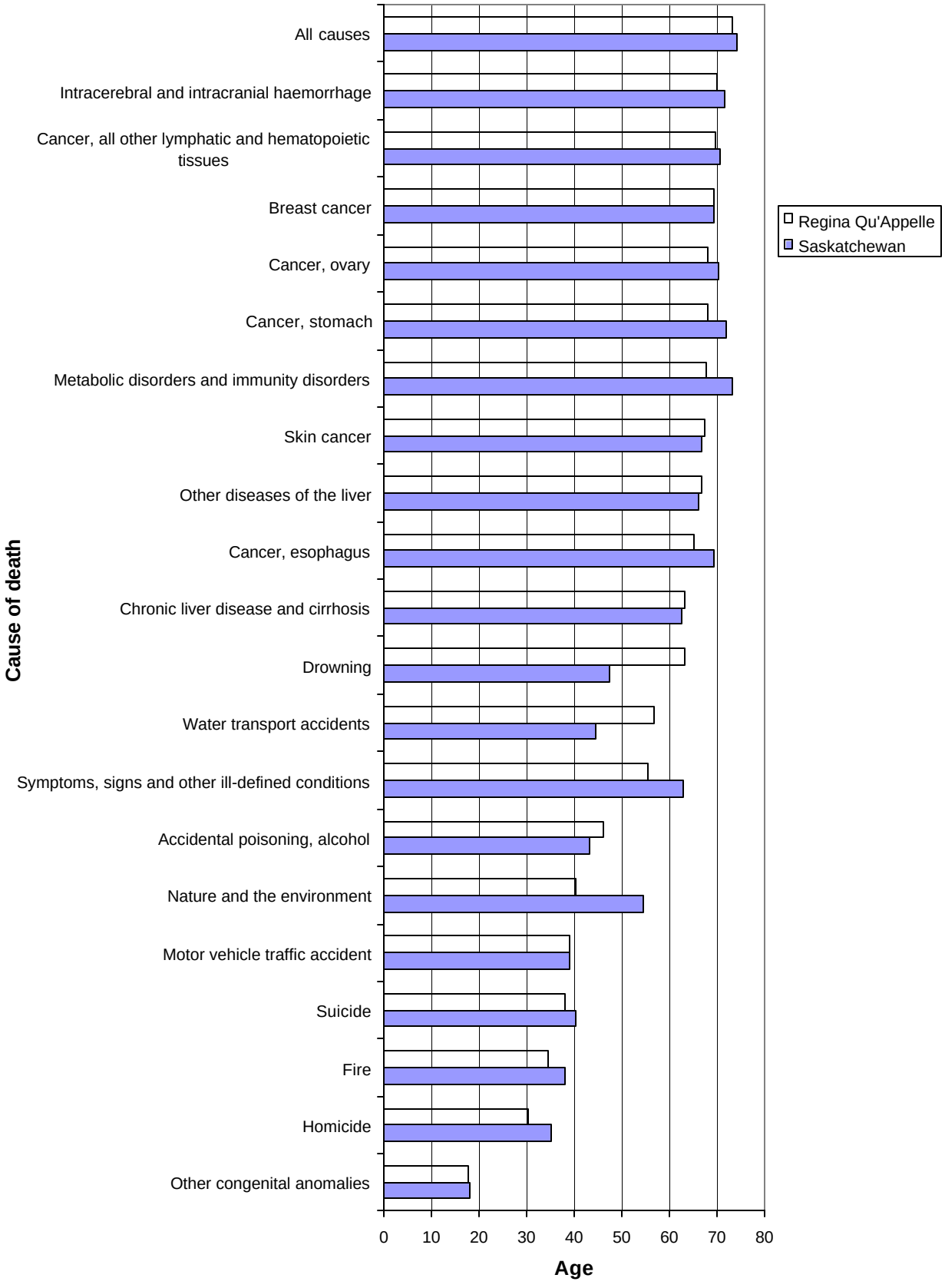
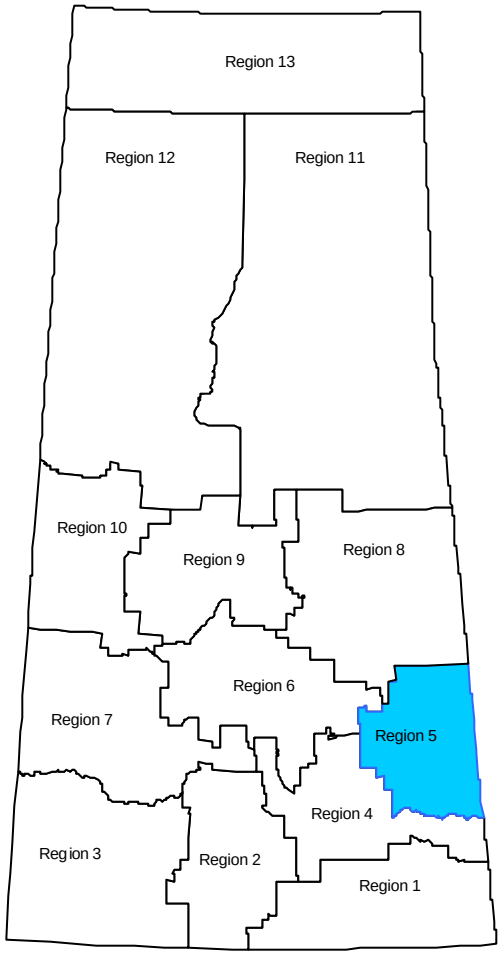


Figure 43. Average age at death, Saskatchewan and Regina Qu'Appelle, 1995 to 1999





Sunrise Health Region

Sunrise Health Region is the smallest health region in Saskatchewan. At less than four percent of the total provincial area, Sunrise covers 24,805 square kilometres. The perimeter extends 864 kilometres around an area along the Saskatchewan and Manitoba border in southeast Saskatchewan. The two largest urban centres in the area are Yorkton and Melville. Several smaller urban centres found in this region include Preeceville and Norquay in the north, Langenburg and Esterhazy in the south and Ituna and Foam Lake in the west.

Approximately six percent of Saskatchewan's population lives within the borders of the Sunrise Health Authority. In mid-year, 1997, there were 61,932 people living in Sunrise. There were 30,591 males and 31,340 females. The population density is 2.50 persons per square kilometre.

The leading causes of death, again, are circulatory diseases including all other forms of ischaemic heart disease, acute myocardial infarction, and other heart disease. The leading cause of premature mortality in Sunrise region is Acute Myocardial Infarction. Motor vehicle traffic accidents are the second leading cause of premature mortality, followed by suicide.

Table 19: Sunrise Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Sunrise Std rate*	Sunrise Crude Rate	Saskatchewan
All Other forms of Ischaemic Heart Disease	100.0	158.6	80.1
Acute Myocardial Infarction	93.6	145.6	83.3
Other heart disease	70.8	111.1	67.9
Other and late effects of Cerebrovascular Disease	55.0	89.8	52.5
Cancer of the Trachea, bronchus and lung	45.3	67.8	52.3
Diabetes mellitus	23.7	37.5	21.2
Prostate cancer	20.0	32.9	21.4
Other COPD and allied conditions	18.1	29.7	26.8
All other diseases of the urinary tract	17.6	28.1	14.3
Colon Cancer	16.9	26.4	16.5
Suicide	13.7	15.2	12.8
Cancer, Other and unspecified sites	13.6	21.0	14.7
Cancer, pancreas	13.0	20.3	11.0
Breast cancer	12.2	18.4	15.5
Cancer, all other lymphatic and hematopoietic tissues	12.1	17.4	12.9
Motor Vehicle Traffic Accident	11.7	12.6	13.9
Cancer, leukaemia	11.5	16.5	7.9
Other hereditary and degenerative diseases of the central nervous system	11.5	19.4	18.5
Cancer, liver, gall bladder and bile ducts	9.6	14.5	6.1
Intracerebral and intracranial haemorrhage	9.2	13.9	11.2
All Causes	**804.2**	**1231.3**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 44. Annual average age-sex standardized death rate, Sunrise Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

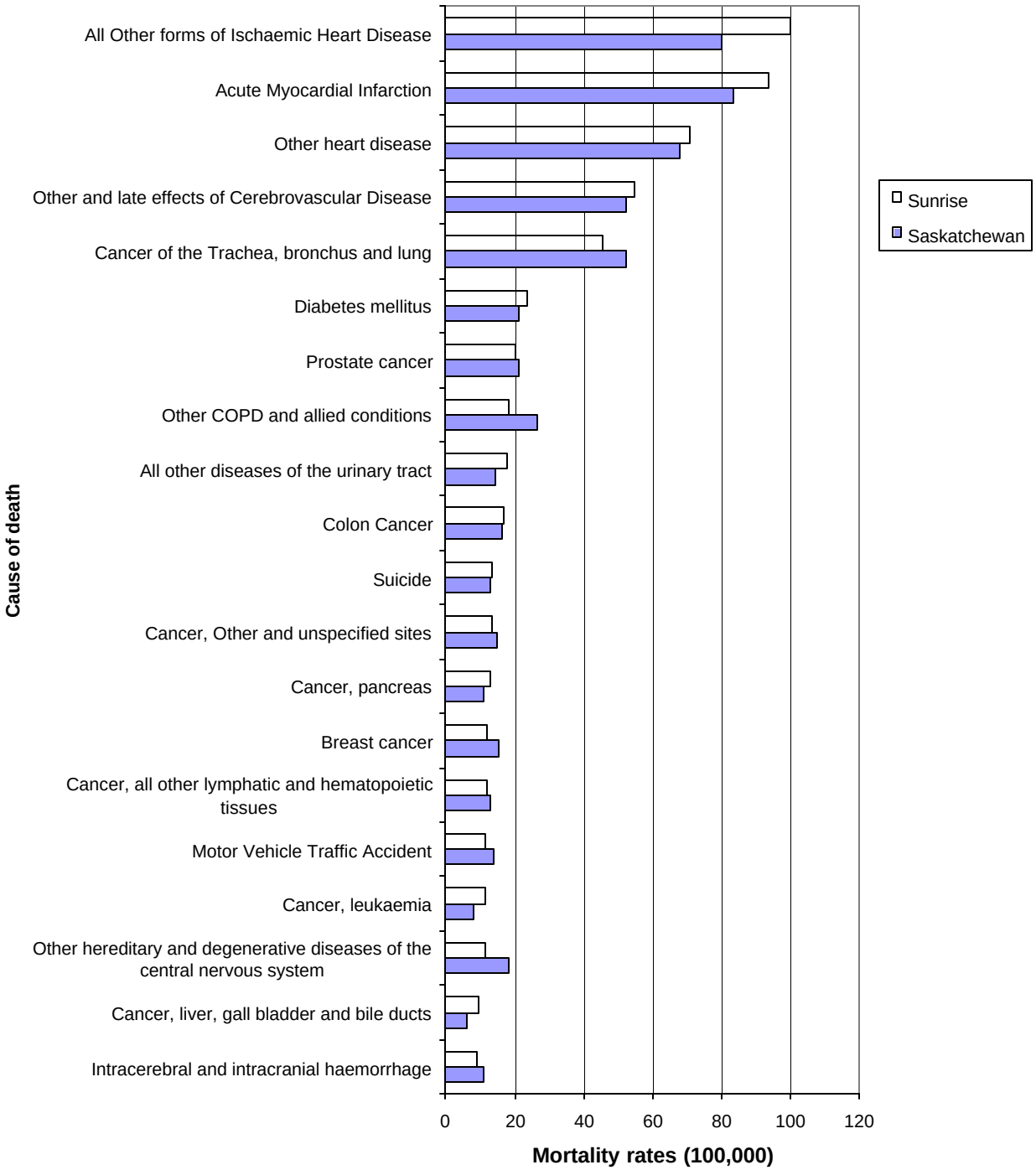


Table 20. Potential Years of Life Lost, five-year average, Saskatchewan and Sunrise Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Sunrise*
Acute myocardial infarction	339.8	507.4
Motor vehicle traffic accident	546.4	465.7
Lung cancer	369.0	445.3
Suicide	483.1	408.4
Ischeamic heart disease	231.9	360.1
Other heart disease	215.9	319.5
Breast cancer	153.1	176.9
Cancer, all other lymphatic and hematopoietic tissues	103.0	128.3
Cancer, leukaemia	72.8	123.9
Other cancer	112.4	114.8
Diabetes mellitus	100.4	113.7
Colon cancer	96.1	111.1
Cancer, pancreas	59.0	105.7
Homicide	98.3	95.4
All other diseases of the urinary tract	47.7	88.8
Chronic liver disease and cirrhosis	112.3	88.5
Intracerebral and intracranial haemorrhage	86.4	87.4
Other congenital anomalies	131.4	71.8
Accidental poisoning, alcohol	44.3	70.2
Cancer, esophagus	40.1	63.6
All causes	6072.4	5922.4

Figure 45. PYLL rate, five-year average, Saskatchewan and Sunrise, 1995 to 1999

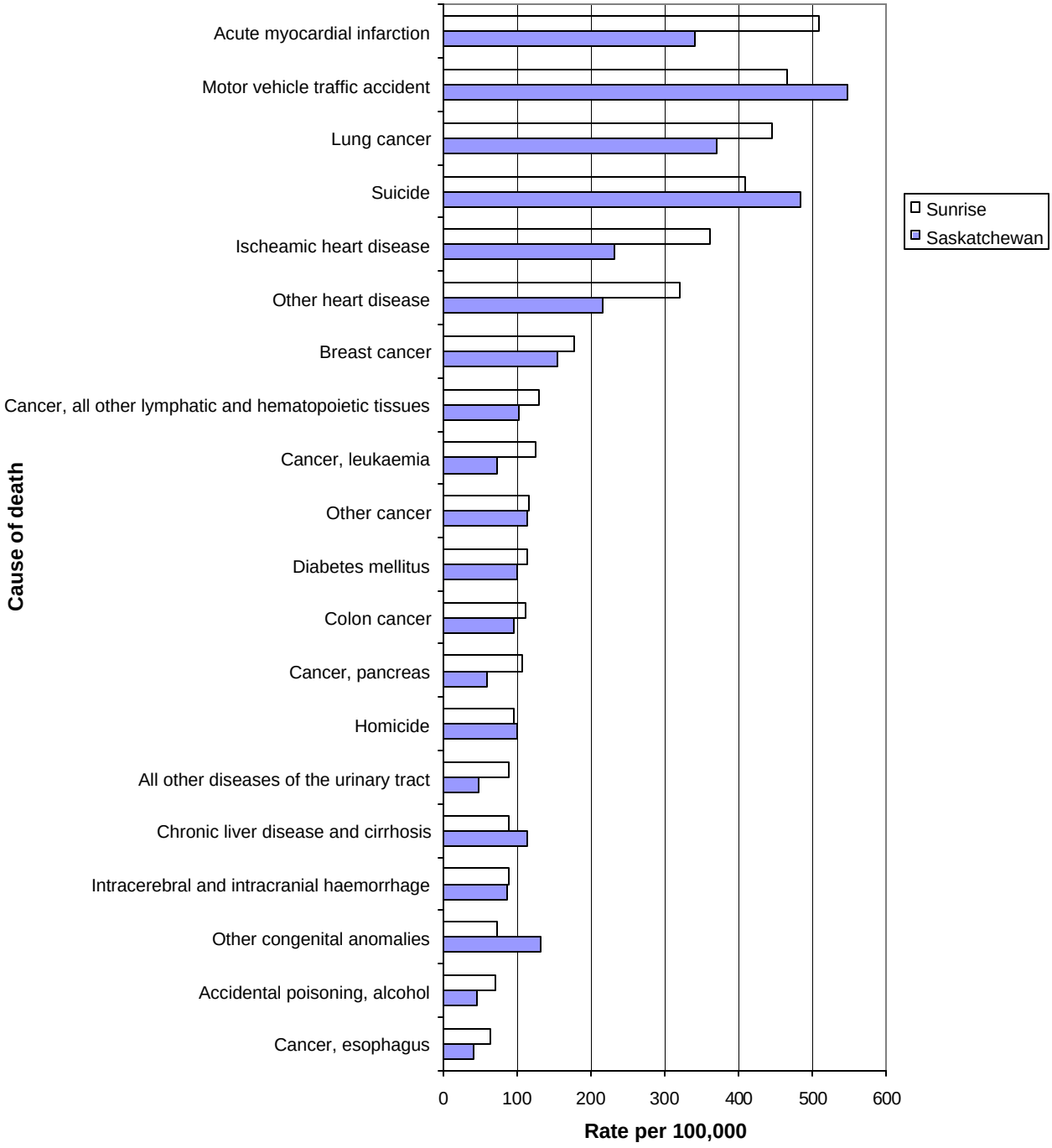
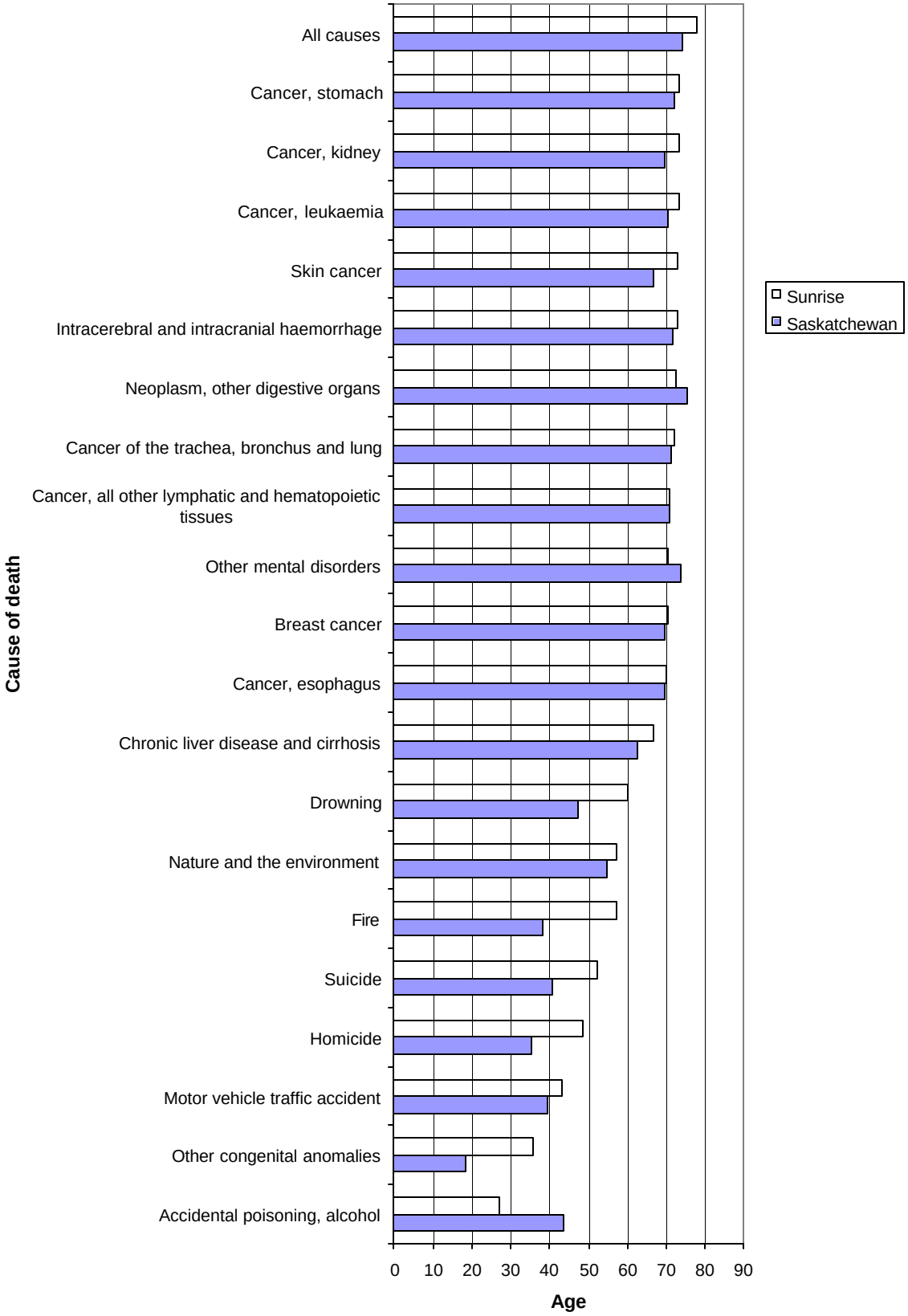
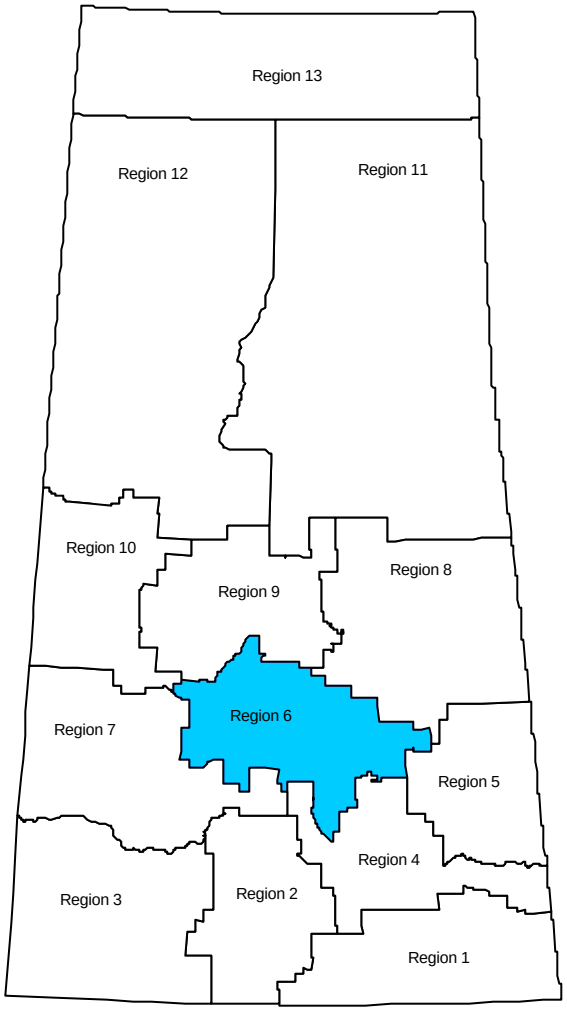


Figure 46. Average age at death, Saskatchewan and Sunrise, 1995 to 1999





Saskatoon Health Region

The Saskatoon Health Region is located in south central Saskatchewan. Saskatoon is the only city within the Authority. There are many other urban centres within the boundaries including Duck Lake, Rosthern, Langham, Delisle, Hanley, Strasbourg, Wynyard, Wadena and Humboldt. Saskatoon Health Authority is slightly larger than five percent of the total area of Saskatchewan. It occupies 34,119 square kilometres with a perimeter of 1296 kilometres.

In terms of population, Saskatoon is the largest Health Authority in Saskatchewan. The mid-year population in 1997 was 278,449. This accounted for 28% of the provincial population. Of the total, there were 137,043 males and 141,406 females. The population density is 8.16 persons per square kilometre. Saskatoon is the second most densely populated health region in Saskatchewan.

The leading causes of death in the Saskatoon RHA are, again, circulatory diseases. These include all other forms of ischaemic heart disease, acute myocardial infarction, and other heart disease. Leading causes of premature mortality within the region include motor vehicle traffic accidents, lung cancer and acute myocardial infarction.

Table 21: Saskatoon Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Saskatoon Std rate*	Saskatoon Crude Rate	Saskatchewan
All Other forms of Ischaemic Heart Disease	80.7	70.5	80.1
Acute Myocardial Infarction	78.8	69.5	83.3
Other heart disease	60.5	53.2	67.9
Other and late effects of Cerebrovascular Disease	53.0	46.2	52.5
Cancer of the Trachea, bronchus and lung	46.3	42.5	52.3
Other COPD and allied conditions	24.4	21.2	26.8
Other hereditary and degenerative diseases of the central nervous system	22.2	19.2	18.5
Prostate cancer	21.5	18.0	21.4
Diabetes mellitus	20.2	18.0	21.2
Colon Cancer	15.2	13.8	16.5
Breast cancer	14.3	14.3	15.5
All other diseases of the arteries, arterioles and capillaries	14.3	12.6	12.9
Intracerebral and intracranial haemorrhage	13.7	12.4	11.2
Cancer, Other and unspecified sites	13.2	12.4	14.7
Cancer, all other lymphatic and hematopoietic tissues	12.0	11.1	12.9
Cancer, pancreas	11.9	10.6	11.0
All other diseases of the urinary tract	11.2	9.9	14.3
Suicide	10.0	10.1	12.8
Motor Vehicle Traffic Accident	10.0	9.6	13.9
Pneumonia	9.5	8.3	7.7
All Causes	**794.9**	**711.4**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 47. Annual average age-sex standardized death rates, Saskatoon Health Region and Saskatchewan, Top 20 Causes, 1995 to 1999

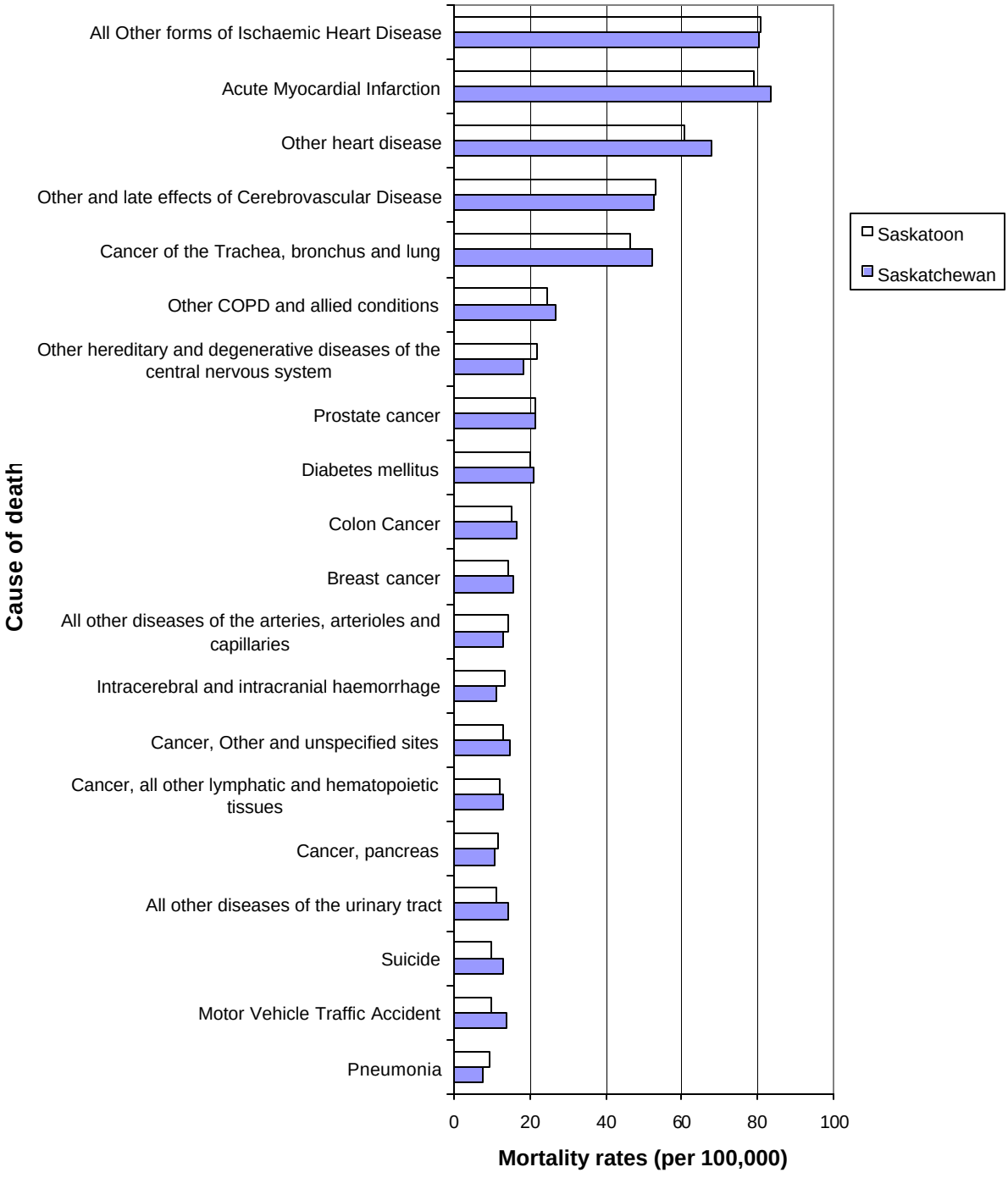


Table 22. Potential Years of Life Lost, five-year average, Saskatchewan and Saskatoon Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Saskatoon*
Suicide	483.1	374.7
Motor vehicle traffic accident	546.4	367.9
Lung cancer	369.0	292.5
Acute myocardial infarction	339.8	282.4
Ischeamic heart disease	231.9	203.6
Other heart disease	215.9	184.2
Other congenital anomalies	131.4	160.9
Breast cancer	153.1	160.0
Symptoms, signs and other ill-defined conditions	150.5	116.3
Chronic liver disease and cirrhosis	112.3	113.1
Other cancer	112.4	97.7
Intracerebral and intracranial haemorrhage	86.4	95.6
Diabetes mellitus	100.4	94.1
Drowning	119.0	91.3
Cancer, all other lymphatic and hematopoietic tissues	103.0	88.5
Cancer, leukaemia	72.8	83.8
Colon cancer	96.1	82.0
Homicide	98.3	73.0
Metabolic disorders and immunity disorders	53.3	72.0
Other hereditary and degenerative diseases of the central nervous system	52.6	58.9
All causes	6072.4	5261.7

Figure 48. PYLL rate, five-year average, Saskatchewan and Saskatoon, 1995 to 1999

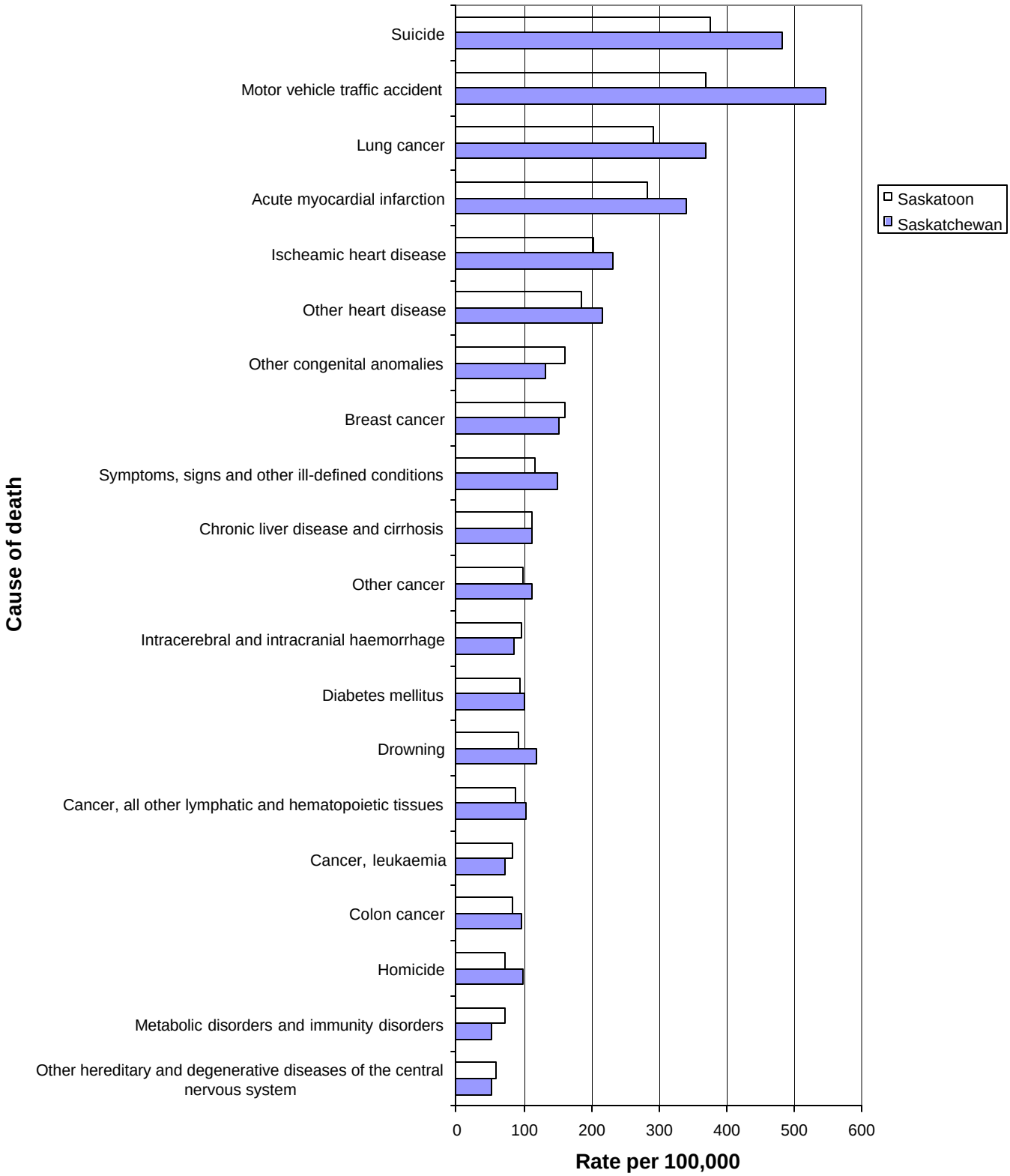
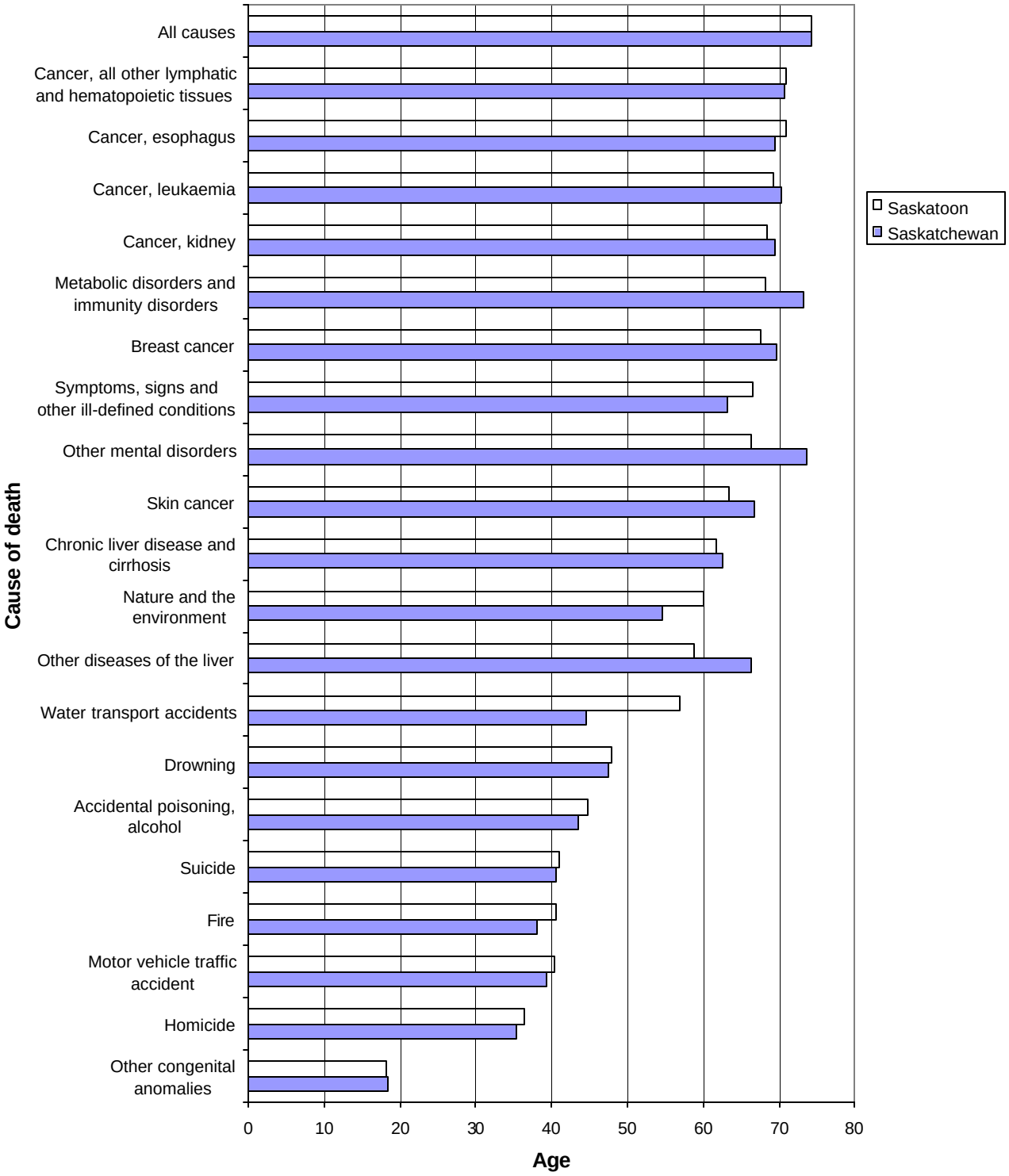
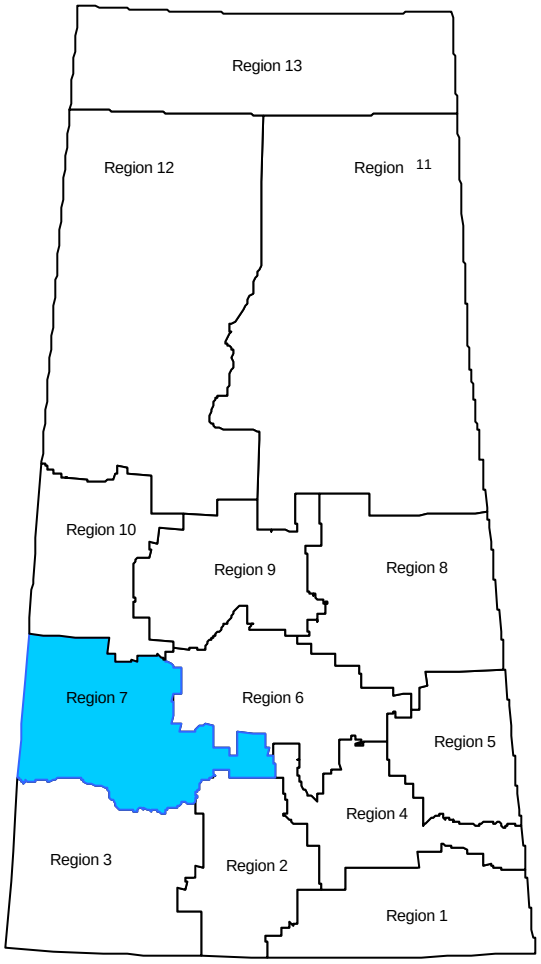


Figure 49. Average age at death, Saskatchewan and Saskatoon, 1995 to 1999





Heartland Health Region

Heartland Health Region is located in southwest Saskatchewan. It covers 41,775 square kilometres situated along the Alberta border and covers over six percent of Saskatchewan's area. The perimeter spans 1136 kilometres and encompasses the towns of Davidson, Kyle, Elrose, Eston, Eatonia, Kindersley, Outlook, Rosetown, Biggar, Wilkie, Unity, Kerrobert, Luseland, and Macklin.

The mid-year (1997) covered population for Heartland was 48,480. This accounts for over four percent of Saskatchewan's population. There were 24,532 males and 23,947 females residing in Heartland in 1997. The population density was 1.16 persons per square kilometre.

The leading causes of death in the Heartland Health Authority are, again, circulatory diseases. These include acute myocardial infarction, other heart disease, and all other forms of ischaemic heart disease. Leading causes of premature mortality within the region include motor vehicle traffic accidents, lung cancer and acute myocardial infarction.

Table 23: Heartland Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Heartland Std rate*	Heartland Crude Rate	Saskatchewan
Acute Myocardial Infarction	83.0	102.3	83.3
Other heart disease	75.3	92.8	67.9
All Other forms of Ischaemic Heart Disease	65.1	80.9	80.1
Other and late effects of Cerebrovascular Disease	49.3	61.5	52.5
Cancer of the Trachea, bronchus and lung	49.0	58.6	52.3
Prostate cancer	26.0	33.4	21.4
Other COPD and allied conditions	22.7	29.3	26.8
Diabetes mellitus	20.3	25.2	21.2
Other hereditary and degenerative diseases of the central nervous system	17.9	22.3	18.5
Breast cancer	17.3	21.0	15.5
All other diseases of the urinary tract	15.0	18.6	14.3
Cancer, all other lymphatic and hematopoietic tissues	14.7	17.7	12.9
Motor Vehicle Traffic Accident	14.1	14.0	13.9
Colon Cancer	12.9	15.7	16.5
All other diseases of the arteries, arterioles and capillaries	12.5	15.7	12.9
Cancer, pancreas	12.4	14.9	11.0
Cancer, Other and unspecified sites	11.6	14.0	14.7
Intracerebral and intracranial haemorrhage	9.9	12.8	11.2
Other diseases of the respiratory system	9.4	11.1	8.1
Suicide	8.9	9.1	12.8
All Causes	**750.5**	**913.0**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 50. Annual average age-sex standardized death rates, Heartland Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

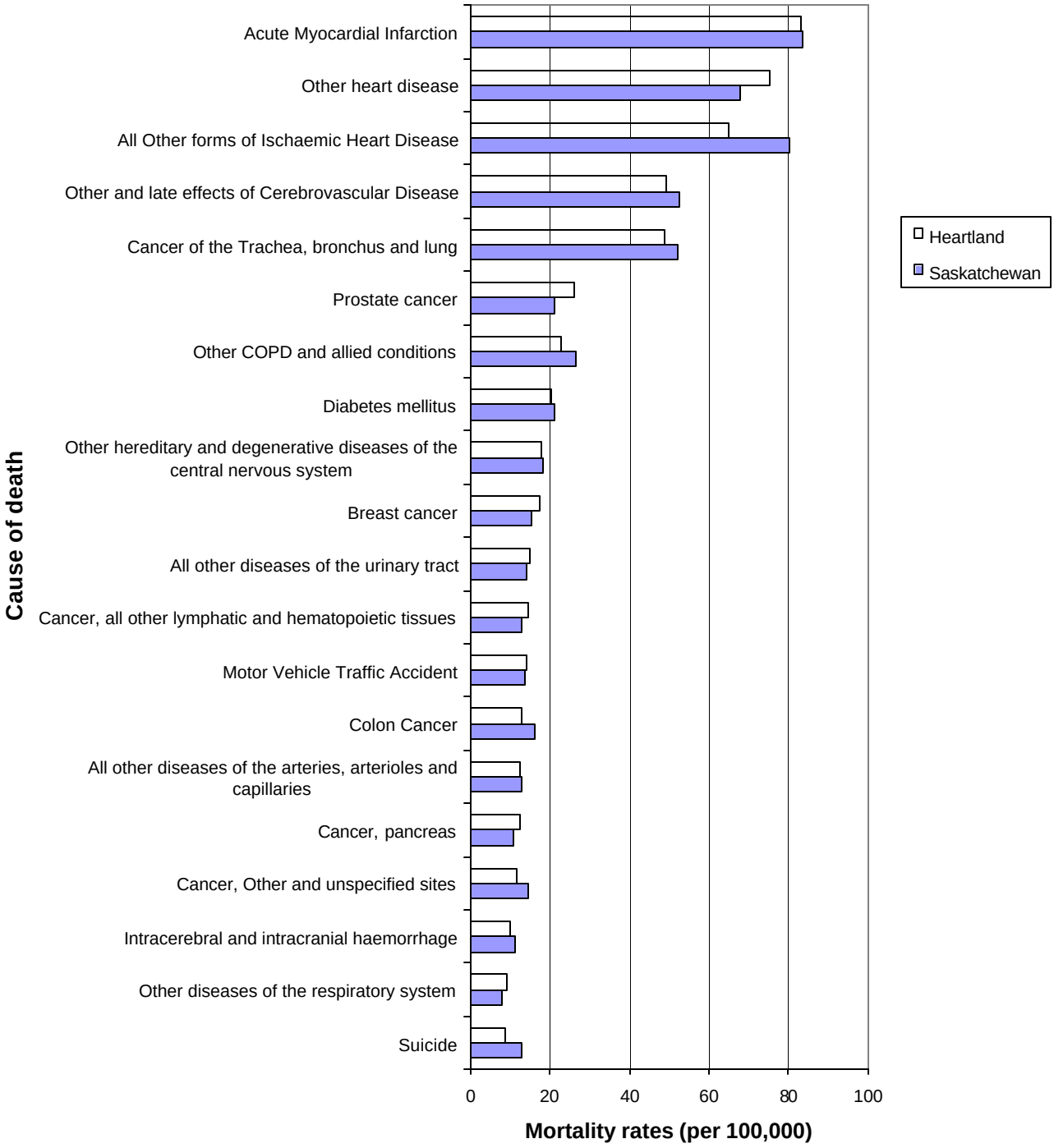


Table 24. Potential Years of Life Lost, five-year average, Saskatchewan and Heartland Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Heartland*
Motor vehicle traffic accident	546.4	551.6
Lung cancer	369.0	460.8
Acute myocardial infarction	339.8	438.1
Suicide	483.1	268.8
Ischeamic heart disease	231.9	159.4
Other heart disease	215.9	159.4
Other congenital anomalies	131.4	153.0
Breast cancer	153.1	140.7
Cancer, all other lymphatic and hematopoietic tissues	103.0	124.9
Diabetes mellitus	100.4	116.7
Cancer, leukaemia	72.8	111.0
Other cancer	112.4	104.9
Symptoms, signs and other ill-defined conditions	150.5	97.4
Cancer, pancreas	59.0	82.2
Prostate cancer	47.8	76.3
Other diseases of the respiratory system	52.1	75.6
Skin cancer	33.3	75.4
Intracerebral and intracranial haemorrhage	86.4	63.6
Cerebrovascular disease	49.5	55.4
Chronic liver disease and cirrhosis	112.3	53.6
All causes	6072.4	5214.6

Figure 51. PYLL rate, five-year average, Saskatchewan and Heartland, 1995 to 1999

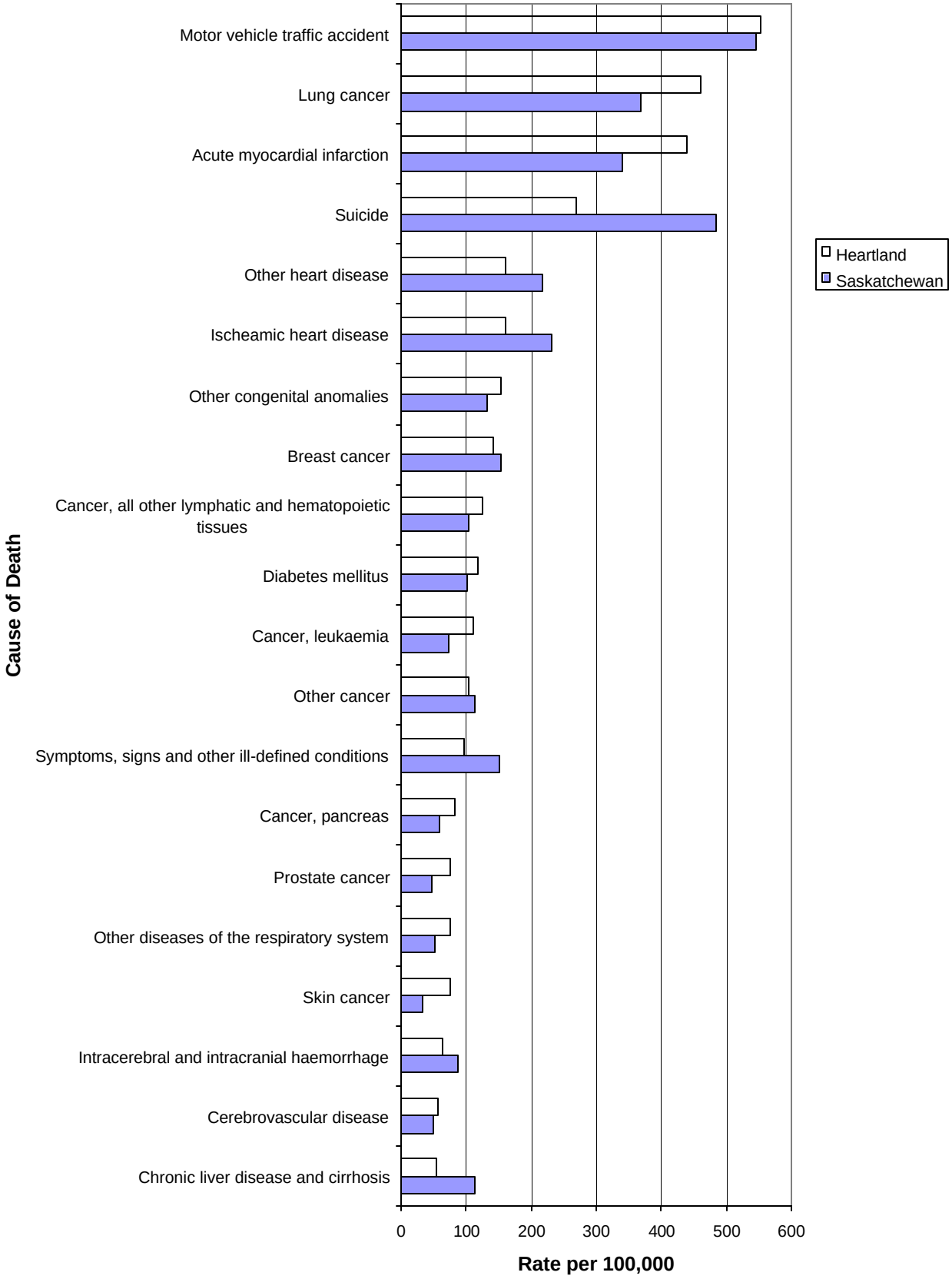
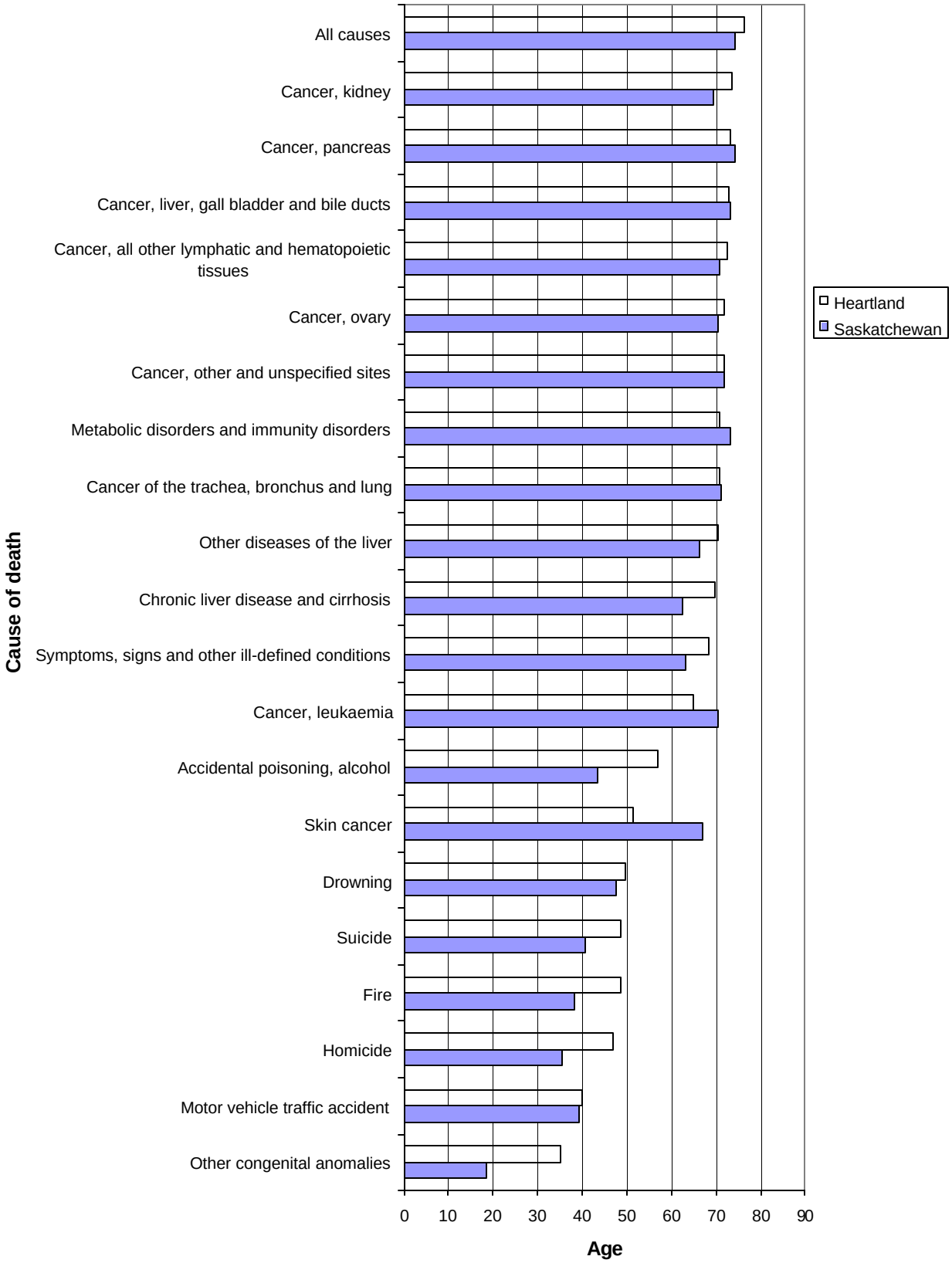
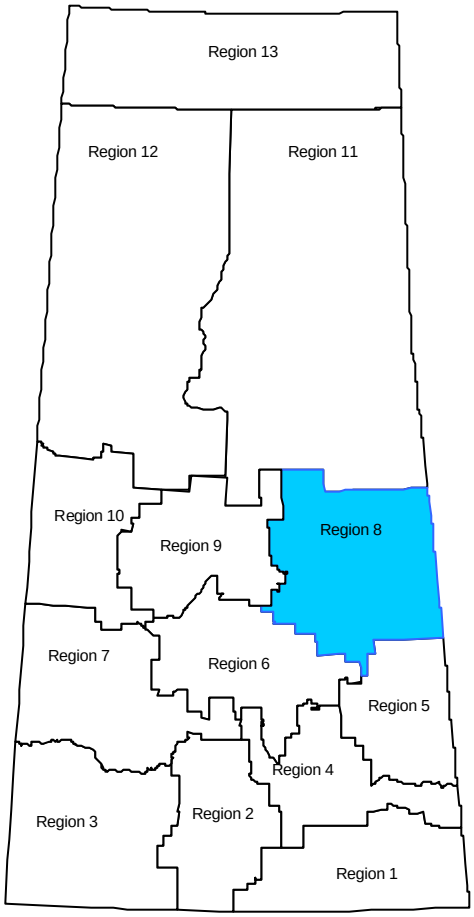


Figure 52. Average age at death, Saskatchewan and Heartland, 1995 to 1999





Kelsey Trail Health Region

Kelsey Trail Health Region lies on the Manitoba border in west central Saskatchewan. It occupies 47,403 square kilometres, or 7.3% of Saskatchewan's area. The perimeter runs for 1113 kilometres. The largest urban centre in the region is Melfort. Other centres include Kelvington, Rose Valley, Tisdale, and Star City in the south. Porcupine Plain and Hudson Bay are in the east. Northern communities include Arborfield, Carrot River, Nipawin, Choiceland and Cumberland House.

There were 45,514 people living in Kelsey Trail Health Authority in 1997. This accounts for 4.5% of the Saskatchewan population. There were 23,023 males and 22,491 females. The population density is quite low at 0.96 persons per square kilometre. The provincial average is 1.58 persons per square kilometres.

The leading causes of death are circulatory diseases, including acute myocardial infarction, other heart disease, and all other forms of ischaemic heart disease. Leading causes of premature mortality within the region include motor vehicle traffic accidents, suicide and acute myocardial infarction.

Table 25: Kelsey Trail Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Kelsey Trail Std rate*	Kelsey Trail Crude Rate	Saskatchewan
Acute Myocardial Infarction	80.2	101.1	83.3
Other heart disease	71.9	92.3	67.9
All Other forms of Ischaemic Heart Disease	71.8	91.0	80.1
Other and late effects of Cerebrovascular Disease	55.7	70.3	52.5
Cancer of the Trachea, bronchus and lung	42.6	55.8	52.3
Other COPD and allied conditions	26.8	36.0	26.8
Diabetes mellitus	25.4	31.6	21.2
Motor Vehicle Traffic Accident	22.7	22.0	13.9
Other hereditary and degenerative diseases of the central nervous system	20.2	26.4	18.5
Prostate cancer	19.6	26.8	21.4
All other diseases of the urinary tract	18.6	23.7	14.3
Cancer, Other and unspecified sites	17.7	22.0	14.7
Suicide	16.7	18.0	12.8
Colon Cancer	15.3	19.3	16.5
Breast cancer	14.4	18.5	15.5
Cancer, all other lymphatic and hematopoietic tissues	14.4	17.6	12.9
All other diseases of the arteries, arterioles and capillaries	14.3	18.9	12.9
Senile and presenile organic pyschotic conditions	13.1	16.7	7.3
Cancer, pancreas	9.9	12.3	11.0
Falls	8.4	10.1	8.7
All Causes	**815.0**	**1019.5**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 53. Annual average age-sex standardized death rates, Kelsey Trail Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

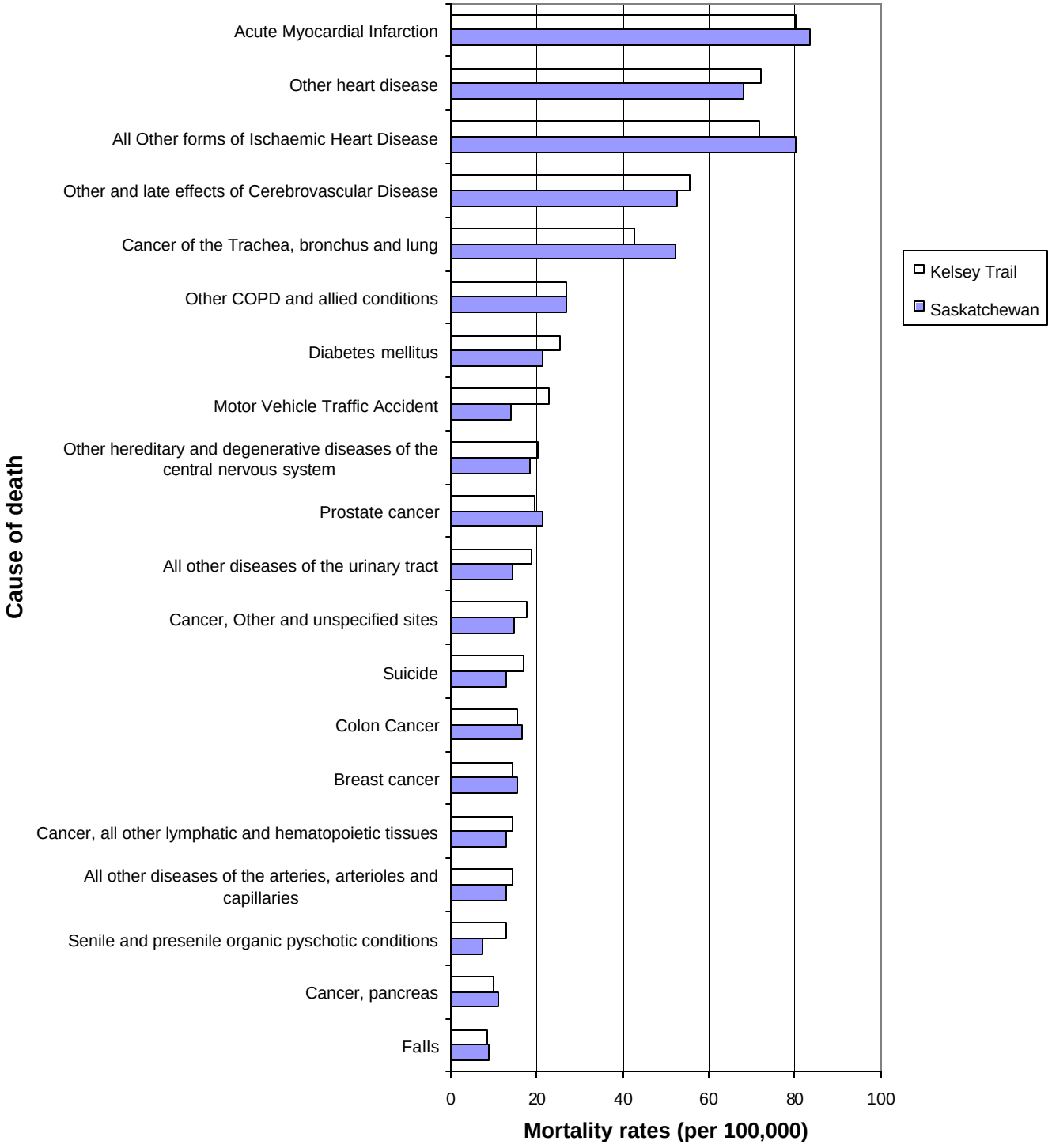
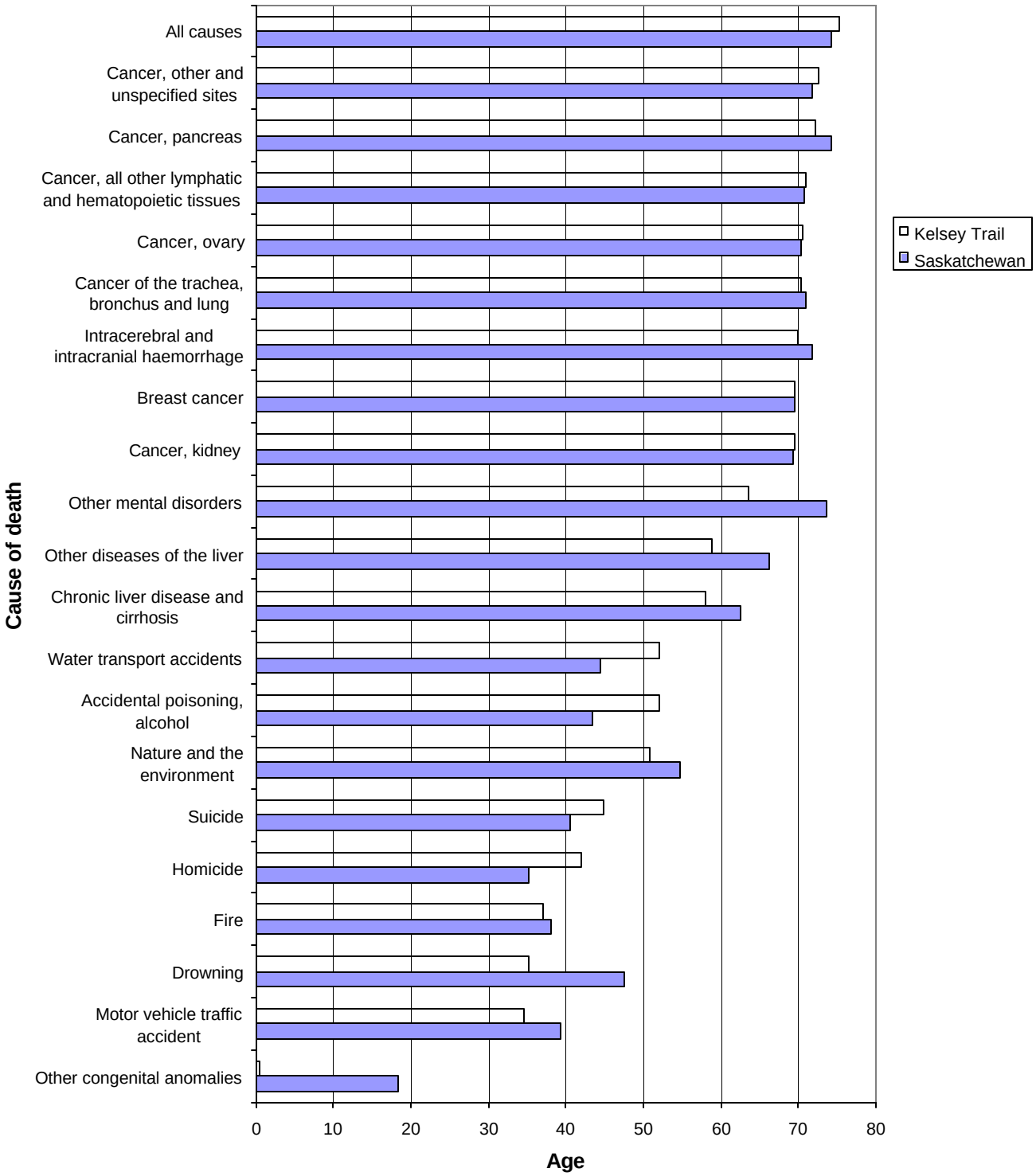


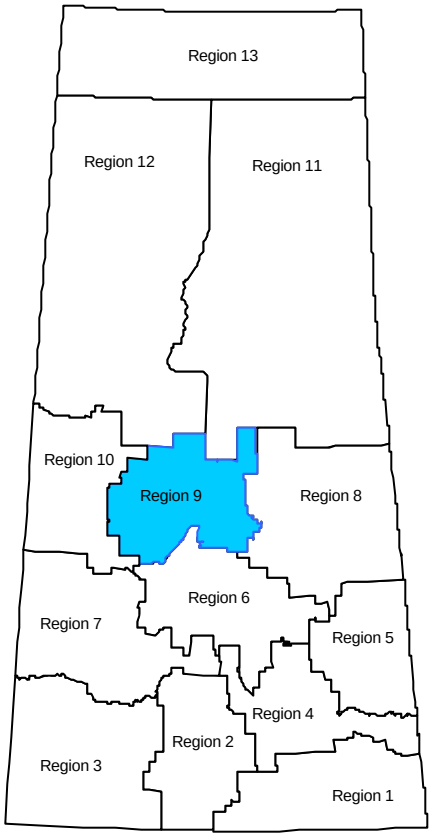
Table 26. Potential Years of Life Lost, five-year average, Saskatchewan and Kelsey Trail Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Kelsey Trail*
Motor vehicle traffic accident	546.4	984.1
Suicide	483.1	615.4
Acute myocardial infarction	339.8	473.8
Lung cancer	369.0	435.1
Ischeamic heart disease	231.9	324.9
Drowning	119.0	232.5
Diabetes mellitus	100.4	227.7
Other heart disease	215.9	211.5
Breast cancer	153.1	174.0
Cancer, all other lymphatic and hematopoietic tissues	103.0	155.2
Chronic liver disease and cirrhosis	112.3	153.7
Other cancer	112.4	147.0
Colon cancer	96.1	120.4
Fire	61.6	110.0
Cancer, pancreas	59.0	84.6
All other diseases of the urinary tract	47.7	80.3
Intracerebral and intracranial haemorrhage	86.4	77.4
Prostate cancer	47.8	75.4
Symptoms, signs and other ill-defined conditions	150.5	73.5
Other diseases of the liver	29.2	69.4
All causes	6072.4	6919.6

Figure 54. PYLL rate, five-year average, Saskatchewan and Kelsey Trail, 1995 to 1999

Figure 55. Average age at death, Saskatchewan and Kelsey Trail, 1995 to 1999





Prince Albert Parkland Health Region

Prince Albert Parkland Health Region is located in central Saskatchewan. With a perimeter of 1092 kilometres and an area of 31,570 kilometres, it occupies close to five percent of Saskatchewan's area. Within its boundaries are Prince Albert, Birch Hills and Kinistino. Also, Big River, Spiritwood, Shellbrook, Blaine Lake and Hafford are in the Region.

There are 77,029 residents in Prince Albert Parkland, comprising 8 percent of Saskatchewan's population. There are 38,551 males and 38,478 females. After Regina Qu'Appelle and Saskatoon, this is the third largest Health Authority, in terms of population, in Saskatchewan. The population density is 2.43 persons per square kilometre, larger than the provincial average of 1.58.

The leading causes of death are circulatory diseases, including all other forms of ischaemic heart disease, other heart disease, and acute myocardial infarction. Leading causes of premature mortality within the region include chronic obstructive pulmonary disease, motor vehicle traffic accidents and suicide.

Table 27: Prince Albert Parkland Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Prince Albert Parkland Std rate*	Prince Albert Parkland Crude Rate	Saskatchewan
All Other forms of Ischaemic Heart Disease	82.7	74.3	80.1
Other heart disease	82.5	72.4	67.9
Acute Myocardial Infarction	59.5	54.5	83.3
Cancer of the Trachea, bronchus and lung	57.0	55.0	52.3
Other and late effects of Cerebrovascular Disease	48.4	42.6	52.5
Other COPD and allied conditions	28.5	25.7	26.8
Diabetes mellitus	26.0	24.4	21.2
Motor Vehicle Traffic Accident	22.6	21.8	13.9
Prostate cancer	20.4	19.0	21.4
Other hereditary and degenerative diseases of the central nervous system	18.7	16.6	18.5
Suicide	16.7	16.4	12.8
All other diseases of the arteries, arterioles and capillaries	15.0	14.0	12.9
All other diseases of the urinary tract	14.9	13.2	14.3
Colon Cancer	14.4	13.8	16.5
Breast cancer	13.6	14.3	15.5
Cancer, Other and unspecified sites	12.4	11.7	14.7
Falls	11.4	10.1	8.7
Cancer, Other digestive organs	11.2	10.4	5.8
Cancer, all other lymphatic and hematopoietic tissues	10.7	10.1	12.9
Senile and presenile organic pyschotic conditions	10.6	9.1	7.3
All Causes	**851.7**	**785.4**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 56. Annual average age-sex standardized death rates, Prince Albert Parkland Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

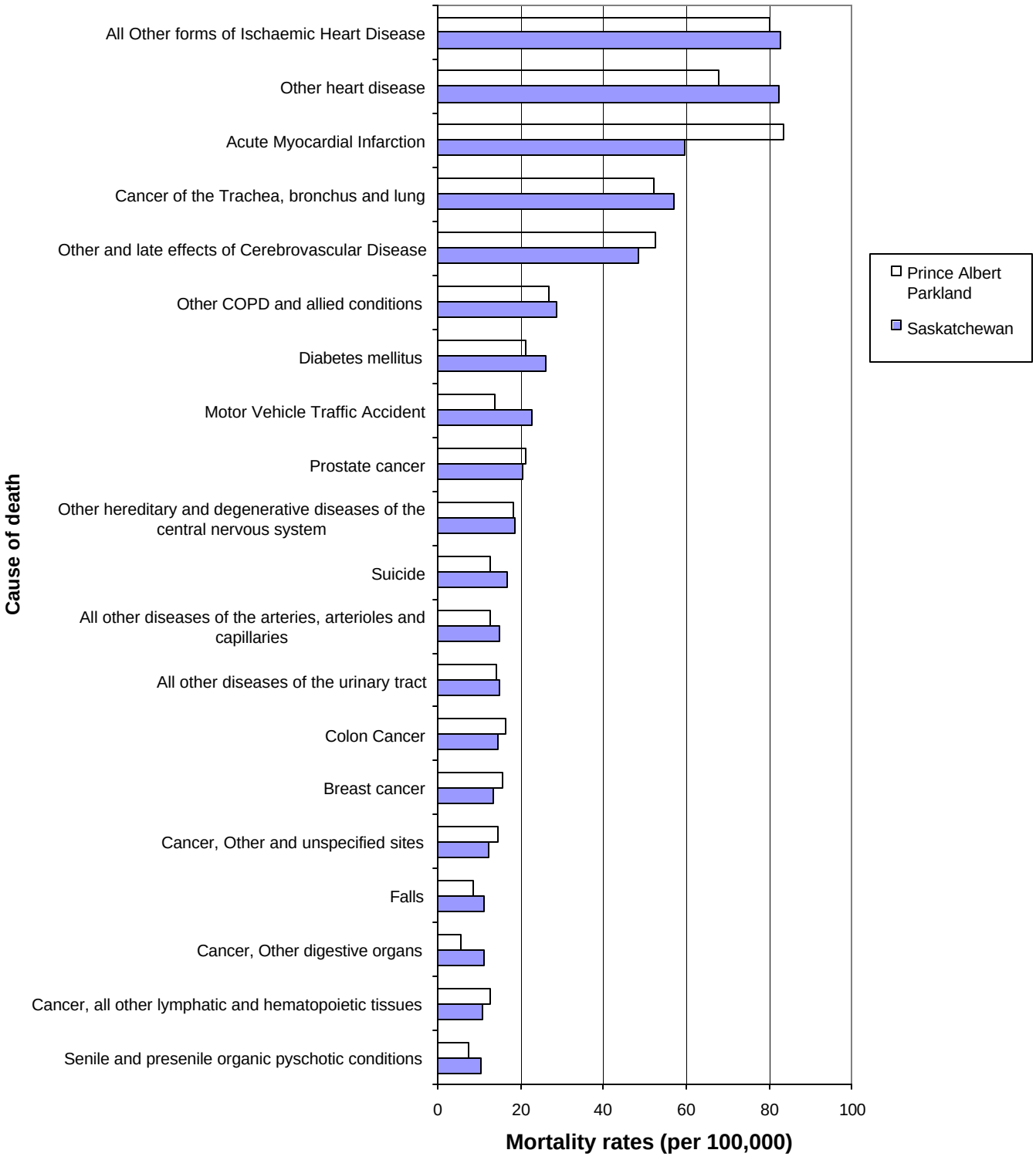


Table 28. Potential Years of Life Lost, five-year average, Saskatchewan and Prince Albert Parkland Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Prince Albert Parkland*
Motor vehicle traffic accident	546.4	900.0
Suicide	483.1	642.8
Lung cancer	369.0	385.5
Acute myocardial infarction	339.8	263.0
Symptoms, signs and other ill-defined conditions	150.5	253.2
Ischaemic heart disease	231.9	234.3
Other heart disease	215.9	206.5
Chronic liver disease and cirrhosis	112.3	171.5
Breast cancer	153.1	157.1
Drowning	119.0	144.9
Other congenital anomalies	131.4	128.5
Homicide	98.3	124.7
Diabetes mellitus	100.4	120.3
Colon cancer	96.1	103.7
Intracerebral and intracranial haemorrhage	86.4	90.4
Fire	61.6	89.1
Cancer, all other lymphatic and hematopoietic tissues	103.0	85.2
Other cancer	112.4	83.2
Other diseases of the respiratory system	52.1	77.7
COPD	51.9	76.6
All causes	6072.4	7019.1

Figure 57. PYLL rate, five-year average, Saskatchewan and Prince Albert Parkland, 1995 to 1999

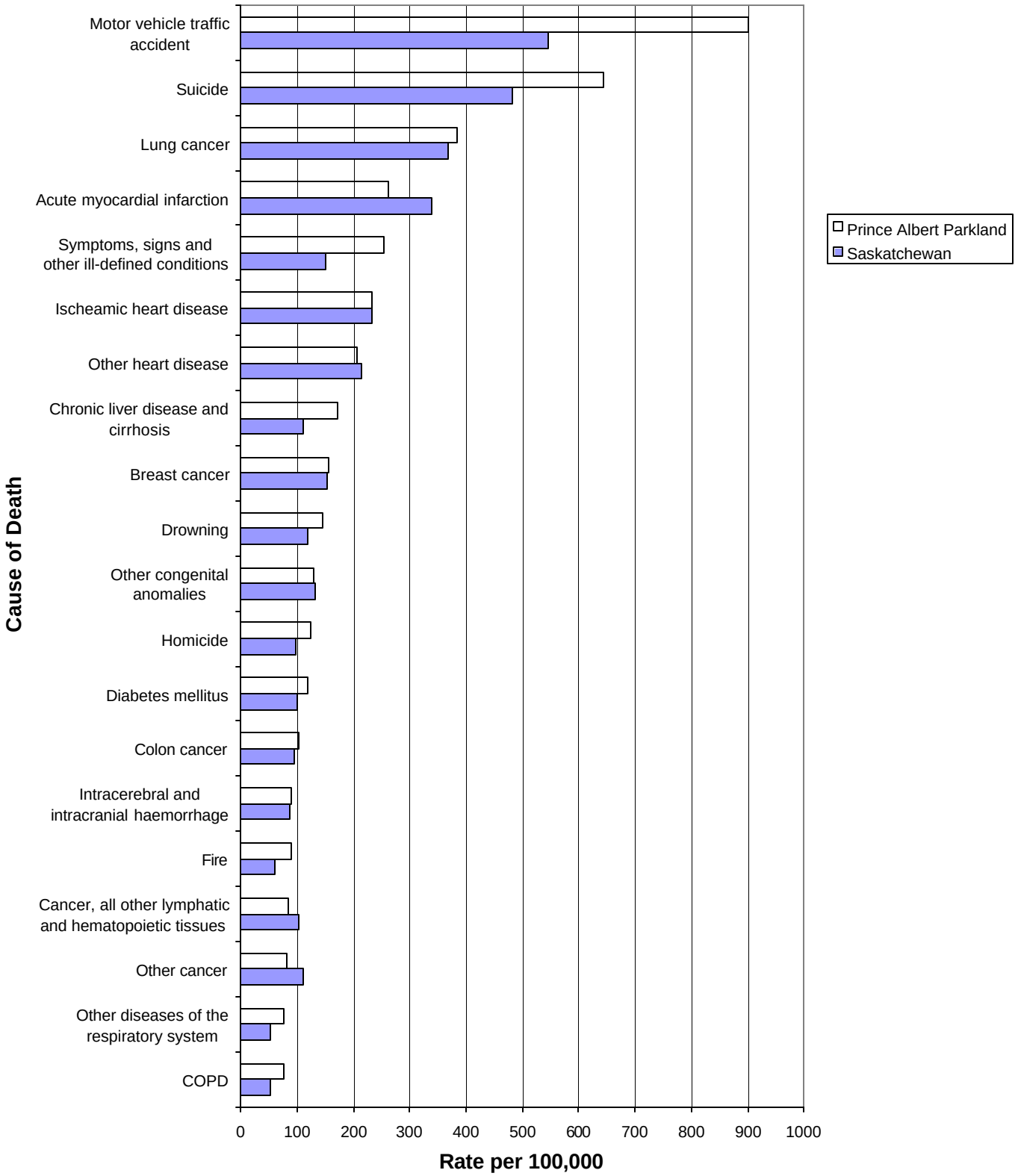
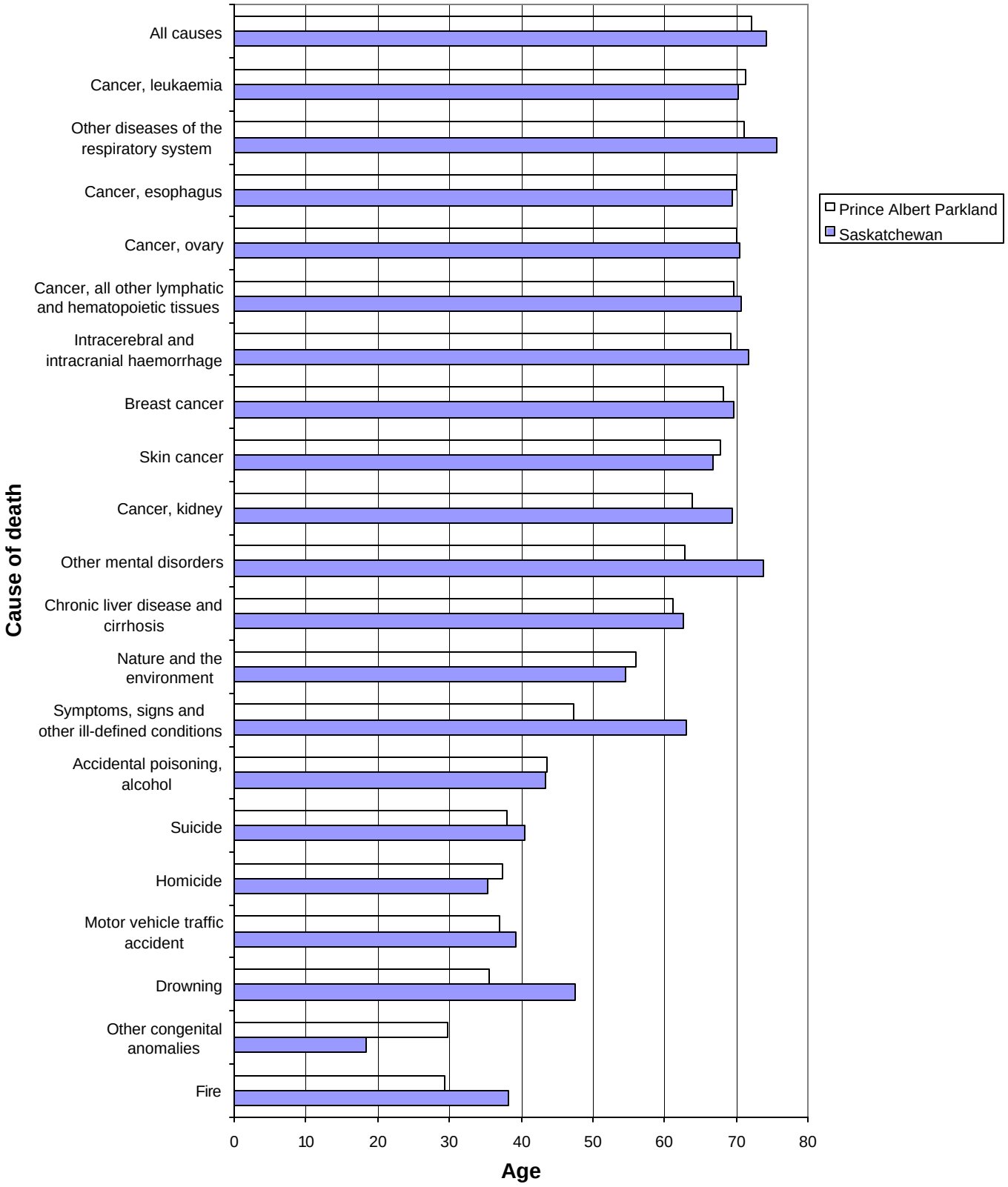
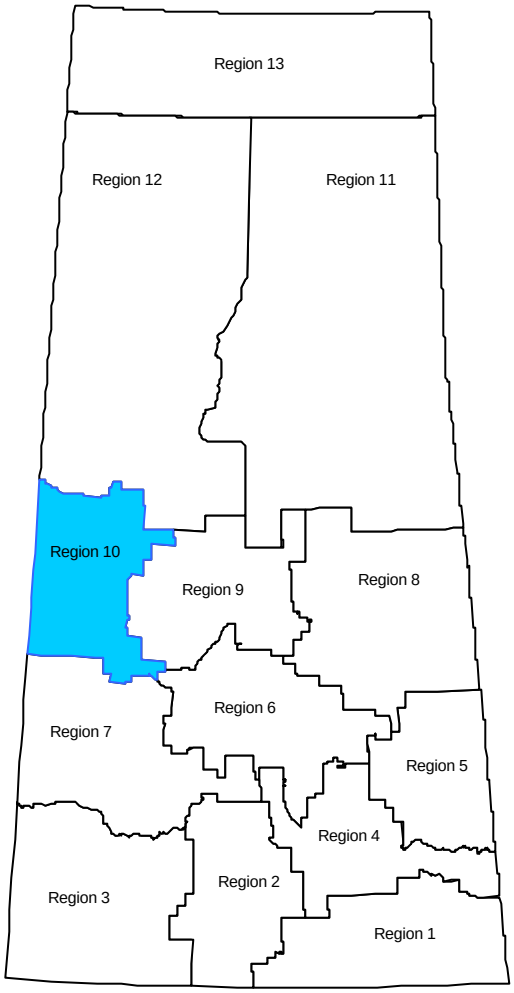


Figure 58. Average age at death, Saskatchewan and Prince Albert Parkland, 1995 to 1999





Prairie North Health Region

Prairie North Health Region lies on the Alberta border in west central Saskatchewan. As one of the smaller health regions, it covers 29,951 square kilometres, or 4.6% of Saskatchewan's area. It has a perimeter of 1026 kilometres. It includes the city of North Battleford and Lloydminster. It also includes the communities of Cut Knife, Maidstone, Lashburn, Turtleford, St. Walburg and Meadow Lake.

The 1997 mid-year population in Prairie North was 69,348, which included 34,845 males and 34,502 females. This accounts for seven percent of Saskatchewan's population. The population density is 2.32 persons per square kilometre.

The leading causes of death are circulatory diseases, including acute myocardial infarction, all other forms of ischaemic heart disease, and other heart disease. Leading causes of premature mortality within the region include motor vehicle traffic accidents suicide and acute myocardial infarction.

Table 29: Prairie North Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	*Prairie North Std rate**	*Prairie North Crude Rate*	*Saskatchewan*
Acute Myocardial Infarction	90.0	76.4	83.3
All Other forms of Ischaemic Heart Disease	74.3	62.6	80.1
Other heart disease	69.9	58.0	67.9
Cancer of the Trachea, bronchus and lung	64.9	56.0	52.3
Other and late effects of Cerebrovascular Disease	45.9	37.5	52.5
Other COPD and allied conditions	30.3	26.5	26.8
Prostate cancer	22.7	19.6	21.4
Diabetes mellitus	22.2	19.3	21.2
Motor Vehicle Traffic Accident	18.8	18.2	13.9
Cancer, Other and unspecified sites	17.8	15.3	14.7
All other diseases of the urinary tract	16.9	14.1	14.3
Cancer, all other lymphatic and hematopoietic tissues	16.8	14.1	12.9
Colon Cancer	16.3	13.3	16.5
Intracerebral and intracranial haemorrhage	16.1	13.6	11.2
Other hereditary and degenerative diseases of the central nervous system	15.2	12.4	18.5
Cancer, pancreas	12.8	10.7	11.0
Suicide	12.5	12.1	12.8
All other diseases of the arteries, arterioles and capillaries	11.7	9.5	12.9
Bronchitis and Ephysema	11.2	9.8	6.5
Breast cancer	9.8	8.7	15.5
All Causes	**846.9**	**727.1**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 59. Annual average age-sex standardized death rates, Prairie North Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

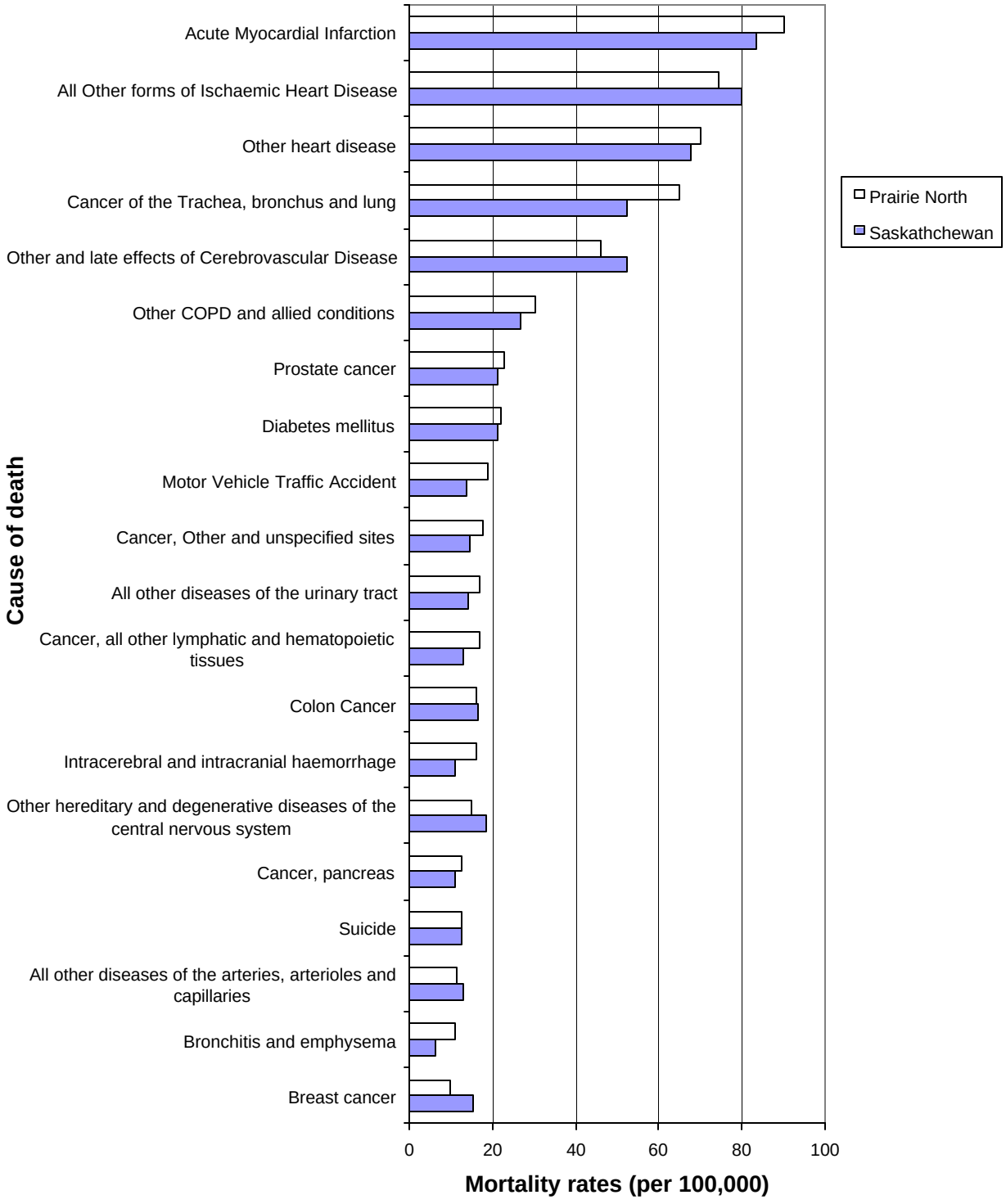


Table 30. Potential Years of Life Lost, five-year average, Saskatchewan and Prairie North Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Prairie North*
Motor vehicle traffic accident	546.4	677.5
Suicide	483.1	523.6
Acute myocardial infarction	339.8	418.2
Lung cancer	369.0	396.1
Other heart disease	215.9	265.0
Symptoms, signs and other ill-defined conditions	150.5	246.8
Drowning	119.0	202.3
Ischaemic heart disease	231.9	184.3
Other congenital anomalies	131.4	182.1
Chronic liver disease and cirrhosis	112.3	146.5
Other cancer	112.4	129.1
Fire	61.6	116.0
Homicide	98.3	105.9
Cancer, all other lymphatic and hematopoietic tissues	103.0	93.2
Diabetes mellitus	100.4	91.1
Intracerebral and intracranial haemorrhage	86.4	90.7
Cancer, esophagus	40.1	88.9
Cancer, leukaemia	72.8	76.9
Breast cancer	153.1	73.9
Other diseases of the respiratory system	52.1	69.1
All causes	6072.4	6732.8

Figure 60. PYLL rate, five-year average, Saskatchewan and Prairie North, 1995 to 1999

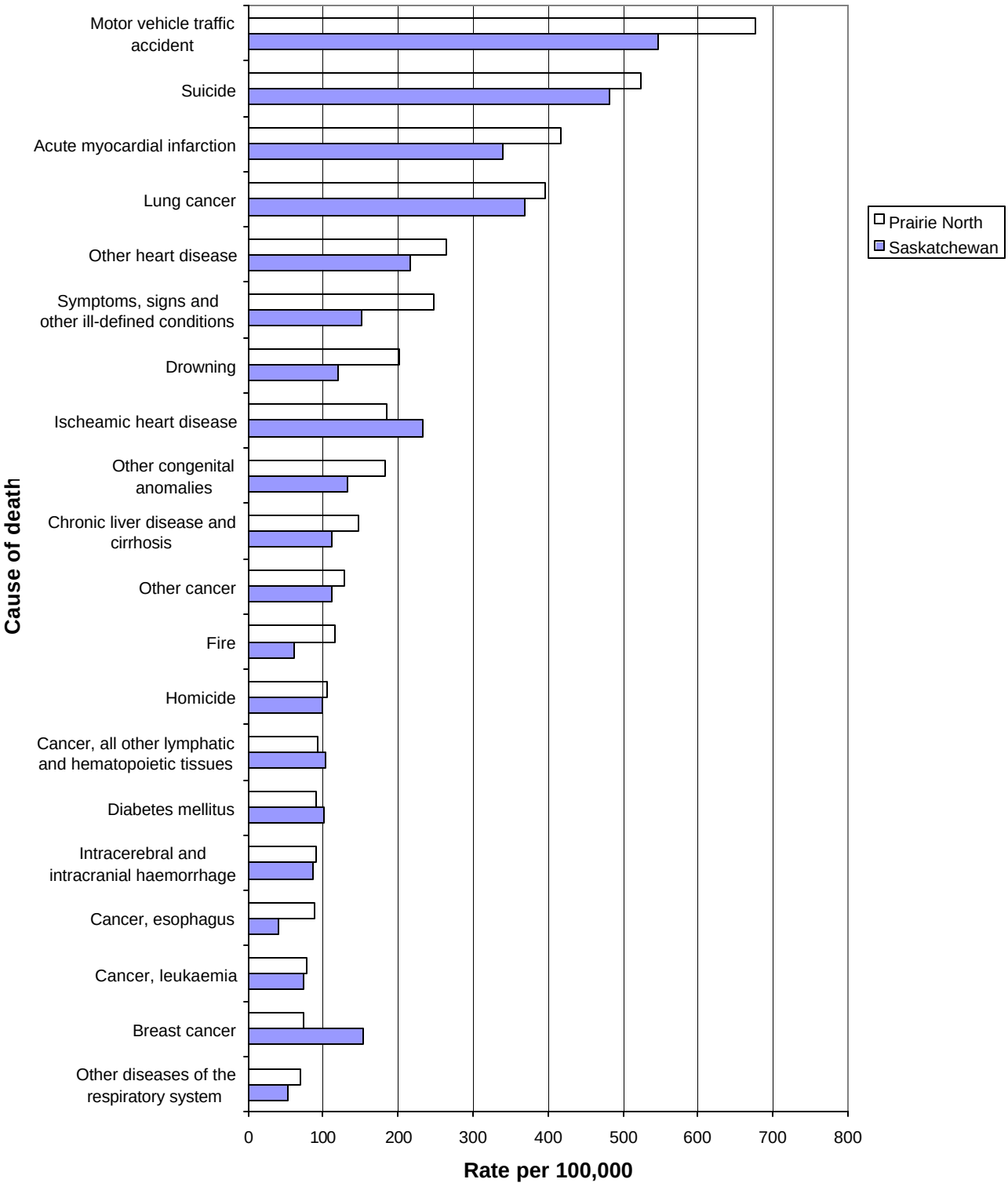
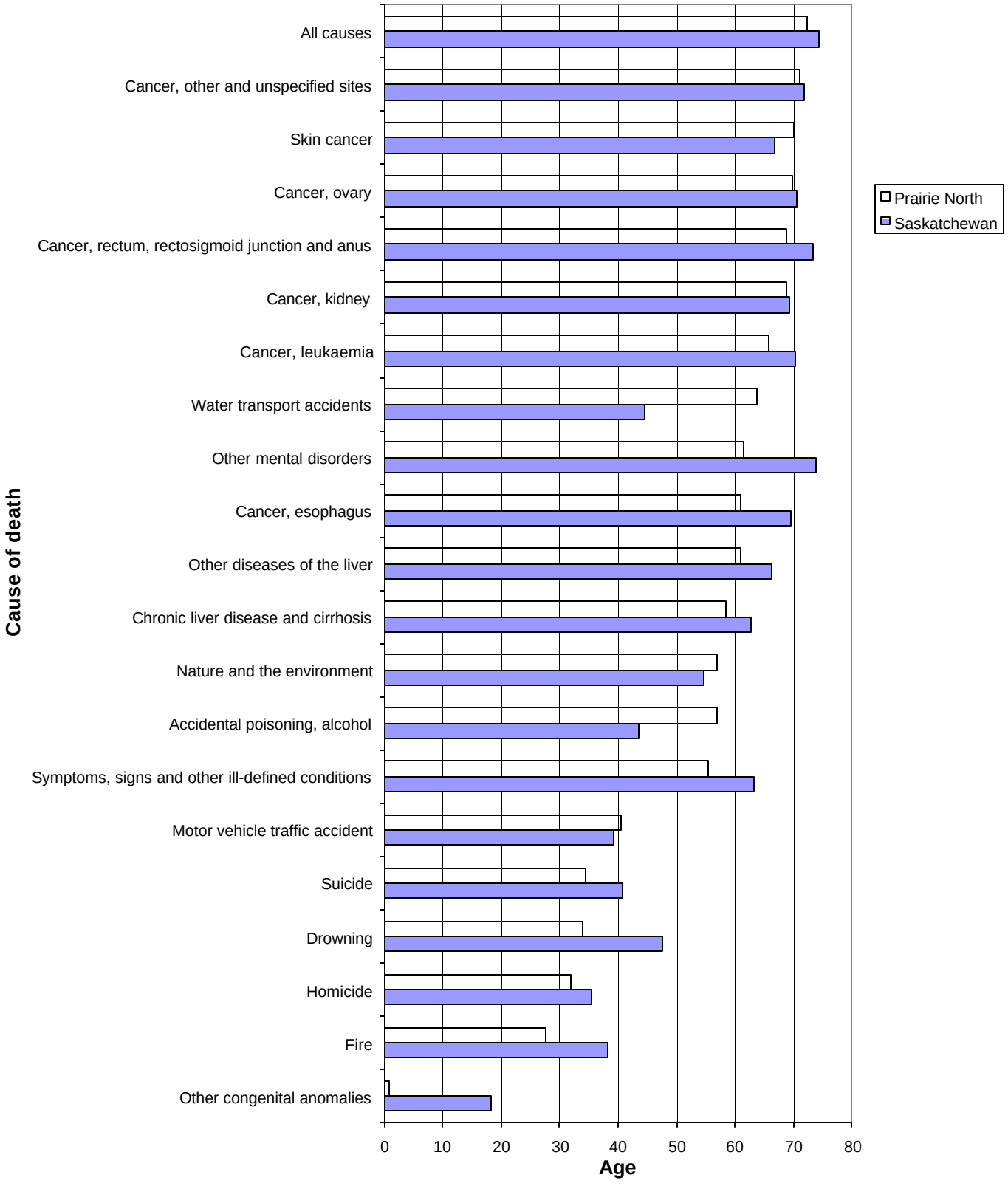
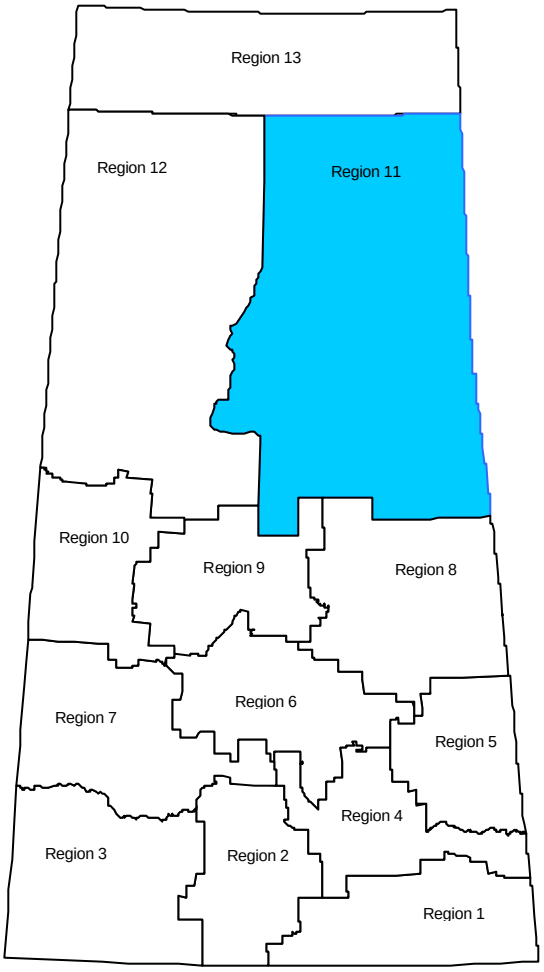


Figure 61. Average age at death, Saskatchewan and Prairie North, 1995 to 1999





Mamawetan Churchill River Health Region

Mamawetan Churchill River Health Region is located in northeast Saskatchewan, along the Manitoba border. In terms of area it is the largest Health Authority in Saskatchewan and covers 133,916 square kilometres. The perimeter of the region is 1,738 kilometres. Within the large boundaries of Mamawetan Churchill River are very few communities, including Missinipe, Pelican Narrows, Sandy Bay and Creighton.

In 1997, there were 17,269 residents in the region. There were 9,536 males and 8,971 females. The population density in this area was 0.13 persons per square kilometre, making it the third most sparsely populated region in Saskatchewan.

The leading causes of death in the region include other heart disease, lung cancer, and acute myocardial infarction. The leading causes of premature mortality include suicide, drowning and congenital anomalies.

Table 31: Mamawetan Churchill River Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Mamawetan Churchill River Std rate*	Mamawetan Churchill River Crude Rate	Saskatchewan
Other heart disease	81.1	26.6	67.9
Acute Myocardial Infarction	71.2	26.6	83.3
Cancer of the Trachea, bronchus and lung	69.2	29.0	52.3
All Other forms of Ischaemic Heart Disease	47.0	18.5	80.1
Other COPD and allied conditions	43.6	12.7	26.8
Cancer, Other and unspecified sites	33.5	13.0	14.7
Suicide	30.8	30.3	12.8
Diabetes mellitus	25.4	9.3	21.2
Motor Vehicle Traffic Accident	23.0	18.4	13.9
Cancer, liver, gall bladder and bile ducts	17.9	5.4	6.1
Breast cancer	17.5	2.2	15.5
Drowning	15.7	17.3	3.8
Other and late effects of Cerebrovascular Disease	12.7	4.6	52.5
Nature and the environment	11.5	7.6	1.1
Cancer, pancreas	11.1	2.2	11.0
All other diseases of the arteries, arterioles and capillaries	11.1	3.5	12.9
Cancer, all other lymphatic and hematopoietic tissues	10.9	1.1	12.9
Homicide	9.8	9.7	2.3
Other mental disorders	9.0	5.4	2.9
Accidental poisoning, alcohol	7.9	8.6	1.3
All Causes	**736.4**	**350.0**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 62. Annual average age-sex standardized death rates, MamawetanChurchill River Health Region and Saskatchewan, Top 20 causes, 1995

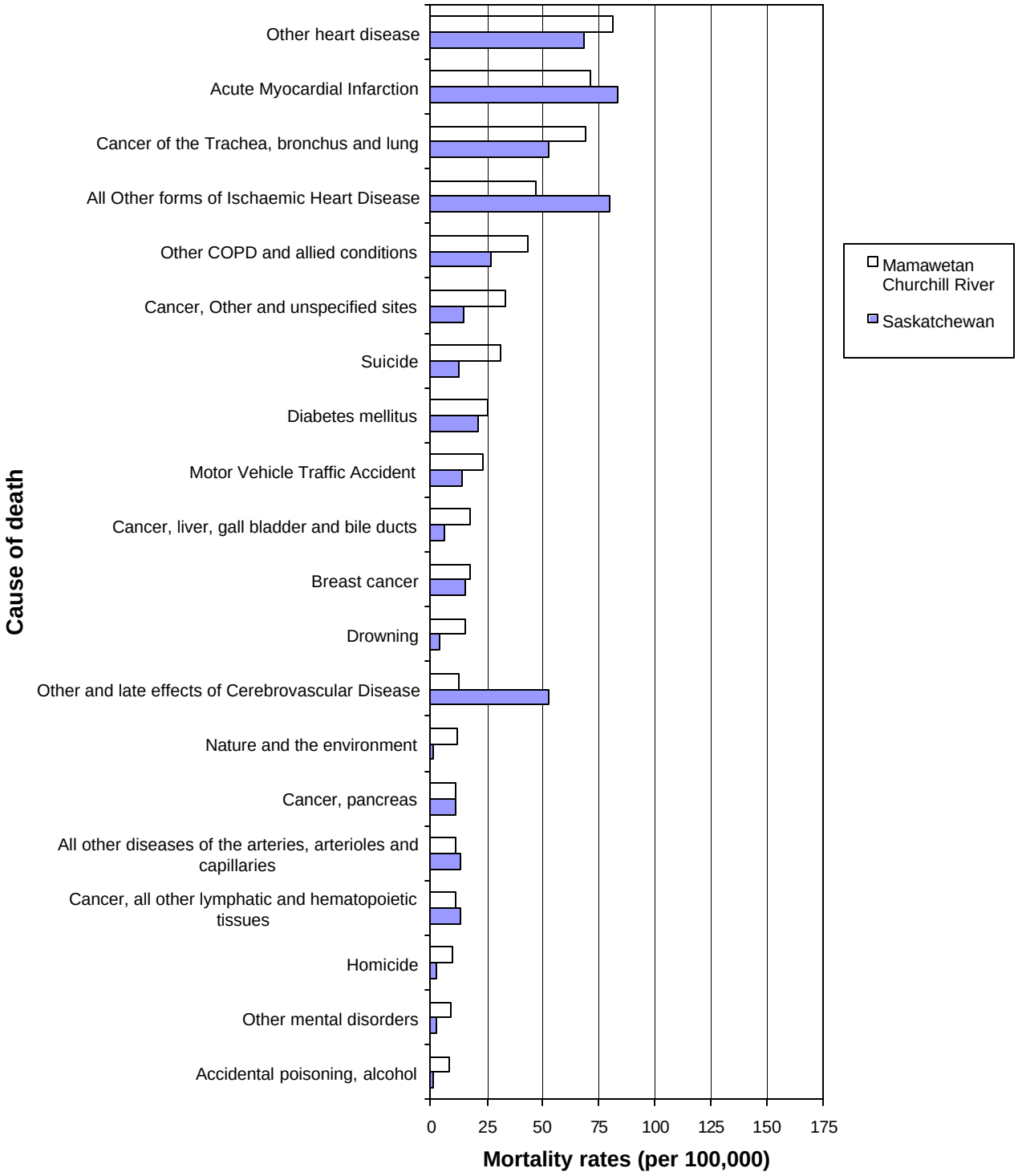


Table 32. Potential Years of Life Lost, five-year average, Saskatchewan and Mamawetan Churchill River Health Region, rate per 100,000, 1995 to 1999

Cause of Death	*Saskatchewan*	*Mamawetan Churchill River*
Suicide	483.1	1358.9
Drowning	119.0	903.2
Other congenital anomalies	131.4	733.2
Motor vehicle traffic accident	546.4	718.9
Symptoms, signs and other ill-defined conditions	150.5	616.9
Other heart disease	215.9	534.7
Accidental poisoning, alcohol	44.3	470.5
Homicide	98.3	457.4
Acute myocardial infarction	339.8	317.5
Nature and the environment	27.7	299.4
Lung cancer	369.0	265.4
Fire	61.6	262.1
Ischaemic heart disease	231.9	165.6
Other cancer	112.4	163.4
Water transport accidents	10.7	139.3
Other diseases of the respiratory system	52.1	132.2
Other mental disorders	27.5	131.6
Diabetes mellitus	100.4	126.1
Other hereditary and degenerative diseases of the central nervous system	52.6	106.9
Other diseases of the liver	29.2	81.7
All causes	6072.4	9308.5

Figure 63. PYLL rate, five-year average, Saskatchewan and Mamawetan Churchill River, 1995 to 1999

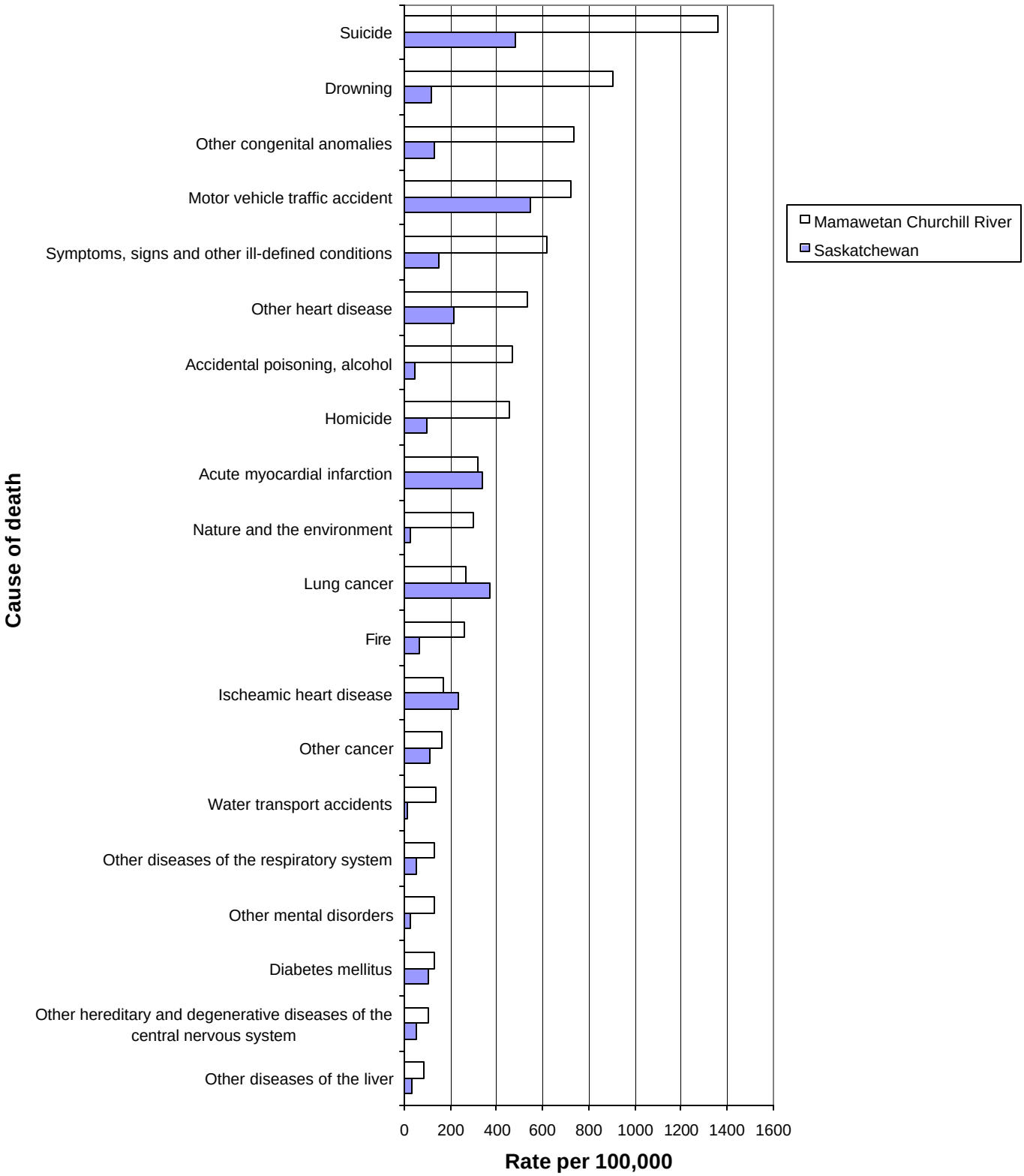
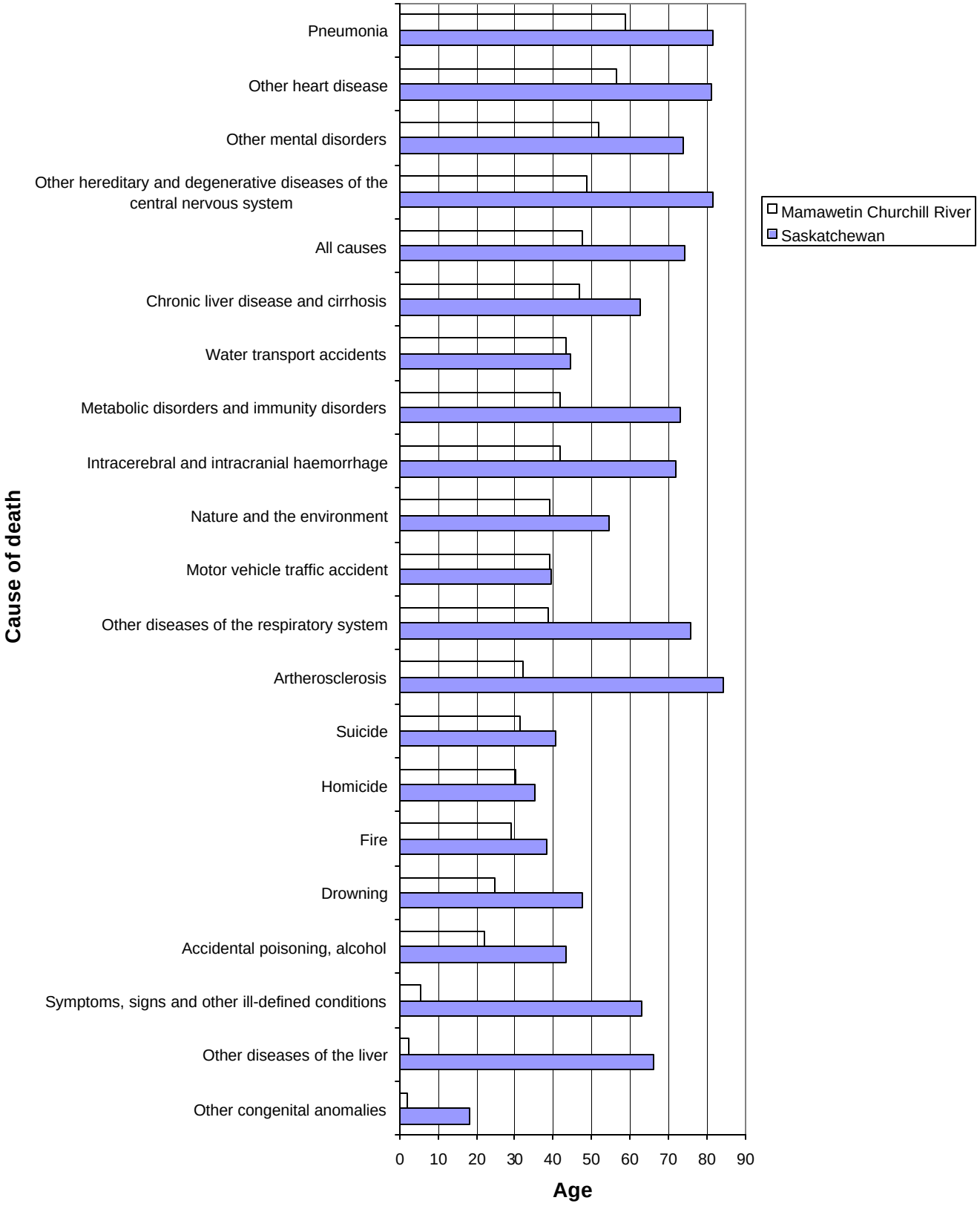
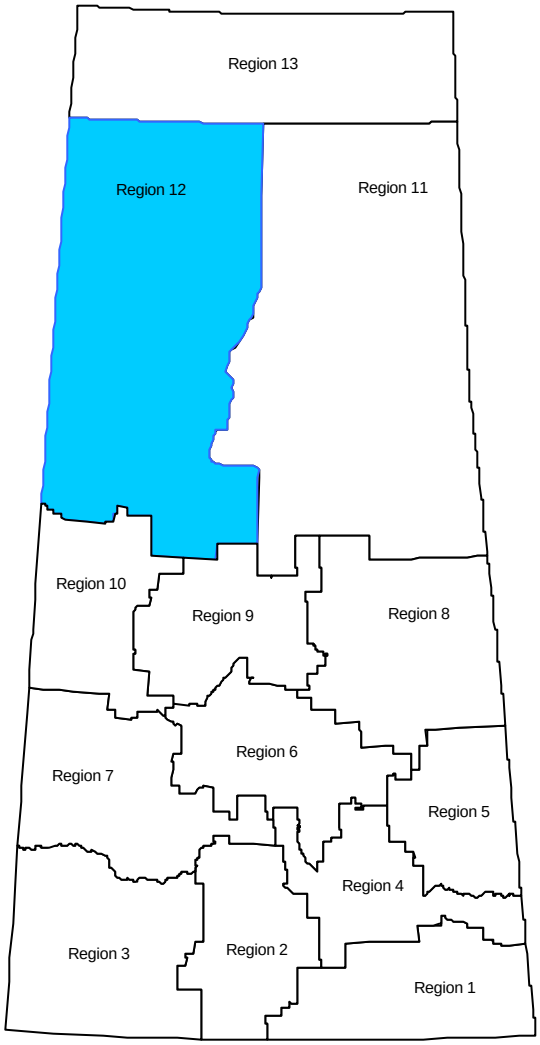


Figure 64. Average age at death, Saskatchewan and Mamawetan Churchill River, 1995 to 1999





Keewatin Yatthé Health Region

At 113,560 square kilometres, Keewatin Yatthé is the second largest health region in Saskatchewan. It is located in the north western part of the province and has a perimeter of 1,654 kilometres. The communities of La Loche, Ile a la Crosse and Dore Lake are found within its boundaries.

There were 9,682 residents living in Keewatin Yatthé in 1997, and as such it is the second smallest health authority, in terms of population. Of this total, 5,410 were male and 4,954 were female. It has a population density of 0.09 persons per square kilometre. Keewatin Yatthé has the second smallest population density in the province.

The leading causes of death in Keewatin Yatthé are chronic obstructive pulmonary disease, lung cancer and other heart disease. The leading causes of premature mortality are motor vehicle traffic accidents, suicide and drowning.

Table 33: Keewatin Yatthé Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Keewatin Yatthé Std rate*	Keewatin Yatthé Crude Rate	Saskatchewan
Other heart disease	123.3	35.1	67.9
Cancer of the Trachea, bronchus and lung	114.5	41.3	52.3
Other COPD and allied conditions	104.1	31.0	26.8
Acute Myocardial Infarction	99.7	33.1	83.3
All Other forms of Ischaemic Heart Disease	76.9	24.8	80.1
Symptoms, signs and other ill-defined conditions	39.3	9.6	7.0
Non-infective enteritis and colitis	39.1	7.7	4.4
Colon Cancer	36.6	11.6	16.5
Diabetes mellitus	27.5	10.3	21.2
Cancer, Other and unspecified sites	25.4	9.6	14.7
Cancer, pancreas	24.9	9.6	11.0
Other diseases of the respiratory system	21.6	8.3	8.1
Other and late effects of Cerebrovascular Disease	20.8	10.3	52.5
Cancer, kidney	18.3	9.6	5.2
Motor Vehicle Traffic Accident	18.1	19.3	13.9
Breast cancer	16.2	7.7	15.5
Cancer, Stomach	16.2	3.9	7.1
Prostate cancer	14.0	6.2	21.4
Chronic Liver disease and cirrhosis	13.8	7.7	7.6
Cerebral embolism and thrombosis	13.1	2.1	6.2
All Causes	**1160.2**	**457.0**	**823.5**

* Regional health authority rates average age-sex standardized to the 1997 Saskatchewan covered population.

Figure 65. Annual average age-sex standardized death rates, Keewatin Yatthé Health Region and Saskatchewan, Top 20 causes, 1995 to 1999

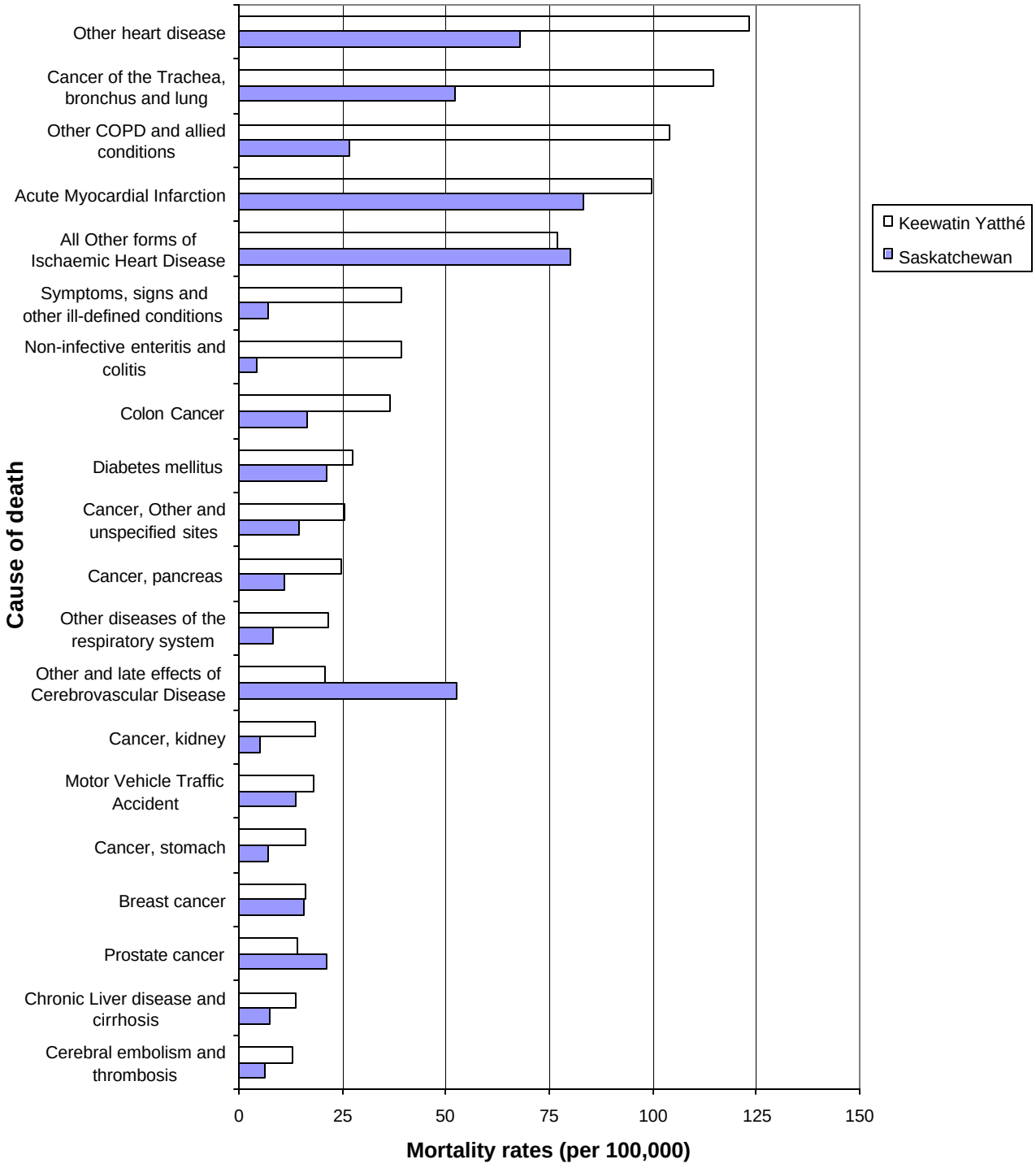


Table 34. Potential Years of Life Lost, five-year average, Saskatchewan and Keewatin Yatthé Health Region, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Keewatin Yatthé*
Motor vehicle traffic accident	546.4	941.2
Suicide	483.1	773.4
Drowning	119.0	668.4
Water transport accidents	10.7	422.0
Homicide	98.3	357.2
Nature and the environment	27.7	326.8
Acute myocardial infarction	339.8	310.1
Lung cancer	369.0	298.4
Fire	61.6	262.0
Metabolic disorders and immunity disorders	53.3	240.5
Other heart disease	215.9	233.6
Symptoms, signs and other ill-defined conditions	150.5	181.6
Ischaemic heart disease	231.9	172.7
Cancer, leukaemia	72.8	167.8
Breast cancer	153.1	151.1
Chronic liver disease and cirrhosis	112.3	125.6
COPD	51.9	98.1
Cancer, kidney	48.2	98.1
Cerebrovascular disease	49.5	96.2
All other diseases of the arteries, arterioles and capillaries	43.2	94.2
All causes	6072.4	9445.3

Figure 66. PYLL rate, five-year average, Saskatchewan and Keewatin Yatthé, 1995 to 1999

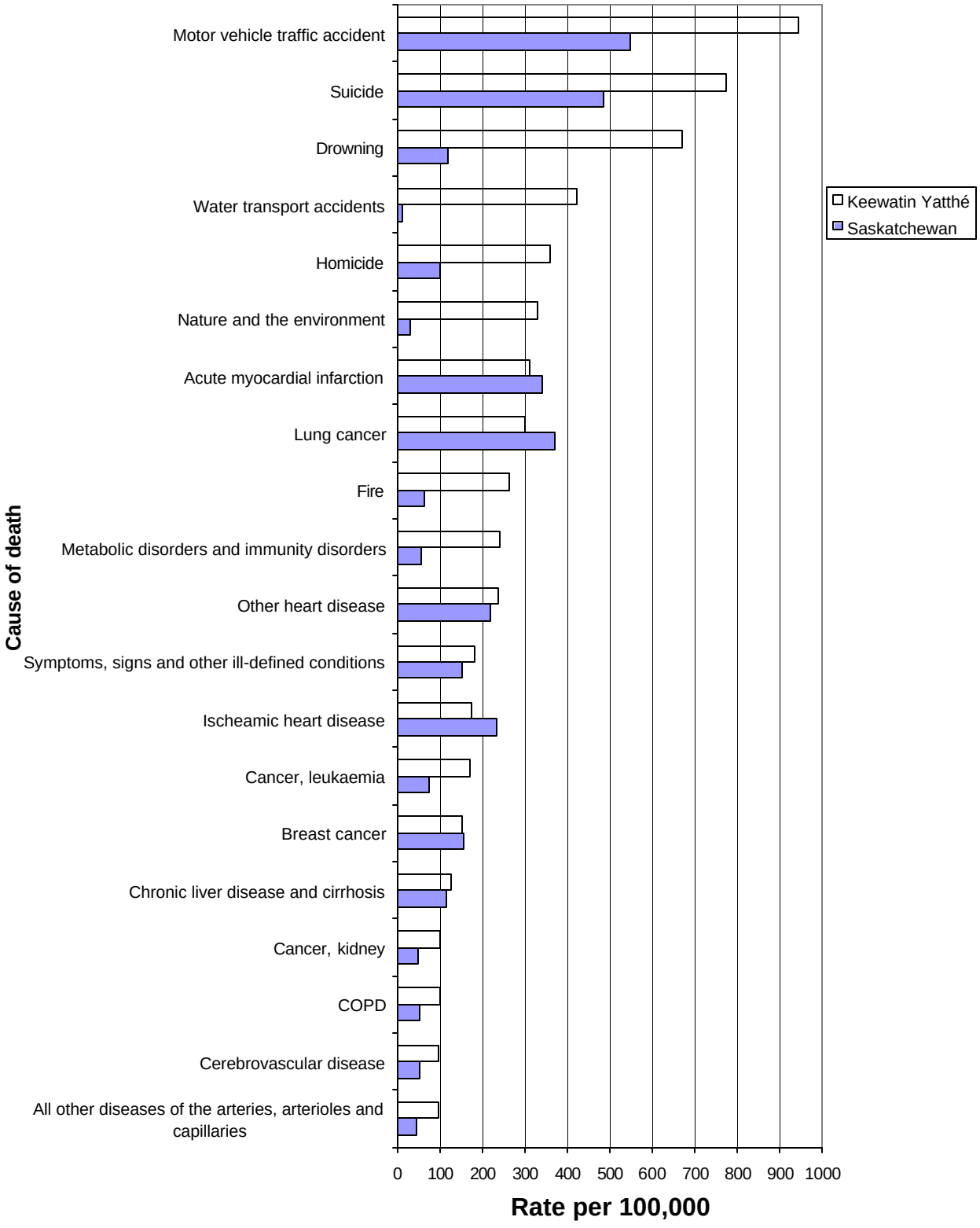
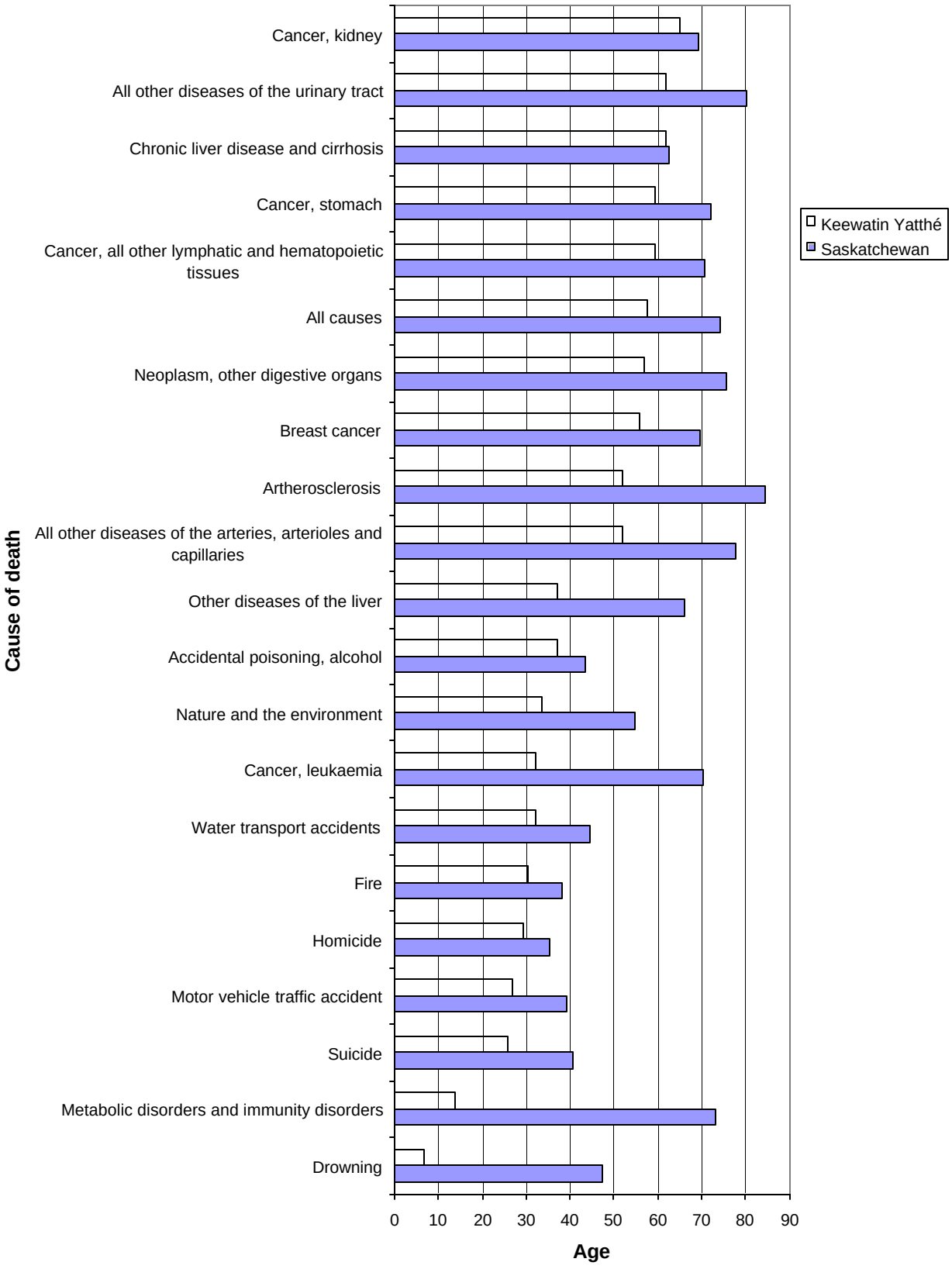
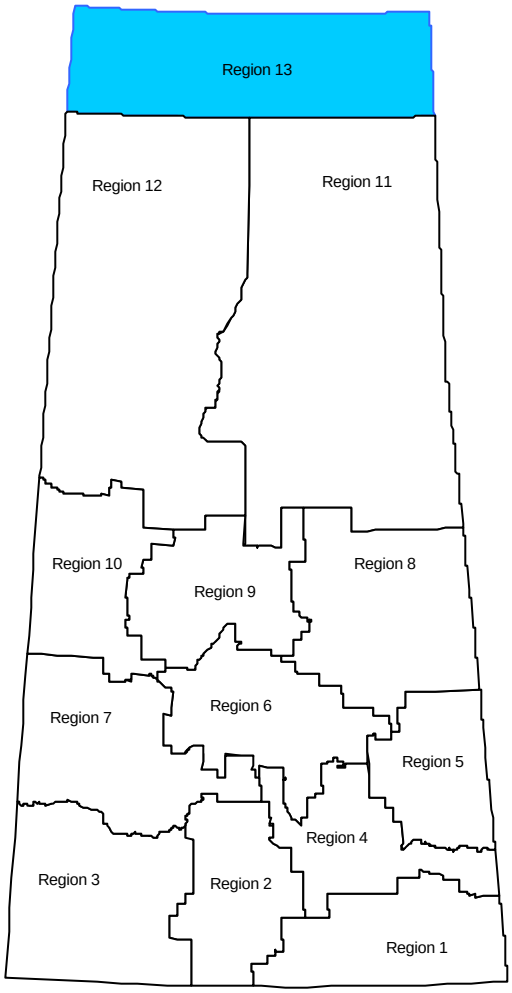


Figure 67. Average age at death, Saskatchewan and Keewatin Yatthé, 1995 to 1999





Athabasca Health Authority

Athabasca Health Authority covers the northern tip of Saskatchewan. It covers an area of 59,677 square kilometres. In terms of land area, it is the third smallest health authority. The perimeter is 1,172 kilometres.

The mid range population (mid year 1997) for Athabasca Health Authority was 2,239. Of this total, 1,138 were males and 1,101 were females. The population density is 0.04 persons per square kilometre. This is much lower than the provincial population density, 1.58 persons per square kilometre.

The leading causes of mortality in this northern Health Authority are chronic obstructive pulmonary disease, diabetes mellitus and other and unspecified cancers. The leading causes of premature mortality include drowning, suicide and other cancers.

Table 35: Athabasca Health Authority
Top 20 causes of death, annual average rate per 100,000, 1995 to 1999

Cause of death	Athabasca Std rate*	Athabasca Crude Rate	Saskatchewan
Other COPD and allied conditions	255.1	44.7	26.8
Diabetes mellitus	117.9	26.8	21.2
Cancer, Other and unspecified sites	106.1	35.7	14.7
Cancer of the Trachea, bronchus and lung	92.0	26.8	52.3
Intracerebral and intracranial haemorrhage	55.9	8.9	11.2
Other and late effects of Cerebrovascular Disease	55.9	8.9	52.5
Drowning	46.6	44.7	2.6
Diseases of pulmonary Circulation	39.0	8.9	5.6
Symptoms, signs and other ill-defined conditions	34.6	17.9	7.0
Suicide	32.5	35.7	12.8
Colon Cancer	29.6	8.9	16.5
Other heart disease	27.9	17.9	67.9
All Other forms of Ischaemic Heart Disease	21.4	8.9	80.1
Metabolic Disorders and immunity disorders	15.6	8.9	5.4
Skin Cancer	15.6	8.9	2.6
Nature and the environment	15.6	8.9	1.1
Cancer, rectum, rectosigmoid junction and anus	15.4	8.9	5.0
Cancer, leukaemia	15.1	8.9	7.9
Cancer, liver, gall bladder and bile ducts	15.1	8.9	6.1
Acute Myocardial Infarction	14.7	8.9	83.3
All Causes	**971.3**	**384.1**	**823.5**

* Regional health authority rates standardized to the 1997 Saskatchewan covered population.

Figure 68. Annual average age-sex standardized death rates, Athabasca Health Authority and Saskatchewan, Top 20 causes, 1995 to 1999

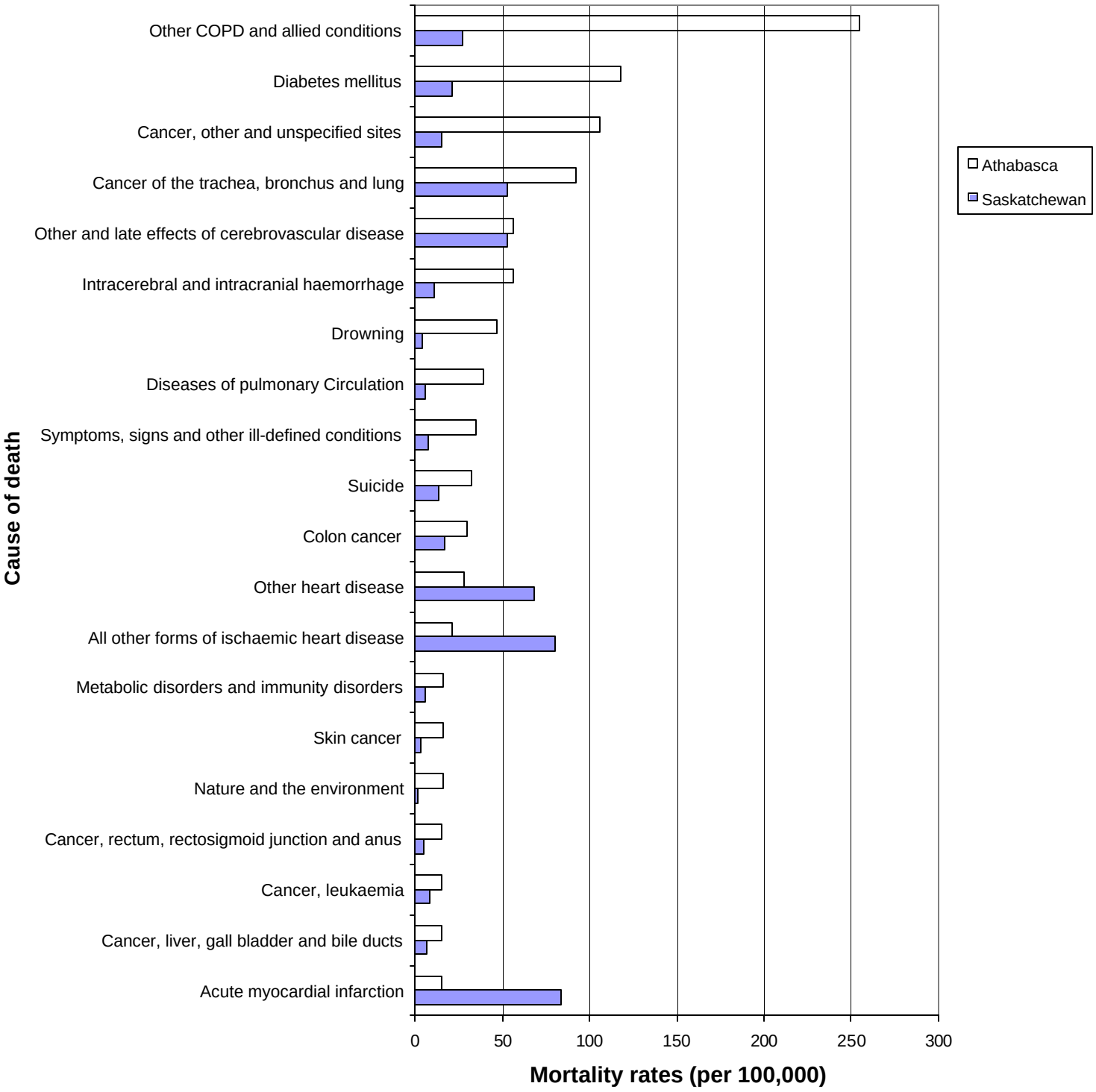


Table 36. Potential Years of Life Lost, five-year average, Saskatchewan and Athabasca Health Authority, rate per 100,000, 1995 to 1999

Causes of Death	*Saskatchewan*	*Athabasca*
Drowning	119.0	1806.7
Suicide	483.1	1508.6
Other cancer	112.4	785.9
Symptoms, signs and other ill-defined conditions	150.5	460.7
Homicide	98.3	388.4
Cancer, stomach	50.0	388.4
Metabolic disorders and immunity disorders	53.3	298.1
Skin cancer	33.3	298.1
Nature and the environment	27.7	298.1
Other heart disease	215.9	280.0
Ischaemic heart disease	231.9	252.9
Acute myocardial infarction	339.8	207.8
Cancer, rectum, rectosigmoid junction and anus	29.8	162.6
Neoplasm, rectum, rectosigmoid junction and anus	29.8	162.6
Cancer, leukaemia	72.8	117.4
Cancer, liver, gall bladder and bile ducts	37.6	117.4
Diabetes mellitus	100.4	99.4
COPD	51.9	99.4
Lung cancer	369.0	72.3
Intracerebral and intracranial haemorrhage	86.4	27.1
All causes	6072.4	18429.1

Figure 69. PYLL rate, five-year average, Saskatchewan and Athabasca, 1995 to 1999

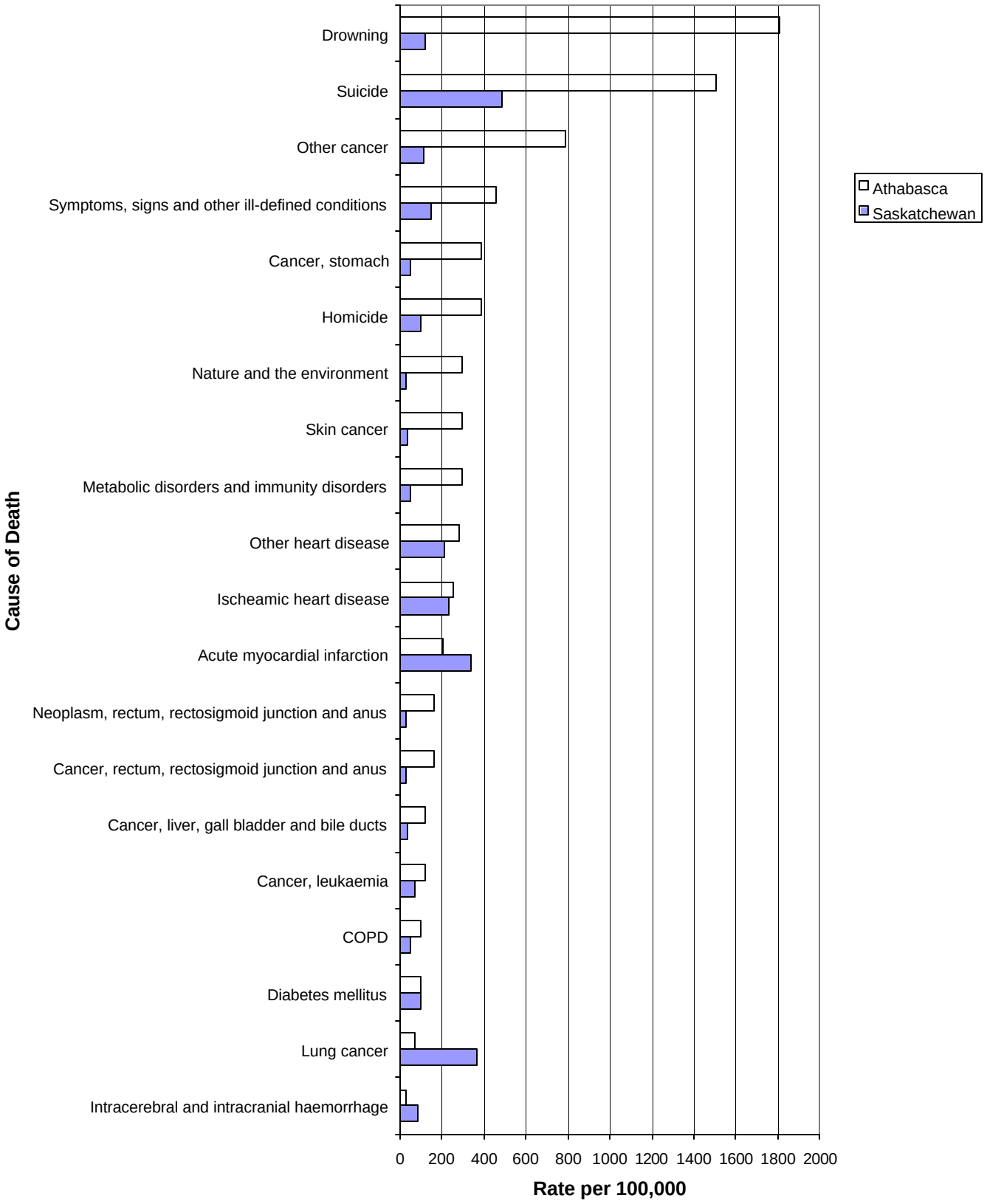
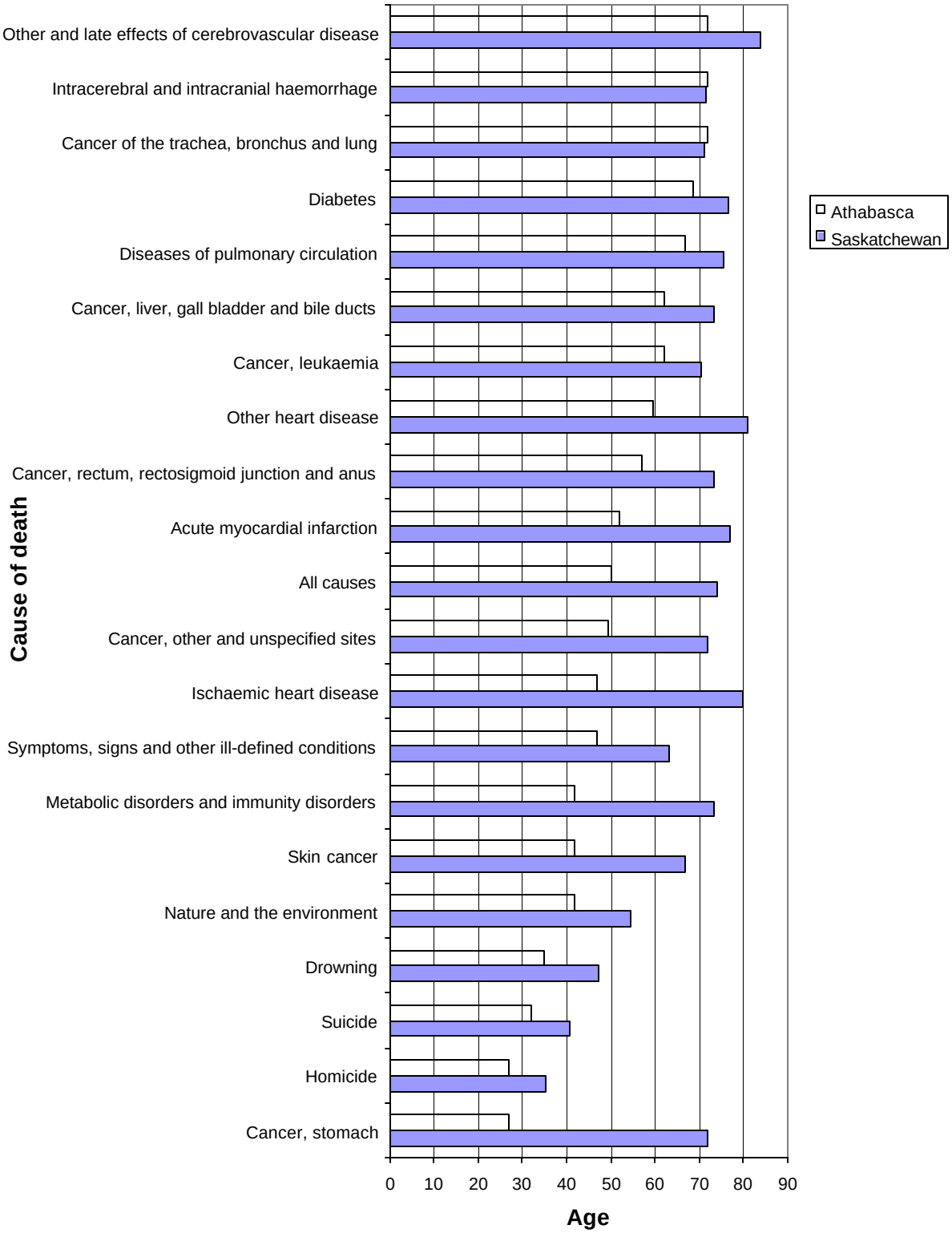


Figure 70: Average age at death, Saskatchewan and Athabasca, 1995 to 1999



Section Four: Infant Mortality by Health Region

This section includes infant mortality rates for each health region and Saskatchewan, for the years 1997 to 2001. Although infant mortality is usually reported elsewhere, to provide a more complete picture, latest available data are presented separately within this report. The average rate for the five years is also depicted.

For comparison purposes, infant mortality rates for Canada and other provinces and territories have been included. These data span the years 1991 to 2001. A historical picture of infant mortality in Saskatchewan has also been included, in this section. The rates are from 1931 to 2000.

The Statistics Canada standard infant mortality rate was in use. It involved counting all infant deaths in a particular year and dividing by all live births in the year (expressed as deaths per 1000 live births).

Table 37. Infant mortality rates, Canada, provinces and territories, per 1,000 live births, 1991 to 2002

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*
Canada	6.4	6.1	6.3	6.3	6.1	5.6	5.5	5.3	5.3	5.3	5.2	5.4
Newfoundland and Labrador	7.8	7.1	7.8	8.2	7.9	6.6	5.2	6.2	4.9	4.9	4.9	4.5
Prince Edward Island	6.9	1.6	9.1	6.4	4.6	4.7	4.4	8.0	6.6	3.5	7.2	1.5
Nova Scotia	5.7	6.0	7.1	6.0	4.8	5.6	4.4	4.6	4.0	4.9	5.6	4.2
New Brunswick	6.1	6.3	7.2	5.3	4.8	4.9	5.7	6.5	5.0	3.5	4.3	3.8
Quebec	5.9	5.4	5.7	5.6	5.5	4.6	5.6	5.6	4.9	4.7	4.7	4.8
Ontario	6.3	5.9	6.2	6.0	5.9	5.7	5.5	5.0	5.4	5.6	5.4	5.3
Manitoba	6.4	6.8	7.1	7.0	7.6	6.7	7.5	6.7	8.4	6.5	7.0	7.1
Saskatchewan	8.2	7.3	8.1	8.9	9.1	8.4	8.9	7.1	6.3	6.8	5.5	5.7
Alberta	6.7	7.2	6.7	7.4	7.0	6.2	4.8	4.8	5.8	6.6	5.6	7.3
British Columbia	6.5	6.2	5.7	6.3	6.0	5.1	4.7	4.2	3.8	3.7	4.1	4.6
Yukon Territory	10.6	3.8	7.9	2.3	12.8	0.0	8.4	5.1	2.6	2.7	8.7	8.8
Northwest Territories	7.7	10.6	6.0	12.1	9.2	4.9	6.9	17.6	12.1	8.9	4.9	11.0
Nunavut	18.0	24.2	13.8	17.2	17.6	20.1	14.8	19.5	14.9	12.3	16.9	11.0

Source: Statistics Canada: CANSIM Table # 102-0030 and
Statistics Canada Table 102-0507 - Infant mortality, by age group, Canada, provinces and territories, annual.

Figure 71. Infant mortality rates (per 1000 live births), Saskatchewan, 1931 to 2002

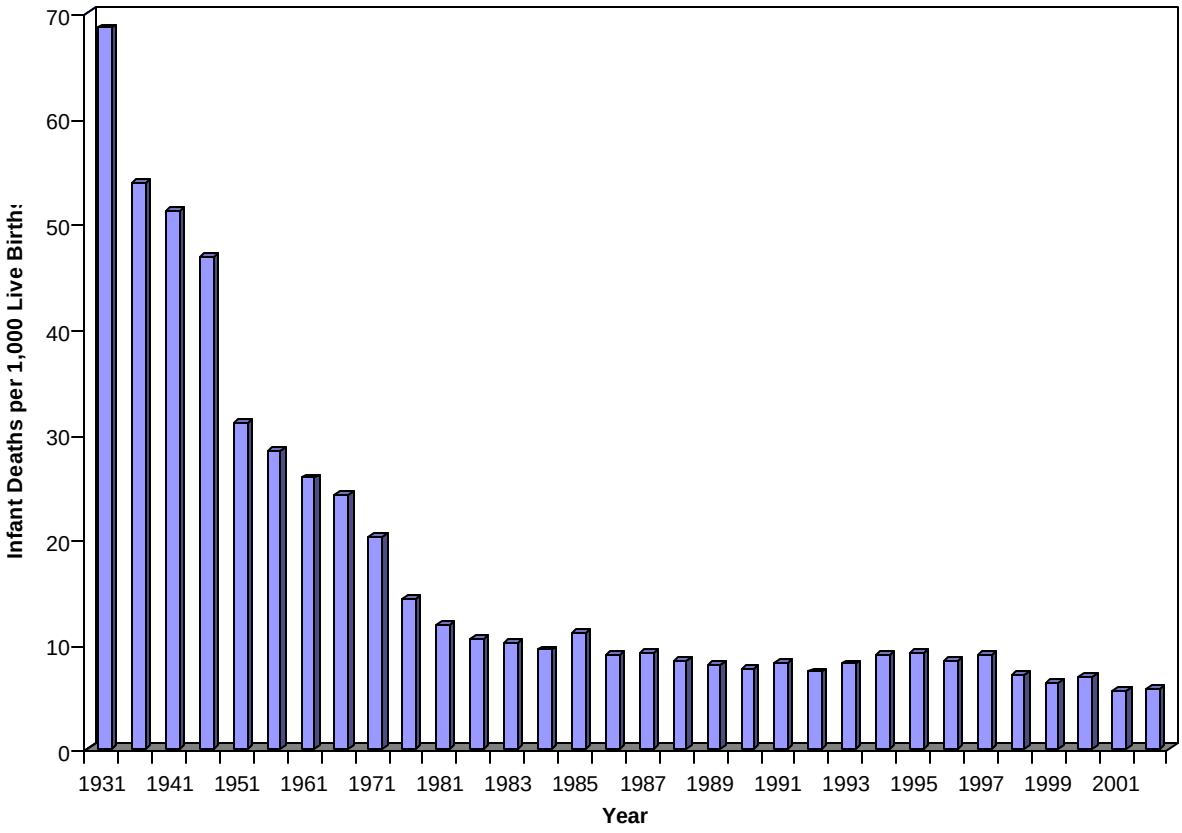


Figure 72: Infant Mortality Rates in Sun Country and Saskatchewan, 1997-2001

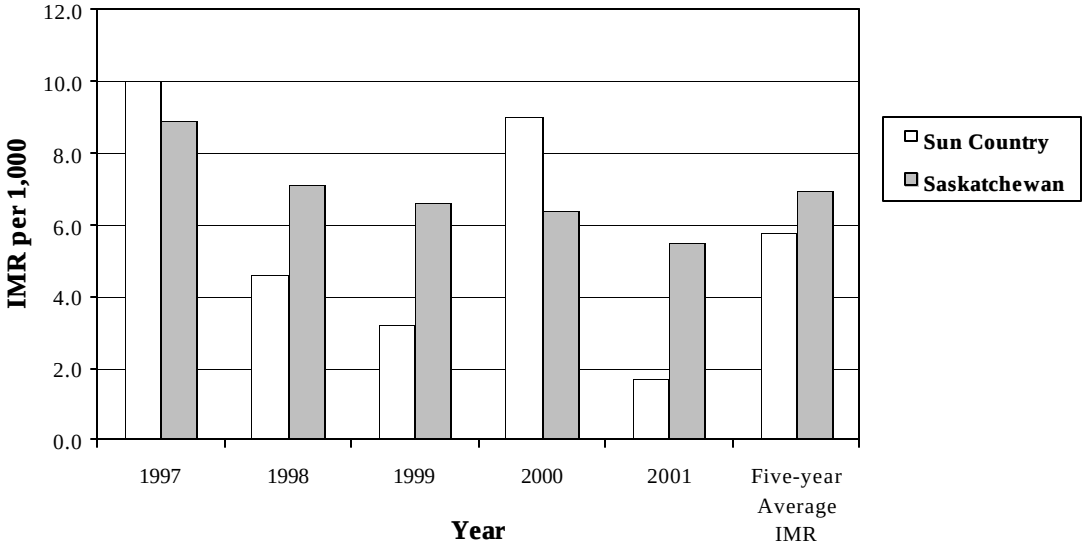


Figure 73: Infant Mortality Rates in Five Hills and Saskatchewan, 1997-2001

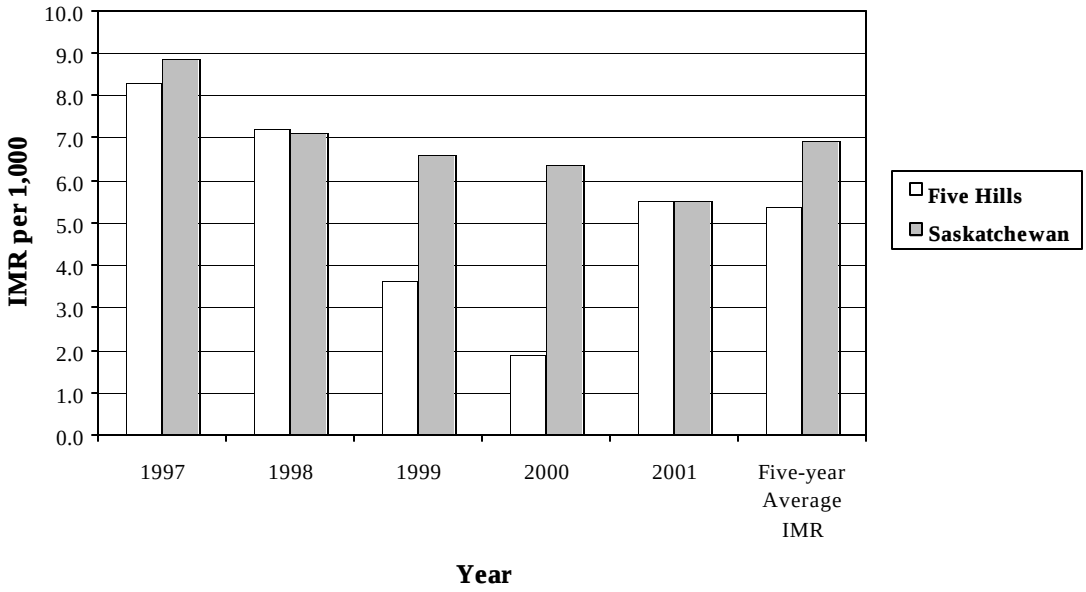


Figure 74: Infant Mortality Rates in Cypress and Saskatchewan, 1997-2001

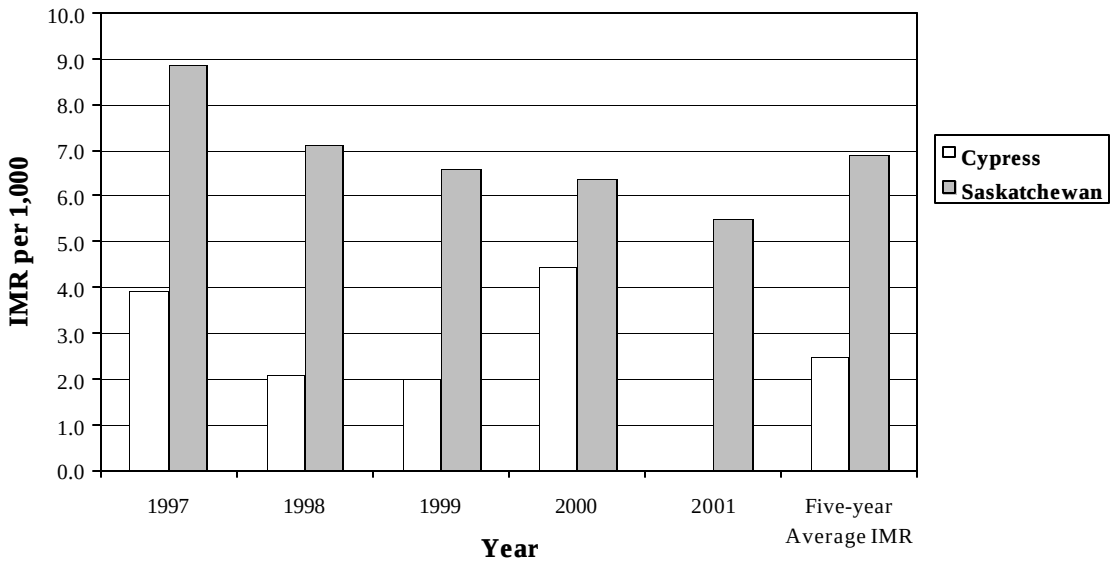


Figure 75: Infant Mortality Rates in Regina Qu'Appelle and Saskatchewan, 1997-2001

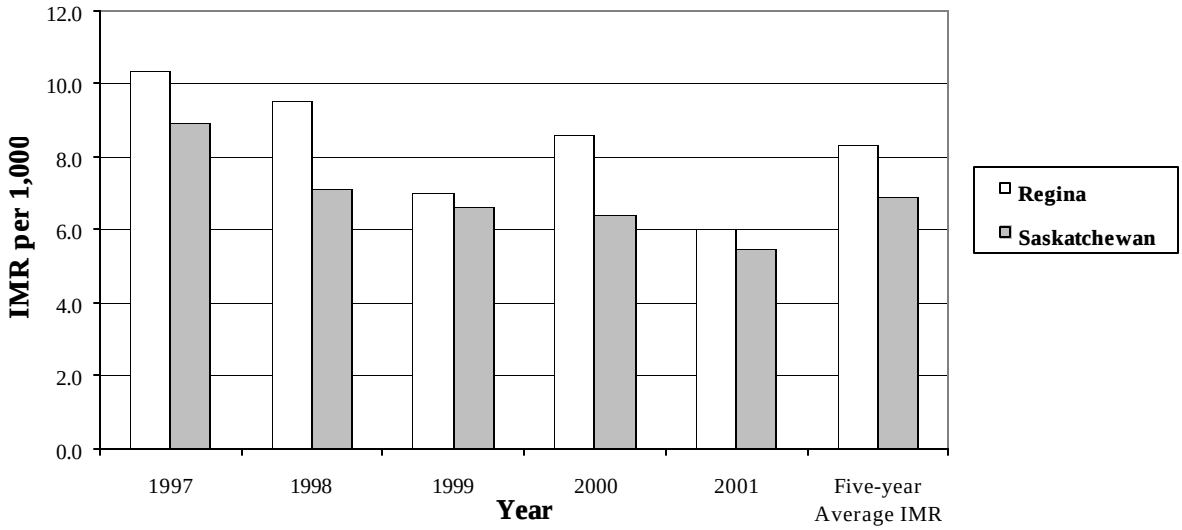


Figure 76: Infant Mortality Rates in Sunrise and Saskatchewan, 1997-2001

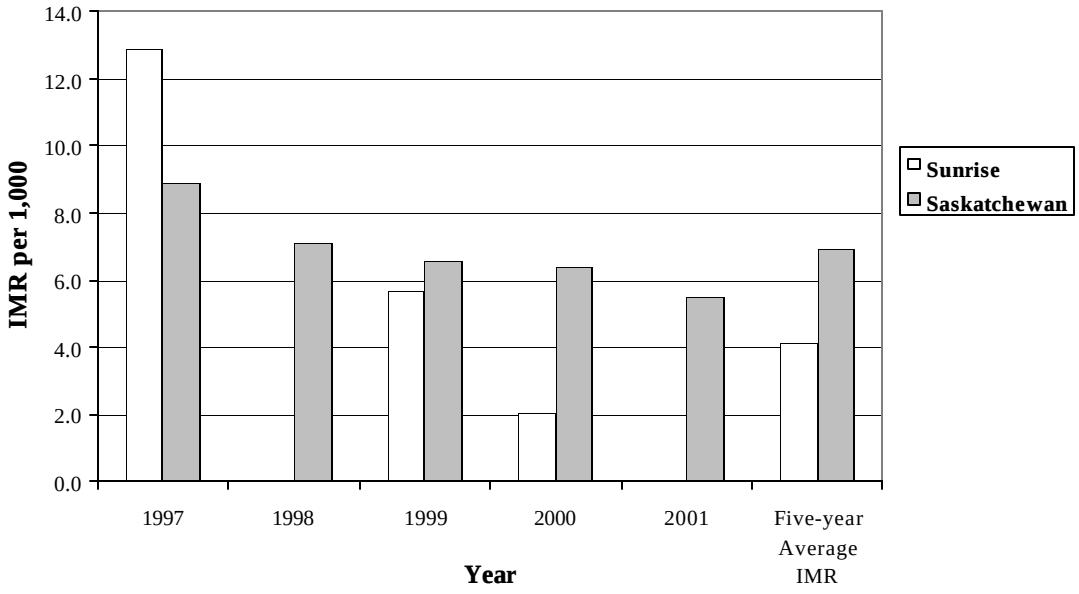


Figure 77: Infant Mortality Rates in Saskatoon and Saskatchewan, 1997-2001

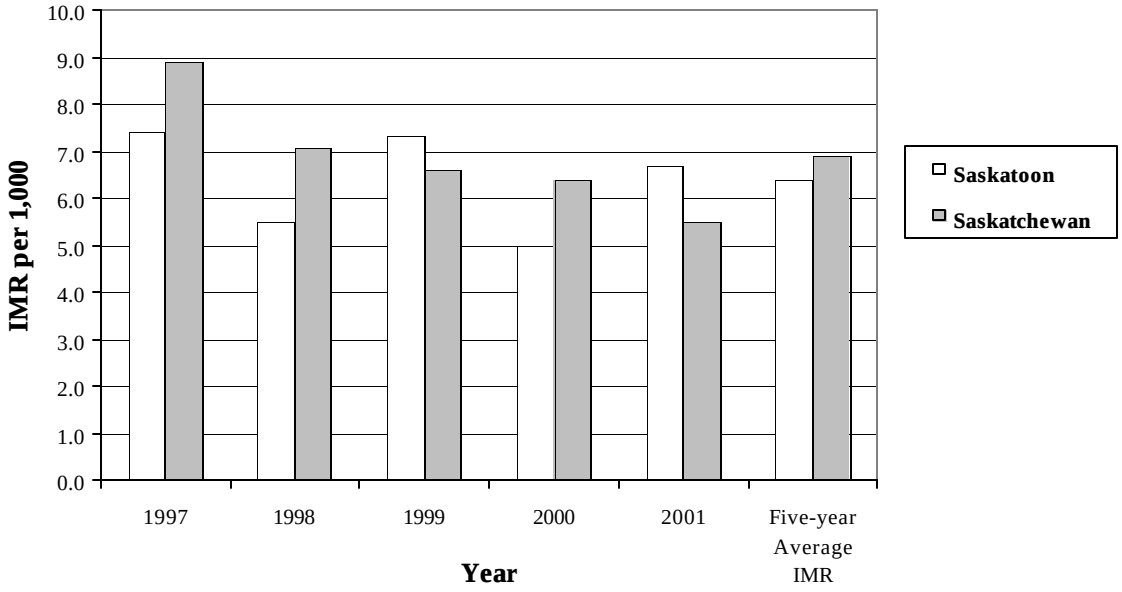


Figure 78: Infant Mortality Rates in Heartland and Saskatchewan, 1997-2001

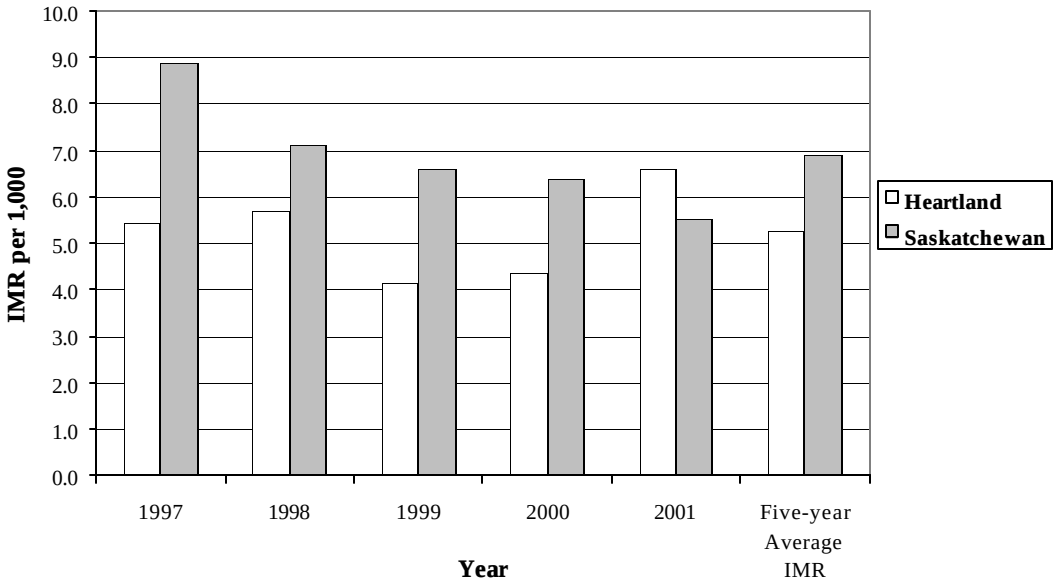


Figure 79: Infant Mortality Rates in Kelsey Trail and Saskatchewan, 1997-2001

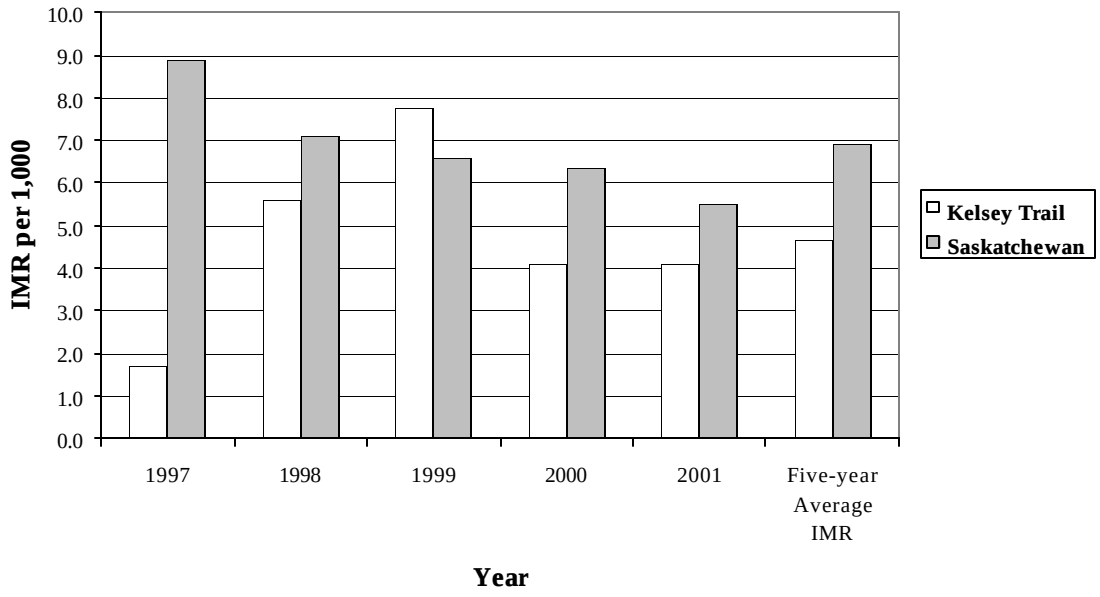


Figure 80: Infant Mortality Rates in Prince Albert Parkland and Saskatchewan, 1997-2001

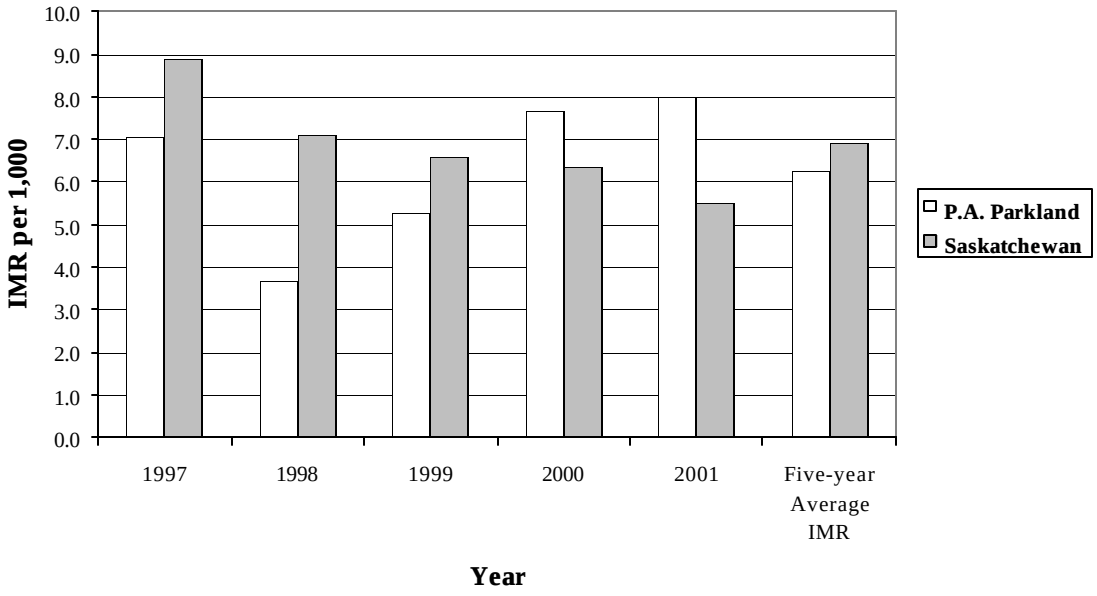


Figure 81: Infant Mortality Rates in Prairie North and Saskatchewan, 1997-2001

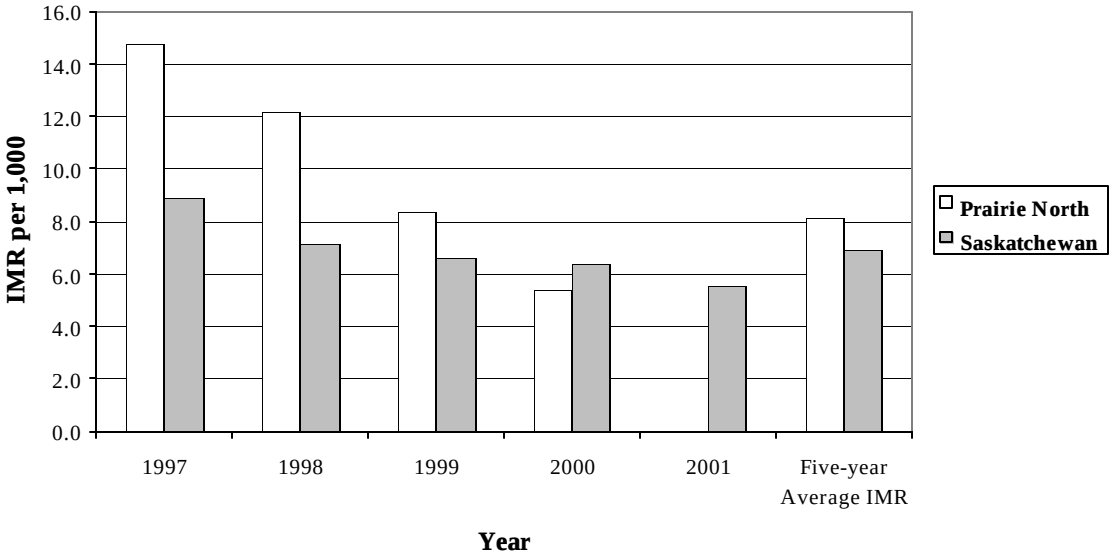


Figure 82: Infant Mortality Rates in Mamawetwan Churchill River and Saskatchewan, 1997-2001

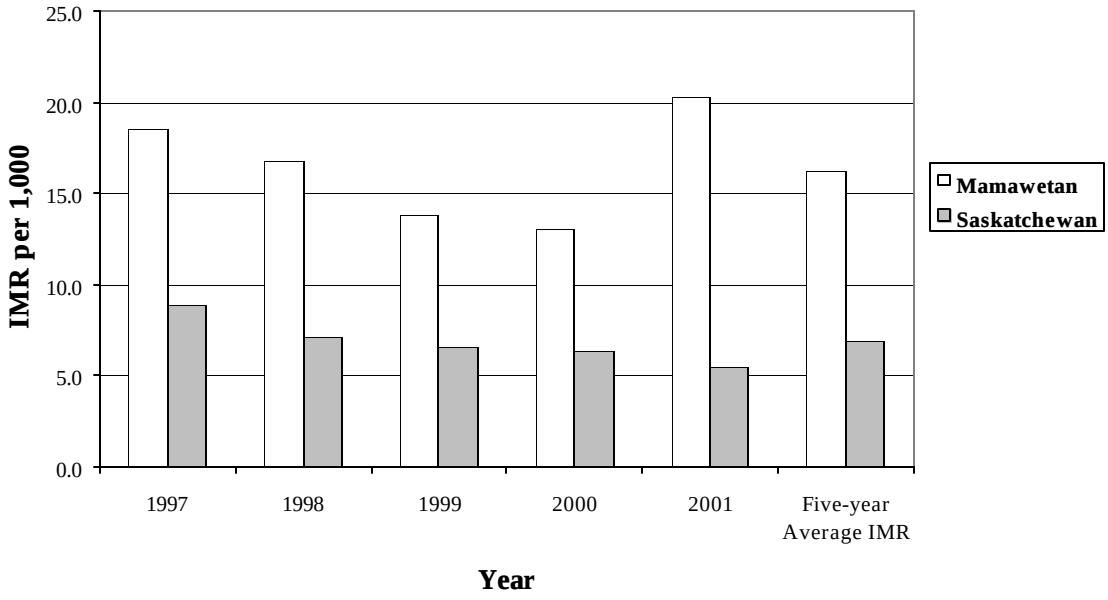
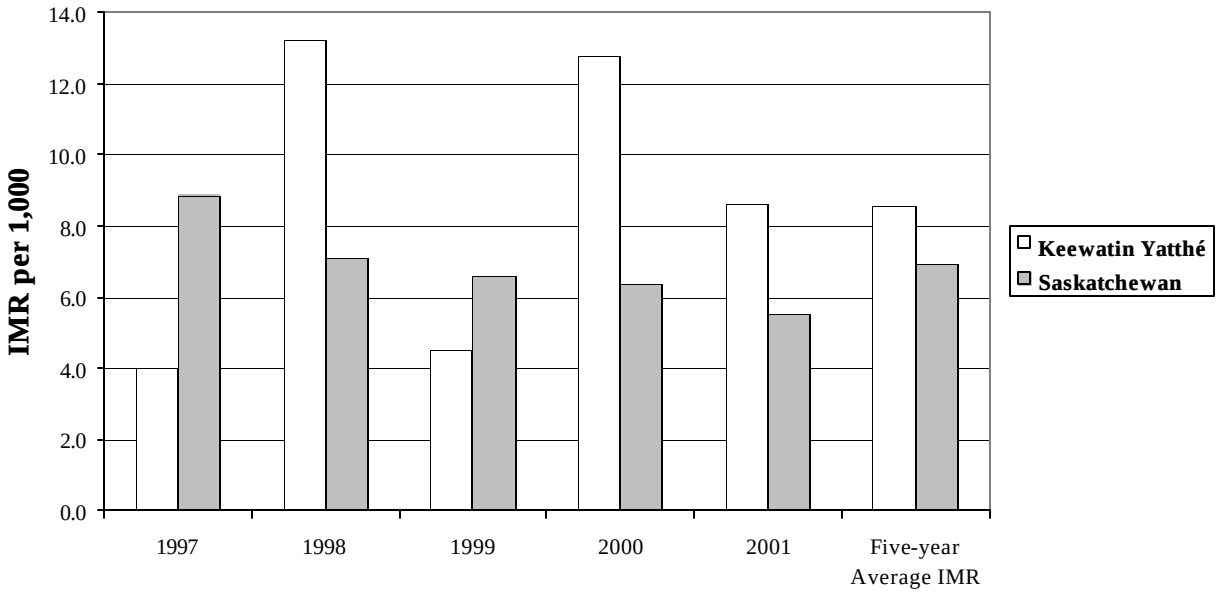


Figure 83: Infant Mortality Rates in Keewatin Yatthé and Saskatchewan, 1997-2001



Athabasca Regional Health Authority

Figure 84. Infant Mortality

No infant death records for this region during this time period.

Appendix A

Number of deaths, 1995 to 1999

- *by Health Region and Sex*
- *by Place of Death and Residence*
- *by Cause of Death*

Life Expectancy at age 65

Appendix A.1. Number of Deaths, by regional health authority of residence, sex and age
Saskatchewan, 1995 to 1999

		RHA of Residence														
Sex	Age Groups	Sun Country	Five Hills	Cypress	Regina Qu'Appelle	Sunrise	Saskatoon	Heartland	Kelsey Trail	Prince Albert Parkland	Prairie North	Mamwetan Churchill River	Keewatin Yatthé	Athabasca Health Authority	Unknown	***Total Deaths***
FEMALE	<1	8	8	*	64	10	51	8	5	18	21	19	*	0	*	219
	1 to 4	*	*	*	10	*	13	*	*	5	7	6	*	0	0	51
	5 to 9	0	*	0	7	*	9	*	*	8	*	5	*	0	0	40
	10 to 14	*	*	*	15	*	5	*	0	*	5	*	*	0	0	38
	15 to 19	6	8	6	10	*	15	*	6	10	5	5	*	0	0	78
	20 to 24	*	7	*	20	*	21	*	5	7	0	*	*	*	0	73
	25 to 29	*	*	0	19	*	25	0	6	10	9	*	*	*	0	81
	30 to 34	*	6	*	25	5	21	6	*	10	5	*	*	*	0	95
	35 to 39	9	5	6	49	9	41	*	6	15	17	6	*	0	0	166
	40 to 44	10	21	13	55	10	68	17	*	26	19	9	*	*	*	256
	45 to 49	16	16	10	88	19	67	12	10	33	18	*	0	*	0	294
	50 to 54	21	22	11	100	28	108	22	15	30	19	5	*	0	0	385
	55 to 59	26	32	20	120	38	128	26	27	50	31	9	*	0	*	510
	60 to 64	44	40	28	159	66	199	25	50	68	55	5	6	0	0	745
	65 to 69	62	90	61	284	95	292	66	59	104	55	7	13	*	*	1196
	70 to 74	92	143	94	442	163	439	93	91	111	89	11	14	*	*	1787
	75 to 79	149	206	139	622	243	643	132	160	163	159	9	10	*	*	2640
	80 to 84	265	237	184	714	320	833	164	173	234	187	7	9	0	*	3331
	85 to 89	269	214	191	785	362	935	203	191	265	234	6	10	0	5	3670
	90 to 94	235	228	150	589	303	712	160	146	183	151	*	7	0	*	2871
	95+	115	133	80	363	156	332	93	92	79	77	*	*	0	0	1522
Total Female		**1337**	**1422**	**1003**	**4539**	**1843**	**4957**	**1035**	**1054**	**1430**	**1165**	**124**	**98**	**14**	**27**	**20048**
MALE	<1	10	11	6	76	*	80	11	8	28	35	10	*	*	*	285
	1 to 4	*	*	*	16	*	19	*	5	7	8	8	*	0	0	80
	5 to 9	*	*	*	9	*	10	*	8	5	7	*	*	0	0	54
	10 to 14	*	*	7	15	*	9	8	*	6	5	*	*	0	*	65
	15 to 19	11	12	*	36	15	37	5	13	22	16	11	*	0	0	182
	20 to 24	11	12	11	42	6	51	6	15	17	13	13	5	*	0	203
	25 to 29	9	8	*	51	6	47	*	7	13	18	7	12	*	*	190
	30 to 34	5	11	7	50	9	69	6	6	27	20	9	*	*	*	226
	35 to 39	13	16	*	78	10	86	16	17	21	22	6	*	*	*	294
	40 to 44	29	28	17	96	17	91	16	18	27	26	10	7	*	*	385
	45 to 49	26	29	14	109	40	120	12	30	36	39	7	5	*	0	468
	50 to 54	39	35	26	167	47	149	25	44	50	45	12	12	5	0	656
	55 to 59	46	37	29	203	74	186	39	51	64	55	11	12	*	*	809
	60 to 64	79	83	70	340	109	317	56	65	116	90	22	10	*	*	1363
	65 to 69	132	157	119	487	140	448	116	104	165	125	14	18	*	*	2030
	70 to 74	181	235	170	655	292	650	145	157	211	159	17	10	*	*	2887
	75 to 79	247	280	217	795	352	865	226	203	238	195	19	15	*	5	3658
	80 to 84	287	289	200	739	432	829	269	252	255	247	12	7	*	5	3824
	85 to 89	250	187	157	585	334	734	176	203	215	198	6	9	*	*	3058
	90 to 94	151	125	82	349	177	436	95	115	130	105	*	*	0	*	1773
	95+	65	39	31	115	74	166	35	52	43	41	0	*	*	0	663
Total Male		**1597**	**1602**	**1179**	**5013**	**2144**	**5400**	**1268**	**1375**	**1696**	**1469**	**206**	**144**	**34**	**26**	**23153**
Total Deaths		**2934**	**3024**	**2182**	**9552**	**3987**	**10357**	**2303**	**2429**	**3126**	**2634**	**330**	**242**	**48**	**53**	**43201**

* *Suppressed due to small numbers*

Appendix A.2. Number of Deaths, by health region of residence and place of death, Saskatchewan, 1995 to 1999

	Number of Deaths by Health Region of Residence														
RHA of Death	Sun Country	Five Hills	Cypress	Regina Qu'Appelle	Sunrise	Saskatoon	Heartland	Kelsey Trail	Prince Albert Parkland	Prairie North	Mamwetan Churchill River	Keewatin Yatthé	Athabasca Health Authority	Unknown	***Total Deaths***
Sun Country	2681	*	*	7			*								2841
Five Hills	*	2948	*	5		*	*							*	2978
Cypress		5	2145	*		*	8			*					2163
Regina Qu'Appelle	87	37	14	9492	63	20	*	*		*		*		8	9726
Sunrise	*	*		13	3897	*			*					*	3923
Saskatoon	7	13	13	23	19	10282	78	61	75	42	16	9	*	14	10654
Heartland		*	*		*	7	2202			*	*			*	2222
Kelsey Trail	*	*		*	5	12		2359	14	*				*	2397
Prince Albert Parkland		*		*		17	*	5	3022	*	*		*	5	3062
Prairie North		*	*	5		8	8	*	11	2583		*		11	2635
Mamwetan Churchill River			*			*	*		*		308		*	*	316
Keewatin Yatthé						*		*	*		*	227		*	236
Athabasca Health Authority											*	*	44	*	48
Total Deaths	2934	3024	2182	9552	3987	10357	2303	2429	3126	2634	330	242	48	53	43201

* Suppressed due to small numbers

Appendix A.3 Life Expectancy at 65 years of age

Life expectancy, at 65 years of age, by sex, Canada, Saskatchewan and health regions, 1996[1]			
Area	***Both sexes***	***Males***	***Females***
Canada	18.1	16.1	19.9
Saskatchewan	18.8	16.7	20.8
Sun Country	19.5	17.0	21.8
Five Hills	18.8	16.6	20.8
Cypress	19.3	17.2	21.1
Regina Qu'Appelle	18.7	16.4	20.8
Sunrise	18.6	16.5	20.4
Saskatoon	18.8	16.6	20.8
Heartland	17.7	15.6	19.8
Kelsey Trail	19.2	17.6	20.6
Prince Albert Parkland	19.6	17.8	21.3
Prairie North	18.9	16.9	20.7
Northern Saskatchewan	16.6	15.5	17.5

[1] Statistics Canada. Health Indicators, May 2002 (Catalogue 82-221-XIE). Ottawa: Minister of Industry, 2002.

Appendix B

Canadian List causes of death: ICD9 codes

Appendix B.1. Conversion between Canadian list diagnosis numbers and ICD-9 codes.

ICD-9 Code	Canadian List Number and Diagnosis	
002	**001**	Typhoid and paratyphoid fevers
003, 005	**002**	Salmonella infections and other food poisoning (bacterial)
001, 004, 006-009	**003**	Other intestinal infections
010-018	**004**	Tuberculosis
034-035	**005**	Streptococcal sore throat, scarlatina, and erysipelas
020-033, 036-041	**006**	All other bacterial diseases
045	**007**	Acute poliomyelitis
062-064	**008**	Arthropod-borne encephalitis
070	**009**	Viral hepatitis
046-061, 065-066, 071-088	**010**	Other viral and arthropod-borne diseases (See 212)
090-099	**011**	Syphilis and other venereal diseases
137	**012**	Late effects of tuberculosis
138	**013**	Late effects of acute poliomyelitis
100-136, 139	**014**	All other infectious and parasitic diseases and late effects of other infectious and parasitic diseases
140-149	**015**	Malignant neoplasm of lip, oral cavity, and pharynx
150	**016**	Malignant neoplasm of esophagus
151	**017**	Malignant neoplasm of stomach
152	**018**	Malignant neoplasm of small intestine, including duodenum
153	**019**	Malignant neoplasm of colon
154	**020**	Malignant neoplasm of rectum, rectosigmoid junction, and anus
155, 156	**021**	Malignant neoplasm of liver, gall bladder, and bile ducts
157	**022**	Malignant neoplasm of pancreas
158, 159	**023**	Malignant neoplasm of other digestive organs and peritoneum
162	**024**	Malignant neoplasm of trachea, bronchus, and lung
160, 161, 163-165	**025**	Malignant neoplasm of other respiratory and intrathoracic organs
170, 171	**026**	Malignant neoplasm of bone and connective and soft tissue
172, 173	**027**	Malignant neoplasm of skin
174, 175	**028**	Malignant neoplasm of breast
180	**029**	Malignant neoplasm of cervix uteri
179, 181, 182	**030**	Malignant neoplasm of other parts of the uterus
183	**031**	Malignant neoplasm of ovary and other uterine adnexa
184	**032**	Malignant neoplasm of other and unspecified female genital organs
185	**033**	Malignant neoplasm of prostate
186	**034**	Malignant neoplasm of testis
187	**035**	Malignant neoplasm of penis and other male genital organs
188	**036**	Malignant neoplasm of bladder
189	**037**	Malignant neoplasm of kidney and other unspecified urinary organs
191	**038**	Malignant neoplasm of brain
190, 192-199	**039**	Malignant neoplasm of all other unspecified sites
204-208	**040**	Leukemia
200-203	**041**	Malignant neoplasm of all other lymphatic and hematopoietic tissues
218-221	**042**	Benign neoplasm of female genital organs
224, 225	**043**	Benign neoplasm of eye, brain, and other parts of the nervous system
210-217, 222, 223, 226-229	**044**	Benign neoplasm of all other unspecified sites
233	**045**	Carcinoma of breast and genitourinary system
230-232, 234	**046**	Carcinoma of all other and unspecified systems
235-238	**047**	Neoplasms of uncertain behavior
239	**048**	Neoplasms of unspecified nature

ICD-9 Code	Canadian List Number and Diagnosis	
240-246	**049**	Disorders of the thyroid gland
250	**050**	Diabetes mellitus
251-259	**051**	Disorders of other endocrine glands
270-279	**052**	All other endocrine and metabolic diseases and immunity disorders
260-269	**053**	Nutritional deficiencies
280-285	**054**	Anemias
287	**055**	Purpura and other hemorrhagic conditions
286, 288, 289	**056**	All other diseases of blood and blood-forming organs
290	**057**	Senile and presenile organic psychotic conditions
291	**058**	Alcoholic psychoses
295	**059**	Schizophrenic psychoses
296	**060**	Affective psychoses
292-294, 297-299	**061**	Other psychoses
300, 301	**062**	Neurotic and personality disorders
303	**063**	Alcohol dependence syndrome
304	**064**	Drug dependence
317-319	**065**	Mental retardation
302, 305-316	**066**	Other mental disorders
320-326	**067**	Meningitis and other inflammatory diseases of the central nervous system
332	**068**	Parkinson's disease
330, 331, 333-337	**069**	Other hereditary and degenerative diseases of the central nervous system
340	**070**	Multiple sclerosis
345	**071**	Epilepsy
341-344, 346-359	**072**	Other diseases of central nervous system
365	**073**	Glaucoma
366	**074**	Cataract
378	**075**	Strabismus
360-364, 367-377, 379	**076**	Other disorders of the eye and adnexa
381, 382	**077**	Otitis media without mastoiditis
383	**078**	Mastoiditis
380, 384-389	**079**	Other diseases of ear and mastoid process
390-392	**080**	Acute rheumatic fever
393-398	**081**	Chronic rheumatic heart disease
401-405	**082**	Hypertensive disease
410	**083**	Acute myocardial infarction
411-414	**084**	All other forms of ischemic heart disease
415-417	**085**	Diseases of pulmonary circulation
420-429	**086**	Other forms of heart disease
430-432	**087**	Intracerebral and intracranial hemorrhage
433, 434	**088**	Cerebral embolism and thrombosis
435-438	**089**	Other and late effects of cerebrovascular diseases
440	**090**	Arteriosclerosis
441-448	**091**	All other diseases of arteries, arterioles, and capillaries
451-453	**092**	Phlebitis, thrombophlebitis, and venous embolism and thrombosis
454	**093**	Varicose veins of lower extremities
455	**094**	Hemorrhoids
456-459	**095**	Other diseases of circulatory system
460-465	**096**	Acute upper respiratory infection
470	**097**	Deflected nasal septum
473	**098**	Chronic sinusitis
474	**099**	Chronic diseases of the tonsils and adenoids
471, 472, 475-478	**100**	Other diseases of the upper respiratory tract
480-483, 485-486	**101**	Pneumonia
487	**102**	Influenza

ICD-9 Code	Canadian List Number and Diagnosis	
490-492	**103**	Bronchitis and emphysema
493	**104**	Asthma
494-496	**105**	Other COPD and allied conditions
500-508	**106**	Pneumoconioses and allied conditions
510, 513	**107**	Empyema and abscess of lung and mediastinum
466, 511, 512, 514-519	**108**	All other diseases of the respiratory system
520-525	**109**	Diseases of teeth and support structures
526-529	**110**	Diseases of jaws, salivary glands, and oral cavity
532	**111**	Ulcer of duodenum
531, 533	**112**	Ulcer of stomach and peptic ulcer, site unspecified
535	**113**	Gastritis and duodenitis
530, 534, 536, 537	**114**	Other diseases of the esophagus, stomach, and duodenum
540-543	**115**	Appendicitis
550	**116**	Inguinal hernia
551, 552	**117**	Other hernia of abdominal cavity with obstruction or gangrene
553	**118**	Other hernia of abdominal cavity without obstruction or gangrene
560	**119**	Intestinal obstruction without mention of hernia
555-558	**120**	Non-infective enteritis and colitis
562, 564-569	**121**	Other diseases of intestine and peritoneum
571	**122**	Chronic liver diseases and cirrhosis
570, 572, 573	**123**	Other diseases of liver
574	**124**	Cholelithiasis
575	**125**	Other diseases of gall bladder
576	**126**	Other diseases of biliary tract
577	**127**	Diseases of pancreas
578, 579	**128**	Other diseases of digestive system
580-583	**129**	Nephritis, nephrotic syndrome, and nephrosis
590	**130**	Infections of kidney
592, 594	**131**	Calculus of urinary system
584-589, 591, 593, 595-599	**132**	All other diseases of urinary system
600	**133**	Hyperplasia of prostate
605	**134**	Redundant prepuce and phimosis
601-604, 606-608	**135**	Other diseases of male genital organs
610, 611	**136**	Disorders of the breast
614	**137**	Inflammatory diseases of ovary, fallopian tube, pelvic cellular tissue, and peritoneum
615, 616	**138**	Inflammatory diseases of uterus, cervix, vagina, and vulva
618	**139**	Genital prolapse
626	**140**	Disorders of menstruation
617, 619-625, 627-629	**141**	Other diseases of female genital organs
634	**142**	Spontaneous abortion
635	**143**	Legally induced abortion
636-638	**144**	Other abortion
630-633, 639	**145**	Other pregnancy with abortive outcome
650	**146**	Normal delivery
640, 641	**147**	Hemorrhage of pregnancy
642-648	**148**	Other complications related to pregnancy
651-659	**149**	Indication for care in pregnancy, labour, and delivery
660-669	**150**	Complications in labour and delivery
670-676	**151**	Complications of the puerperium
680-686	**152**	Infections of skin and subcutaneous tissue
690-709	**153**	All other diseases of skin and subcutaneous tissue
714	**154**	Rheumatoid arthritis and other inflammatory polyarthropathies
710-712, 715-719	**155**	Other arthropathies and related disorders

ICD-9 Code	Canadian List Number and Diagnosis	
722	**156**	Intervertebral disc disorders
720, 721, 723, 724	**157**	Other dorsopathies
725-729	**158**	Rheumatism, excluding the back
730	**159**	Osteomyelitis, periostitis, and other infections involving bones
731-739	**160**	Other diseases of the musculoskeletal system and connective tissues
741	**161**	Spina bifida
740, 742	**162**	All other congenital anomalies of nervous system
745-747	**163**	Congenital anomalies of heart and circulatory system
749	**164**	Cleft palate and cleft lip
750, 751	**165**	Other congenital anomalies of digestive system
752, 753	**166**	Congenital anomalies of genitourinary system
754-756	**167**	Congenital anomalies of musculoskeletal system
743, 744, 748, 757-759	**168**	Other congenital anomalies
764, 765	**169**	Slow fetal growth, fetal malnutrition, and immaturity
767	**170**	Birth trauma
768-770	**171**	Intrauterine hypoxia, birth asphyxia, and other respiratory conditions
773	**172**	Hemolytic disease of fetus or newborn
760-763, 766, 771, 772, 774-779	**173**	Other conditions originating in the perinatal period
797	**174**	Senility without mention of psychosis
780-796, 798, 799	**175**	Symptoms, signs, and other ill-defined conditions
042-044	**212**	Human Immunodeficiency Virus Infection (Included in 10 by Stats. Canada)
E800-E807	**E01**	Railway accidents
E810-E819	**E02**	Motor vehicle traffic accidents
E820-E825	**E03**	Motor vehicle non-traffic accidents
E826-E829	**E04**	Other road vehicle accidents
E830-E838	**E05**	Water transport accidents
E840-E845	**E06**	Air and Space transport accidents
E846-E848	**E07**	Vehicle accidents not elsewhere classifiable
E850-E858	**E08**	Accidental poisoning by drugs, medicaments, and biologicals
E860-E869	**E09**	Accidental poisoning by other solid and liquid substances, gases and vapours
E870-E876	**E10**	Misadventures to patients during surgical and medical care
E878-E879	**E11**	Surgical and medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of pro
E880-E888	**E12**	Accidental Falls
E890-E899	**E13**	Accidents caused by fire and flames
E900-E909	**E14**	Accidents due to natural and environmental factors
E910-E915	**E15**	Accidents caused by submersion, suffocation and foreign bodies
E916-E928	**E16**	Other accidents
E929	**E17**	Late effects of accidental injury
E930-E949	**E18**	Drugs, medicaments and biological substances causing adverse effects in therapeutic use
E950-E959	**E19**	Suicide and self-inflicted injury
E960-E969	**E20**	Homicide and injury purposely inflicted by other persons
E970-E978	**E21**	Legal intervention
E980-E989	**E22**	Injury undetermined whether accidentally or purposely inflicted
E990-E999	**E23**	Injury resulting from operations of war
Blank	**ZZZ**	Cause of Death is Unknown
		Grand Total