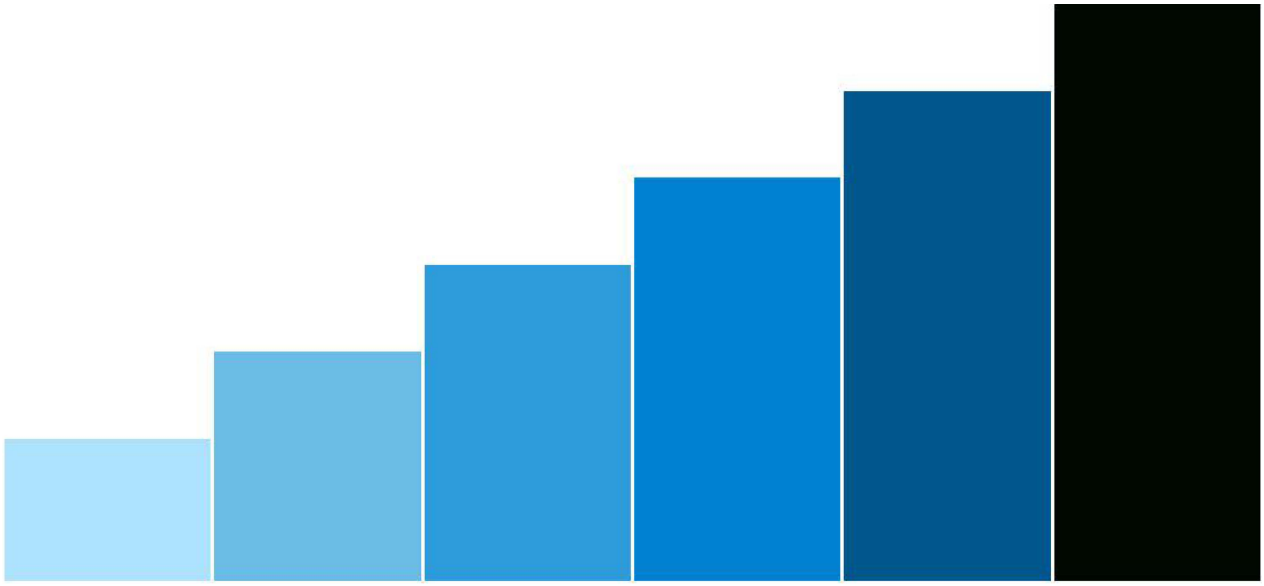


Annual Statistics

2020 - 2021

Manitoba Health

Provincial Information Management and Analytics

Manitoba

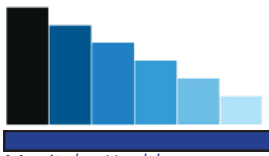


Table of Contents

Preface

Manitoba Health's Annual Statistics report is designed for a broad audience that includes health professionals, researchers, policymakers and the general public. This report describes Manitoba's population, health utilization and health status using key health indicators measured both over time and for the most recently available fiscal or calendar year.

Manitoba's health care system is a broad network of services and programs. Overseeing this system is Manitoba Health, a department of the provincial government. Primarily, services are delivered through the Service Delivery Organizations (SDOs) which include Shared Health, CancerCare Manitoba (CCMB), and the five regional health authorities: Winnipeg RHA, Southern Health-Santé Sud, Interlake-Eastern RHA, Prairie Mountain Health, and Northern Health Region.

In Manitoba, the SDOs are responsible, within the context of broad provincial policy direction, for assessing and prioritizing needs and health goals, and developing and managing health services in their region/mandate.

Any inquiries pertaining to this publication generally or in reference to specific indicators should be addressed to:

Provincial Information Management and Analytics Branch
Manitoba Health
4th Floor - 300 Carlton Street
Winnipeg, Manitoba R3B 3M9
Information.Analytics@gov.mb.ca

Scott Sinclair
Deputy Minister
Manitoba Health

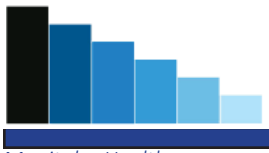
How to Use This Report

The Manitoba Health Annual Statistics report is a descriptive report comprised of 13 sections. The report looks at the distribution of the population, mortality, disease and injury, prevalence of mental illness, physician and hospital services, use of home care and personal care homes, preventative services, and prescription drug use. Unless otherwise stated, indicators in this report are residence-based rather than service-based. In other words, the indicators reflect where people live, not where they received services.

For most indicators, the report provides a rate by Health Region and then a more in-depth look or "Highlight" at the Manitoba level. For some indicators, the data is only presented at the Manitoba level. The majority of the indicators report data for the 2020/2021 fiscal year. Where 2020/2021 data was not available, the most recent year was used. However, in some instances due to small numbers, multiple years were combined to ensure confidentiality and to achieve stable rates.

Information on how the indicators were defined and calculated for this report is included in the glossary. Please note that indicator definitions are updated on an annual basis, as required, to reflect changes in national and provincial coding standards, and methodology guidelines. Therefore, indicator results presented in this report should not be combined or compared with indicator results in Annual Statistics reports published in previous years without careful review of the definitions and details of inclusions and exclusions presented in the glossaries of each report to ensure that the indicator has been defined and calculated using the same methodology. This cautionary note also applies to combination or comparison with indicator results found in any other public documents. For more information on indicator definitions and calculations, and to request indicator results for time periods not presented in this report, please contact the Provincial Information Management and Analytics Branch, Manitoba Health at Information.Analytics@gov.mb.ca.

The report provides descriptive analysis of the indicators, without explanation or correlation to contextual factors. Indicators are produced using administrative data, which does not include information on context, history or local circumstances. The information in this report should be used in conjunction with information from other sources so that regional and provincial planners, and decision-makers can make well-informed decisions.



Important Notes and Data Cautions

Throughout the report, the health regions are shown in a particular order based on their overall health status as measured by the premature mortality rate (PMR). PMR was calculated for the Regional Health Authorities (RHAs) by the Manitoba Centre for Health Policy for the RHA Indicators Atlas 2019[1]. A death before the age of 75 is considered to be premature. Therefore the PMR is the average annual rate of deaths before the age of 75, per 1,000 residents under 75. The health region with the lowest PMR (best overall health status) appears at the top of the graph. The health region with the highest PMR (poorest overall health status) appears at the bottom of the graph.

Two types of rates are presented in this report: crude rates and adjusted rates.

Crude rates:

- A crude rate is the expression of the frequency of an event in a defined population for a defined period of time. It is calculated by dividing the number of observations by the suitable population and multiplying by an appropriate multiplier (such as 100) to create a percentage. Although crude rates do not take differences in population structure into account, they are vital for policy and programming as they represent the actual rate in a given population.

Adjusted Rates:

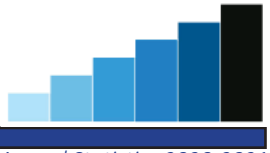
- The adjustment of rates is a statistical process that makes groups such as those in particular geographic areas comparable by removing the effects of demographic differences such as age and gender distribution. Essentially, adjusted rates tell us what the rates would be if each geographic area had the same age and sex distribution. Therefore, adjusted rates are fictional rates which use statistical models to remove the effects of age and sex differences to allow for comparisons across populations. Accordingly, while adjusted rates have been statistically modeled to be comparable to each other, they should be considered fictional in the sense that they do not measure anything directly. Please note that these adjusted rates cannot be compared to other rates that have not received the same adjustment.

Statistical Testing:

Statistical testing was performed to determine whether regional rates significantly differed from the Manitoba overall rate for the stated time period at the $p<0.01$ level. If the difference between a regional rate and the Manitoba rate is statistically significant, then there is a less than 1% chance that the observed difference is due to chance.

Please note that regions with rates that significantly differed from the Manitoba rate are noted with an asterisk (*).

[1] Fransoo R, Mahar A, The Need To Know Team, Anderson A, Prior H, Koseva I, McCulloch S, Jarmasz J, Burchill S. The 2019 RHA Indicators Atlas. Winnipeg, MB. Manitoba Centre for Health Policy. Autumn 2019.



Additional Publications to Consider

While this report has attempted to provide an overview of indicators from across the health care system, it is by no means exhaustive.

For more detailed information on cancer incidence and mortality, please refer to the following link from CancerCare Manitoba:
www.cancercare.mb.ca/Research/epidemiology-cancer-registry/reports

The Health Regions also provide statistics in the comprehensive Community Health Assessments that are conducted every five years. The reports for each of the Health Regions can be found at:

Interlake-Eastern RHA
www.ierha.ca/about-us/publications-and-reports/

Northern Health Region
www.northernhealthregion.com/about-us/reports-and-publications/community-reports/

Southern Health-Santé Sud
www.southernhealth.ca/en/about-your-region/plans-and-reports/community-health-assessment

Prairie Mountain Health
prairiemountainhealth.ca/about-us/regional-reports/

Winnipeg RHA
www.wrha.mb.ca/research/community-health-assessment/

Shared Health Reports and Publications can be accessed using the following link:
https://sharedhealthmb.ca/about/publications-and-transparency/

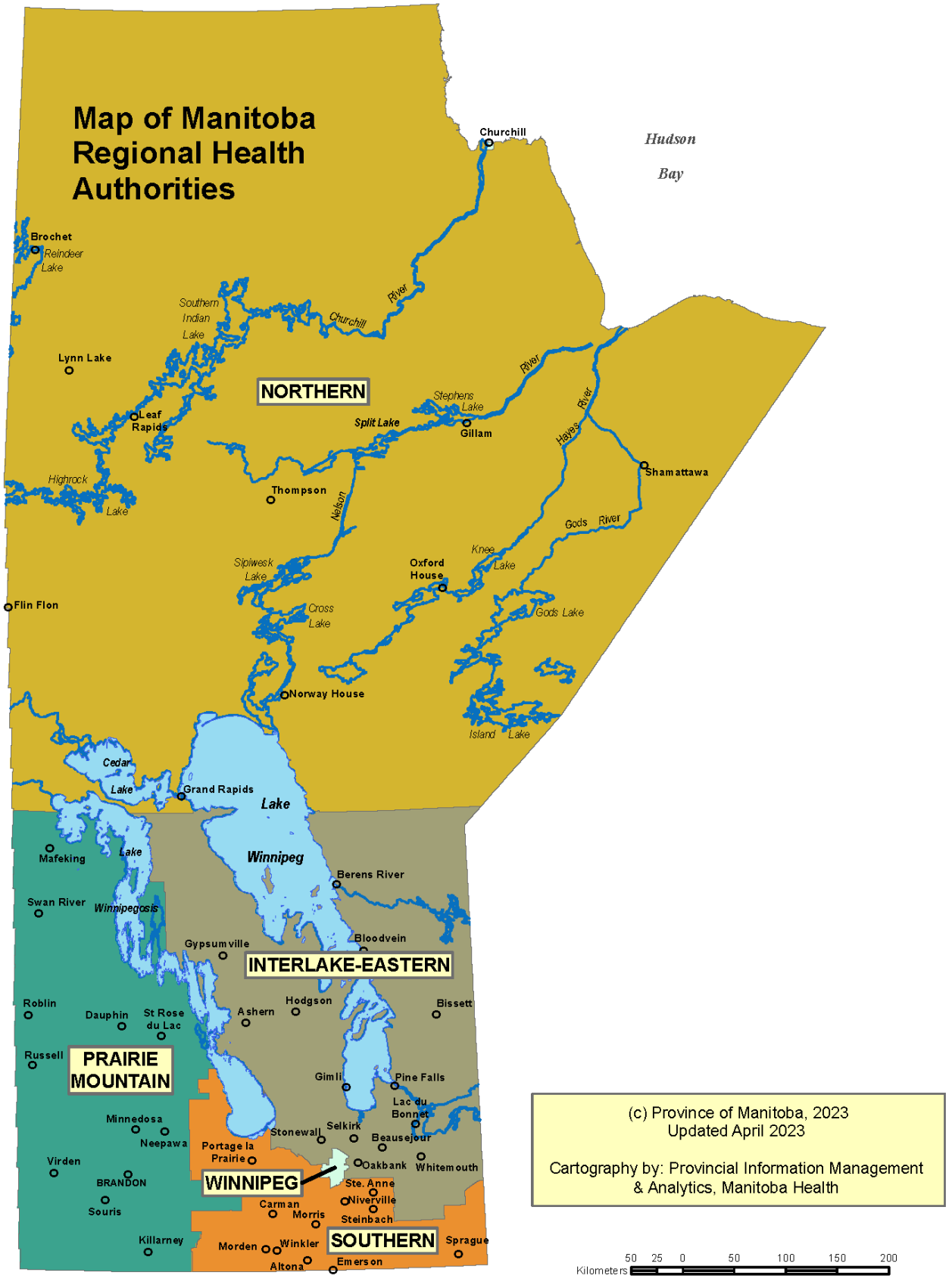
Demographics

The following section provides an overview of the demographics of the population of Manitoba. This includes population distribution and size, pregnancies, births and deaths.

As of June 1, 2020 Manitoba had a population of 1,386,938 residents, of which approximately 50 percent were male and 50 percent female.

There were a total of 17,688 pregnancies among Manitoba females ages 15 to 49 in 2020/2021. There were 16,274 babies born in 2019/2020. In 2019/2020, 11,207 Manitobans died, with the majority of these deaths being due to cancer and circulatory disease.

Map of Manitoba Regional Health Authorities



Population Pyramid

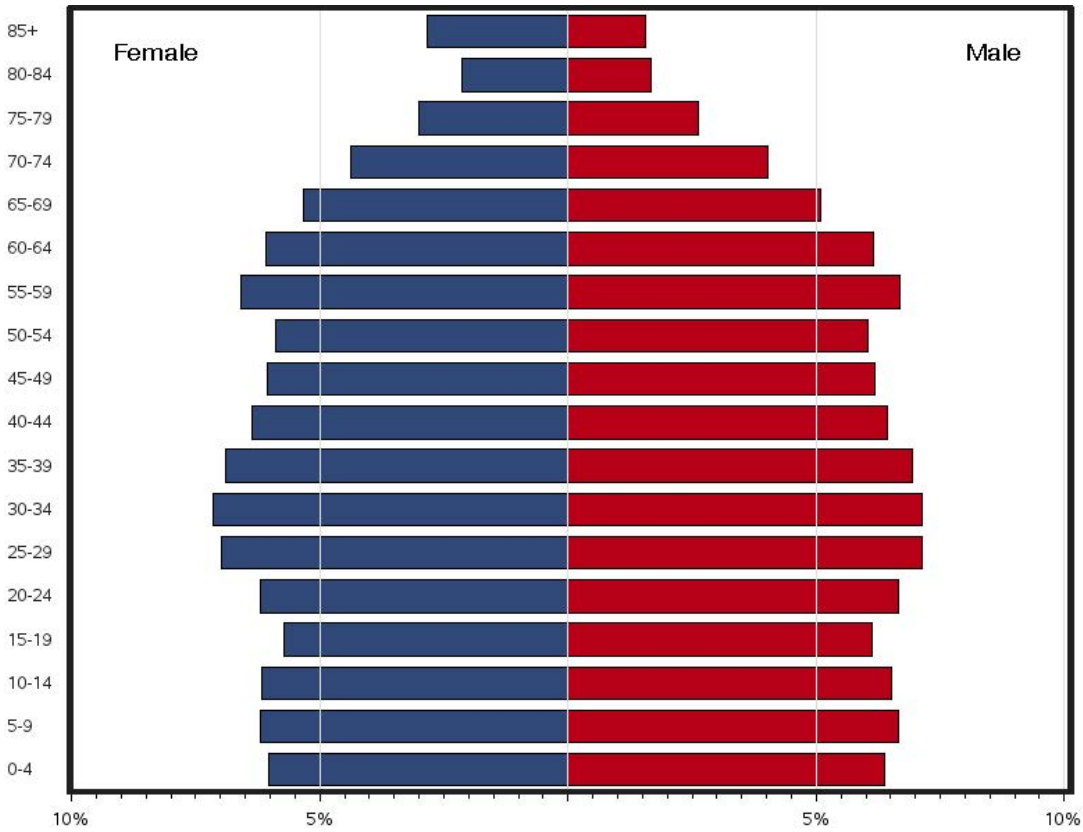


Figure 1: Population pyramid for Manitoba as of June 1, 2020

Figure 1 shows the age and sex composition of the Manitoba population, based on records of residents registered with Manitoba Health on June 1, 2020. The percentage of the population within each particular age group is shown for males and females. As of June 1, 2020, the total population of Manitoba was 1,386,938 residents, of which approximately 50 percent were male and approximately 50 percent were female. In the population pyramid above two distinct bulges can be seen. One represents those in their fifties, and the second represents those in their twenties and thirties.

For more information on Manitoba's population, please refer to the Manitoba Health's Population Report at www.manitoba.ca/health/population/.

Pregnancy

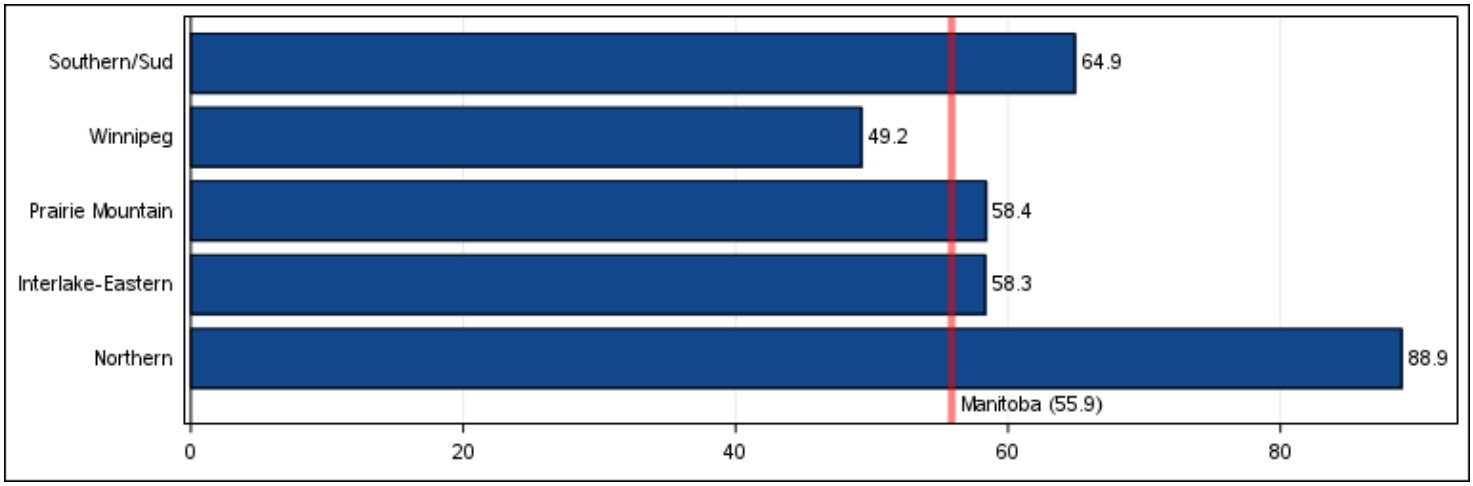


Figure 2 Age-adjusted rate of pregnancies per 1,000 female residents ages 15 to 49 by health region of residence, 2020/2021

Figure 2 shows the age-adjusted rate of pregnancies for Manitoba women ages 15 to 49 by health region of residence. Pregnancies include all documented live births, still-births, abortions, and ectopic pregnancies.

In 2020/2021, there were a total of 17,688 pregnancies among Manitoba women ages 15 to 49, representing a rate of 55.9 pregnancies per 1,000 women in the same age group.

Northern Health Region had the highest age-adjusted pregnancy rate, which was 59 percent higher than for Manitoba overall.

The majority of pregnancies in Manitoba were among women ages 20 to 34, with 75 percent of pregnancies represented by women in this age group (Figure 3).

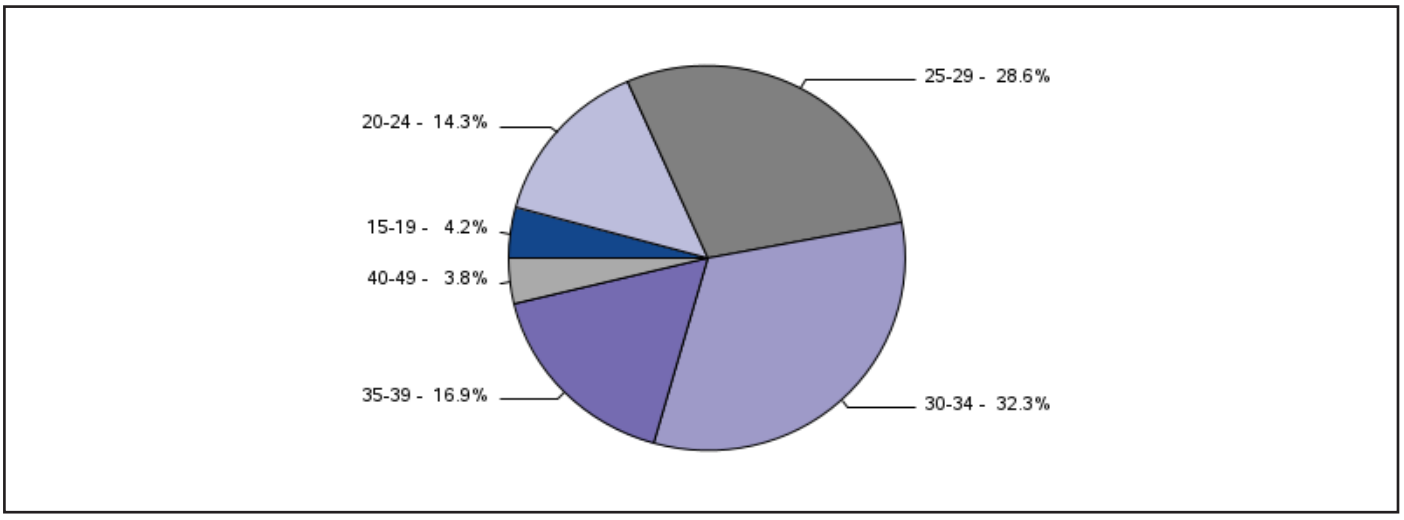


Figure 3: Percentage of total pregnancies by age group, 2020/2021

Births

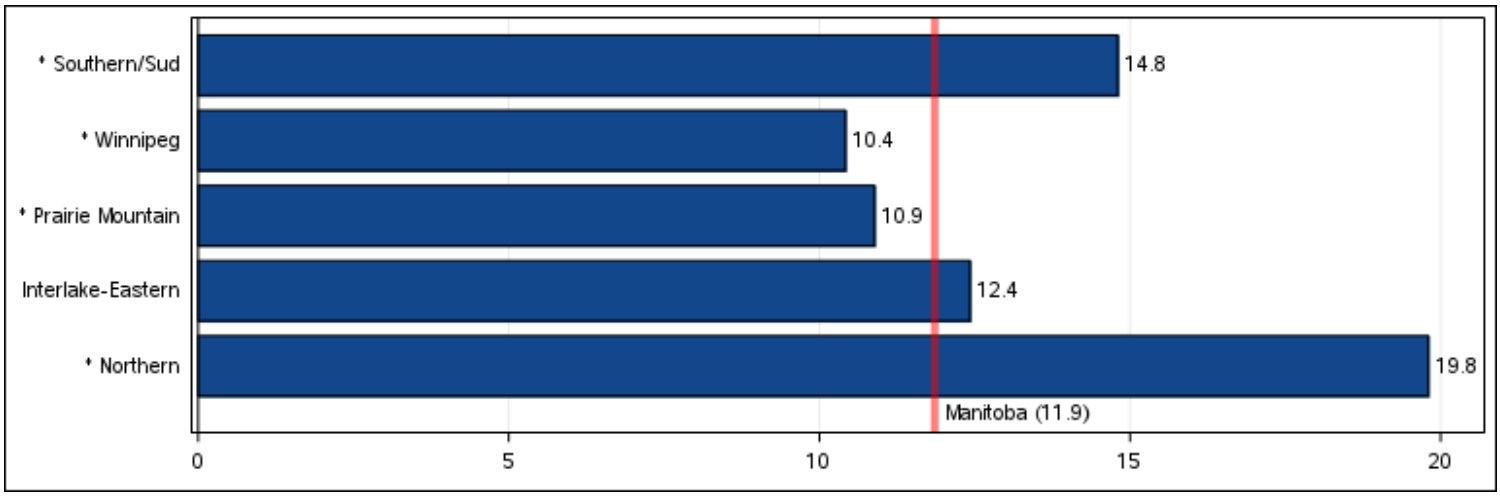


Figure 4: Crude rate of total births per 1,000 residents by health region of residence, 2019/2020

In 2019/2020, there were 16,274 babies born to Manitoba residents, representing a rate of 11.9 newborns per 1,000 residents (Figure 4). Rates varied significantly across the province, ranging from a high of 19.8 births per 1,000 in the Northern Health Region to a low of 10.4 births per 1,000 in Winnipeg.

The majority (80 percent) of babies born in Manitoba had appropriate-for-gestational-age weight (Figure 5). Of the remaining newborns, 11 percent were large-for-gestational-age and nine percent were small-for-gestational-age.

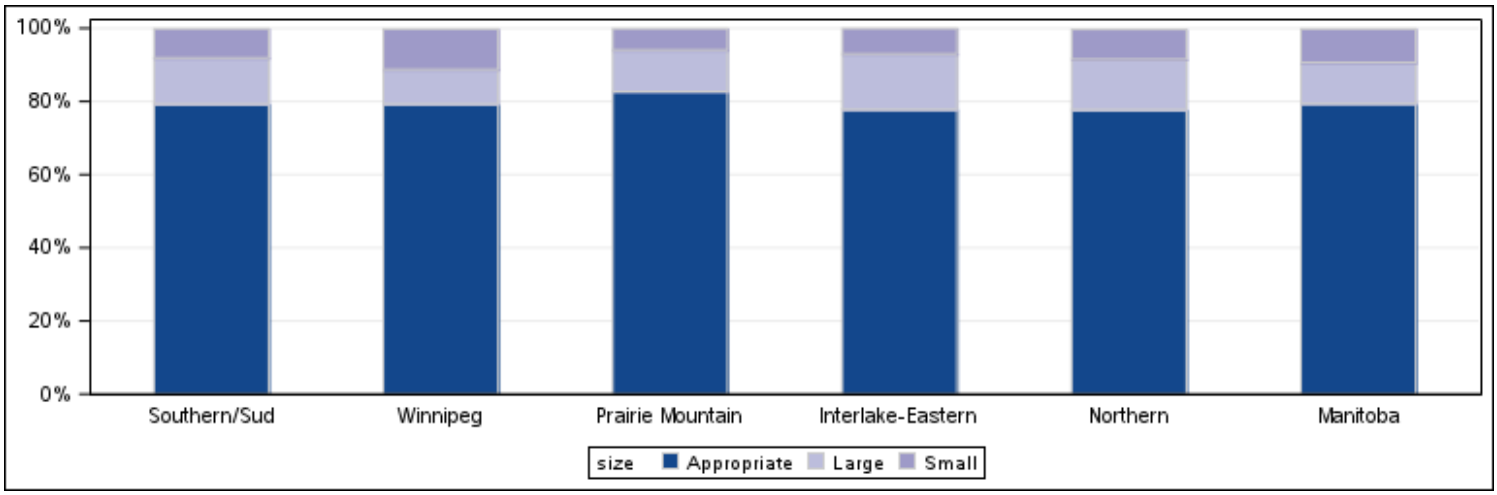


Figure 5: Percentage of total live births by size for gestational age, 2019/2020

Deaths

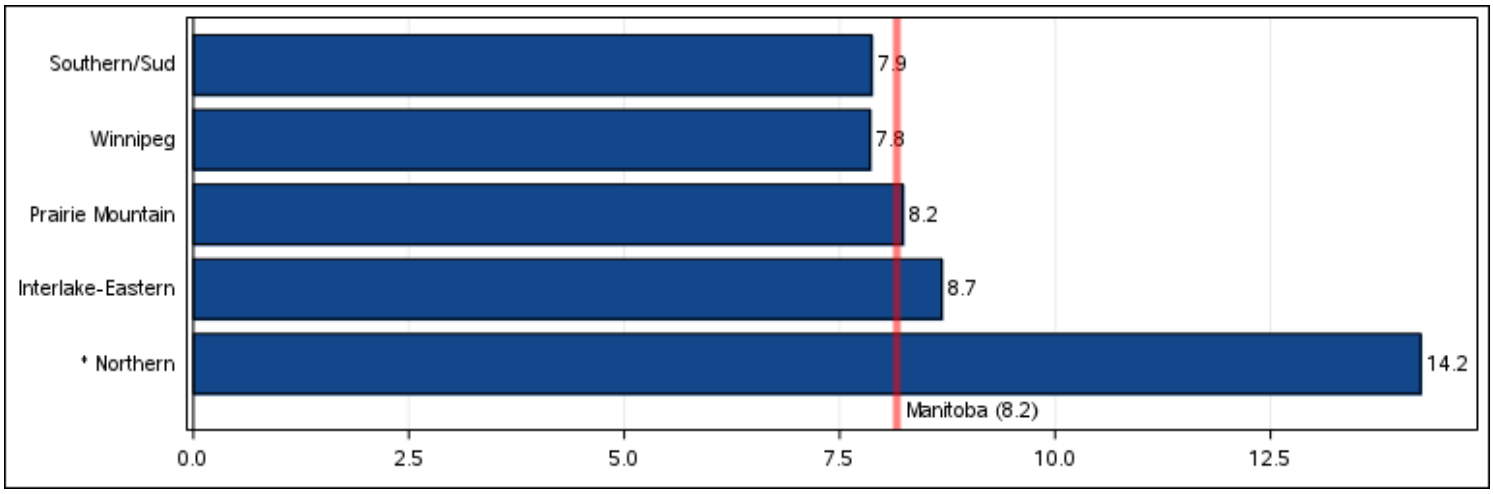


Figure 6: Age-and sex-adjusted rate of deaths per 1,000 residents by health region of residence, 2019/2020

In 2019/2020, 11,207 Manitoba residents died, representing a rate of 8.2 deaths per 1,000 residents (Figure 6). The age-and sex-adjusted death rate in the Northern Health Region was significantly higher than Manitoba overall.

The five most common causes of death in Manitoba (excluding ill-defined causes) were:

1) Cancer (26.0 percent)
2) Circulatory disease (25.3 percent)
3) Other causes (10.0 percent)
4) Mental/Behavioural (8.1 percent)
5) Respiratory disease (7.7 percent)

These five causes represented 77 percent of all deaths (Figure 7).

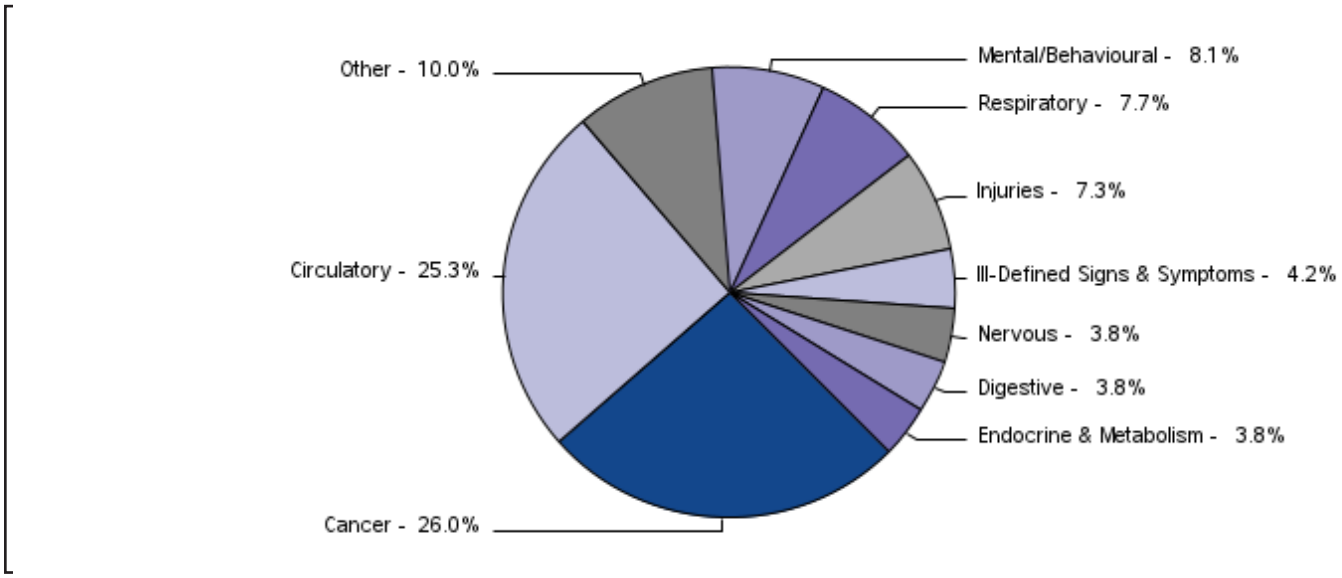


Figure 7: Percentage of deaths by cause, 2019/2020

Dependency Ratio

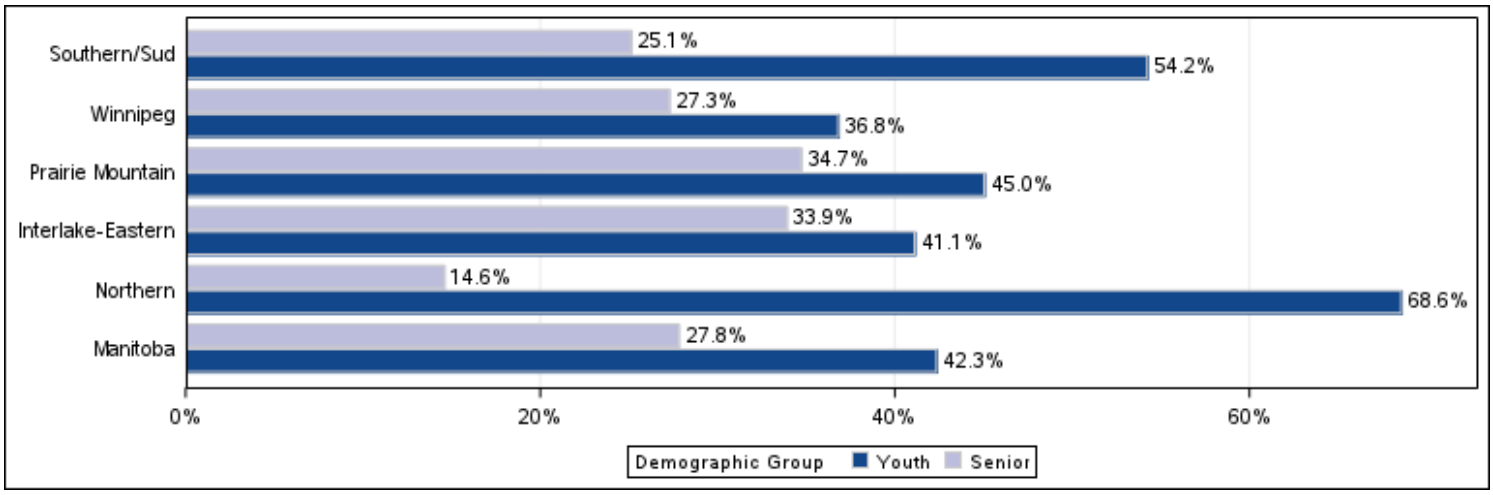


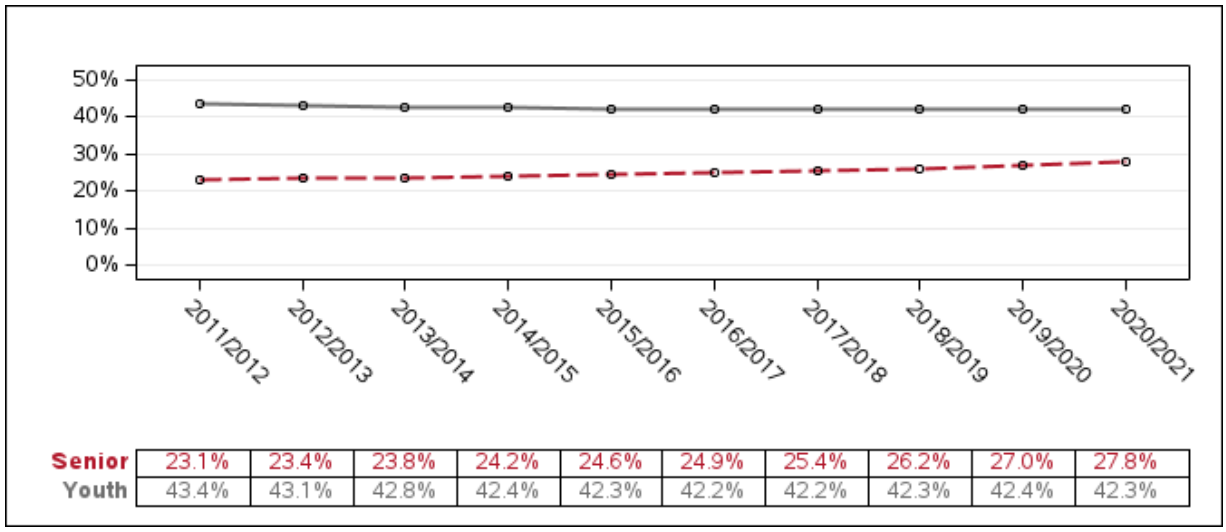
Figure 8: Youth 0-19 and seniors 65 and older as a percentage of the population age 20 to 64 years by health region, 2020/2021

Figure 8 shows the demographic dependency ratio for youth and seniors. According to Statistics Canada, seniors aged 65 or older and children and youth younger than 20 are likely to be socially and/or economically dependent on working-age Manitobans, and may put additional demands on health services. The demographic dependency ratio measures the size of the dependent population in relation to the working age population.

The Northern Health Region had the highest youth demographic dependency ratio, with a youth-to-working-age ratio of approximately two-thirds (68.6 percent), indicating that there will be a large number of youth moving into the working-age population in the future.

When focusing on the senior population, Prairie Mountain Health had the highest senior demographic dependency ratio with a senior-to-working-age ratio of approximately one-third (34.7 percent), indicating that this region may have a higher demand for health services for this age group.

Dependency Ratio



	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Senior	23.1%	23.4%	23.8%	24.2%	24.6%	24.9%	25.4%	26.2%	27.0%	27.8%
Youth	43.4%	43.1%	42.8%	42.4%	42.3%	42.2%	42.2%	42.3%	42.4%	42.3%

Figure 9: Youth 0-19 and seniors 65 and older as a percentage of the population age 20 to 64 years, 2011/2012 to 2020/2021

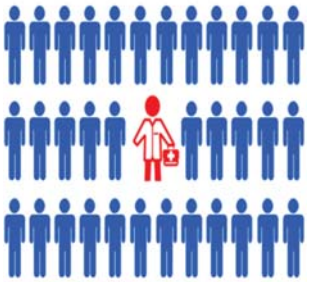
Monitoring youth and senior demographic dependency over time is important. A declining youth ratio may represent an inadequate workforce available to support retiree pensions in coming years, while an increasing senior ratio may indicate a growing elderly population requiring more health services from a proportionaly smaller workforce.

Figure 9 shows that there has been a slight decline in the youth ratio in Manitoba from 43.4 percent in 2011/2012 to 42.3 percent in 2020/2021, and the seniors ratio has increased slightly from 23.1 percent in 2011/2012 to 27.8 percent in 2020/2021.

For more information about the demographic dependancy ratio, click on the following link:

www.statcan.gc.ca/pub/82-229-x/2009001/demo/dep-eng.htm

Population Health Status and Mortality



The following section provides an overview of population health status and mortality within Manitoba. This includes premature mortality rates, infant mortality rates, and child mortality rates.

From 2015/2016 to 2019/2020, an average of 4,318 Manitoba residents died each year before the age of 75. For the same time period there was an annual average of about 84 infant deaths, and 96 deaths of children between the ages of one and 19. The rate of death for male children during this time period was generally higher than for female children.

Premature Mortality

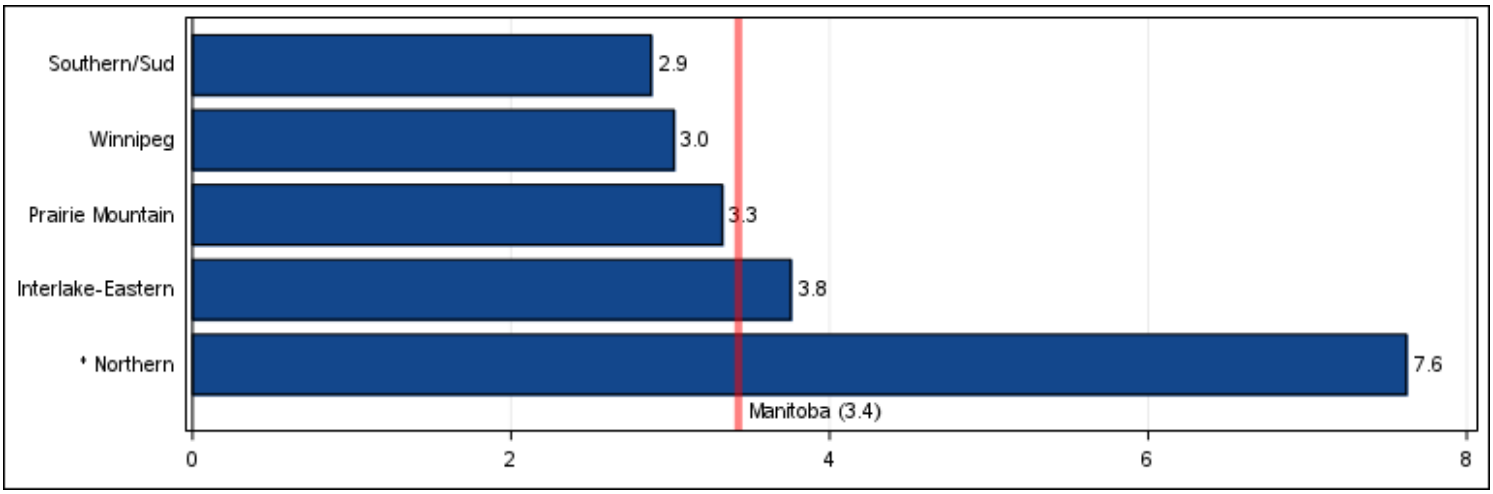


Figure 10: Age-and sex-adjusted rate of premature death per 1,000 residents under the age of 75 by health region of residence, 2015/2016 to 2019/2020

Figure 10 shows the age-and sex-adjusted Premature Mortality Rate (PMR). Premature mortality is defined as death before the age of 75. PMR is used as an indicator of general health of a population; a higher PMR indicates poorer health status.

On average, there were 4,318 Manitoba residents per year that died before the age of 75 between 2015/2016 to 2019/2020, representing a rate of 3.4 deaths per 1,000 residents. The premature mortality rate in the Northern Health Region was significantly higher than in the rest of Manitoba.

The five most common causes of premature death in Manitoba (excluding ill-defined causes) were (Figure 11):

1) Cancer (32.0 percent)
2) Circulatory disease (19.9 percent)
3) Injuries (11.3 percent)
4) Ill-Defined Signs & Symptoms (10.3 percent)
5) Other causes (5.6 percent)

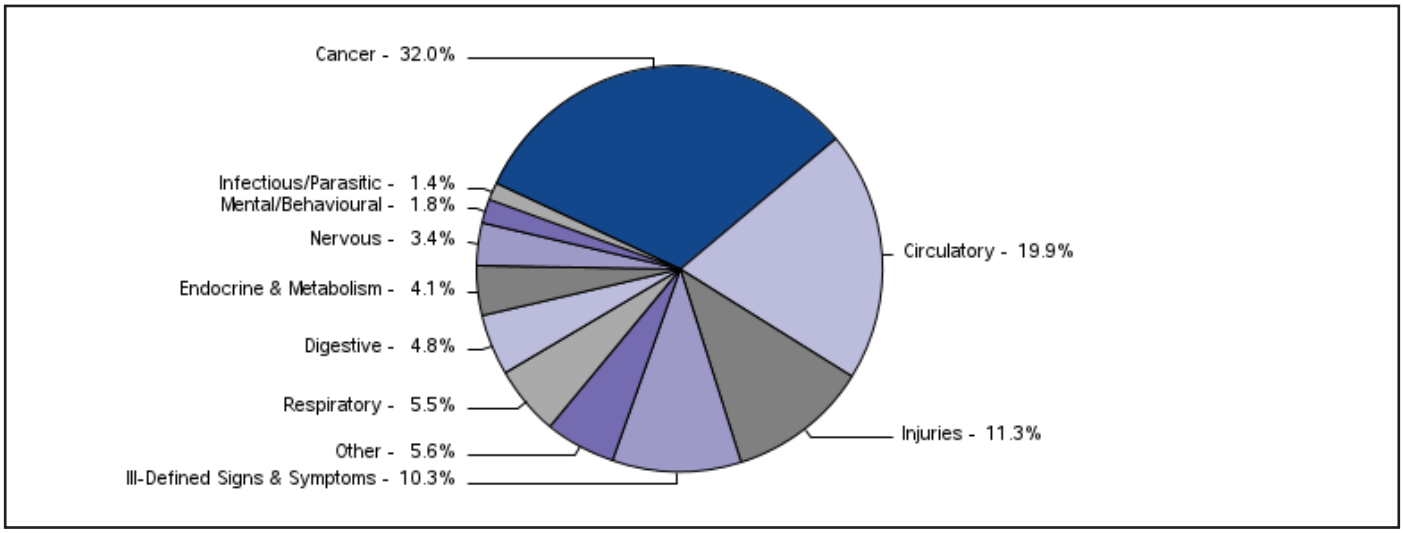


Figure 11: Percentage of premature deaths by cause, 2019/2020

Infant Mortality

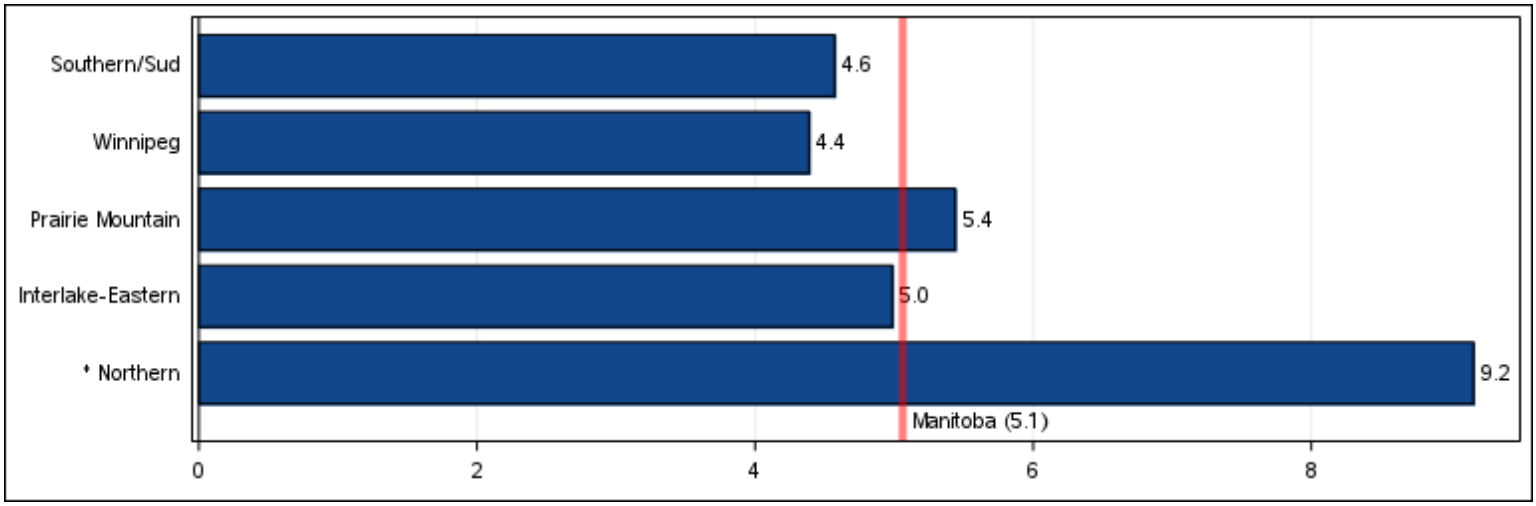
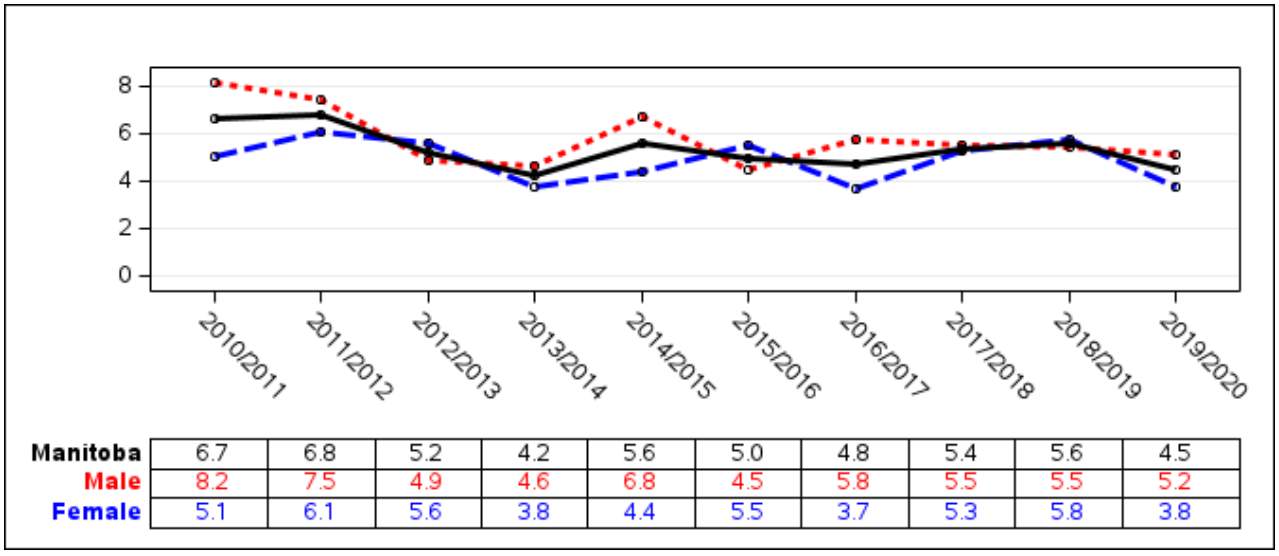


Figure 12: Crude rate of infant death per 1,000 live births by health region of residence, 2015/2016 to 2019/2020

Figure 12 shows the crude rate of infant death by health region of residence. Infants are defined as individuals less than one year of age. Infant mortality is seen as an indicator of health status, level of health care in area, and effectiveness of prenatal care.

From 2015/2016 to 2019/2020, there were 420 deaths among Manitoba infants, representing a rate of 5.1 deaths per 1,000 live births. The infant mortality rate in the Northern Health Region was significantly higher than in the rest of Manitoba.

Figure 13 shows the infant mortality rate in Manitoba over time. The overall infant mortality rate in Manitoba appears to have decreased over time, with the mortality rate in males being generally higher than that of females.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Manitoba	6.7	6.8	5.2	4.2	5.6	5.0	4.8	5.4	5.6	4.5
Male	8.2	7.5	4.9	4.6	6.8	4.5	5.8	5.5	5.5	5.2
Female	5.1	6.1	5.6	3.8	4.4	5.5	3.7	5.3	5.8	3.8

Figure 13: Crude rate of infant death per 1,000 live births by fiscal year

Child Mortality

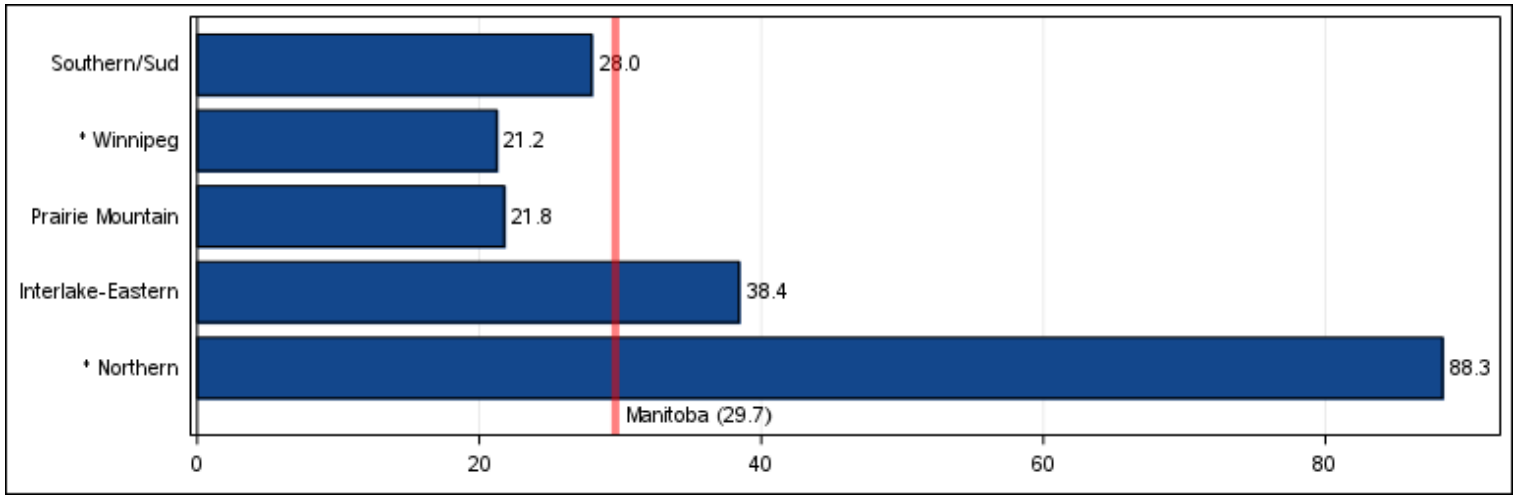
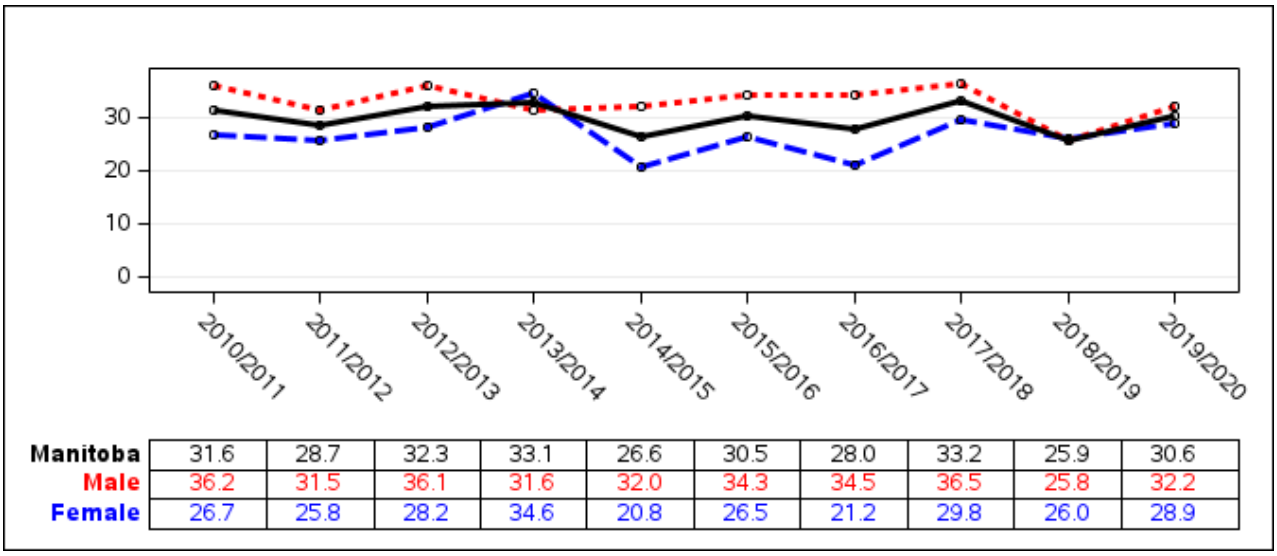


Figure 14: Age-and sex-adjusted rate of death per 100,000 children age one to 19 by health region of residence, 2015/2016 to 2019/2020

Figure 14 shows the age-and sex-adjusted rate of child death by health region of residence. Children are defined as individuals between ages one and 19 years.

From 2015/2016 to 2019/2020, there were 479 deaths among Manitoba children. This represented a rate of 29.7 deaths per 100,000 children. The child mortality rate in the Northern Health Region was significantly higher than Manitoba overall, while the rate in the Winnipeg health region was significantly lower.

Figure 15 shows the child mortality rate in Manitoba over time. The child mortality rate in Manitoba has varied over time, with male mortality rate usually higher than that of females.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Manitoba	31.6	28.7	32.3	33.1	26.6	30.5	28.0	33.2	25.9	30.6
Male	36.2	31.5	36.1	31.6	32.0	34.3	34.5	36.5	25.8	32.2
Female	26.7	25.8	28.2	34.6	20.8	26.5	21.2	29.8	26.0	28.9

Figure 15: Rate of death per 100,000 children age one to 19 by fiscal year

Disease and Injury

The following section provides an overview of the burden of illness for selected diseases and chronic conditions, along with injury hospitalizations and deaths due to injury.

In 2019/2020, 30.8 percent of Manitobans age 20 and older had hypertension, and 10.0 percent of Manitobans age one and older had diabetes.

From 2016/2017 to 2020/2021, 720 Manitobans age 19 and older with diabetes had a lower limb amputation.

The rate of Chronic Obstructive Pulmonary Disease (COPD) among Manitoba residents age 35 and older was 12.4 percent in 2019/2020.

In the same time period, there were approximately three heart attacks and three strokes for every 1,000 Manitoba residents age 40 and older.

In 2019/2020, 55.9 percent of Manitobans age 40 and older had one or more of the following chronic conditions: diabetes, hypertension, ischemic heart disease, heart failure, stroke or Chronic Obstructive Pulmonary Disease (COPD).

For the same time period, there were 8,771 injury-related hospitalizations, and 694 deaths caused by injury.

Hypertension (High Blood Pressure)

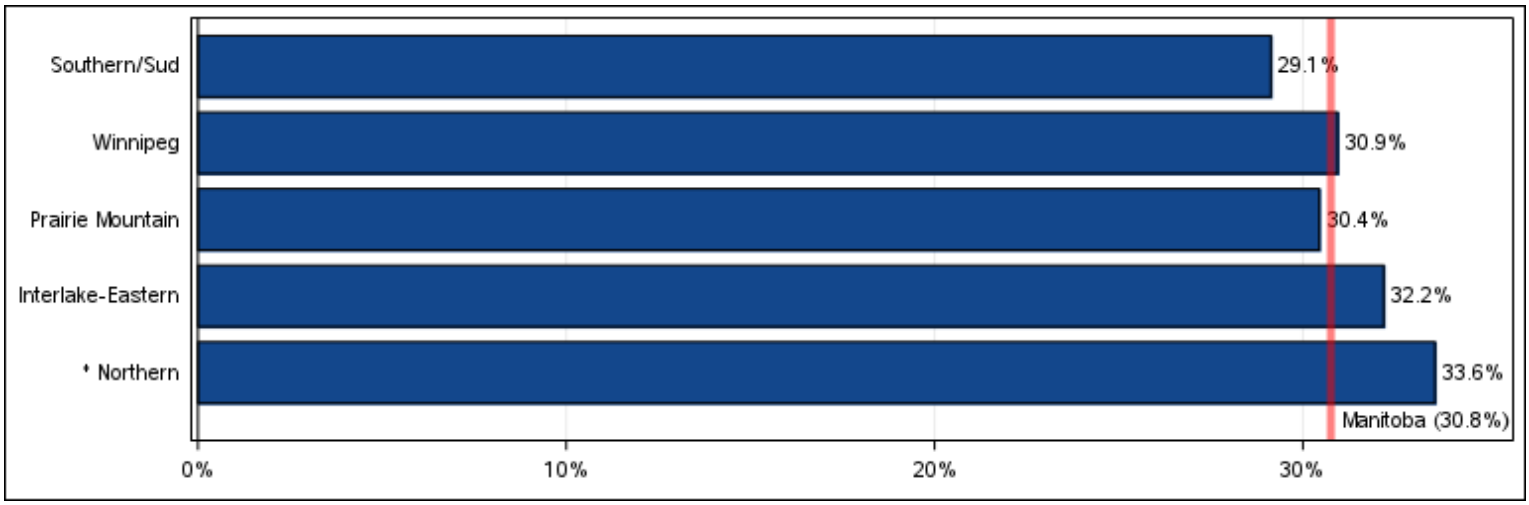
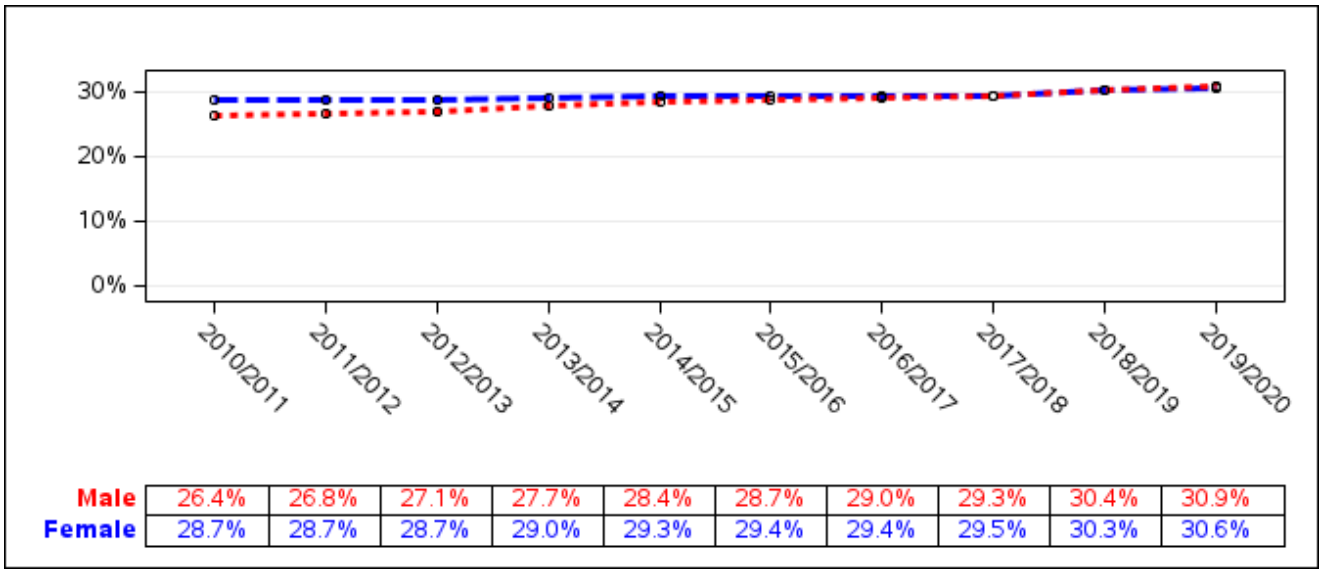


Figure 16: Age-and sex-adjusted percentage of residents with Hypertension age 20 and older by health region of residence, 2019/2020

In 2019/2020, there were 316,577 Manitobans with hypertension (high blood pressure). This represented 30.8 percent of the total population age 20 and older (Figure 16). Hypertension prevalence varied across the province. The percentage of people living with hypertension was significantly higher in the Northern Health Region when compared to Manitoba overall.

Figure 17 shows hypertension prevalence in Manitoba over time by sex. Over the last ten years, the hypertension rate of both males and females has increased.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Male	26.4%	26.8%	27.1%	27.7%	28.4%	28.7%	29.0%	29.3%	30.4%	30.9%
Female	28.7%	28.7%	28.7%	29.0%	29.3%	29.4%	29.4%	29.5%	30.3%	30.6%

Figure 17: Percentage of residents with hypertension age 20 and older by fiscal year and sex

Diabetes

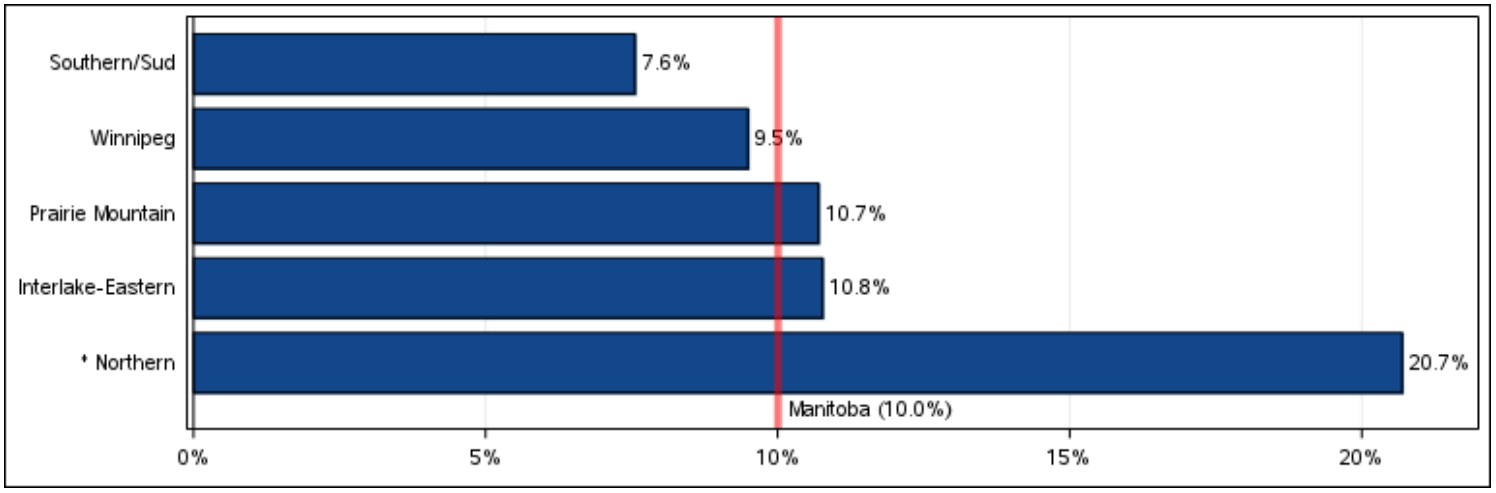
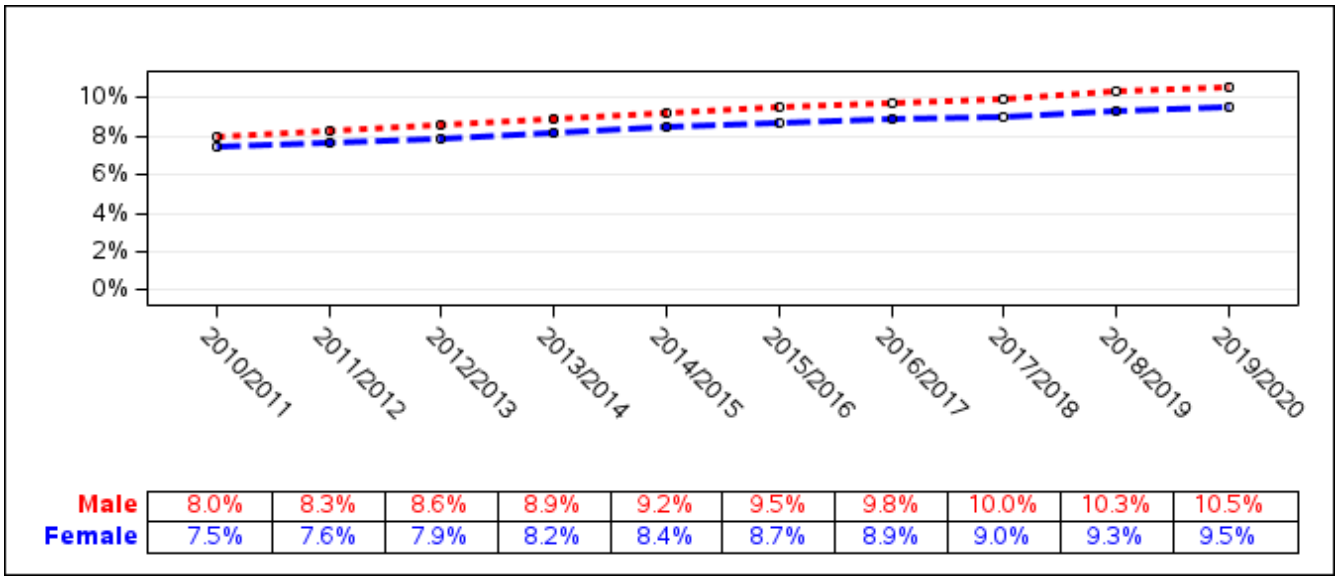


Figure 18: Age-and sex-adjusted percentage of residents with diabetes age one and older by health region of residence, 2019/2020

In 2019/2020, there were 135,682 Manitobans with diabetes, representing 10.0 percent of the total population age one and older (Figure 18). Diabetes prevalence varied across the province, from a high of 20.7 percent in the Northern Health Region to a low of 7.6 percent in Southern Health-Santé Sud. Diabetes prevalence in the Northern Health Region significantly differed from Manitoba overall.

Figure 19 shows diabetes prevalence rate in Manitoba over time by sex. Over the last 10 years, males have had a higher prevalence of diabetes than females. This gap has been increasing over the last few years.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Male	8.0%	8.3%	8.6%	8.9%	9.2%	9.5%	9.8%	10.0%	10.3%	10.5%
Female	7.5%	7.6%	7.9%	8.2%	8.4%	8.7%	8.9%	9.0%	9.3%	9.5%

Figure 19: Percentage of residents with diabetes age one and older by fiscal year and sex

Lower Limb Amputations among Residents with Diabetes

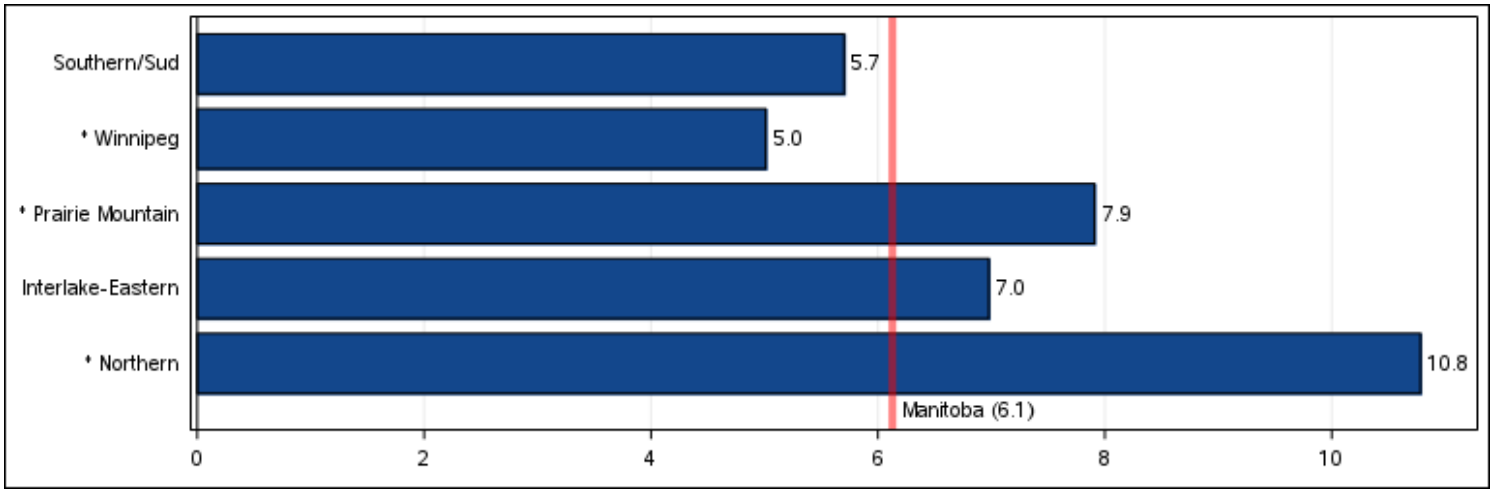


Figure 20: Age-and sex-adjusted rate of lower limb amputations per 1,000 residents with diabetes age 19 and older by health region of residence, 2016/2017 to 2020/2021.

From 2016/2017 to 2020/2021, there were 720 Manitobans with diabetes who had a lower limb amputation, representing a rate of 6.1 amputations per 1,000 residents age 19 and older with diabetes (Figure 20). Lower limb amputation incidence across the province ranged from a high of 10.8 per 1,000 in the Northern Health Region to a low of 5.0 per 1,000 in the Winnipeg region.

Figure 21 shows the percentage of lower limb amputations among Manitobans with diabetes, by age group. The largest percentage of amputations was in the 50 to 69 age groups, representing 53.2 percent of total cases.

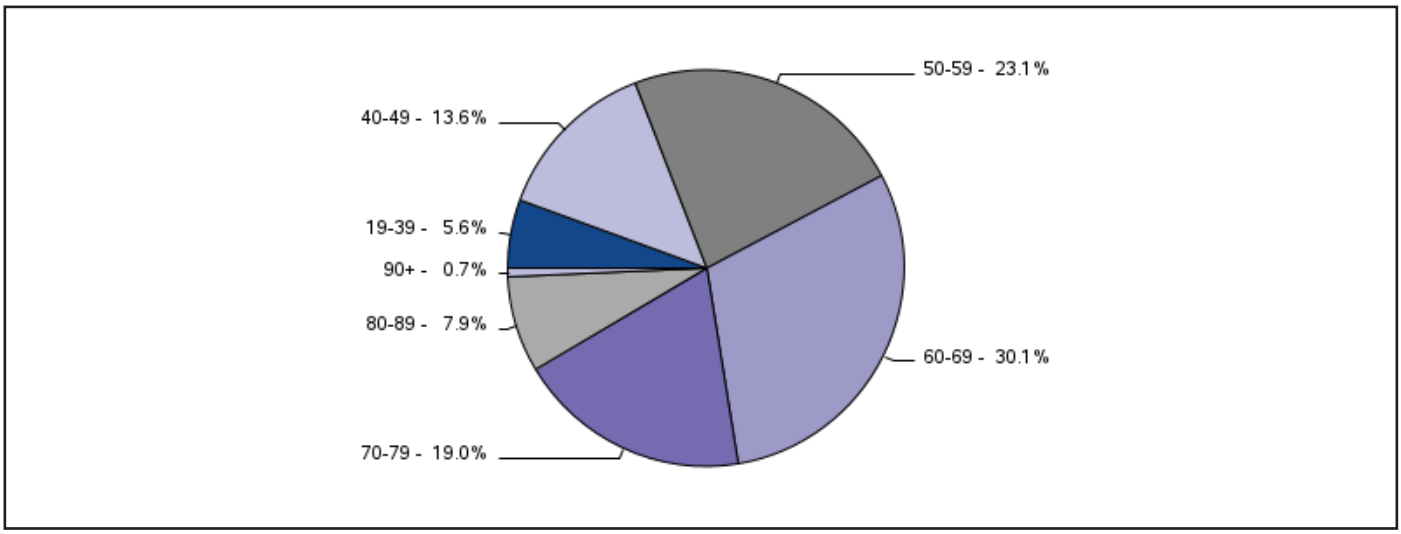


Figure 21: Percentage of lower limb amputations among residents with diabetes, by age group, 2016/2017 to 2020/2021.

Chronic Obstructive Pulmonary Disease (COPD)

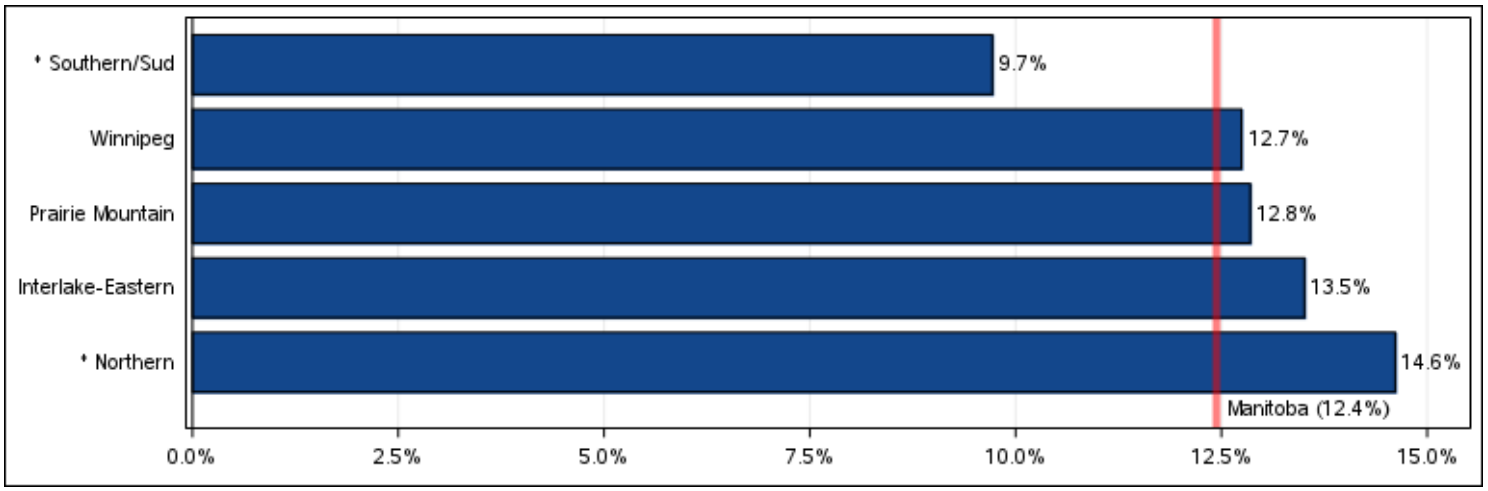
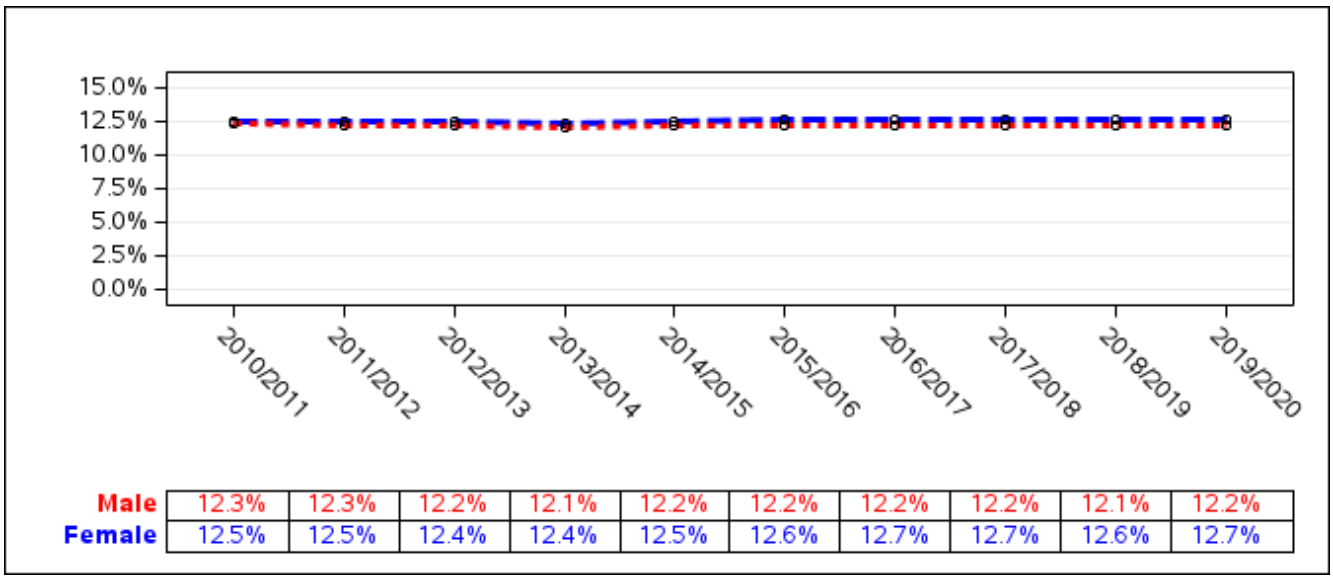


Figure 22: Age–and sex-adjusted percentage of residents with Chronic Obstructive Pulmonary Disease (COPD) age 35 and older by health region of residence, 2019/2020

In 2019/2020, there were 92,597 Manitoba residents with Chronic Obstructive Pulmonary Disease (COPD), representing a rate of 12.4 percent of the population age 35 and older (Figure 22). When compared to Manitoba overall, a significantly higher rate of COPD was observed among residents of the Northern Health Region and a lower rate among residents of Southern Health-Santé Sud.

Figure 23 shows the rate of COPD in Manitoba over time by sex. The COPD rate has remained relatively stable for both males and females since 2010/2011.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Male	12.3%	12.3%	12.2%	12.1%	12.2%	12.2%	12.2%	12.2%	12.1%	12.2%
Female	12.5%	12.5%	12.4%	12.4%	12.5%	12.6%	12.7%	12.7%	12.6%	12.7%

Figure 23: Percentage of residents with Chronic Obstructive Pulmonary Disease (COPD) age 35 and older by fiscal year and sex

Acute Myocardial Infarction (Heart Attack)

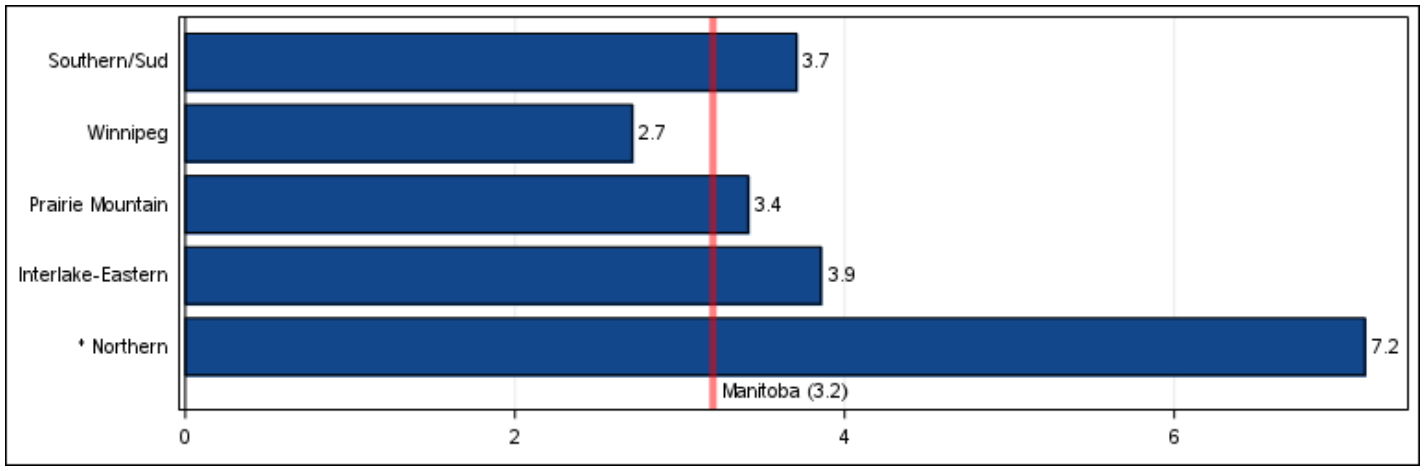
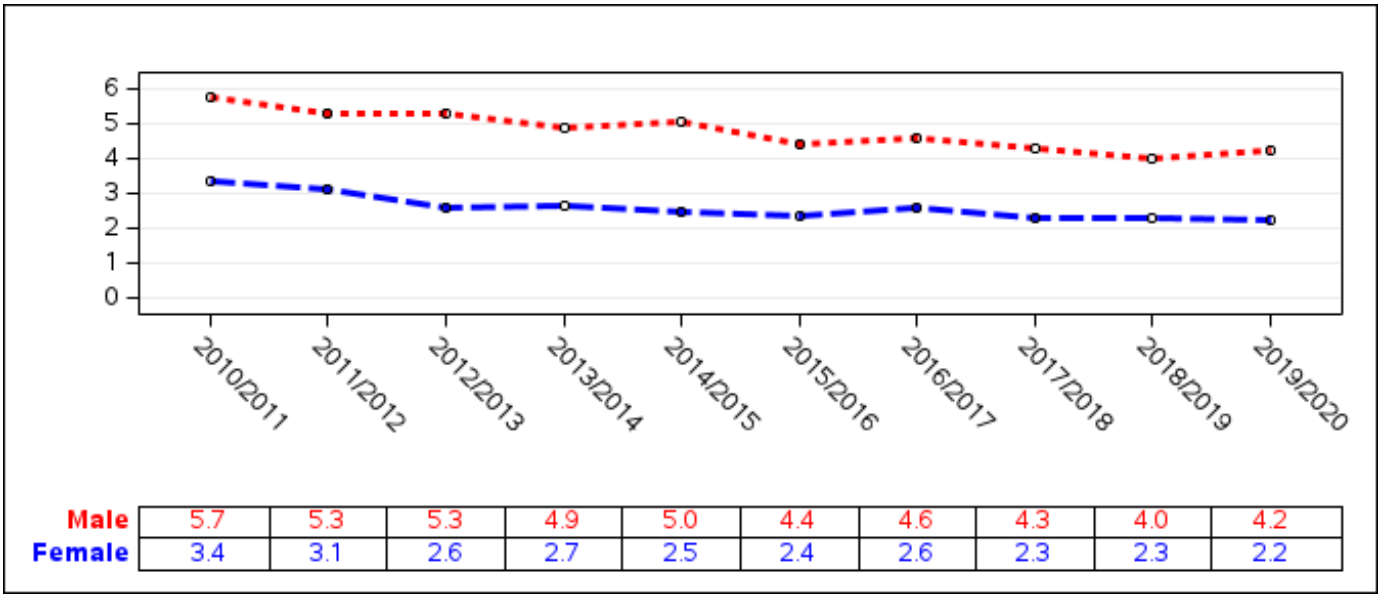


Figure 24: Age-and sex-adjusted rate of heart attack (AMI) per 1,000 residents age 40 and older by health region of residence, 2020/2021

In 2020/2021, there were 2,083 heart attacks among Manitoba residents, representing a rate of 3.2 heart attacks per 1,000 population age 40 and older (Figure 24). A significantly higher rate of heart attacks occurred among Northern residents compared to Manitoba overall, and at more than two times the Manitoba rate.

Figure 25 shows the rate of heart attacks in Manitoba over time by sex. The rate of heart attacks has consistently been higher for males compared to females. The rate for both sexes has decreased in recent years.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Male	5.7	5.3	5.3	4.9	5.0	4.4	4.6	4.3	4.0	4.2
Female	3.4	3.1	2.6	2.7	2.5	2.4	2.6	2.3	2.3	2.2

Figure 25: Rate of heart attack per 1,000 residents age 40 and older by fiscal year and sex

Stroke

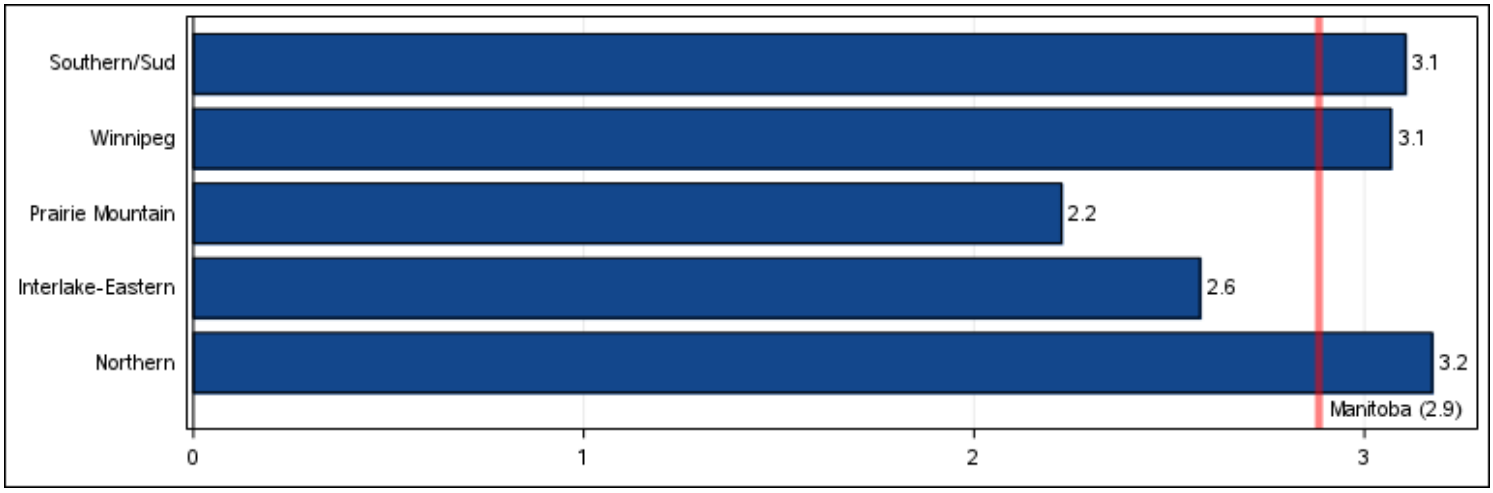
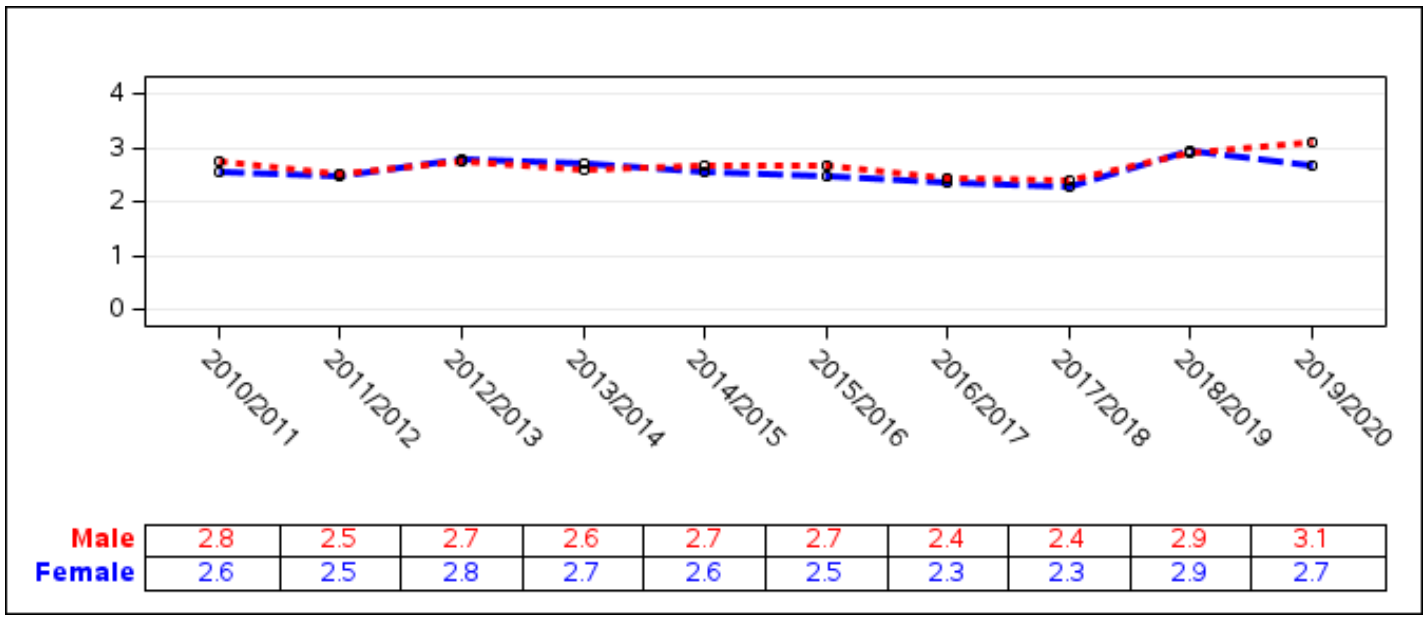


Figure 26: Age-and sex-adjusted rate of stroke per 1,000 residents age 40 and older by health region of residence, 2019/2020

In 2019/2020, there were 1,876 strokes among Manitoba residents, representing a rate of 2.9 strokes per 1,000 population age 40 and older (Figure 26). Rates varied across the province, from a high of 3.2 strokes per 1,000 residents in the Northern Health Region to a low of 2.2 strokes in Prairie Mountain Health. Regional stroke rates did not significantly differ from the Manitoba overall rates.

Figure 27 shows the stroke rate in Manitoba residents over time and sex. The rate of strokes for females and males was relatively stable until increasing for both sexes in 2018/2019 and 2019/2020.



	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Male	2.8	2.5	2.7	2.6	2.7	2.7	2.4	2.4	2.9	3.1
Female	2.6	2.5	2.8	2.7	2.6	2.5	2.3	2.3	2.9	2.7

Figure 27: Rate of stroke per 1,000 residents age 40 and older by fiscal year and sex

Chronic Conditions

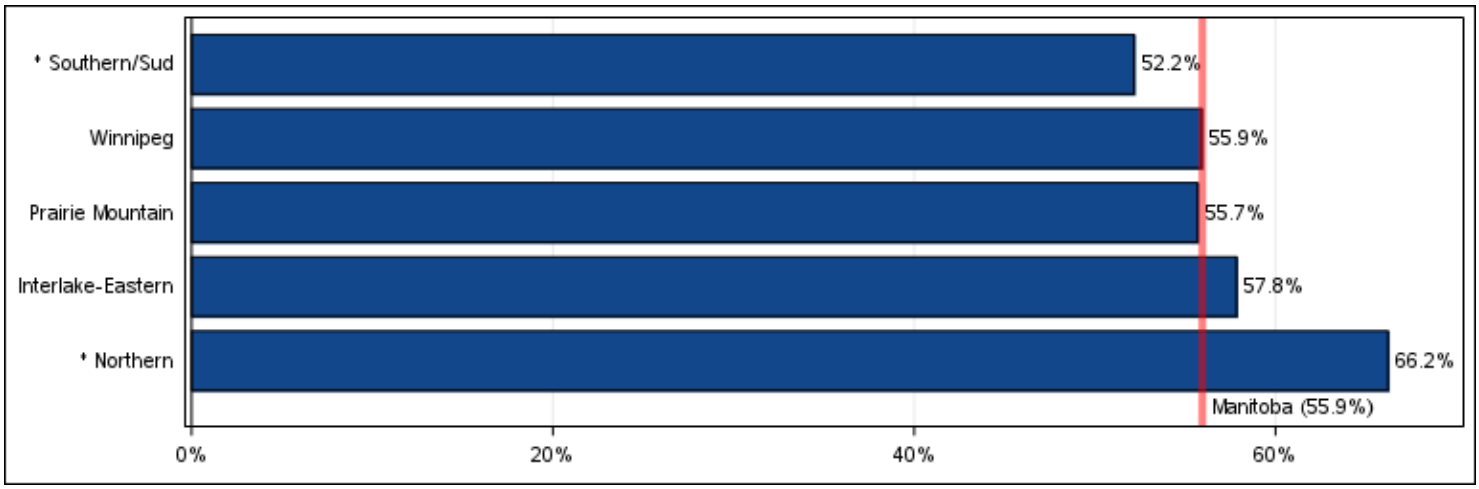


Figure 28: Age-and sex-adjusted percentage of residents with chronic conditions age 40 and older by health region of residence, 2019/2020

Figure 28 shows the age-and sex-adjusted percentage of people living with chronic conditions. The chronic condition rate is defined as the percentage of the population age 40 and older having one or more of the following conditions: diabetes, hypertension, ischemic heart disease, heart failure, stroke, or Chronic Obstructive Pulmonary Disease (COPD).

In 2019/2020, 364,022 Manitobans age 40 and older were living with one or more chronic conditions, representing 55.9 percent of the Manitoba population of the same age group. The percentage of the population with at least one chronic condition ranged from 52.2 percent in Southern Health-Santé Sud to 66.2 percent in the Northern Health Region.

Of those residents living with a chronic condition, Figure 29 shows the proportion with one or multiple chronic conditions. Approximately half (50.6 percent) had just one condition, 29.4 percent had two conditions, and the remaining 20.0 percent had three or more chronic conditions.

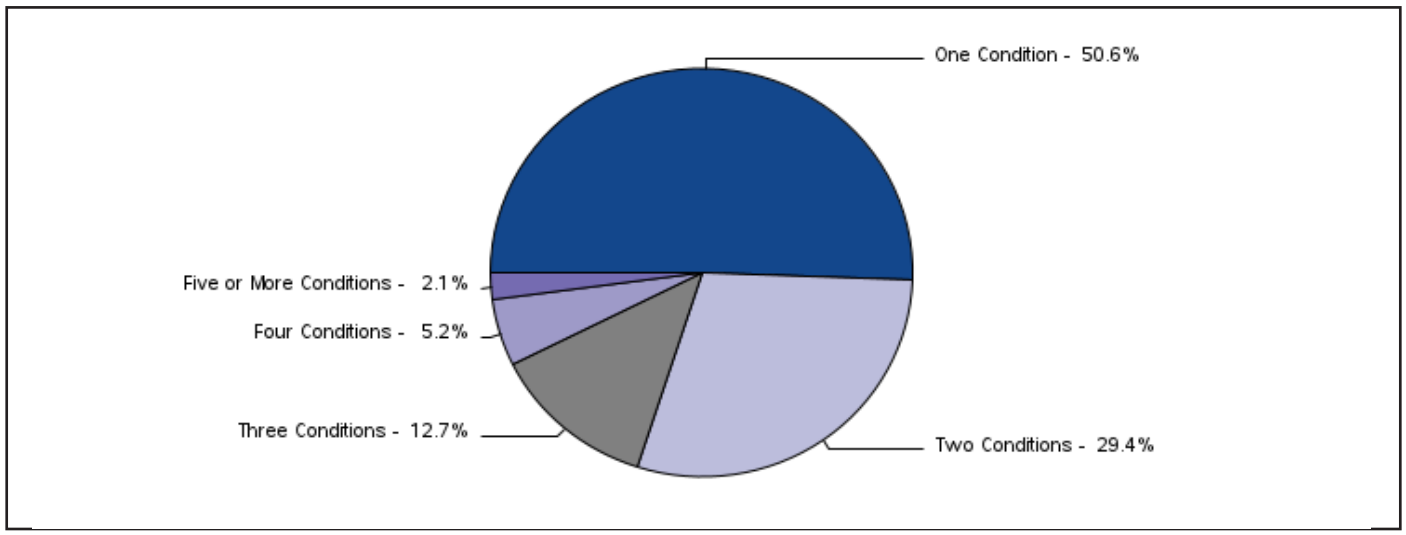


Figure 29: Percentage of residents with chronic conditions age 40 and older by the number of chronic conditions, 2019/2020

Injury Hospitalization

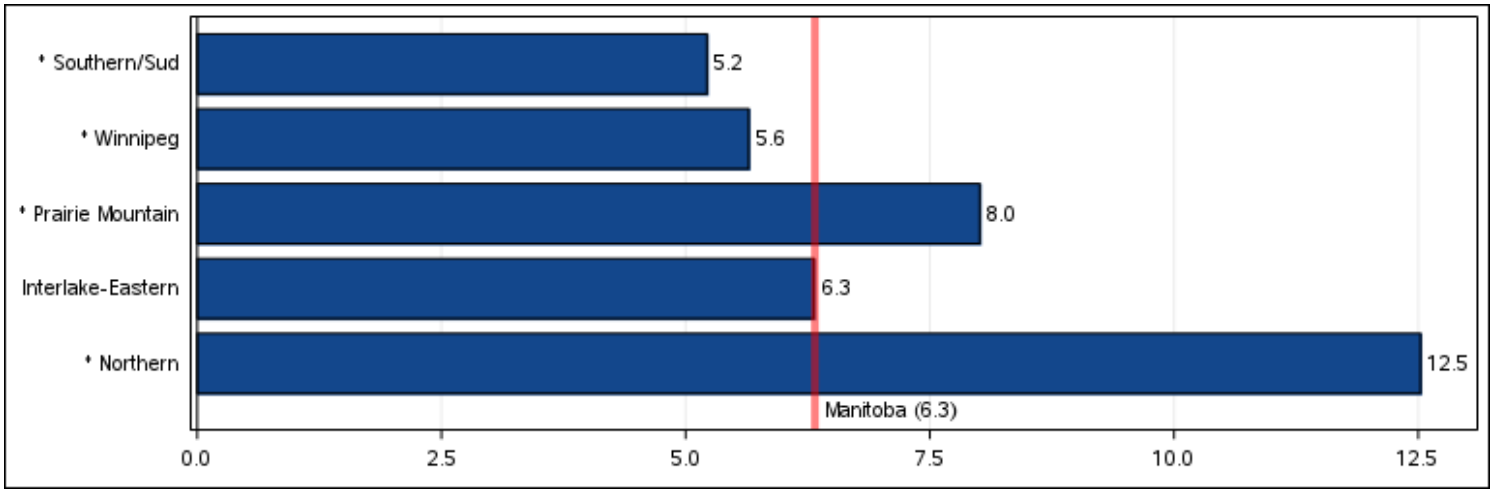
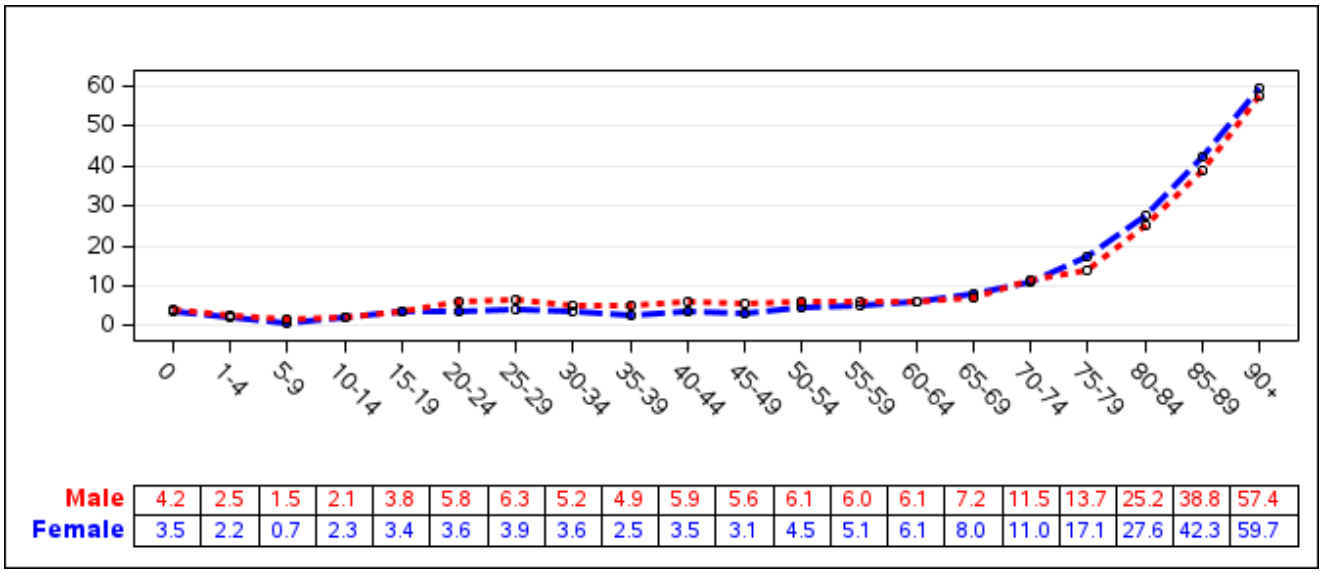


Figure 30: Age-and sex-adjusted rate of hospitalization for injury per 1,000 residents by health region of residence, 2020/2021

In 2020/2021, there were 8,771 hospitalizations related to injury among Manitoba residents, representing a rate of 6.3 injury hospitalizations per 1,000 residents (Figure 30). Rates varied significantly across the province. Residents of the Northern Health Region had more than two times the rate of injury hospitalizations compared to Manitoba overall, and the rate for Prairie Mountain Health was also significantly higher than the provincial average.

Figure 31 shows the rate of injury hospitalization in 2020/2021 among Manitobans by age and sex. Injury hospitalization rates were higher for males than females from ages 15 to 50, and higher for females than males from age 75 to 90+. Injury hospitalization rates for both sexes increased at the age of 70 and continued to increase exponentially to the age of 90+.



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	4.2	2.5	1.5	2.1	3.8	5.8	6.3	5.2	4.9	5.9	5.6	6.1	6.0	6.1	7.2	11.5	13.7	25.2	38.8	57.4
Female	3.5	2.2	0.7	2.3	3.4	3.6	3.9	3.6	2.5	3.5	3.1	4.5	5.1	6.1	8.0	11.0	17.1	27.6	42.3	59.7

Figure 31: Age-and sex-specific rate of hospitalization for injury per 1,000 residents, 2020/2021

Injury Mortality

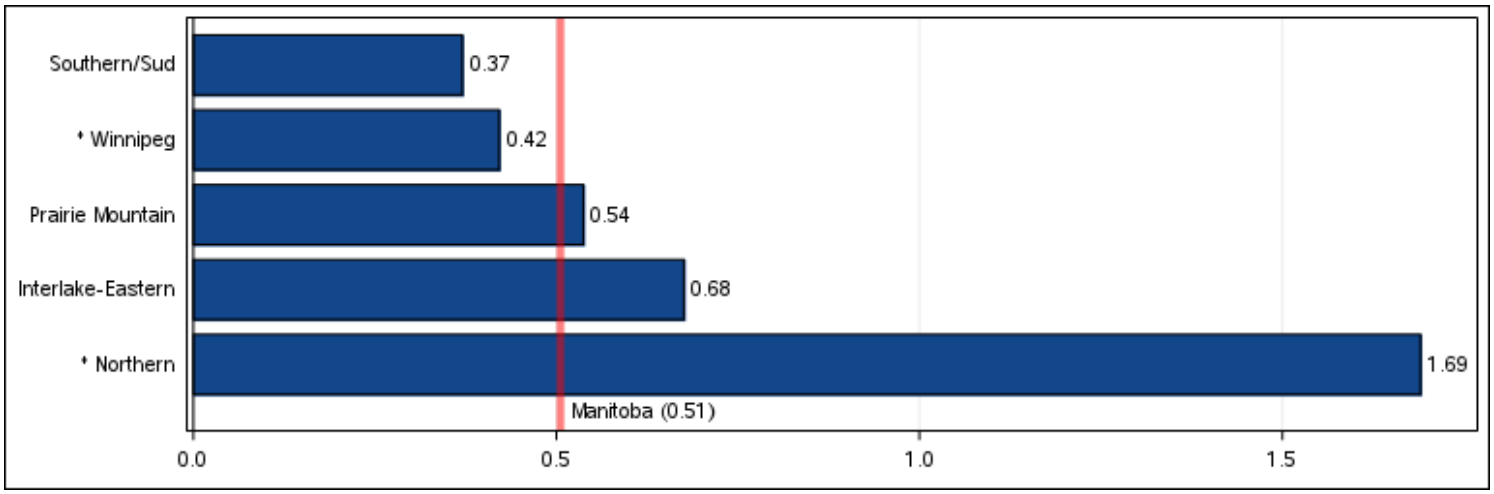


Figure 32: Age-and sex-adjusted rate of death due to injury per 1,000 residents by health region of residence, 2019/2020

In 2019/2020, there were 694 deaths due to injury for Manitoba residents, representing a rate of 0.51 deaths per 1,000 residents (Figure 32). The age-and sex-adjusted death rate in the Northern Health Region was significantly higher, and that of Winnipeg was significantly lower than Manitoba overall.

The five most common causes of injury-related deaths in Manitoba were:
1) Falls (31.1 percent)
2) Violence to Self (24.6 percent)
3) Motor Vehicle (12.1 percent)
4) Poisoning (11.1 percent)
5) Other causes (6.3 percent)

These causes combined represented 85.2 percent of all injury-related deaths (Figure 33).

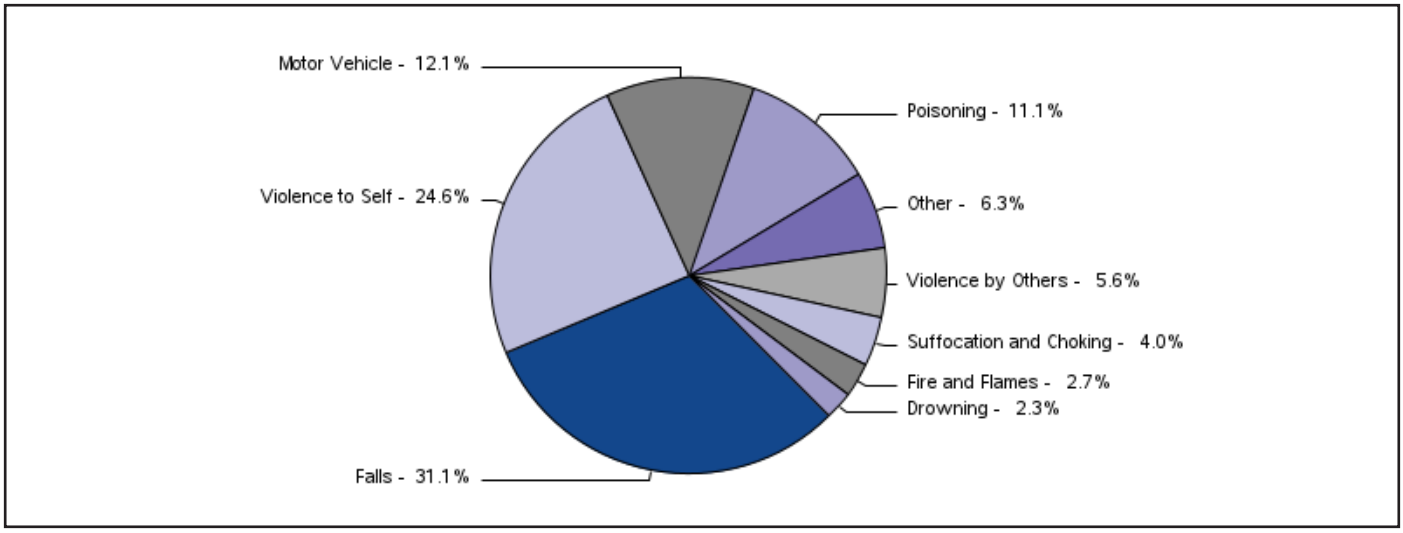


Figure 33: Percentage of injury deaths by cause, 2019/2020

Mental Illness

The following section provides an overview of the prevalence of mental illness. Between 2016/2017 and 2020/2021, 27.4 percent of Manitobans age 10 and older received medical care for at least one of the following mental illnesses: mood and anxiety disorders, substance abuse, personality disorder, or schizophrenia.

In 2020/2021, there were 517 hospitalizations related to self-inflicted injury for Manitoba residents. This represented a rate of 42.7 self-inflicted injury hospitalizations per 100,000 residents age 10 and older.

On average, there were about 215 suicides per year from 2015/2016 to 2019/2020. This represented approximately two suicide deaths for every 10,000 Manitoba residents.

Cumulative Mental Illness

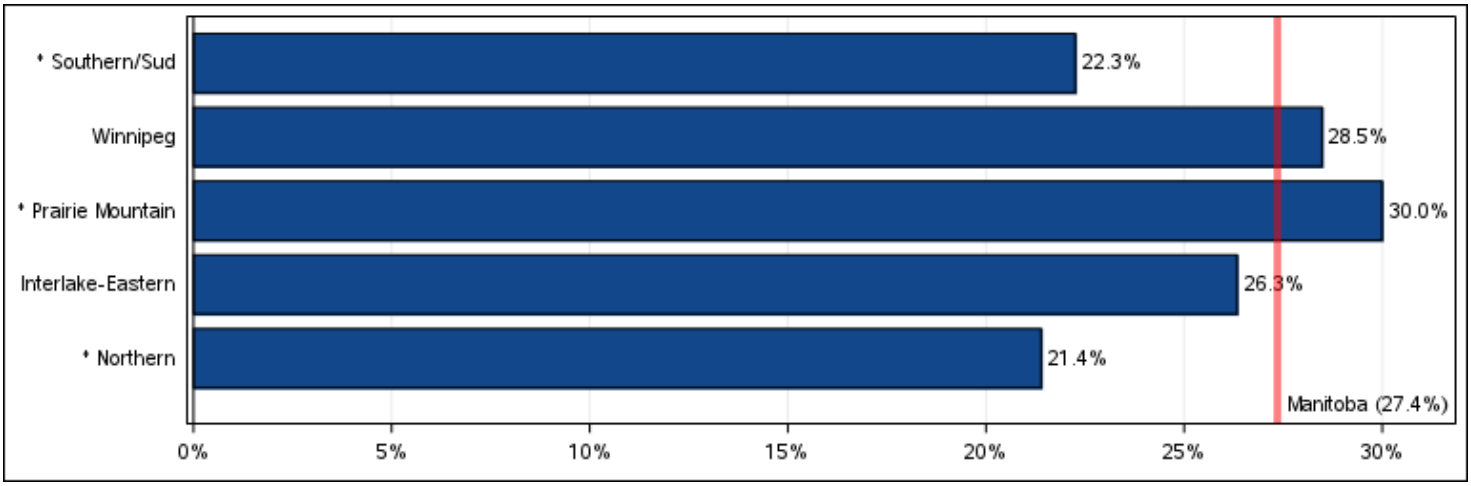
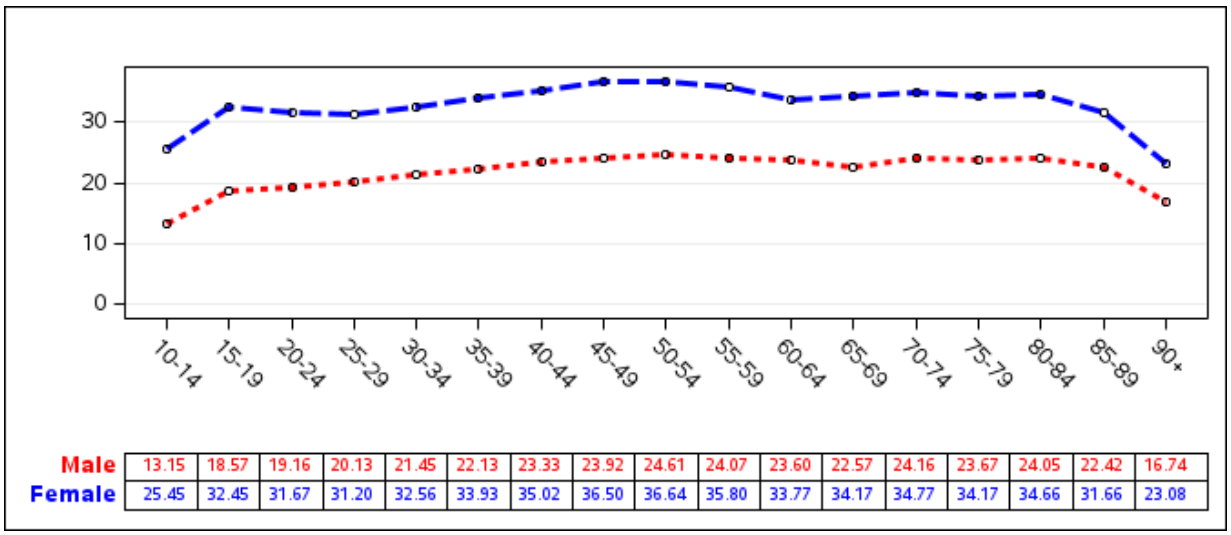


Figure 34: Age-and sex-adjusted prevalence of cumulative mental illness among residents age 10 and older by health region of residence, 2016/2017 to 2020/2021

Figure 34 shows the age-and sex-adjusted prevalence of cumulative mental illness among Manitoba residents age 10 and older by health region of residence. Cumulative mental illness is defined as receiving medical care for at least one of: mood and anxiety disorders, substance abuse, personality disorder, or schizophrenia.

From 2016/2017 to 2020/2021, 341,203 Manitoba residents were treated for at least one of these mental illnesses, representing 27.4 percent of Manitoba residents age 10 and older. The age-and sex-adjusted rates in Southern Health-Santé Sud and the Northern Health Region were significantly lower than the Manitoba rate, while that of Prairie Mountain Health was significantly higher.

Figure 35 shows the prevalence of cumulative mental illness by age and sex. From 2016/2017 to 2020/2021, the prevalence rate for females was higher than males in all age groups.



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	13.15	18.57	19.16	20.13	21.45	22.13	23.33	23.92	24.61	24.07	23.60	22.57	24.16	23.67	24.05	22.42	16.74
Female	25.45	32.45	31.67	31.20	32.56	33.93	35.02	36.50	36.64	35.80	33.77	34.17	34.77	34.17	34.66	31.66	23.08

Figure 35: Crude rate of residents age 10 and older with cumulative mental illness by age and sex, 2016/2017 to 2020/2021

Mood and Anxiety Disorders

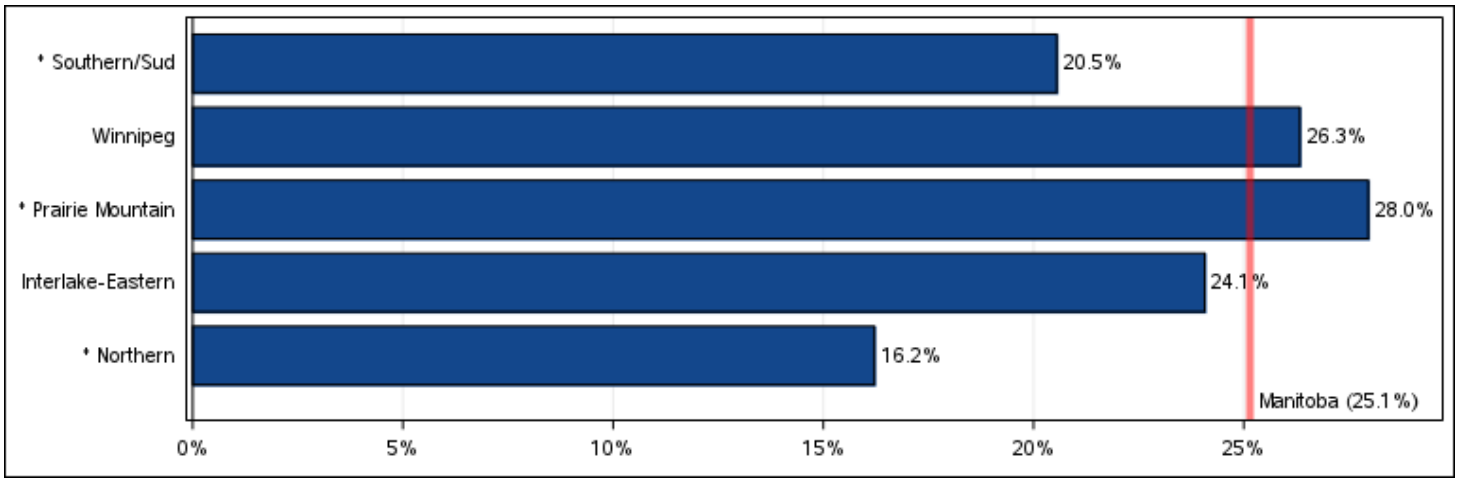
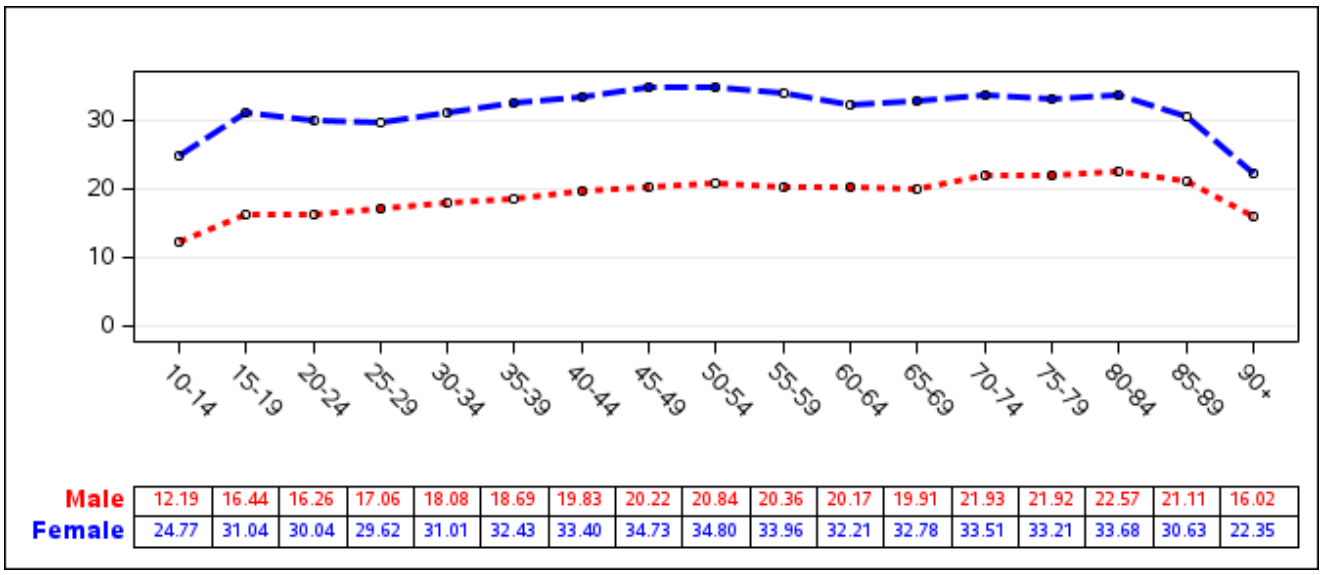


Figure 36: Age-and sex-adjusted prevalence of mood and anxiety disorders among residents age 10 and older by health region of residence, 2016/2017 to 2020/2021

From 2016/2017 to 2020/2021, there were 313,665 Manitoba residents treated for mood and anxiety disorders, representing 25.1 percent of Manitoba residents age 10 and older (Figure 36). The age-and sex-adjusted rates in the Northern Health Region and Southern Health-Santé Sud were significantly lower than the Manitoba rate overall, while the rate for Prairie Mountain Health was significantly higher.

Figure 37 shows the prevalence of mood and anxiety disorders by age and sex. From 2016/2017 to 2020/2021, the prevalence rate for females was higher than males in all age groups.



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	12.19	16.44	16.26	17.06	18.08	18.69	19.83	20.22	20.84	20.36	20.17	19.91	21.93	21.92	22.57	21.11	16.02
Female	24.77	31.04	30.04	29.62	31.01	32.43	33.40	34.73	34.80	33.96	32.21	32.78	33.51	33.21	33.68	30.63	22.35

Figure 37: Crude rate of residents age 10 and older with mood and anxiety disorders by age and sex, 2016/2017 to 2020/2021

Personality Disorders

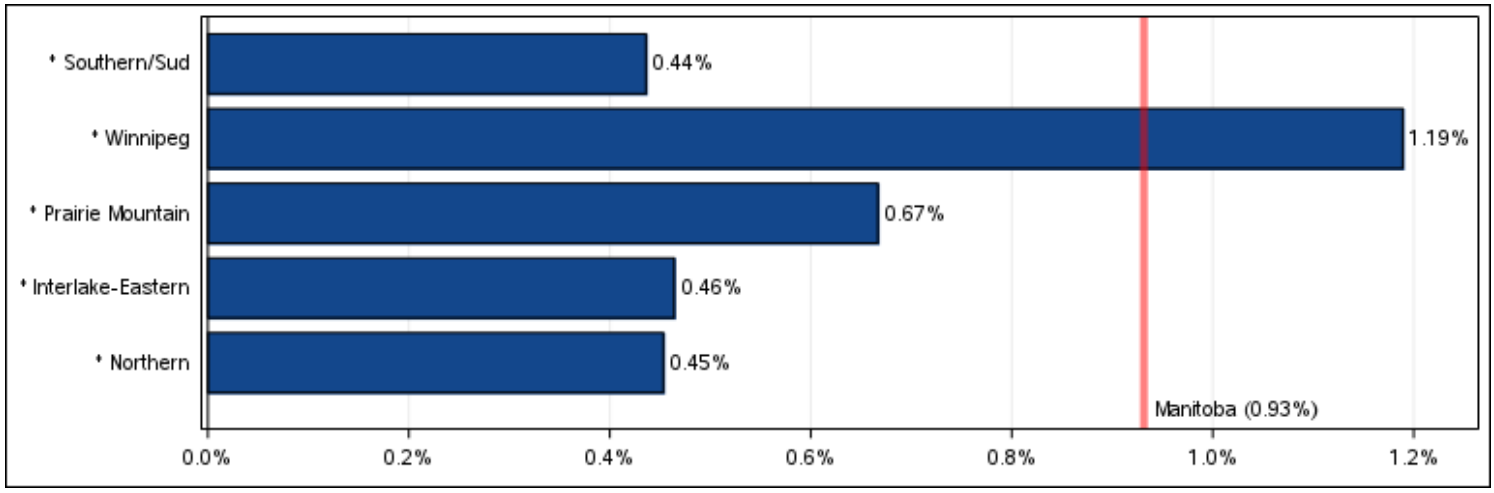
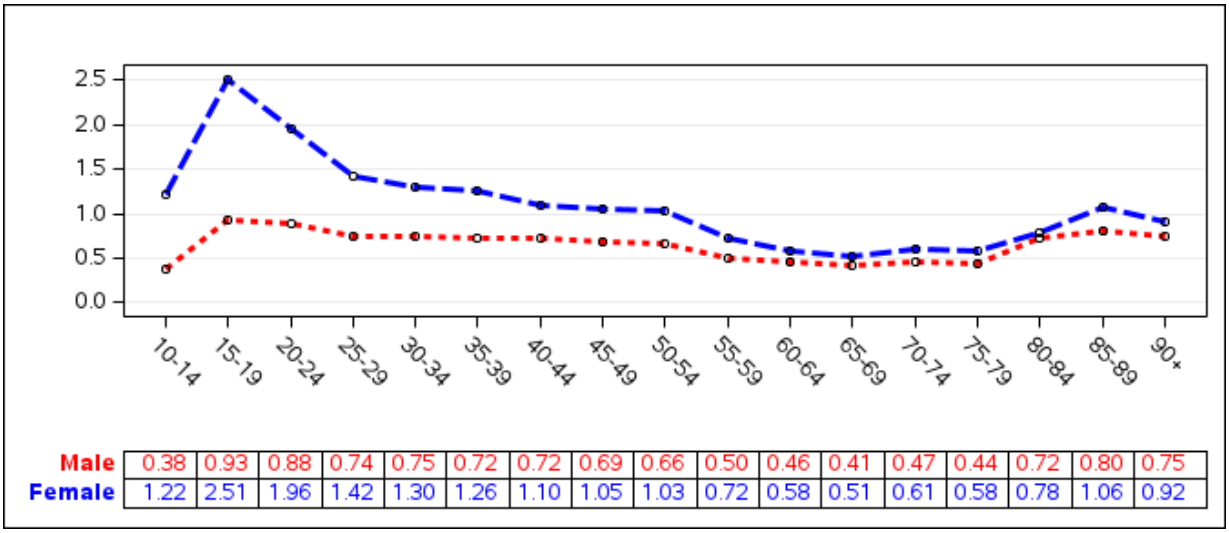


Figure 38: Age-and sex-adjusted prevalence of personality disorders among residents age 10 and older by health region of residence, 2016/2017 to 2020/2021

From 2016/2017 to 2020/2021, there were 11,619 Manitoba residents treated for a personality disorder, representing 0.93 percent of Manitoba residents age 10 and older (Figure 38). The age-and sex-adjusted rates were significantly lower in Southern Health-Santé Sud, Interlake-Eastern, Prairie Mountain, and the Northern Health regions when compared to the Manitoba rate, while the rate for Winnipeg was significantly higher.

Figure 39 shows the prevalence of personality disorders by age and sex. From 2016/2017 to 2020/2021, the prevalence rate for females was higher than males for all age groups. The rates for both sexes increased at the ages of 75-79.



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	0.38	0.93	0.88	0.74	0.75	0.72	0.72	0.69	0.66	0.50	0.46	0.41	0.47	0.44	0.72	0.80	0.75
Female	1.22	2.51	1.96	1.42	1.30	1.26	1.10	1.05	1.03	0.72	0.58	0.51	0.61	0.58	0.78	1.06	0.92

Figure 39: Crude rate of residents age 10 and older with personality disorder by age and sex, 2016/2017 to 2020/2021

Schizophrenia

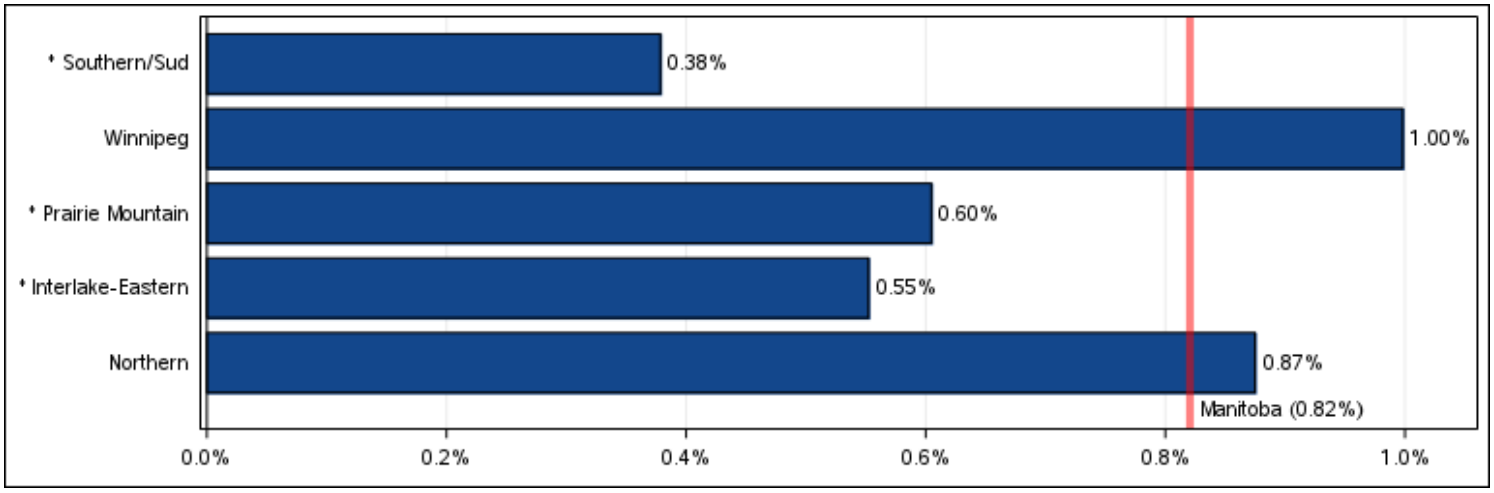
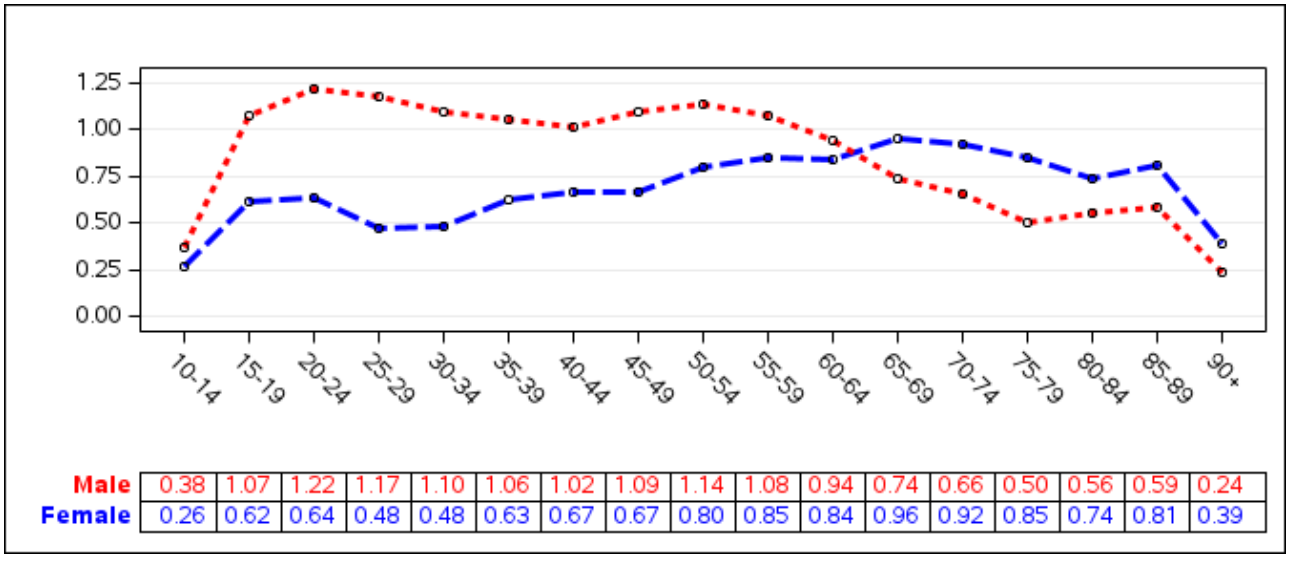


Figure 40: Age-and sex-adjusted prevalence of schizophrenia among residents age 10 and older by health region of residence, 2016/2017 to 2020/2021

From 2016/2017 to 2020/2021, there were 10,234 Manitoba residents treated for schizophrenia, representing 0.82 percent of Manitoba residents age 10 and older (Figure 40). The age-and sex-adjusted rates in Southern Health-Santé Sud, Interlake-Eastern RHA, and Prairie Mountain Health were significantly lower than Manitoba overall.

Figure 41 shows the prevalence of schizophrenia by age and sex. From 2016/2017 to 2020/2021, the prevalence rate for males under the age of 60 was higher than females. The rate for females age 65 and older was higher than males.



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	0.38	1.07	1.22	1.17	1.10	1.06	1.02	1.09	1.14	1.08	0.94	0.74	0.66	0.50	0.56	0.59	0.24
Female	0.26	0.62	0.64	0.48	0.48	0.63	0.67	0.67	0.80	0.85	0.84	0.96	0.92	0.85	0.74	0.81	0.39

Figure 41: Crude rate of residents age 10 and older with schizophrenia by age and sex, 2016/2017 to 2020/2021

Substance Abuse

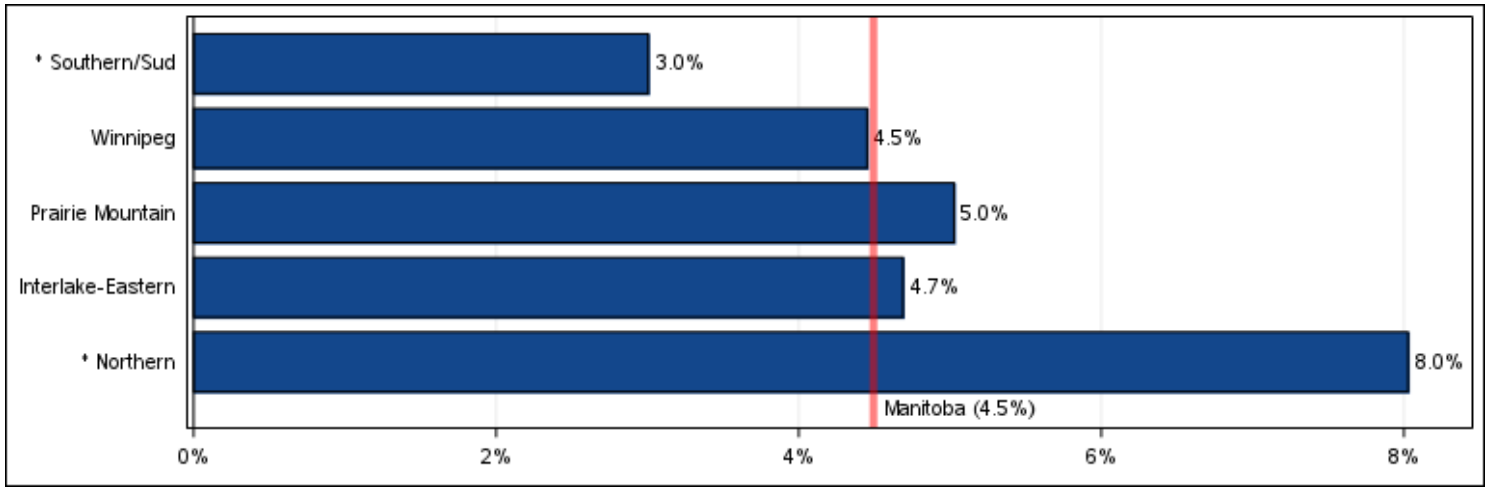
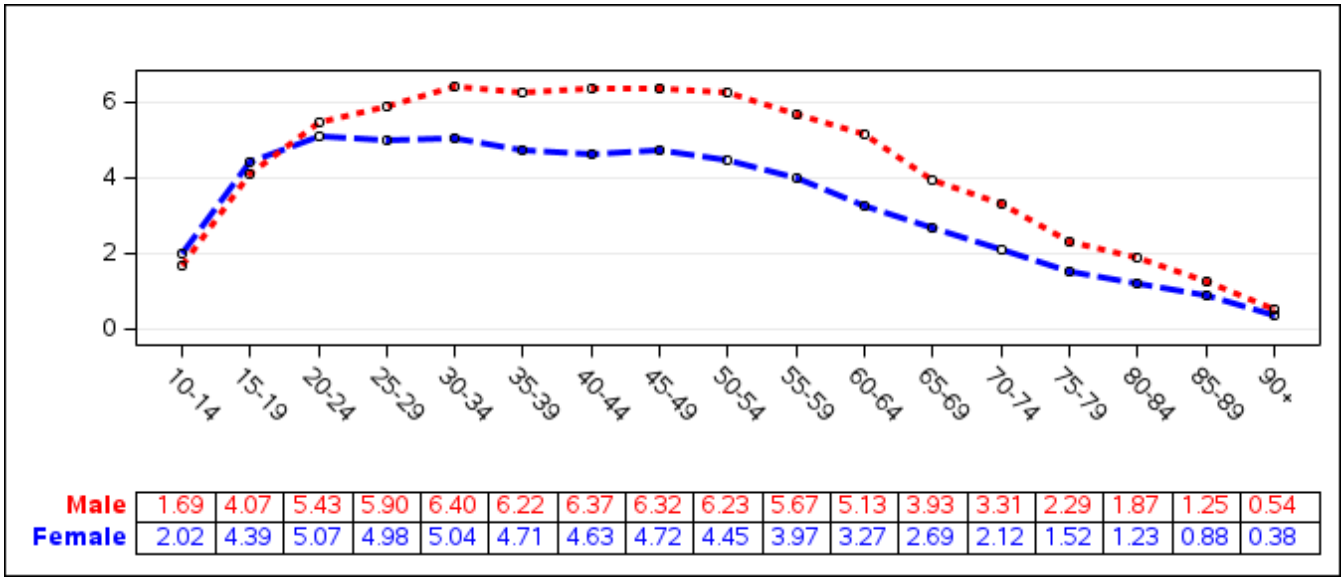


Figure 42: Age-and sex-adjusted prevalence of substance abuse among residents age 10 and older by health region of residence, 2016/2017 to 2020/2021

From 2016/2017 to 2020/2021, there were 56,053 Manitoba residents treated for substance abuse, representing 4.5 percent of Manitoba residents age 10 and older (Figure 42). The Northern Health Region rate was almost two times higher than the Manitoba rate, while the rate for Southern Health-Santé Sud was significantly lower.

Figure 43 shows the prevalence of substance abuse by age and sex. From 2016/2017 to 2020/2021, the rate for males age 20+ was higher than females.



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	1.69	4.07	5.43	5.90	6.40	6.22	6.37	6.32	6.23	5.67	5.13	3.93	3.31	2.29	1.87	1.25	0.54
Female	2.02	4.39	5.07	4.98	5.04	4.71	4.63	4.72	4.45	3.97	3.27	2.69	2.12	1.52	1.23	0.88	0.38

Figure 43: Crude rate of residents age 10 and older with substance abuse by age and sex, 2016/2017 to 2020/2021

Hospitalization for Self-Inflicted Injury

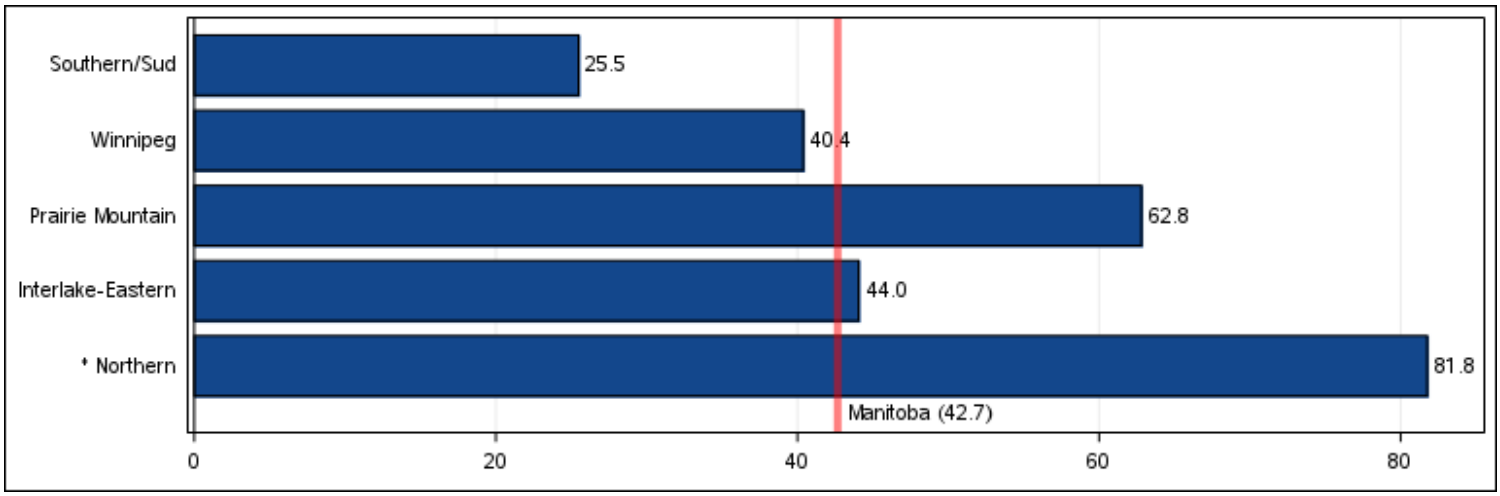
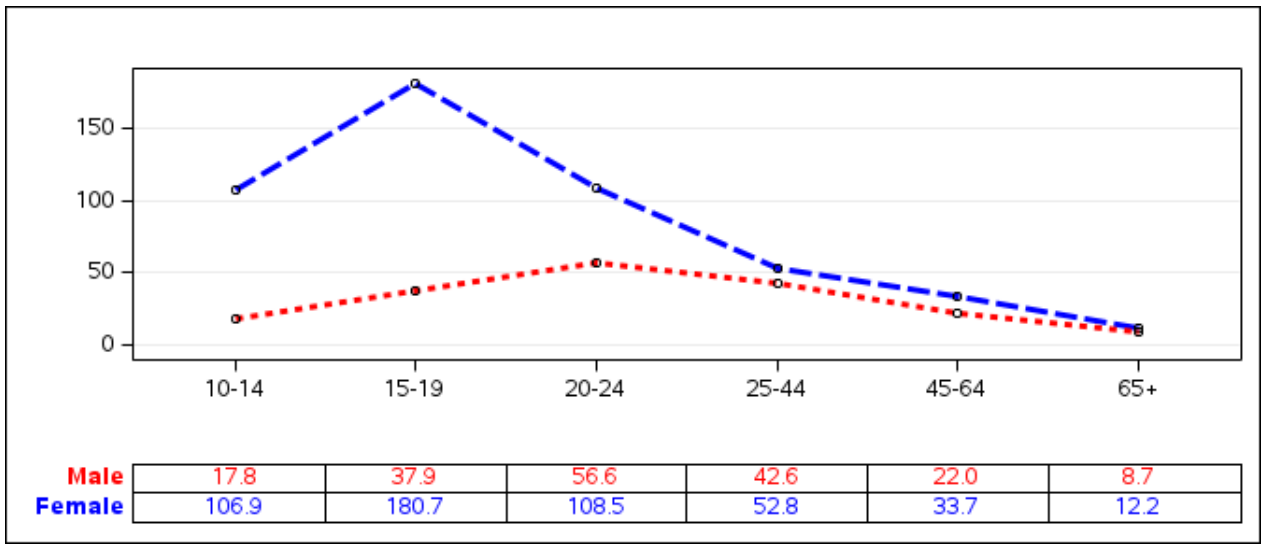


Figure 44: Age-and sex-adjusted rate of hospitalizaon due to self-inflicted injury per 100,000 residents age 10 and older by health region of residence, 2020/2021

In 2019/2020, there were 517 hospitalizations due to self-inflicted injury among Manitoba residents, representing a rate of 42.7 hospitalizations per 100,000 residents age 10 and older (Figure 44). The Northern Health Region rate was significantly higher than the provincial average, and 3.2 times higher than the Southern Health-Santé Sud rate.

Figure 45 shows the age-and sex-specific hospitalization rate due to self-inflicted injury per 100,000 residents. Manitoba females between the ages of 15 and 19 had a rate almost five times that of males in the same age group.



	10-14	15-19	20-24	25-44	45-64	65+
Male	17.8	37.9	56.6	42.6	22.0	8.7
Female	106.9	180.7	108.5	52.8	33.7	12.2

Figure 45: Crude rate of hospitalization for self-inflicted injury per 100,000 residents age 10 and older by age and sex, 2020/2021

Suicide

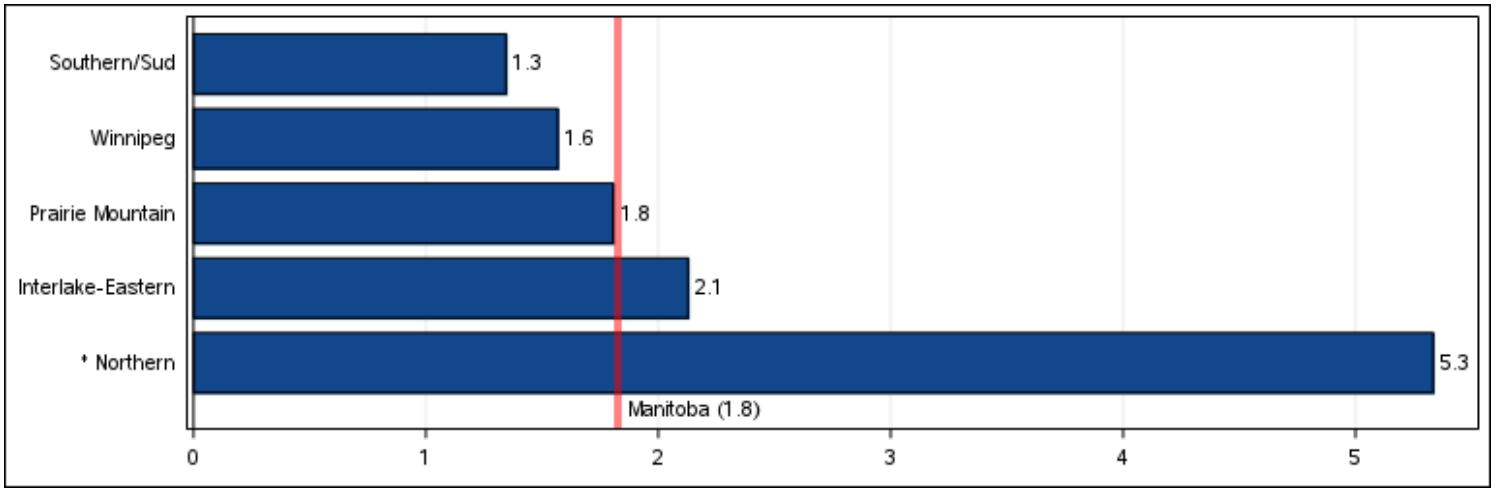
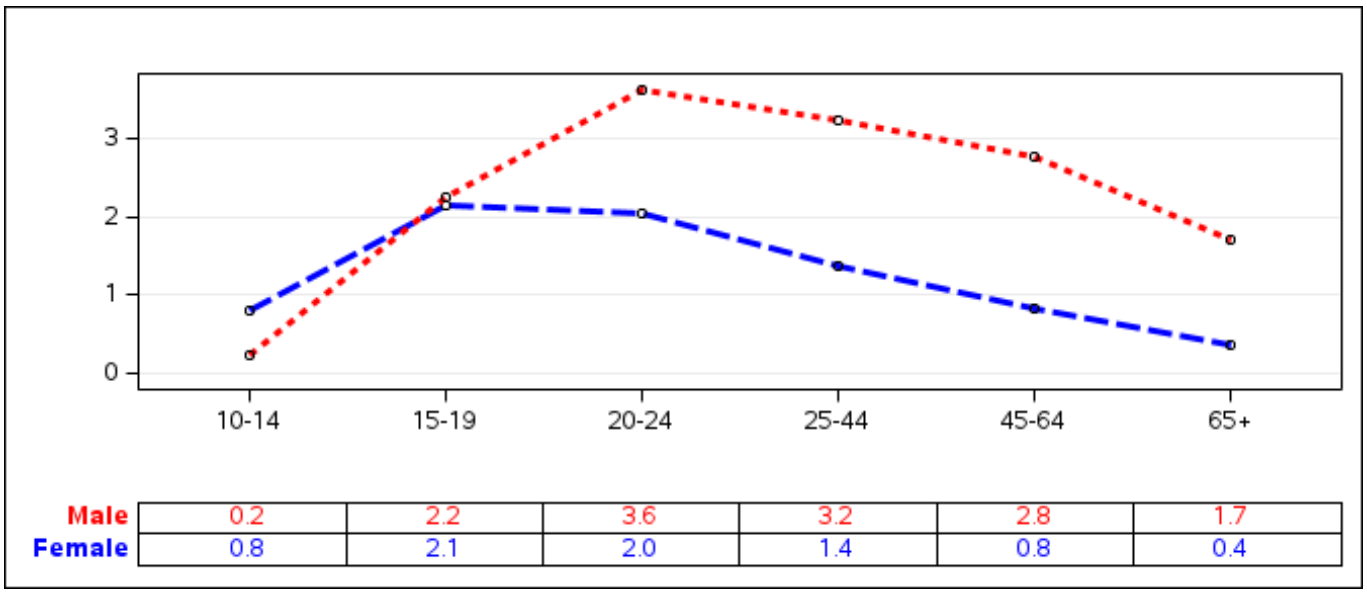


Figure 46: Age-and sex-adjusted rate of death due to suicide per 10,000 residents age 10 and older by health region of residence, 2015/2016 to 2019/2020

From 2015/2016 to 2019/2020, there were 1,075 deaths due to suicide among Manitoba residents, representing a rate of 1.8 deaths per 10,000 population (Figure 46). The rate of deaths due to suicide in the Northern Health Region was significantly higher than Manitoba overall, and more than two times higher that of other health regions.

Figure 47 shows the death rate for suicide by age and sex. From 2015/2016 to 2019/2020, the rate for males was higher than females in all age groups with the exception of ages 10 to 14.



	10-14	15-19	20-24	25-44	45-64	65+
Male	0.2	2.2	3.6	3.2	2.8	1.7
Female	0.8	2.1	2.0	1.4	0.8	0.4

Figure 47: Crude rate of suicide deaths per 10,000 residents by age and sex, 2015/2016 to 2019/2020

Health Services Insurance Plan

Manitoba residents who are Canadian citizens or have immigrant status including work permit holders, and who are either a permanent resident of Manitoba or reside in Manitoba for at least six months of the year, are eligible for Manitoba Health Insurance coverage.

The Health Services Insurance Plan operates outside the Provincial Consolidated Fund and provides for payment of insured services for hospitals, personal care homes, and health care providers on behalf of Manitoba residents. Other plans include the prescription drugs program (Pharmacare, Ambulance, Air Ambulance, and Northern Patient Transportation programs).

Insured Services per Capita

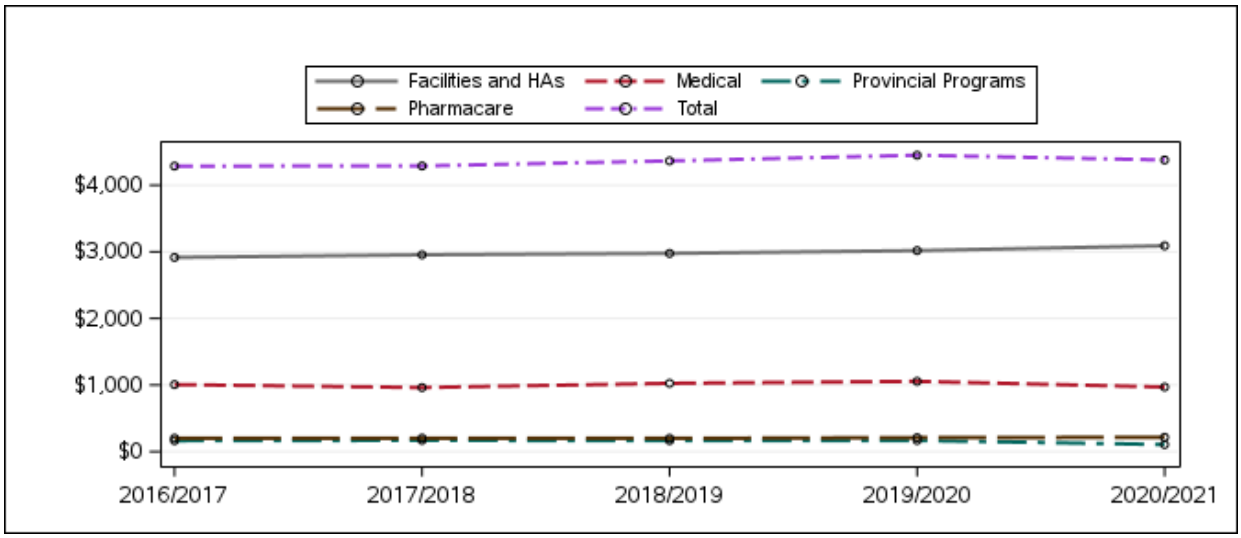


Figure 48: Crude cost of insured services per capita by fiscal year

In 2020/2021, approximately $ 6.1 billion was spent on insured services in Manitoba, representing $4,379 per capita (Figure 48).

Figure 49 shows the distribution of total costs. In 2020/2021, 70.6 percent of the total cost was attributed to Facilities and Health Authorities (HAs), followed by Medical services for fee for service physicians (22.1 percent), Pharmacare programs (4.9 percent), and Provincial Programs (2.4 percent).

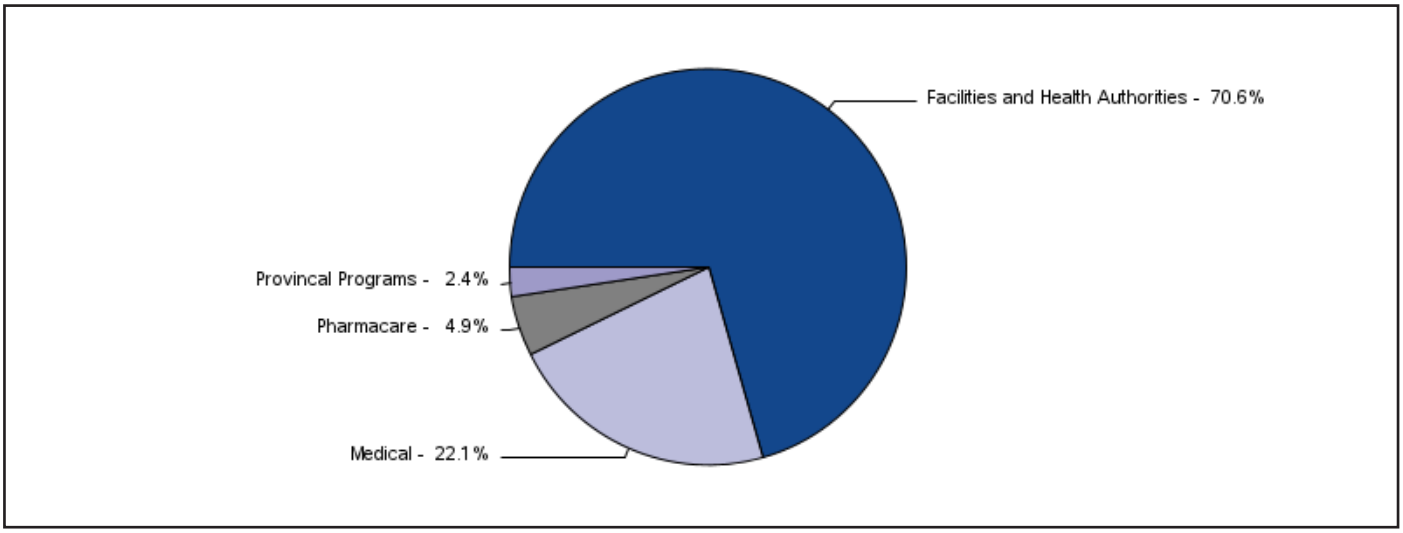


Figure 49: Distribution of the total cost of insured services, 2020/2021

Use of Medical Services

The following section provides an overview of the use of medical services in Manitoba. This includes number of physicians and nurses, physician use, majority of care, and ambulatory care visit rates.

In 2020, there were 18,105 nurses and 3,029 physicians registered in Manitoba. About 72 percent of Manitoba residents saw a physician at least once in 2020/2021. On average, these Manitobans saw a physician about five times during the year.

About 75 percent of residents saw the same physician for more than 50 percent of their ambulatory visits.

Overall, 65 percent of Manitoba residents saw a primary care physician and 36 percent visited a specialist care physician at least once during 2020/2021.

Number of General Practitioners and Specialists

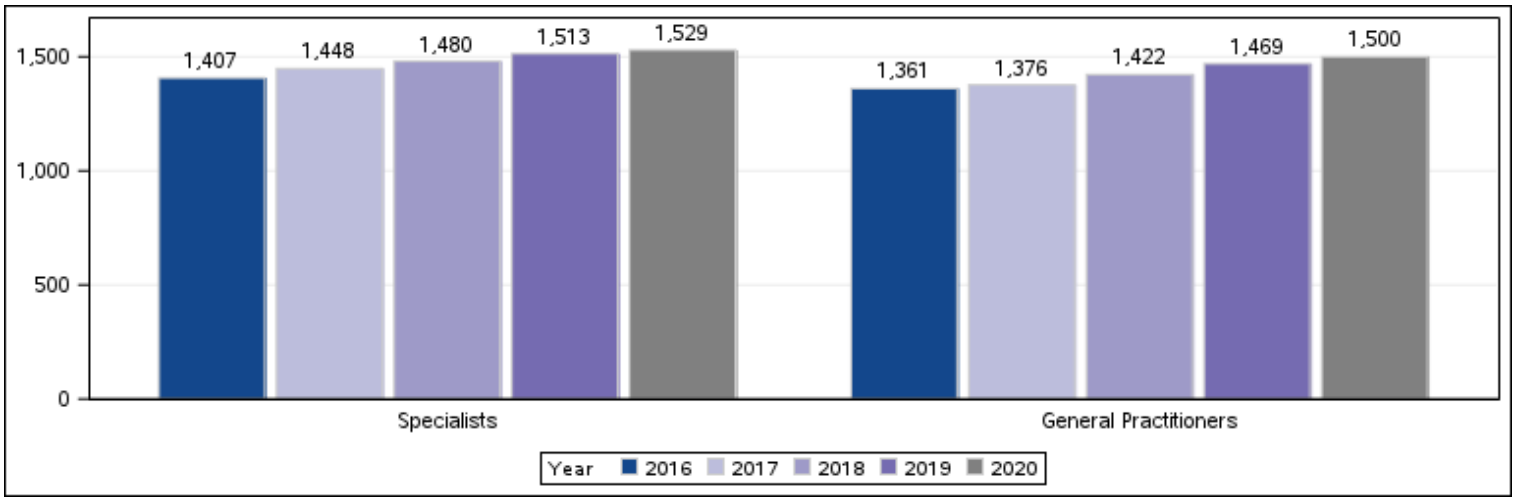


Figure 50: Number of General Practitioners and Specialists in Manitoba, 2016 - 2020

Figure 50 shows the number of general practitioners and specialists in Manitoba, as reported by the College of Physicians and Surgeons of Manitoba by calendar year.

In 2020, there were a total of 3029 physicians in Manitoba. This consisted of nearly even numbers of family physicians and specialists.

Number of Nurses and Nurse Practitioners

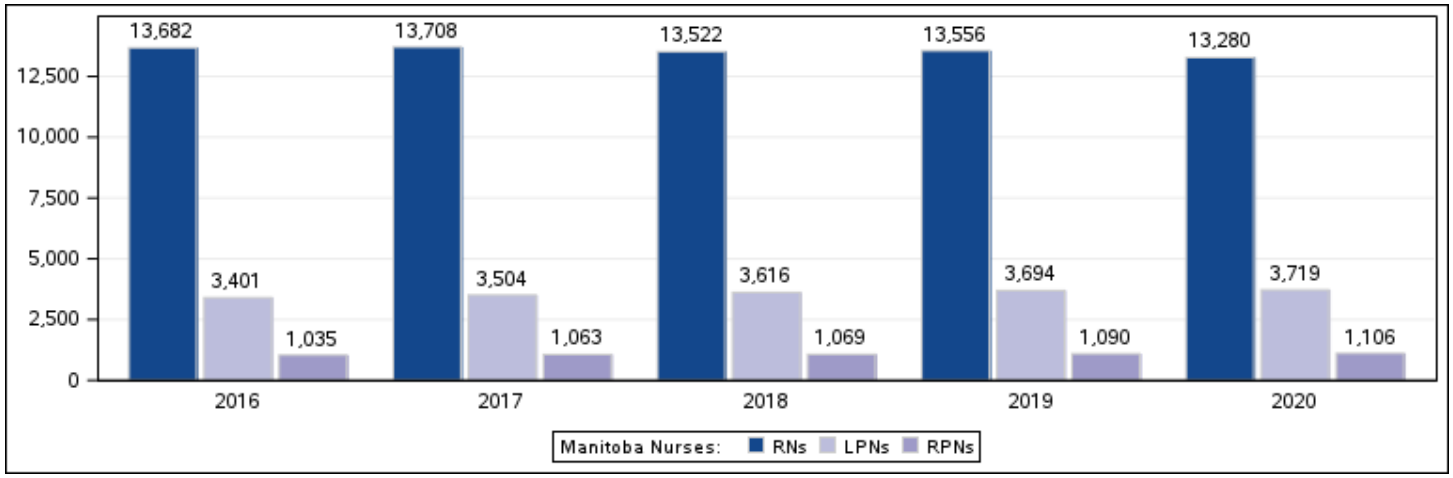


Figure 51: Number of Registered Nurses (RNs), Licensed Practical Nurses (LPNs), and Registered Psychiatric Nurses (RNs) in Manitoba, 2016 - 2020

Figure 51 shows the number of Registered Nurses (RNs), Licensed Practical Nurses (LPNs), and Registered Psychiatric Nurses (RPNs) as reported by their respective colleges in Manitoba.

In 2020, there were 18,105 registered RNs, LPNs, and RPNs in Manitoba, of which 73.9 percent were registered nurses. The remaining 26.1 percent consisted of registered psychiatric nurses and licensed practical nurses.

Figure 52 shows the number of nurse practitioners in Manitoba. The number of registered nurse practitioners increased around 50%, from 187 in 2016 to 275 in 2020.

- *The data included in this report represents active registrations for each classification/designation. All classifications of nurses in Manitoba may be employed across a variety of settings and in various roles, including and not limited to direct care in community, acute, long term/residential care; academia/research; administration, and government. Nursing positions exist in and outside of provincially funded healthcare organizations. (See glossary for further details)*

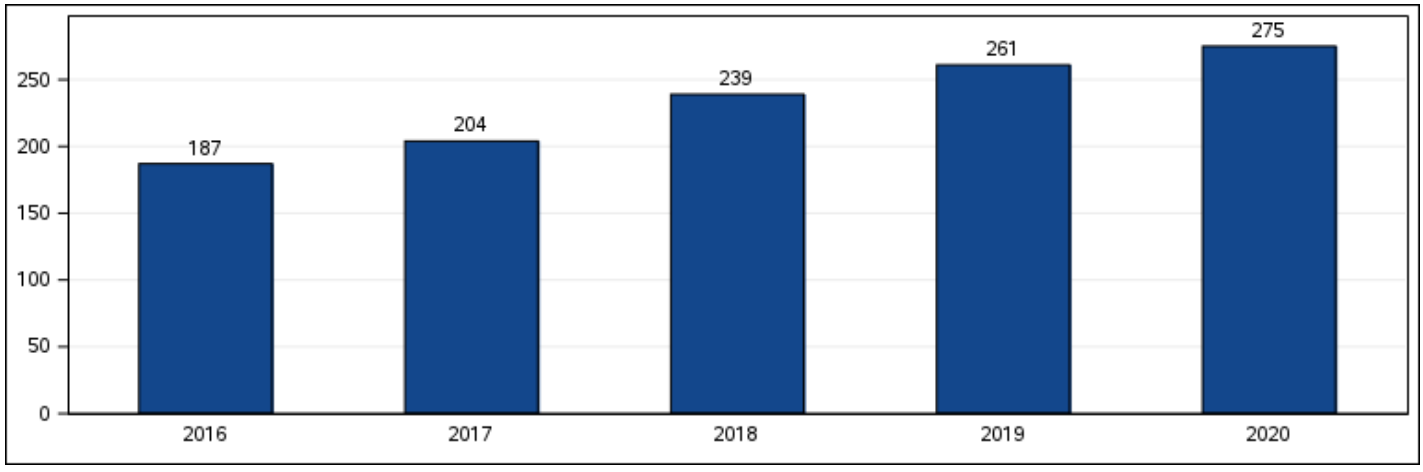


Figure 52: Number of Nurse Practitioners (NPs) in Manitoba, 2016 - 2020

Physician Use - Overall

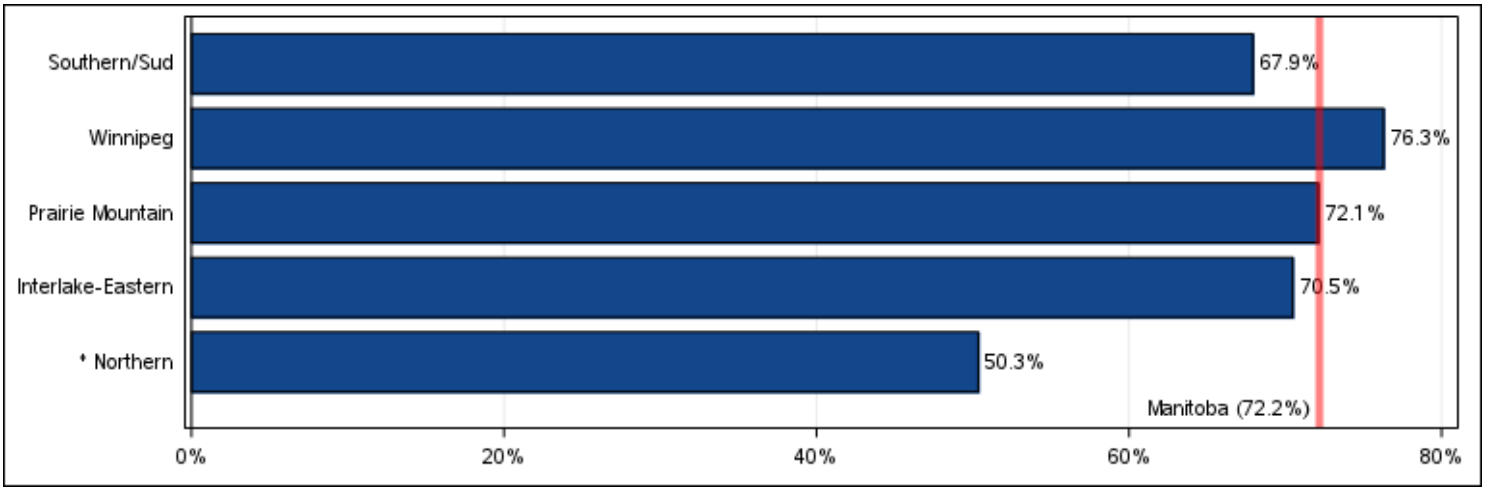


Figure 53: Age-and sex-adjusted percentage of residents who used overall physician services by health region of residence, 2020/2021

In 2020/2021, 72.2 percent of Manitoba residents saw a physician at least once during the year (Figure 53). Residents of the Northern Health Region appear to have had lower physician use, however, these values are affected by missing data for services provided by salaried physicians and should be interpreted with caution.

Figure 54 shows the percentage of overall physician use in 2020/2021 by age and sex. Females had a higher percentage of physician use than males in almost all age groups over the age of 10 years.

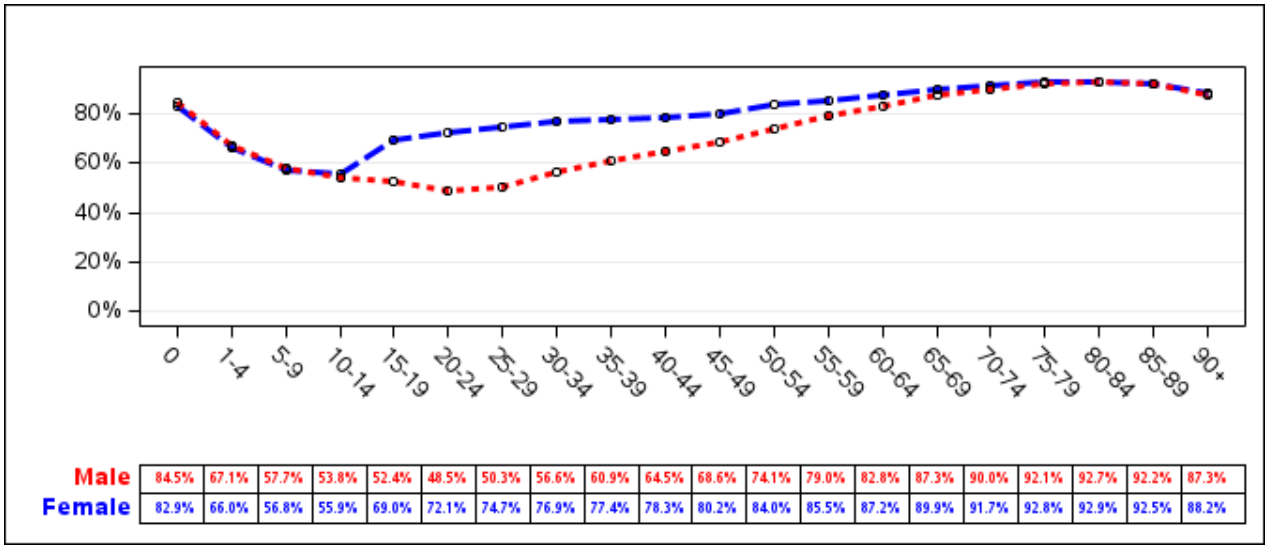


Figure 54: Crude percentage of residents who used overall physician services by age and sex, 2020/2021

Physician Use - Primary Care

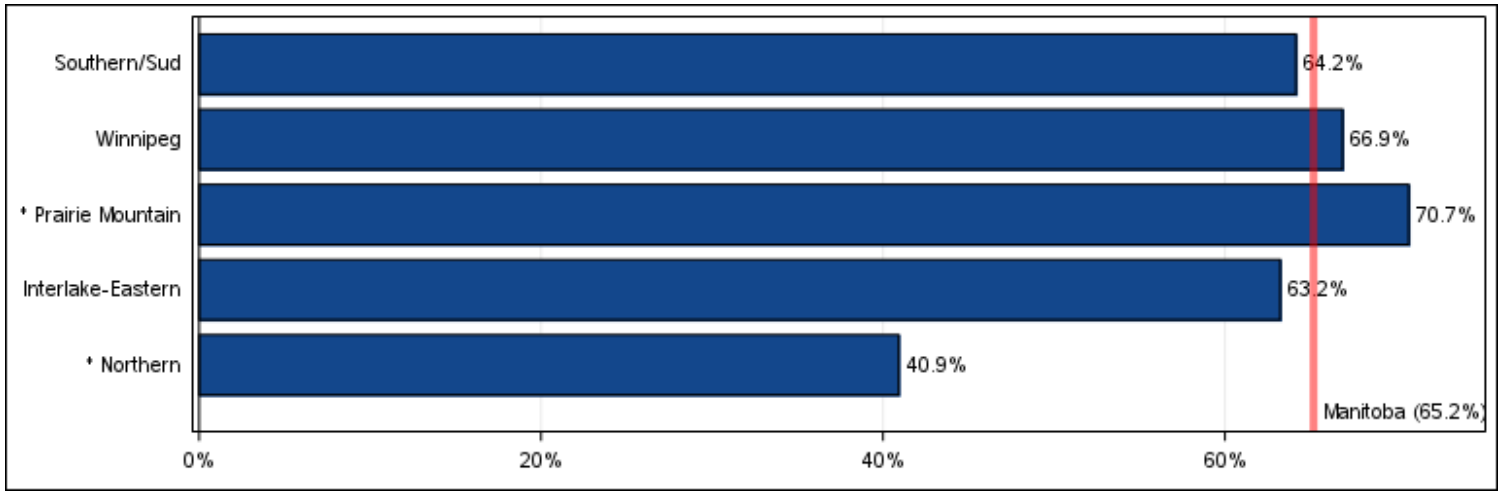


Figure 55: Age-and sex-adjusted percentage of residents who used primary care physician services by health region of residence, 2020/2021

In 2020/2021, 65.2 percent of Manitoba residents saw a primary care physician at least once during the year (Figure 55). Residents of the Northern Health Region appear to have had lower physician use for primary care. Values for the Northern Health Region are affected by missing data for services provided by salaried physicians and should be interpreted with caution.

Figure 56 shows the percentage of primary care physician use in 2020/2021 by age and sex. Females had a higher percentage of physician use than males in all age groups over the age of five years.

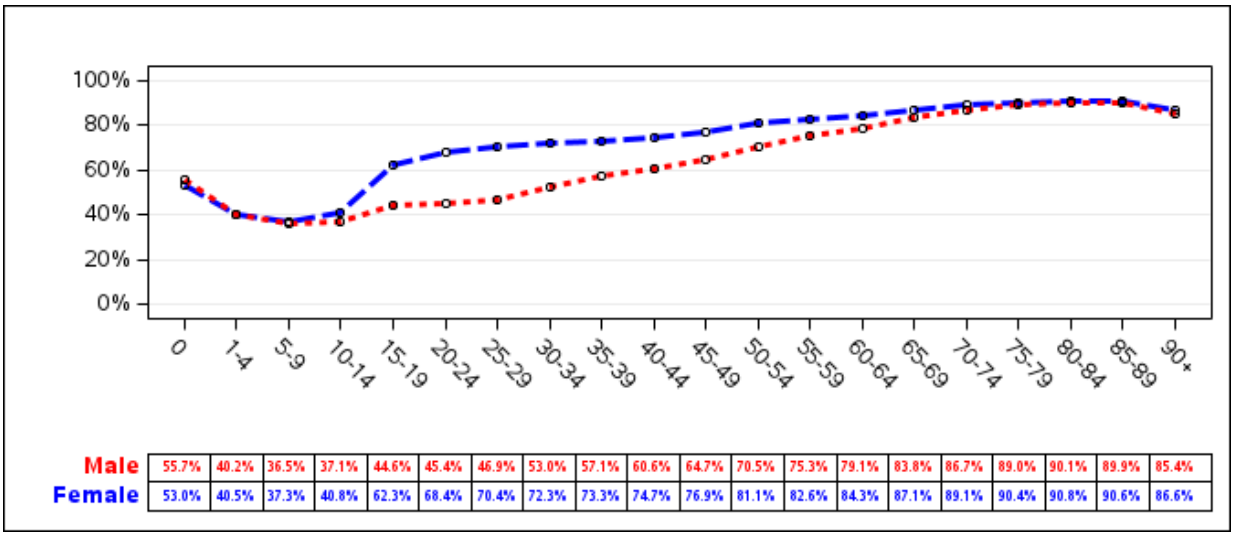


Figure 56: Crude percentage of residents who used primary care physician services by age and sex, 2020/2021

Physician Use - Specialist Care

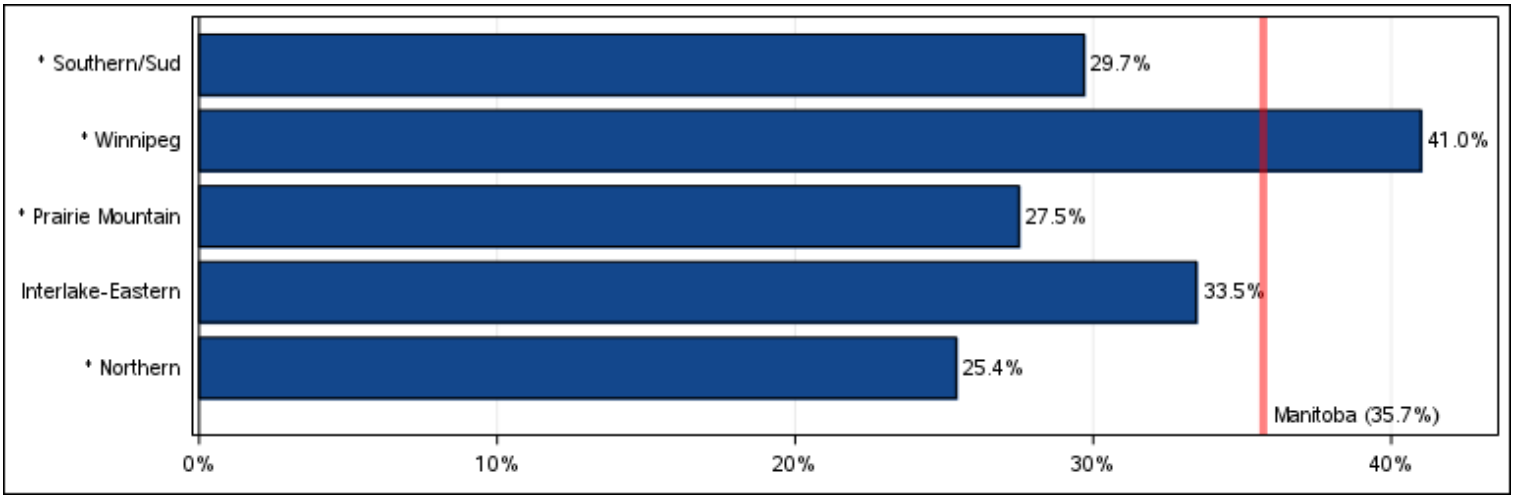


Figure 57: Age-and sex-adjusted percentage of residents who used specialist physician services by health region of residence, 2020/2021

In 2020/2021, 35.7 percent of Manitoba residents saw a specialist care physician at least once during the year (Figure 57). Residents of Prairie Mountain Health, Southern Health-Santé Sud, and the Northern Health Region appear to have had a lower percentage of physician use for specialist care. Values for Northern Health Region are affected by missing data for services provided by salaried physicians and should be interpreted with caution.

Figure 58 shows the rate of specialist physician use in 2020/2021 by age and sex. Females had a higher rate of physician use than males in all age groups between 15 and 65 years. This may be attributed to women seeing specialists for obstetrical and gynaecological care.

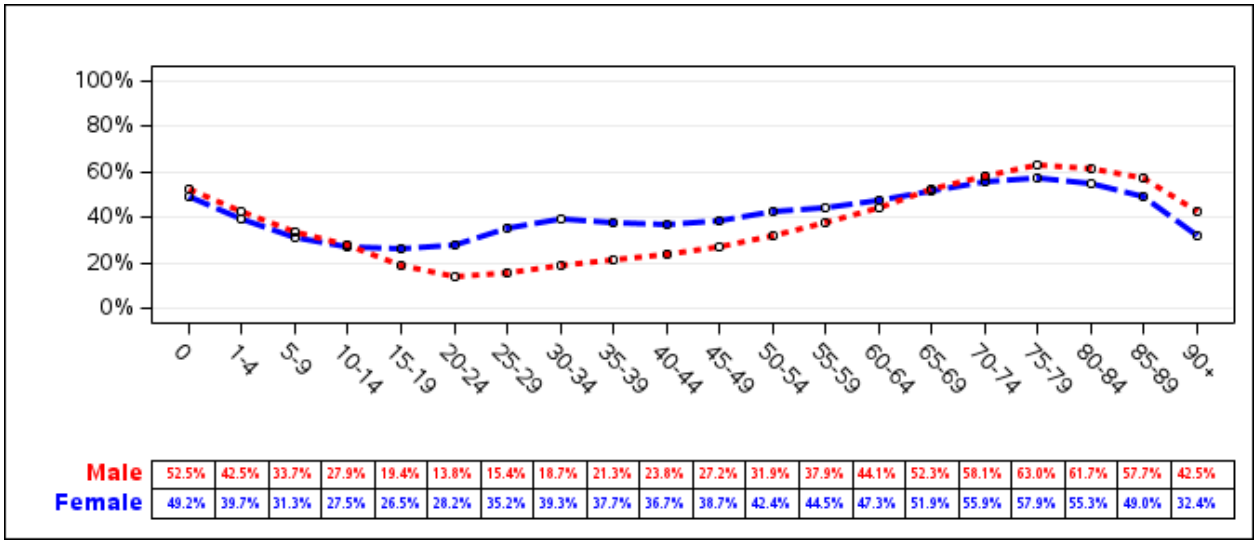


Figure 58: Crude percentage of residents who used specialist physician services by age and sex, 2020/2021

Majority of Care

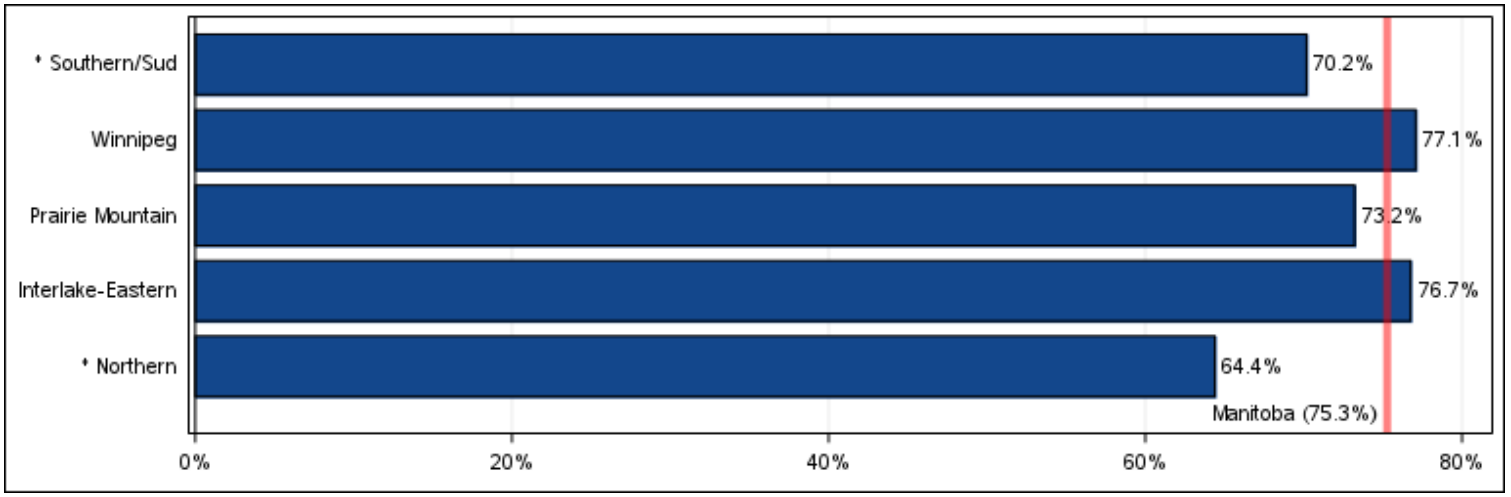


Figure 59: Age-and sex-adjusted percentage of residents with more than 50 percent of ambulatory visits to the same physician by health region of residence, 2019/2020 to 2020/2021

From 2019/2020 to 2020/2021, 75.3 percent of Manitoba residents had more than 50 percent of their visits to the same physician (Figure 59). Southern Health-Santé Sud and the Northern Health Region had significantly lower majority of care rates compared to Manitoba overall.

Figure 60 shows the age-and sex-specific percentage of residents with at least 50 percent of visits made to the same physician. Overall, the majority of care rate was approximately the same for both males and females. Children of both sexes ages five to nine had the lowest majority of care rate.

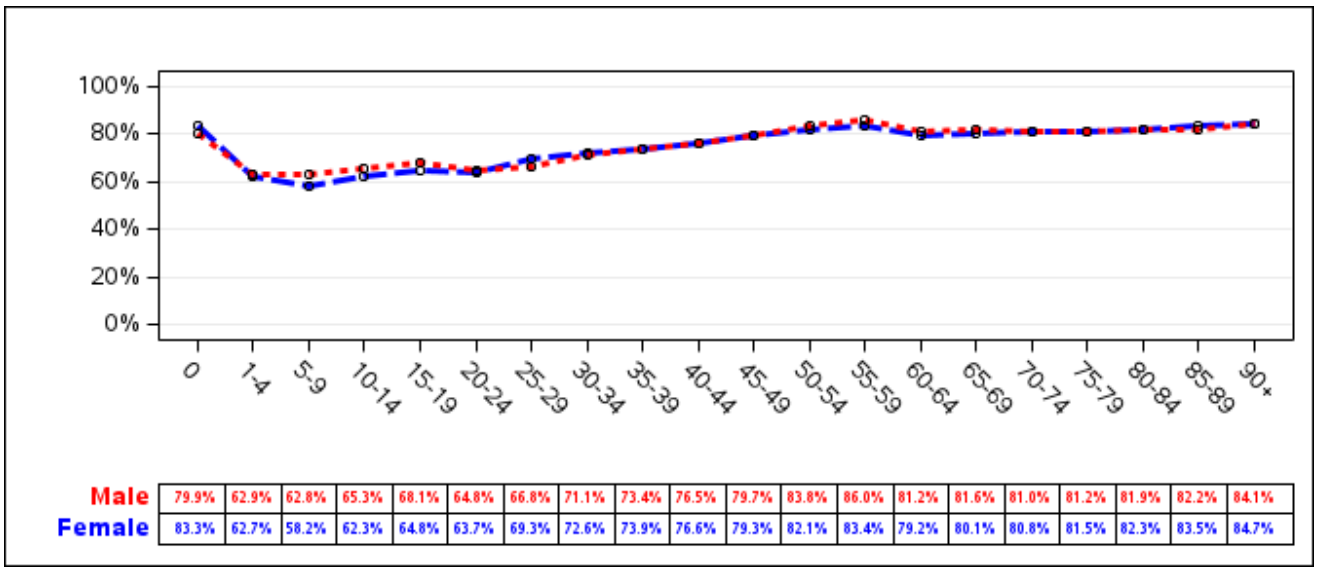


Figure 60: Crude percentage of residents with more than 50 percent of ambulatory visits to the same physician, by age and sex, 2019/2020 to 2020/2021

Ambulatory Care Visits

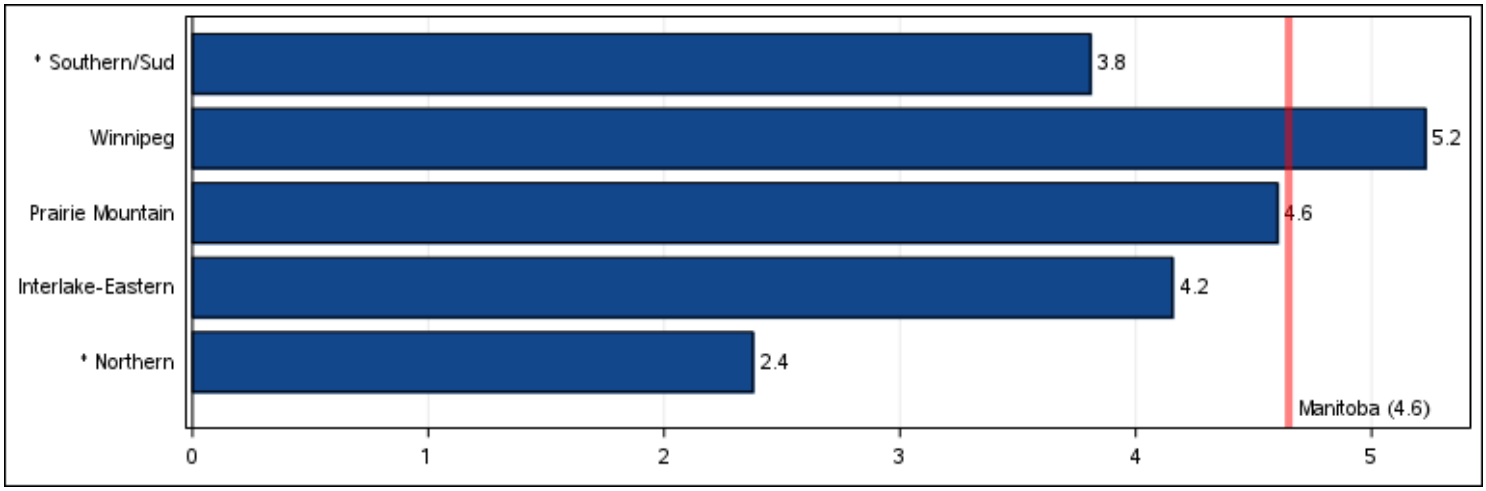


Figure 61: Age-and sex-adjusted average number of ambulatory care visits to a physician per resident by health region of residence, 2020/2021

Figure 61 shows the age-and sex-adjusted average number of visits to a physician per Manitoba resident. Services provided to a patient while admitted to hospital were excluded.

In 2020/2021, there was an average of about five visits to physicians per Manitoba resident. The Northern Health Region and Southern Health-Santé Sud visit rates were significantly lower than the Manitoba visit rate.

The most common reason for a physician visit in Manitoba in 2020/2021 was for 'Mental Disorders', representing 12.0 percent of all visits (Table 1). The second most common reason, at 11.2 percent of all visits, was for 'Factors Influencing Health Status and Contact with Health Services'. The majority of visits in this category are for routine medical examinations or visits to treat a known disease or injury (e.g. renal dialysis, chemotherapy, cast change).

Table 1: Percentage of visits by reason for visit, 2020/2021

Reason for Visit	Percentage of Visits
Mental Disorders	12.0%
Factors Influencing Health Status and Contact with Health Services	11.2%
Circulatory System	10.5%
Symptoms, Signs, and Ill-Defined Conditions	9.9%
Musculoskeletal System and Connective Tissue	8.9%
Endocrine, Metabolic Disease and Immunological Disorders	7.5%
Nervous System and Sense Organs	6.6%
Genitourinary System	6.4%
Skin and Subcutaneous Tissue	5.5%
Respiratory System	4.6%
Digestive System	4.4%
Injury and Poisoning	3.9%
Neoplasms	3.9%
Infectious and Parasitic Diseases	2.4%
Disease of Blood and Blood-Forming Organs	1.4%
Pregnancy, Childbirth and Puerperium	0.6%
Congenital Anomalies	0.4%
Conditions Originating in the Perinatal Period	0.0%

Use of Hospital Services

The following section provides an overview of the use of hospital services, appropriateness of care and proportion of alternate level of care days in Manitoba. This includes use of hospitals, hospital separation rates, day surgery rates, hospitalizations for ambulatory care sensitive conditions, and alternate level of care days.

In 2020/2021, there were 75 acute and chronic care facilities along with two long term psychiatric facilities.

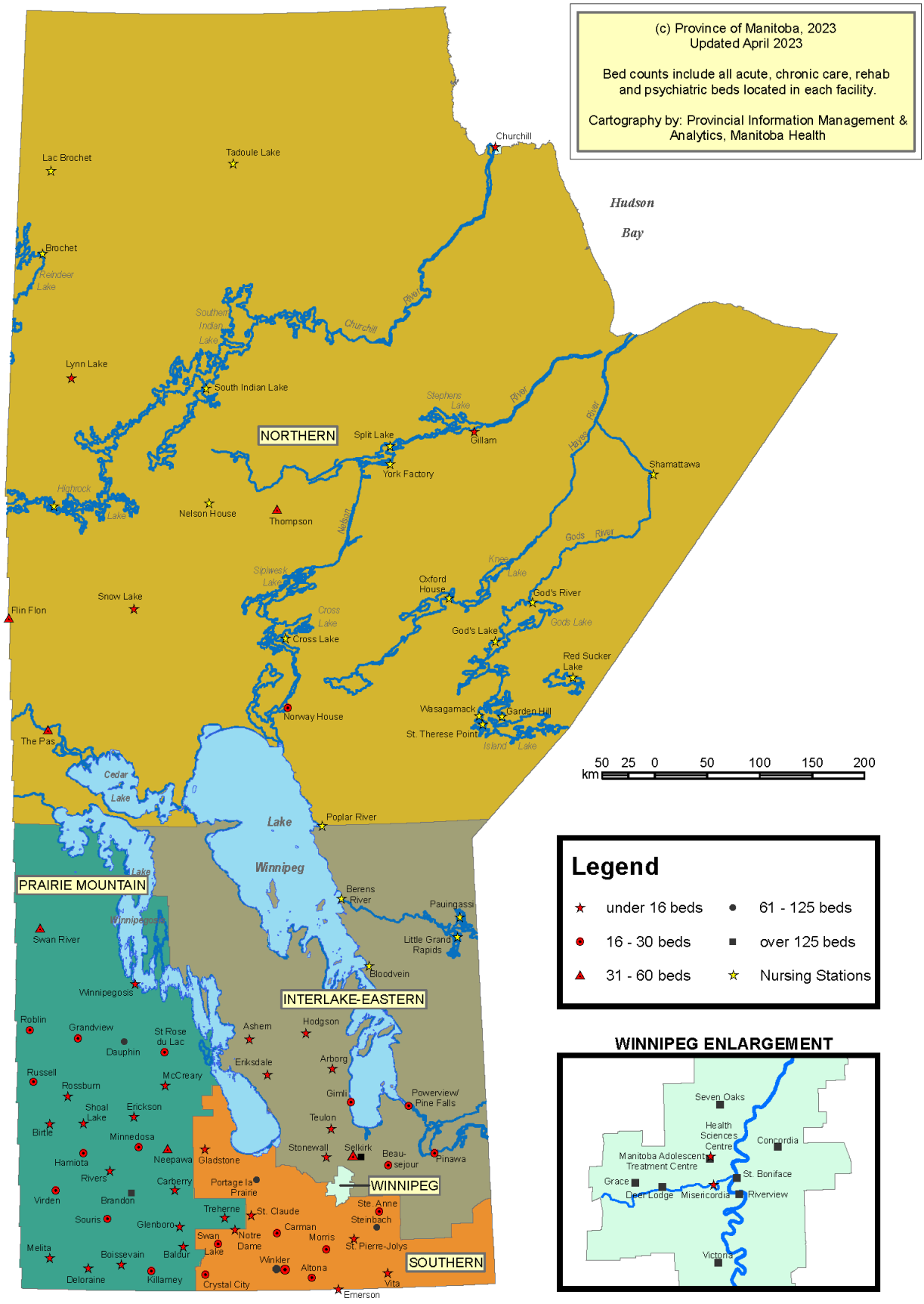
About five percent of Manitoba residents were admitted as inpatients to a hospital in 2020/2021. In total, there were 102,975 inpatient hospitalizations.

There were a total of 86,173 hospital day surgery visits among Manitoba residents in 2020/2021. Nearly half of these visits were for procedures involving the digestive system.

Ambulatory care sensitive conditions (ACSC) is a measure of access to appropriate medical care. While not all admissions for these conditions are avoidable, significantly elevated rates often reflect problems obtaining access to primary care. In 2020/2021, the rate of hospitalization for ACSC was 5.4 per 1,000 residents.

Alternate Level of Care (ALC) days are inpatient days in which a patient no longer requires the level of care their care setting provides, and the patient is waiting for transfer to a lower level of care, or for equipment or services that would allow for safe discharge. In 2020/2021, 5.5 percent of all hospitalized cases had one or more ALC days associated with them.

Map of Hospitals by Facility Size



Use of Hospitals

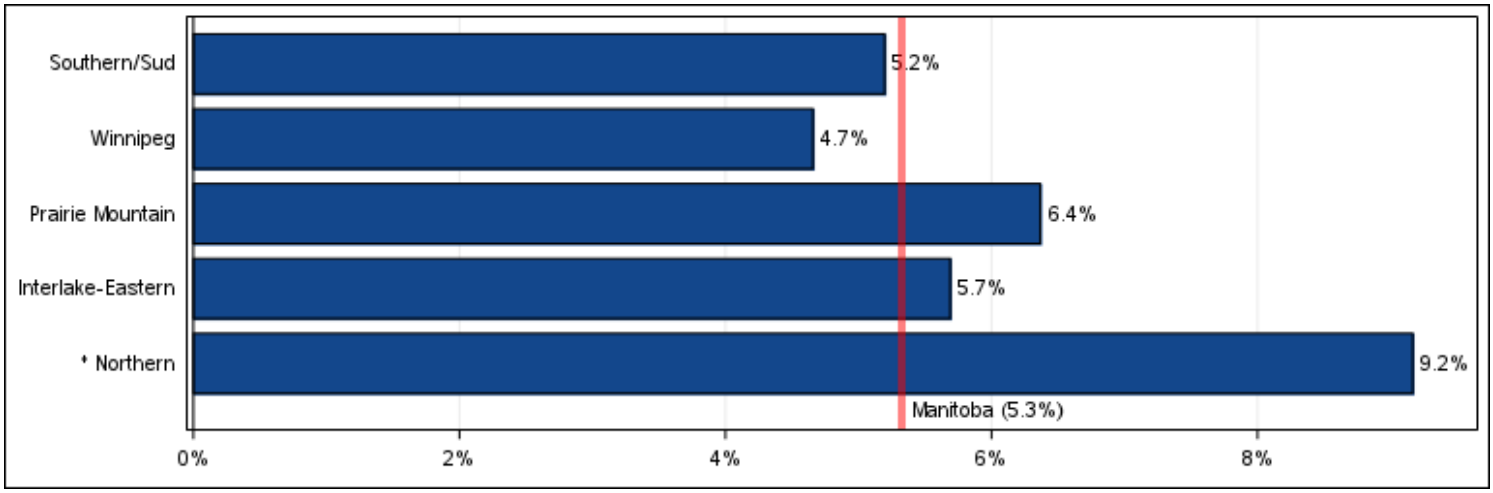


Figure 62: Age-and sex-adjusted percentage of residents admitted to hospital by health region 2Ŧ ℕŜăλŘŜyŎŜ, 2020/2021

Ln 2020/2021, 5.3 percent of Manitoba residents were admitted at least once to a hospital óCλƎdzℕŜ c2ú.

The Northern Health Region had a significantly higher percentage of residents with one or more admissions than Manitoba overall.

Figure 63 shows the hospital use rate in 2020/2021 by age and sex. Females age 10 to 49 have higher hospital use than males in the same age group. This is mainly attributed to women admitted to hospital for obstetrical services. Rates 2Ŧ K2ăLJńűl·f dzăŜ by both sexes increase above 55 years 2Ŧ l·ƎŜ, with senior males having higher rateă úKl·yˉŦŜYˉl·fŜă.

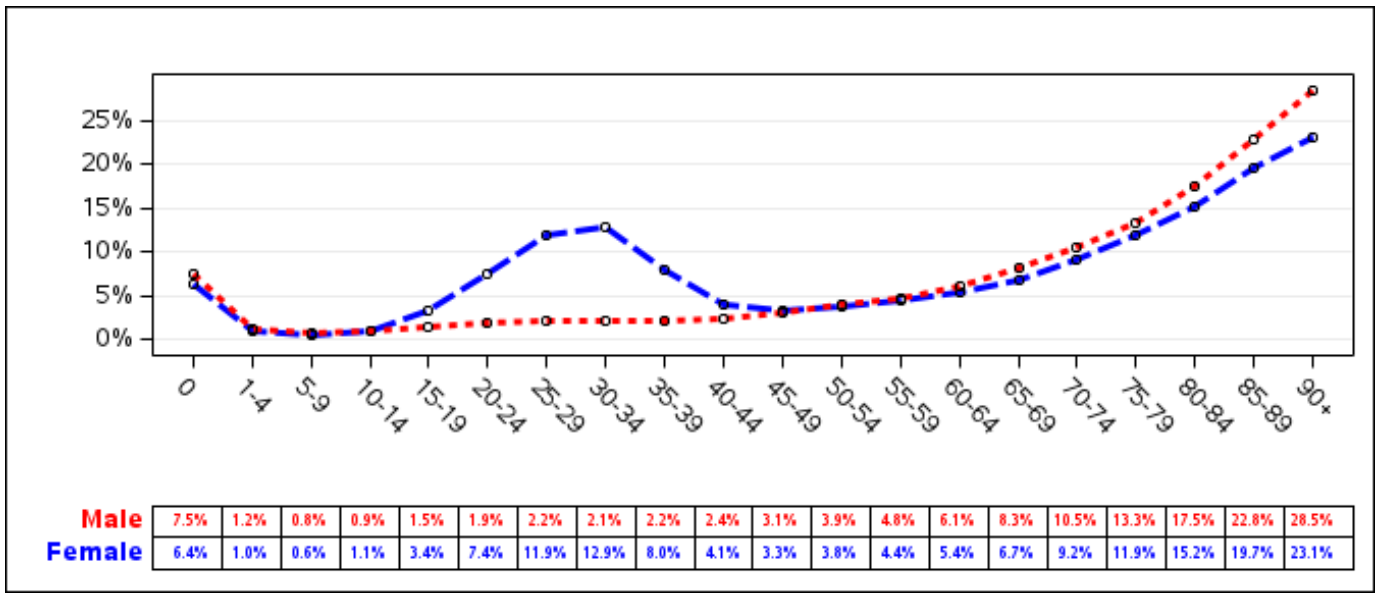


Figure 63: Crude percentage of residents admitted to hospital by age and sex, 2020/2021

Inpatient Hospital Separations

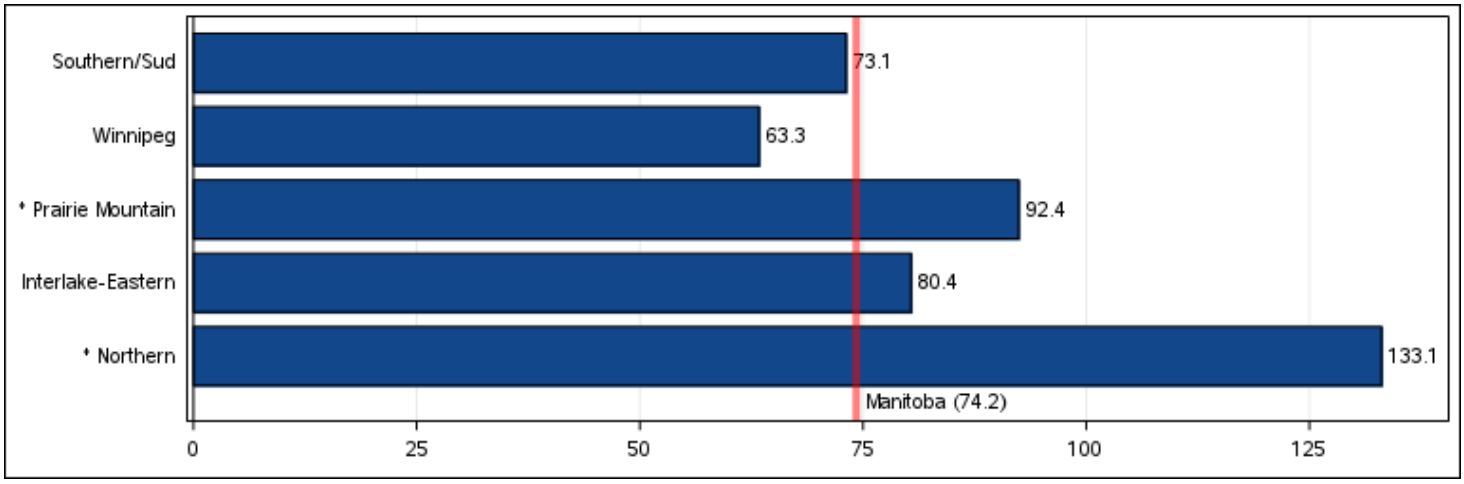


Figure 64: Age-and sex-adjusted rate of inpatient hospitalization separations per 1,000 residents by health region, 2020/2021

Figure 64 shows the age-and sex-adjusted rate of inpatient hospitalization separations per 1,000 residents. A separation is defined as anytime a patient leaves a facility because of discharge, transfer, or death.

In 2020/2021, there were 102,975 inpatient separations among Manitoba residents, representing a rate of 74.2 per 1,000 Manitoba residents. Rates in the Northern Health Region and Prairie Mountain Health were significantly higher than Manitoba overall.

Table 2: Percentage of inpatient hospital separations by reason, 2020/2021

Reason for Hospitalization	Percentage of Hospitalizations
Pregnancy, Childbirth and Puerperium	16.6%
Digestive System	11.2%
Circulatory System	10.6%
Injury and Poisoning	9.7%
Factors Influencing Health Status and Contact with Health Services	9.1%
Mental Disorders	7.2%
Musculoskeletal System and Connective Tissue	6.2%
Neoplasms	5.0%
Respiratory System	4.5%
Symptoms, Signs and Abnormal Clinical/Lab Findings	4.5%
Genitourinary System	4.4%
Endocrine, Nutritional and Metabolic Diseases	3.3%
Infectious and Parasitic Diseases	2.3%
Skin and Subcutaneous Tissue	1.7%
Diseases of the Nervous System	1.4%
Diseases of Blood and Blood Forming Organs	0.8%
Congenital Anomalies	0.5%
Conditions Originating in Perinatal Period	0.5%
Eye and Adnexa	0.2%
Ear and Mastoid Process	0.1%

The most common reason for inpatient hospitalization in Manitoba was Pregnancy, representing 16.6 percent of inpatient hospitalizations. This was followed by hospitalizations for issues related to the Digestive System at 11.2 percent (Table 2).

Hospitalizations by Service Type

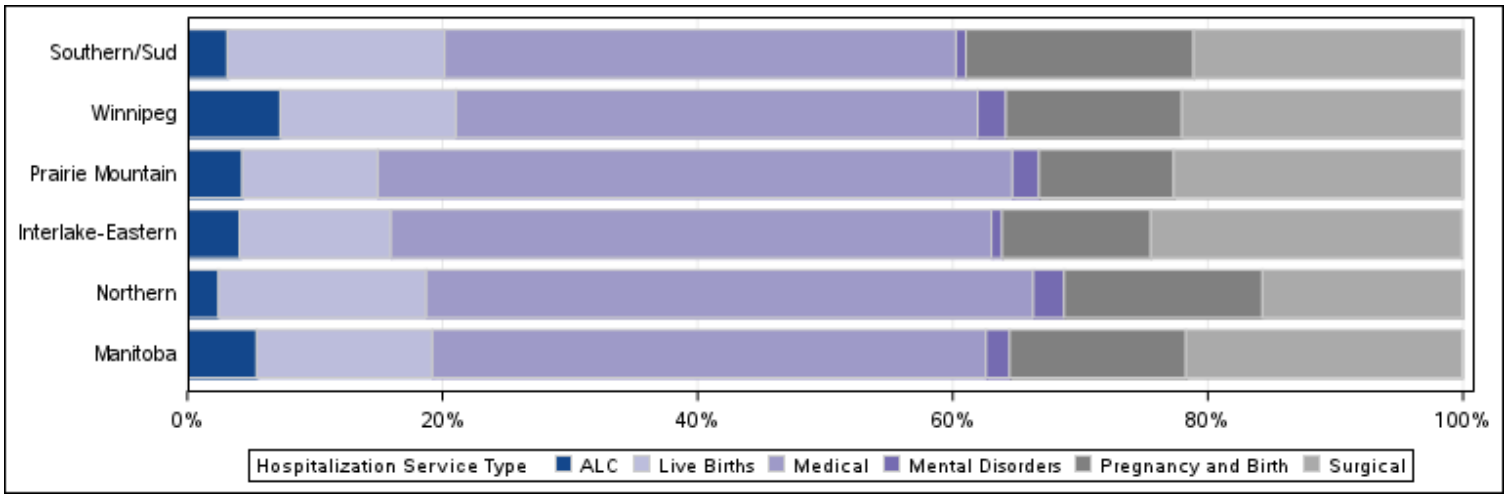


Figure 65: Percentage of hospitalizations by service type and health region of residence, 2020/2021

In 2020/2021, Prairie Mountain Health residents had the highest percentage of hospitalization for medical services (Figure 65). The percentage of Alternative Level of Care (ALC) hospitalization for Winnipeg residents was higher than Manitoba overall.

Figure 66 shows the percentage of Manitobans who were admitted to hospital by service type and the health region of the hospital. In 2020/2021, Interlake-Eastern RHA hospitals had the highest proportion of hospitalizations for medical services, while hospitals in the Winnipeg region had the highest proportion of hospitalizations for surgical services.

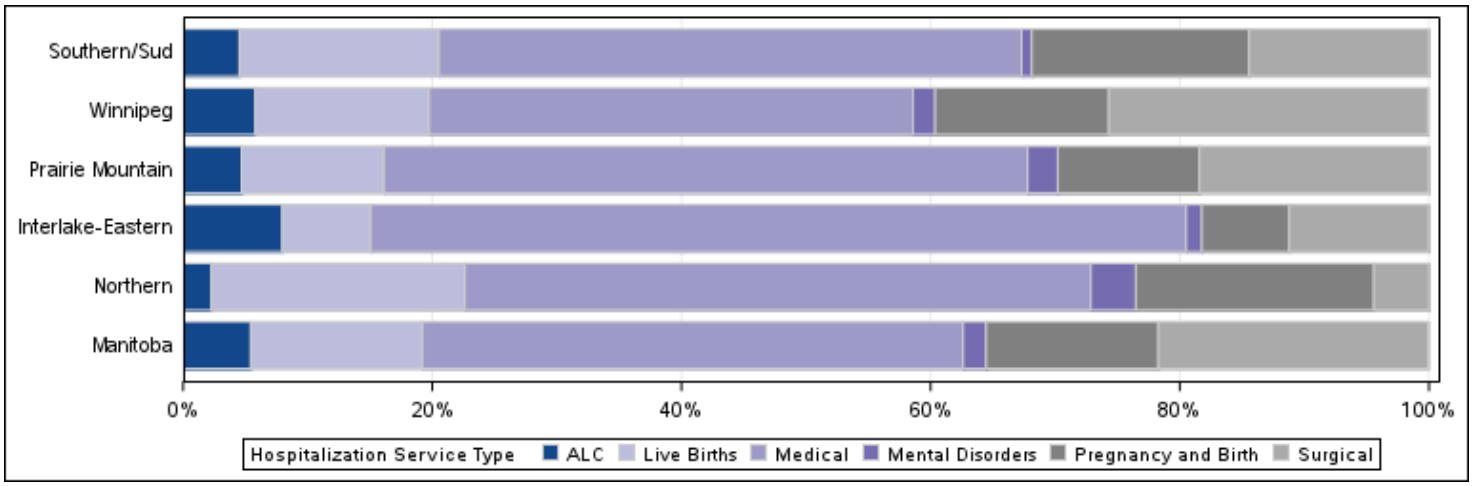


Figure 66: Percentage of hospitalizations by service type and health region of hospital, 2020/2021

Day Surgery

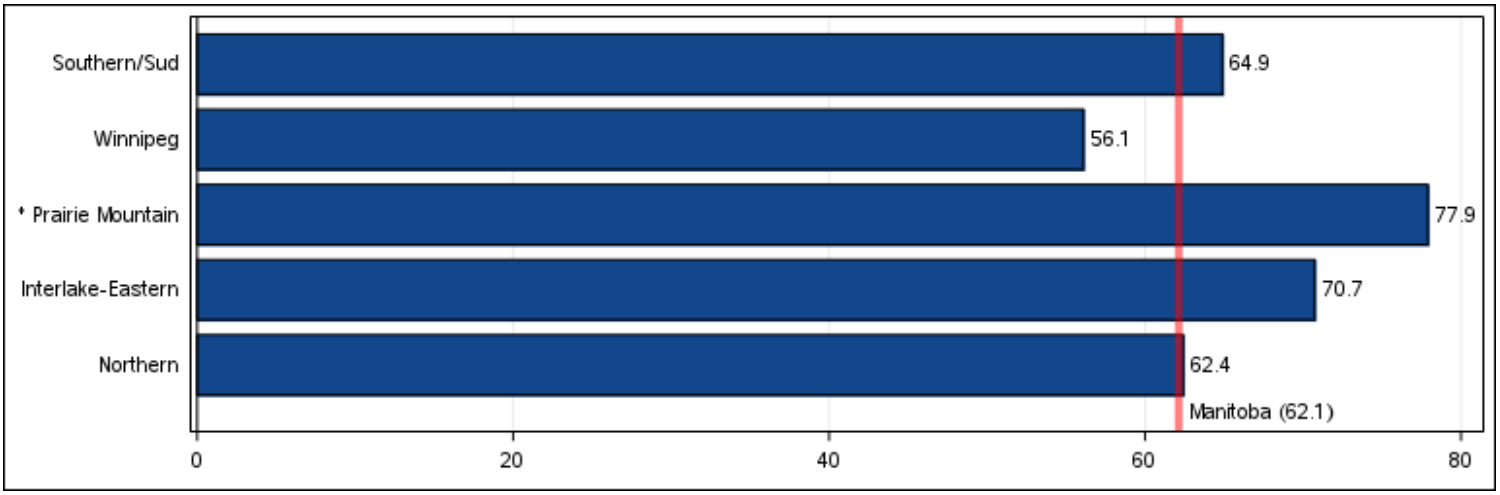


Figure 67: Age–and sex-adjusted rate of day surgery hospitalization per 1,000 residents by health region of residence, 2020/2021

Figure 67 shows the age-and sex-adjusted rate of day surgery hospitalization per 1,000 residents. Day surgery is defined as surgical services received on an outpatient basis.

In 2020/21, there were 86,173 day surgery hospitalizations among Manitoba residents, representing a rate of 62.1 per 1,000 Manitoba residents.

The most common reason for day surgery hospitalization in Manitoba was for 'Intervention on the Digestive Tract', representing 47.0 percent of all day surgery hospitalizations (Table 3).

Table 3: Percentage of day surgery hospitalization by reason, 2020/2021

Type of Day Surgery Intervention	Percentage of Day Surgeries
Interventions on the Digestive and Hepatobiliary Tracts and Other Sites within the Abdominal Cavity	47.0%
Interventions on the Eye and Ocular Adnexa	11.1%
Interventions on the Musculoskeletal System	10.5%
Interventions on the Urinary System	7.5%
Interventions on the Cardiovascular System	5.9%
Interventions on Female Genital Organs	4.0%
Interventions on the Orocraniofacial Region	3.9%
Interventions on the Skin, Subcutaneous Tissue and Breast	3.0%
Obstetrical and Fetal Interventions	1.8%
Interventions on the Respiratory System	1.6%
Interventions on the Nervous System	1.2%
Interventions on Male Genital Organs	1.2%
Interventions on the Ear and Mastoid (process)	0.7%
Interventions on the Lymphatic System	0.5%
Interventions on the Body, Not Elsewhere Classified	0.0%

Hospitalization for Ambulatory Care Sensitive Conditions

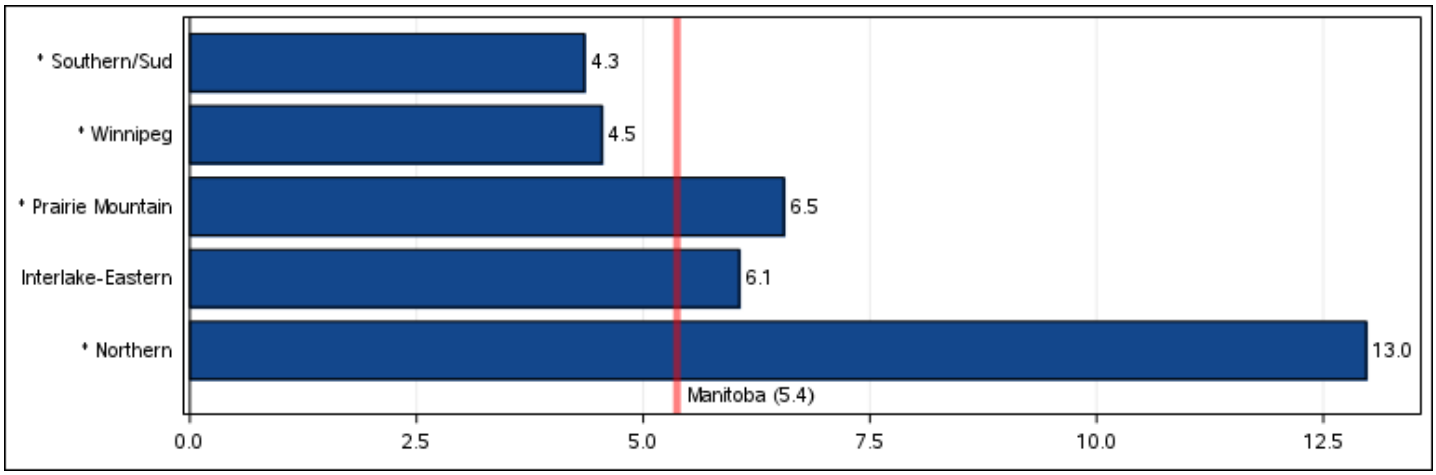


Figure 68: Age–and sex-adjusted rate of Ambulatory Care Sensitive Conditions (ACSC) per 1,000 residents under the age of 75 by health region of residence, 2020/2021

Figure 68 shows the age-and sex-adjusted rate of hospitalization for ambulatory care sensitive conditions (ACSC). ACSC are a set of conditions comprised of 25 diseases/diagnoses which have been identified as observably responsive to primary care.

ACSC hospitalizations accordingly can function as an indirect measure of primary care access. Although significantly higher rates are presumed to reflect problems obtaining access to primary care, not all admissions for these conditions are avoidable.

Table 4: Percentage of Ambulatory Care Sensitive Conditions (ACSC) by reason, 2020/2021

Ambulatory Care Sensitive Condition	Percentage of Hospitalizations
Diabetes	18.2%
Congestive Heart Failure	15.0%
Kidney/Urinary Infections	13.4%
Cellulitis	11.4%
Bacterial Pneumonia	11.2%
Chronic Obstructive Pulmonary Disease	10.6%
Epilepsy	4.1%
Convulsions	2.6%
Angina	2.4%
Pelvic Inflammatory Disease	2.0%
Dental Conditions	1.6%
Asthma	1.3%
Hypertension	1.1%
Dehydration/Volume Depletion	1.0%
Gastroenteritis	0.8%
Severe ENT Infections	0.8%
Congenital Syphilis	0.7%
Pulmonary Tuberculosis	0.5%
All other ACS Conditions	1.4%

In 2020/2021, the rate of hospitalization for ACSC was 5.4 per 1,000 Manitoba residents. Hospitalization rates in the Northern and Prairie Mountain Health regions were significantly higher than Manitoba overall, while the rates in Winnipeg region and Southern Health-Santé Sud were significantly lower.

The most common condition associated with ACSC hospitalization among Manitoba residents was Diabetes, representing 18.2 percent of all ACSC hospitalizations (Table 4).

Alternate Level of Care

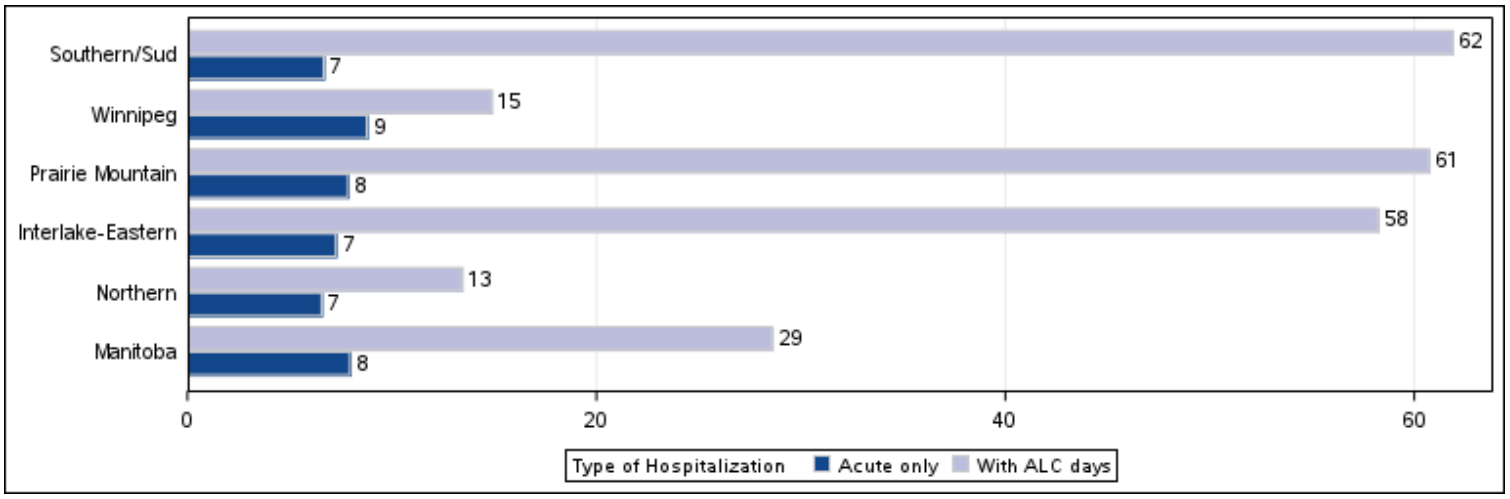


Figure 69: Average length of stay for Alternate Level of Care (ALC) and acute care-only patient stays by health region of hospital, 2020/2021

Figure 69 shows the average lengths of stay for acute care-only hospitalizations, and for hospitalizations where a portion of the stay included Alternate Level of Care (ALC). Inpatient days are identified as ALC when a patient no longer requires the level of care their care setting provides, and the patient is waiting for transfer to a lower level of care, or for equipment or services that would allow for safe discharge.

The average length of stay in 2020/2021 for a hospitalization with at least one day of ALC was approximately 8 days, compared to 29 days for a non-ALC acute case.

Figure 70 shows the crude proportion of total hospitalizations, with and without associated ALC days. In 2020/2021, there were 6,487 hospitalizations in which a portion of the stay included ALC days, representing 5.5 percent of all hospitalized cases.

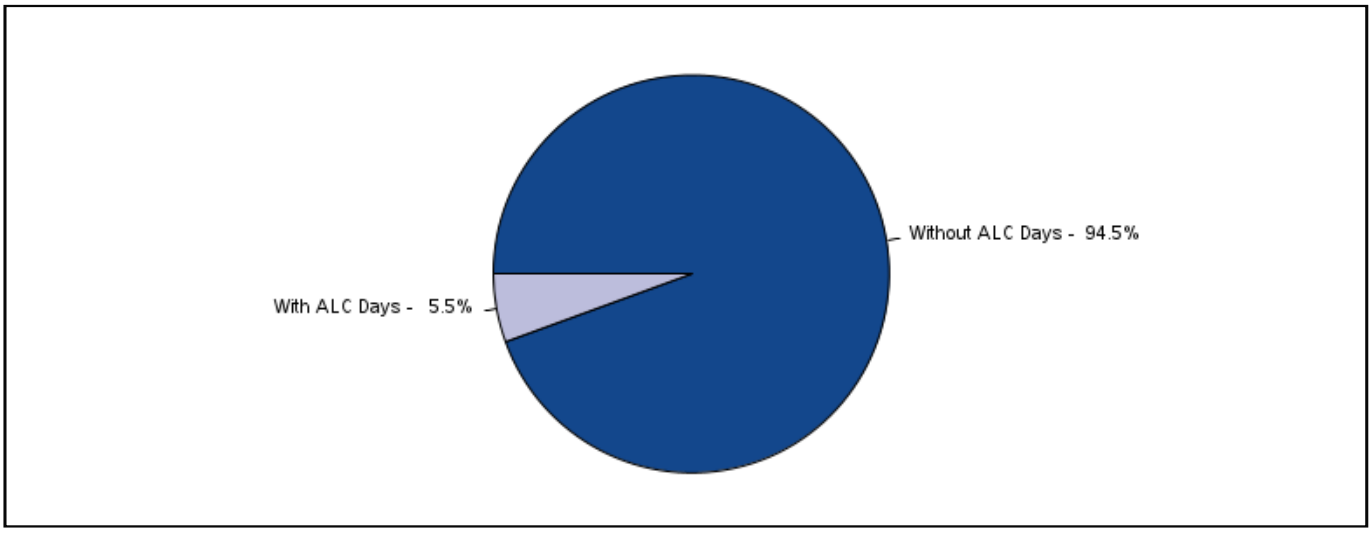


Figure 70: Crude percentage of total hospitalized cases associated with and without Alternate Level of Care days, 2020/2021

High Profile Surgeries

The following section provides an overview of high profile surgery rates for the Manitoba population, including rates for coronary surgeries, hip replacement surgeries, knee replacement surgeries, cataract surgeries, and paediatric dental extractions.

For the period of 2016/2017 to 2020/2021, there was about one coronary artery bypass graft surgery and nearly four percutaneous coronary intervention surgeries per 1,000 Manitoba residents age 40 and older.

In 2020/2021, there were two hip replacement surgeries and three knee replacement surgeries per 1,000 Manitoba residents age 40 and older.

In 2019/2020, there were about 30 cataract surgeries per 1,000 Manitoba residents age 50 and older.

There were five dental extraction surgeries per 1,000 children under the age of six in 2020/2021.

Coronary Artery Bypass Graft Surgery and Percutaneous Coronary Intervention Surgery

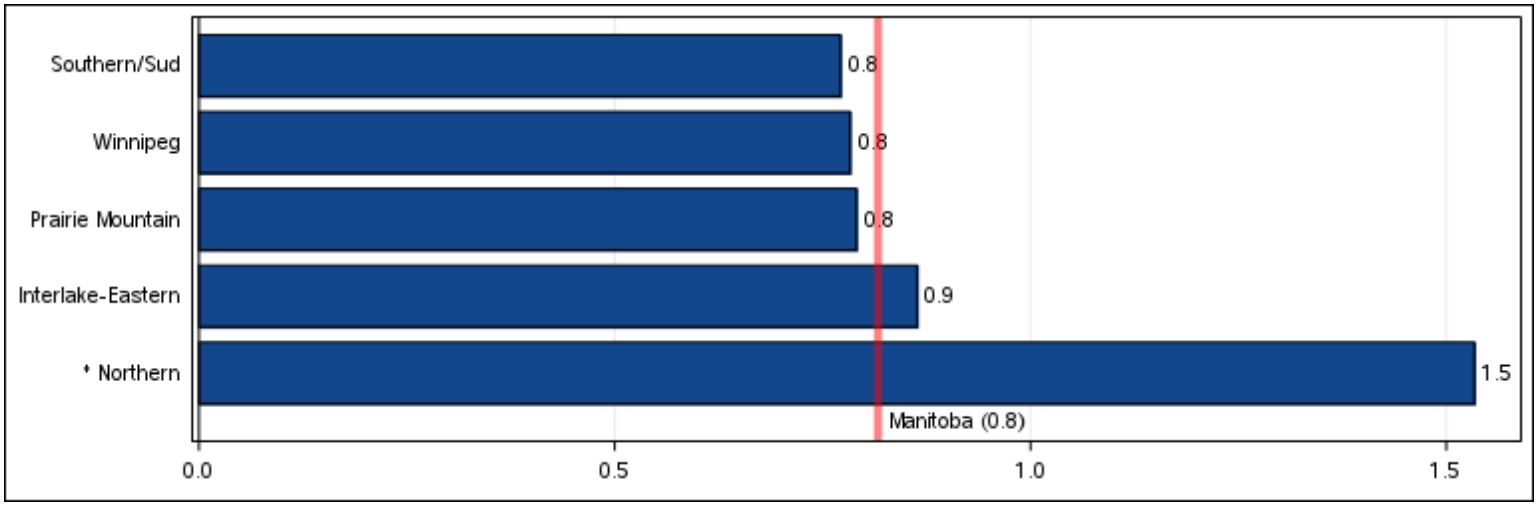


Figure 71: Age-and sex-adjusted Coronary Artery Bypass Graft (CABG) surgery rate per 1,000 residents age 40 and older by health region of residence, 2016/2017 to 2020/2021

For the period of 2016/2017 to 2020/2021, an average of 525 Coronary Artery Bypass Graft (CABG) surgeries were performed on Manitoba residents per year, representing a rate of 0.8 surgeries per 1,000 for those age 40 and older (Figure 71).

Figure 72 shows the age-and sex-adjusted Percutaneous Coronary Intervention (PCI) surgery rate among Manitoba residents age 40 and older, by health region of residence. In cases amenable to treatment with less invasive procedures, PCI is an alternative intervention to improve blood flow to the heart muscle.

For the period of 2016/2017 to 2020/2021, an average of 2,450 PCI surgeries were performed on Manitoba residents per year, representing a rate of 3.8 surgeries per 1,000 for those age 40 and older (Figure 72).

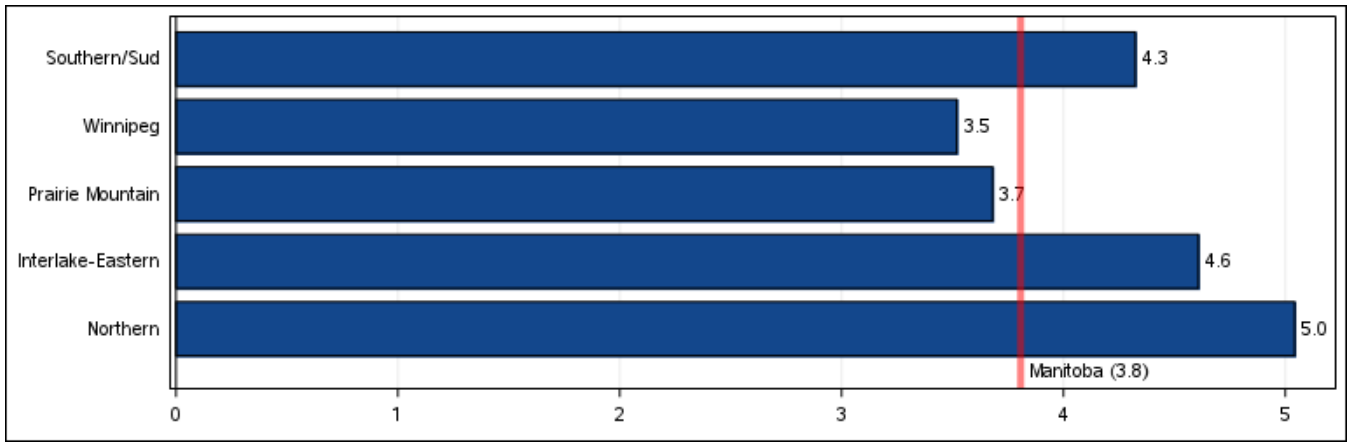


Figure 72: Age–and sex-adjusted Percutaneous Coronary Intervention (PCI) surgery rate per 1,000 residents age 40 and older by health region of residence, 2016/2017 to 2020/2021

Hip Replacement

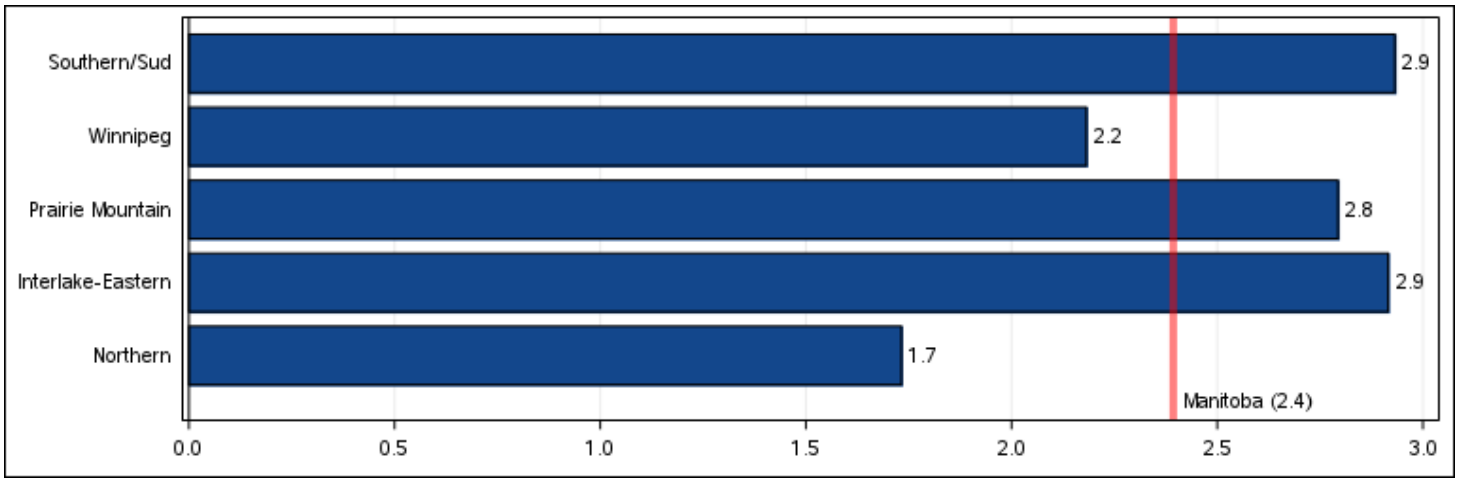
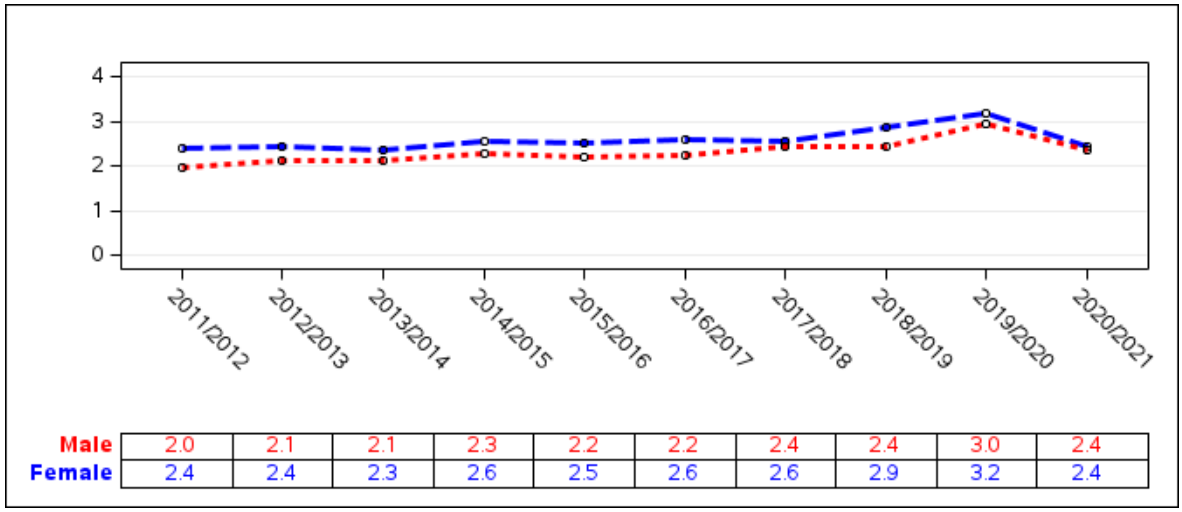


Figure 73: Age-and sex-adjusted hip replacement surgery rate per 1,000 residents age 40 and older by health region of residence, 2020/2021

In 2020/2021, there were 1,579 hip replacement surgeries performed on Manitoba residents, representing a rate of 2.4 per 1,000 for those age 40 and older (Figure 73).

None of the age-and sex-adjusted rates by health region were significantly different than the Manitoba overall rate.

Figure 74 shows the hip replacement surgery rate in Manitoba by sex and fiscal year. The overall hip replacement surgery rate in Manitoba was slightly higher over time among females than males. The rates had been increasing from 2013/2014 for both sexes, but decreased in 2020/2021.



	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Male	2.0	2.1	2.1	2.3	2.2	2.2	2.4	2.4	3.0	2.4
Female	2.4	2.4	2.3	2.6	2.5	2.6	2.6	2.9	3.2	2.4

Figure 74: Hip replacement surgery rate per 1,000 residents age 40 and older by sex and fiscal year

Knee Replacement

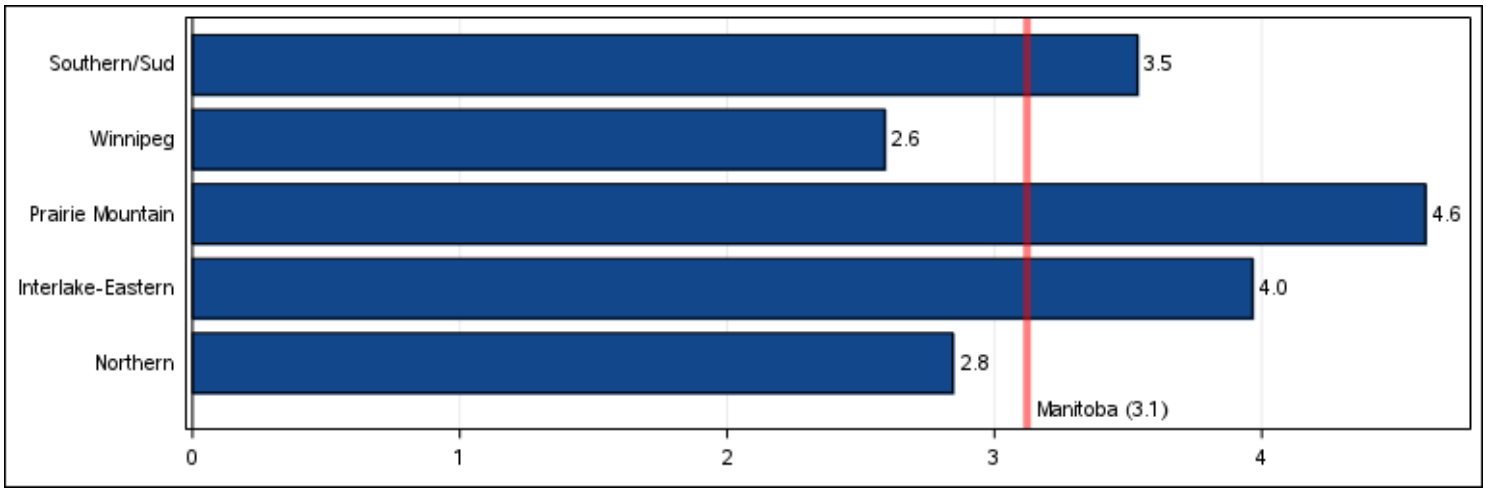
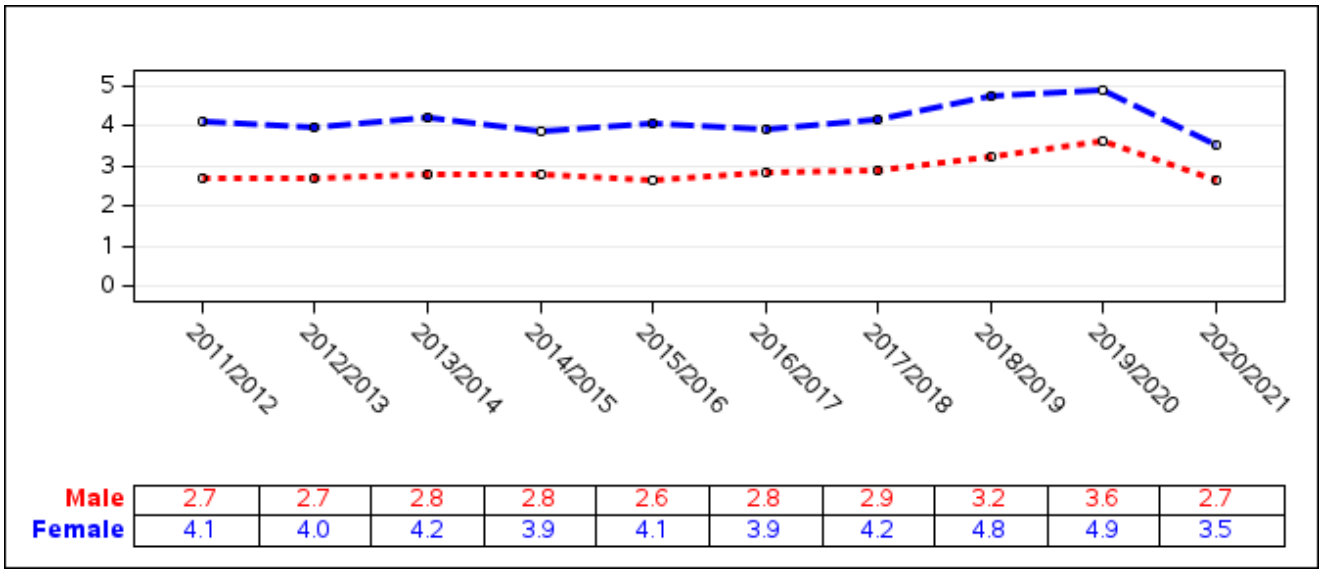


Figure 75: Age-and sex-adjusted knee replacement surgery rate per 1,000 residents age 40 and older by health region of residence, 2020/2021

In 2020/2021, there were 2,060 total knee replacement surgeries performed on Manitoba residents, representing a rate of 3.1 per 1,000 for those age 40 and older (Figure 75).

None of the age-and sex-adjusted rates by health region were significantly different than the Manitoba overall rate.

Figure 76 shows knee replacement surgery rates in Manitoba by sex and fiscal year. The overall knee replacement surgery rate in Manitoba has been consistently higher among females compared to males, and decreased in 2020/2021.



	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Male	2.7	2.7	2.8	2.8	2.6	2.8	2.9	3.2	3.6	2.7
Female	4.1	4.0	4.2	3.9	4.1	3.9	4.2	4.8	4.9	3.5

Figure 76: Knee replacement surgery rate per 1,000 residents age 40 and older by sex and fiscal year

Cataract Surgery

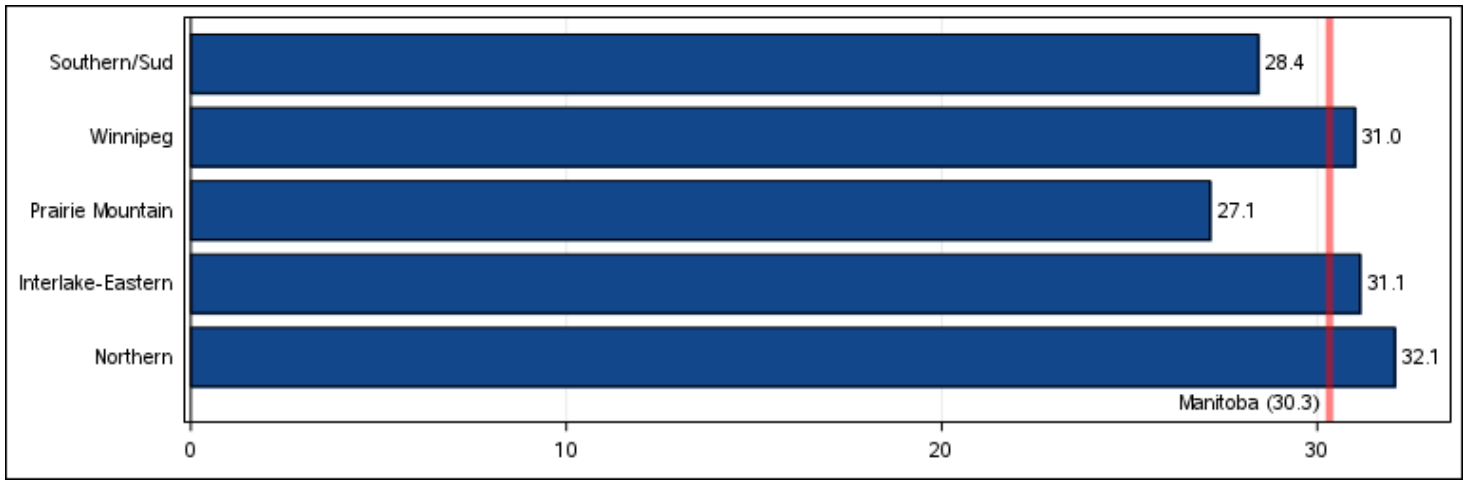
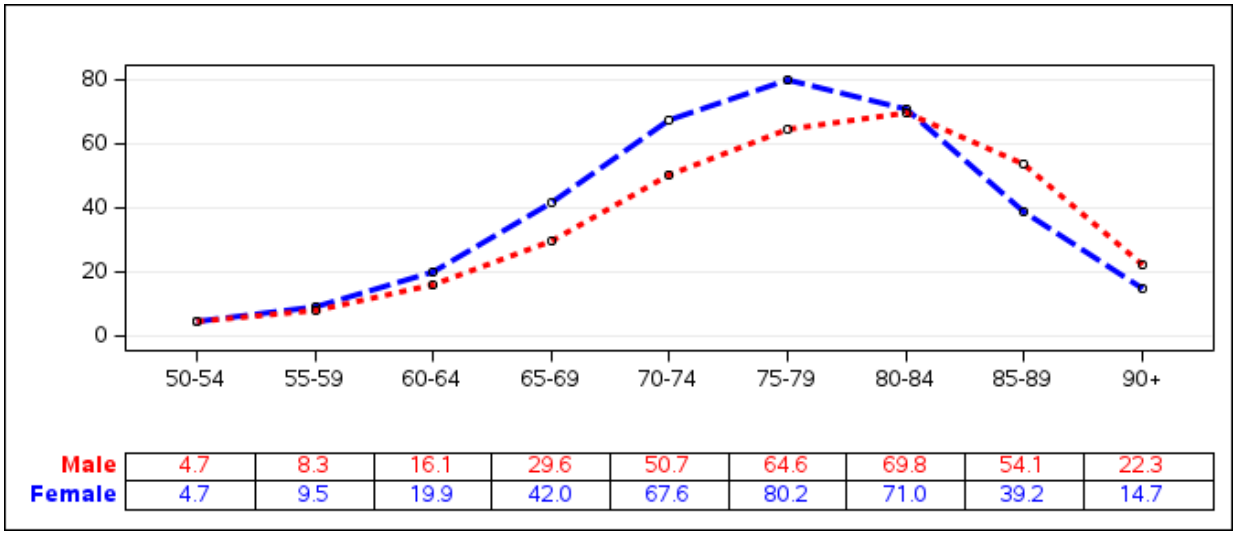


Figure 77: Age-and sex-adjusted rate of cataract surgery per 1,000 residents age 50 and older by health region of residence, 2019/2020

In 2019/2020, there were 14,018 cataract surgeries performed on Manitoba residents, representing a rate of 30 residents per 1,000 for those age 50 and older (Figure 77).

None of the age-and sex-adjusted rates by health region were significantly different than the Manitoba overall rate.

Figure 78 shows cataract surgery rates by age and sex. In 2019/2020, the rate for females was higher than males between the ages of 60 and 80, but lower than that of males in age groups 80+.



	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	4.7	8.3	16.1	29.6	50.7	64.6	69.8	54.1	22.3
Female	4.7	9.5	19.9	42.0	67.6	80.2	71.0	39.2	14.7

Figure 78: Age-and sex-adjusted rate of cataract surgery per 1,000 residents age 50 and older by age and sex, 2019/2020

Paediatric Dental Extraction

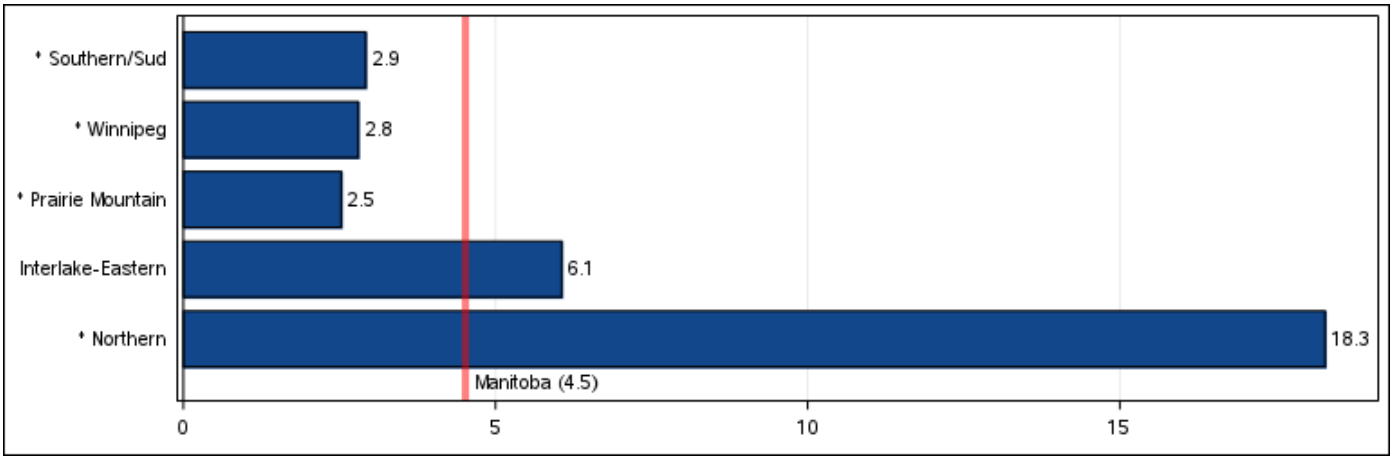
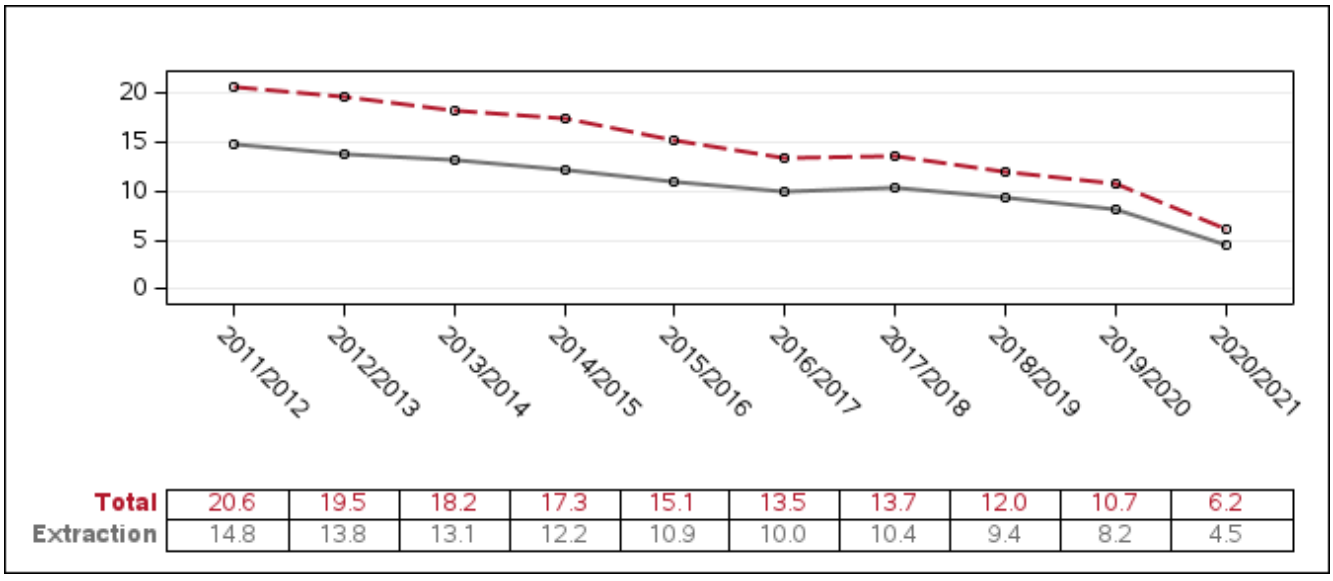


Figure 79: Age-and sex-adjusted rate of dental extraction for children under the age of six per 1,000 children under the age of six by health region of residence, 2020/2021

In 2020/2021, there were 469 hospitalizations for dental extractions among Manitoba children under the age of six, representing a rate of 4.5 hospitalizations per 1,000 children (Figure 79).

The hospitalization rate in the Northern Health Region was significantly higher than in Manitoba overall, and was about four times higher than the Manitoba rate.

Figure 80 shows the rate of paediatric dental extractions, as well as total paediatric dental procedures over time. The rates for both have been steadily decreasing since 2011/2012.



	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Total	20.6	19.5	18.2	17.3	15.1	13.5	13.7	12.0	10.7	6.2
Extraction	14.8	13.8	13.1	12.2	10.9	10.0	10.4	9.4	8.2	4.5

Figure 80: Crude rate of paediatric dental extractions and total paediatric dental surgeries by fiscal year

Women's Reproductive Health

The following section provides an overview of selected women's reproductive health indicators, including hysterectomy rates, proportion of deliveries by Caesarean section, and proportion of vaginal births after Caesarean section.

In 2020/2021, two of every 1,000 Manitoba women between the ages of 20 to 84 had a hysterectomy.

Provincially, 27.7 percent of total deliveries among women ages 15 to 54 were by Caesarean section, and 27.0 percent of women having a previous Caesarean section delivered vaginally.

Hysterectomy

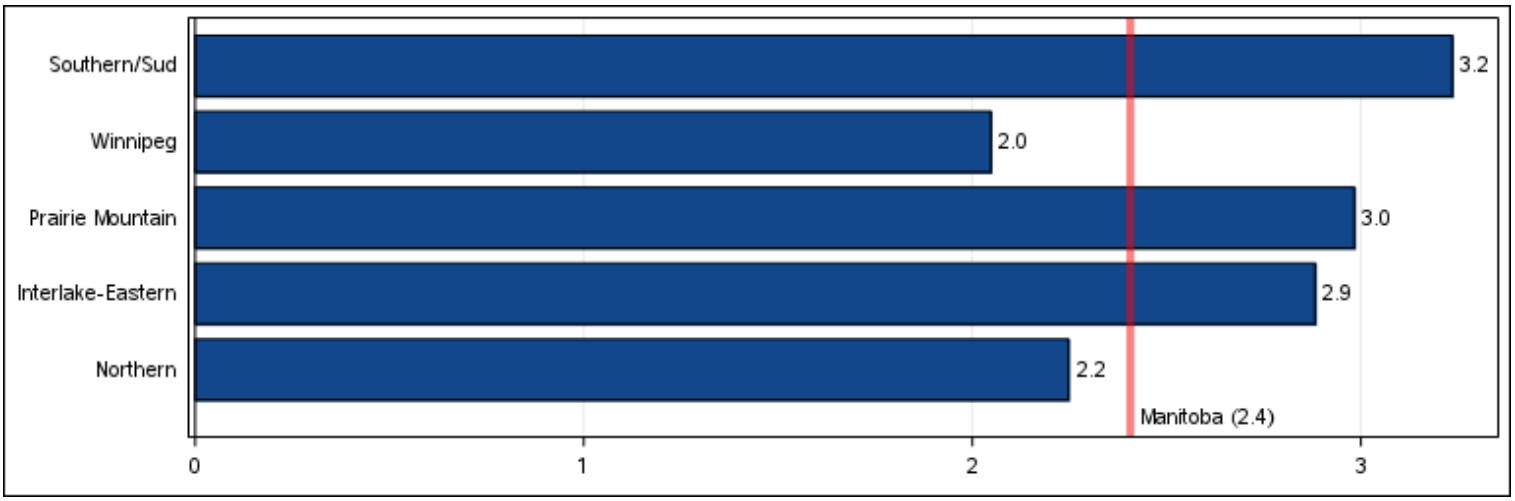


Figure 81: Age-adjusted hysterectomy rate per 1,000 female residents ages 20 to 84 by health region of residence, 2020/2021

In 2020/2021, there were 1,275 females that had a hysterectomy, representing a rate of 2.4 hysterectomies per 1,000 females ages 20 to 84 (Figure 81). None of the regional age-adjusted rates were significantly different than the Manitoba overall rate.

The largest proportion (34.4 percent) of hysterectomies were performed on females ages 40 to 49 (Figure 82).

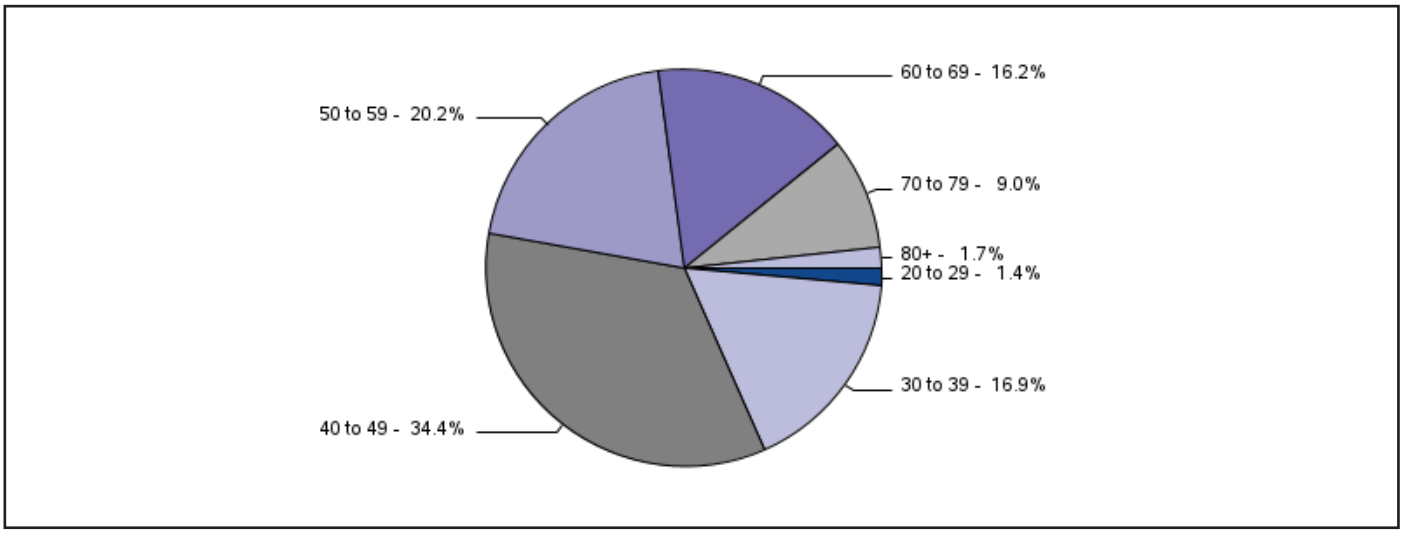


Figure 82: Percentage of hysterectomies performed by age group, 2020/2021

Caesarean Section

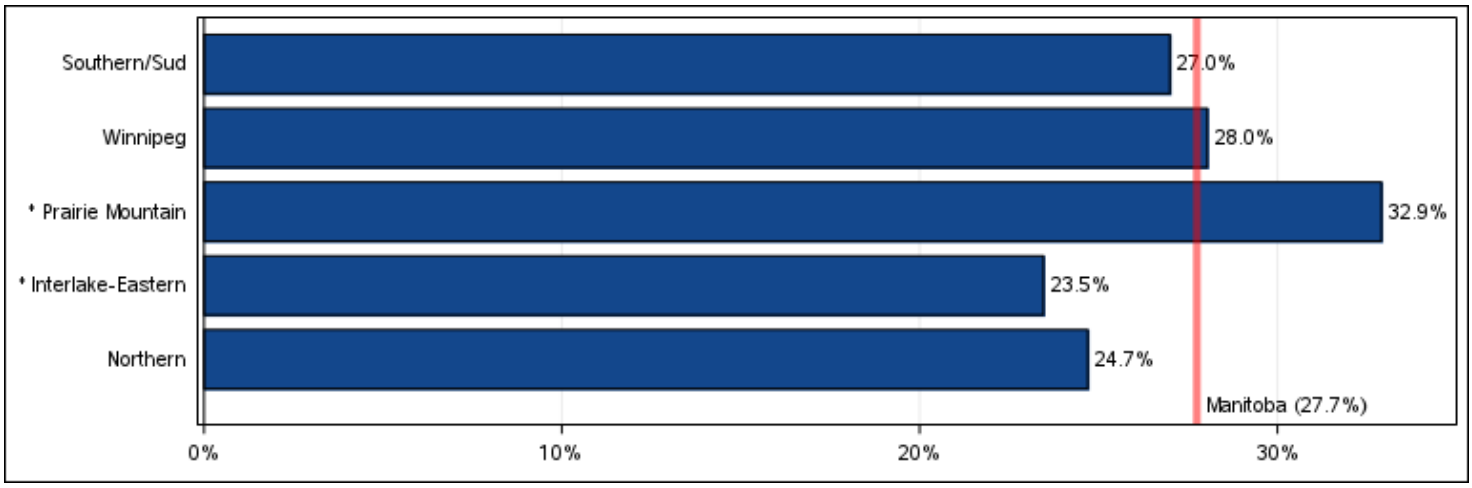
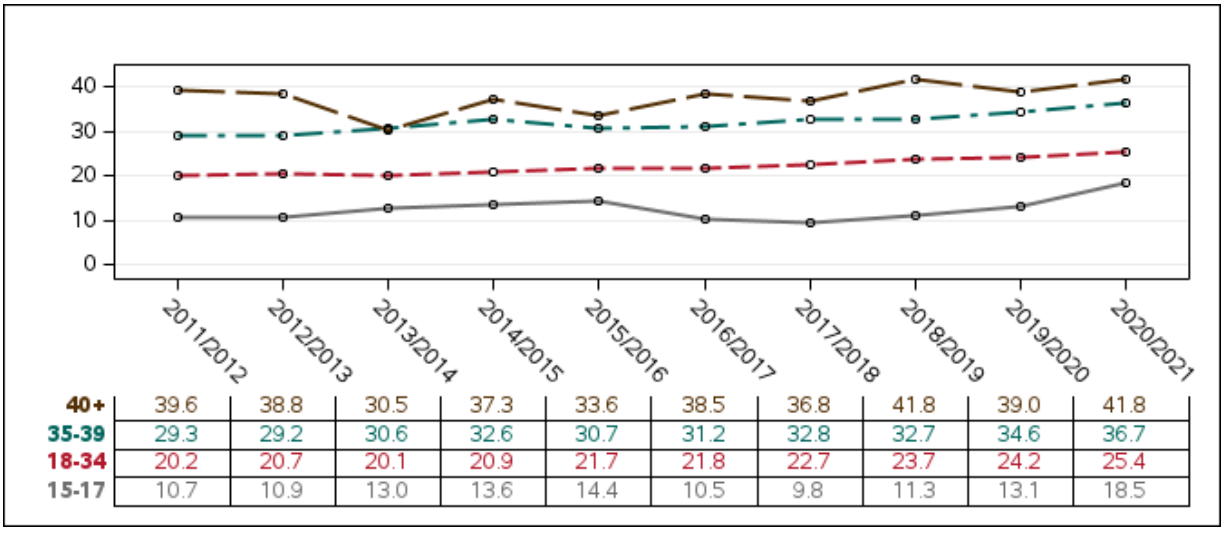


Figure 83 Age-adjusted percentage of Caesarean sections among total deliveries by females ages 15 to 54 by health region of residence, 2020/2021

In 2020/2021, there were a total of 4,307 Caesarean sections among Manitoba females ages 15 to 54, representing 27.7 percent of total deliveries by females in the same age group (Figure 83).

The Prairie Mountain Health Caesarean section rate was significantly higher and the Interlake-Eastern RHA rate was significantly lower than the Manitoba overall rate.

Figure 84 shows the percentage of Caesarean sections among total deliveries over time by age group. The proportion of Caesarean sections for most age groups has remained relatively stable over time for all age groups. From 2011/2012 to 2020/2021, the proportion of Caesarean sections for women 40 and older were generally higher than all other age groups.



	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
40+	39.6	38.8	30.5	37.3	33.6	38.5	36.8	41.8	39.0	41.8
35-39	29.3	29.2	30.6	32.6	30.7	31.2	32.8	32.7	34.6	36.7
18-34	20.2	20.7	20.1	20.9	21.7	21.8	22.7	23.7	24.2	25.4
15-17	10.7	10.9	13.0	13.6	14.4	10.5	9.8	11.3	13.1	18.5

Figure 84: Percentage of Caesarean sections for delivered females by age group and fiscal year, 2011/2012 to 2020/2021

Vaginal Birth after Caesarean Section

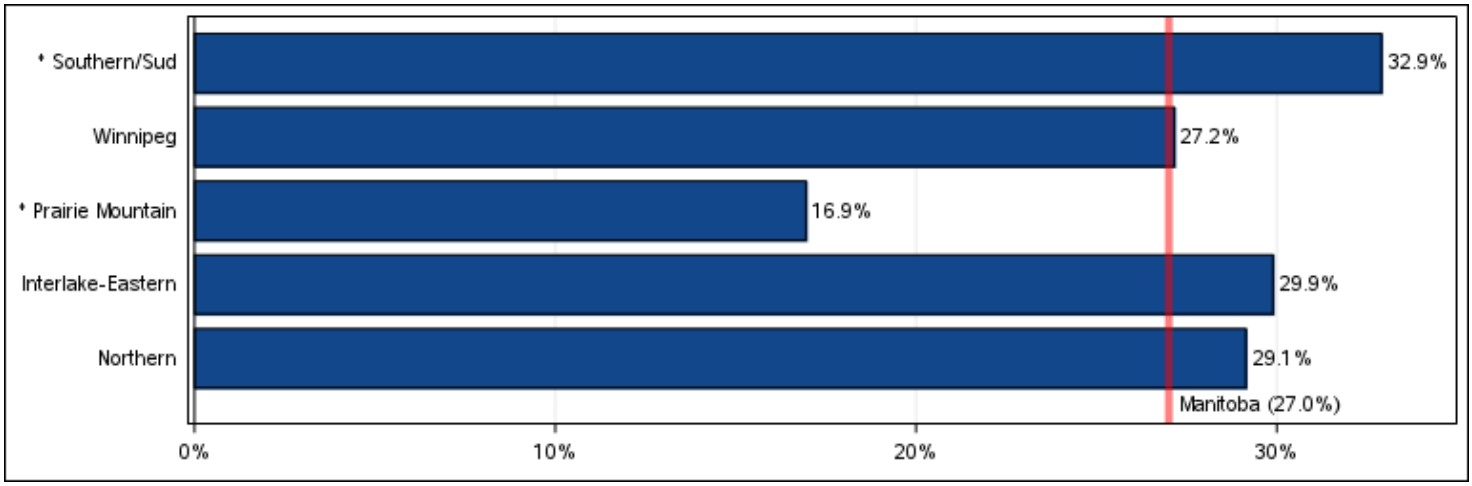


Figure 85: Age-adjusted percentage of vaginal births among females ages 15 to 54 who previously had a Caesarean section by health region of residence, 2016/2017 to 2020/2021

On average, there were 615 vaginal births after Caesarean sections by Manitoba females ages 15 to 54, each year for the period of 2016/2017 to 2020/2021. This represented 27.0 percent of females who gave birth after a previous Caesarean section (Figure 85).

Southern Health-Santé Sud had a significantly higher percentage of vaginal birth after Caesarean section, while Prairie Mountain Health had a significantly lower percentage than Manitoba overall.

The majority of women (64.6 percent) who had a vaginal birth after previous Caesarean section were women ages 25 to 34 (Figure 86).

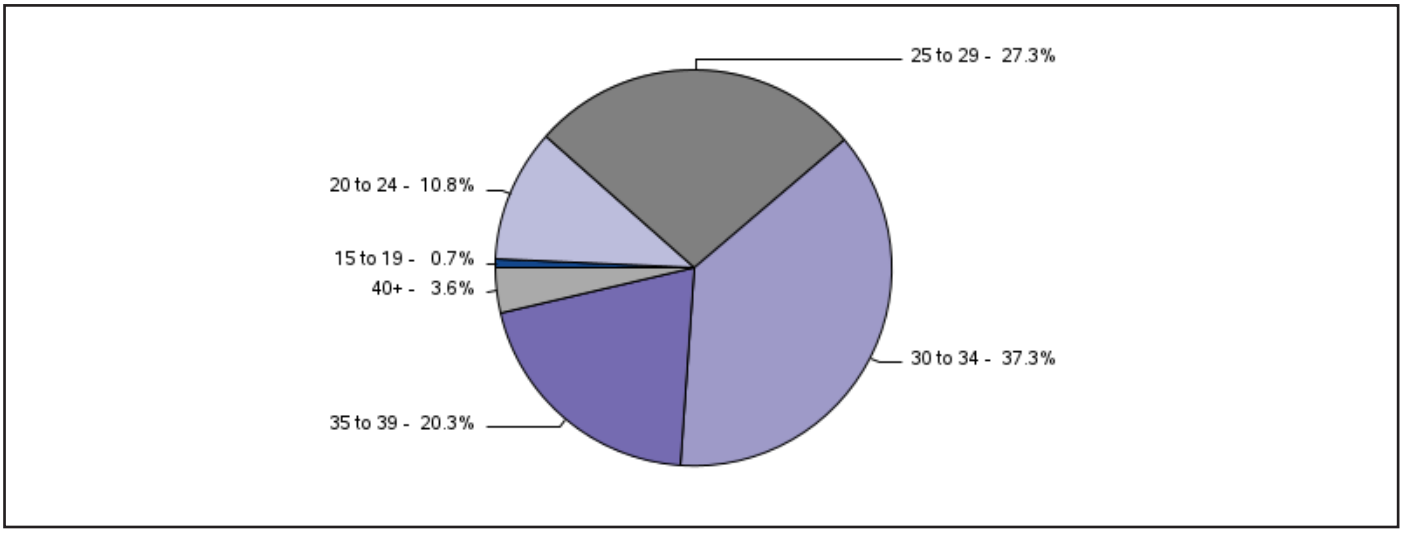


Figure 86: Percentage of vaginal births after Caesarean section by age group, 2016/2017 to 2020/2021

Use of Home Care Services

The following section provides an overview of the Home Care program in Manitoba. The Home Care program has responsibility for the development and implementation of a comprehensive range of in-home services. The program also maintains and manages the assessment and waiting list for personal care home placement in each regional health authority.

This section includes statistics on the total number of clients receiving coordinated care, as well as the total number of admissions to and discharges from the Home Care program.

In 2020/2021, there were 18,174 Manitoba residents admitted to Home Care, while 17,779 were discharged.

Total Home Care Clients

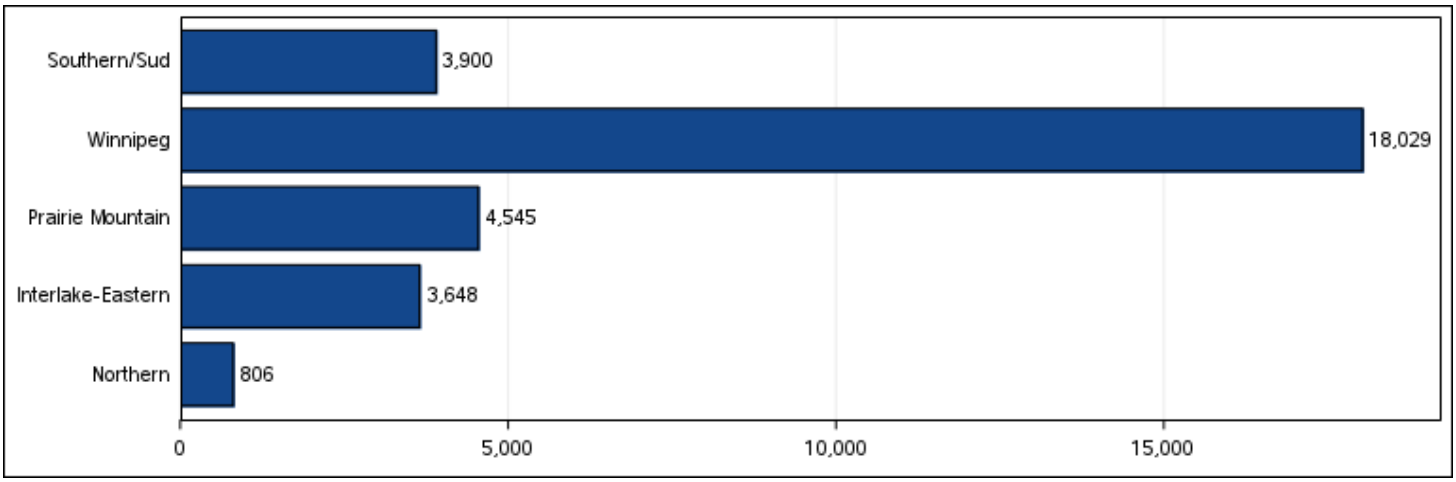


Figure 87: Total number of clients in Home Care at March 31, 2021

Figure 87 shows the total number of clients receiving coordinated Home Care services at March 31, 2021.

On March 31, 2021, there was a total of 30,928 clients in Home Care. Of these, 58.3 percent of clients resided in Winnipeg.

Home Care Admissions and Discharges

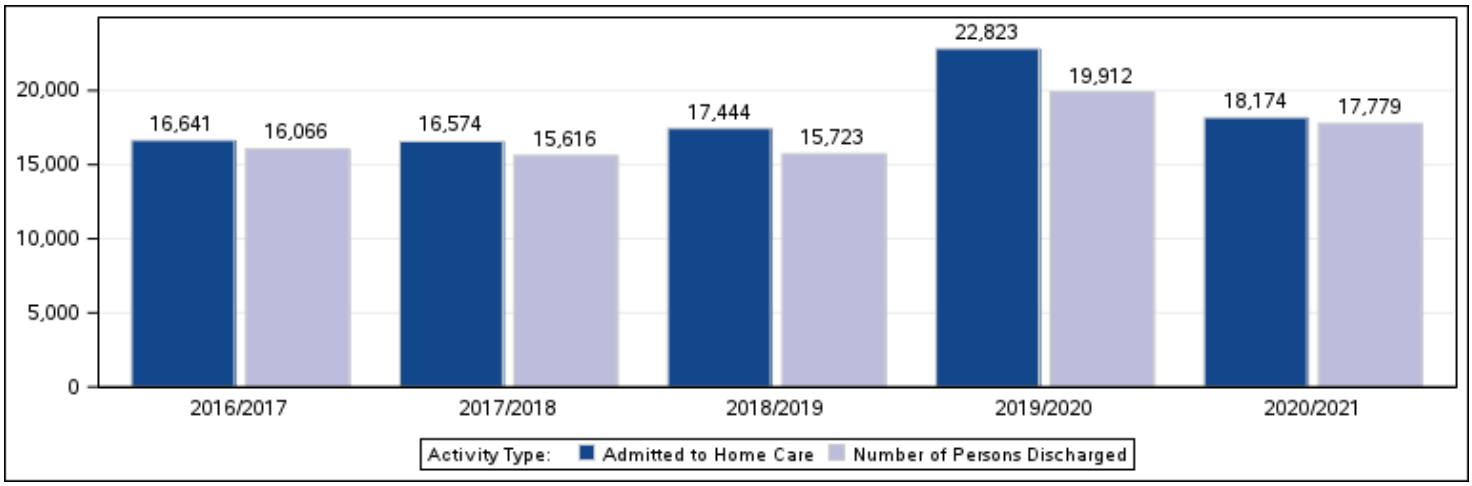


Figure 88: Number of Home Care admissions and discharges by fiscal year, 2016/2017 to 2020/2021

In 2020/2021, 18,174 clients were admitted to the Home Care program, and 17,779 clients were discharged (Figure 88).

This represents a 20 percent decrease in admissions, and 11 percent decrease in discharges over the previous fiscal year 2019/2020.

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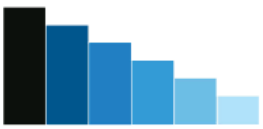


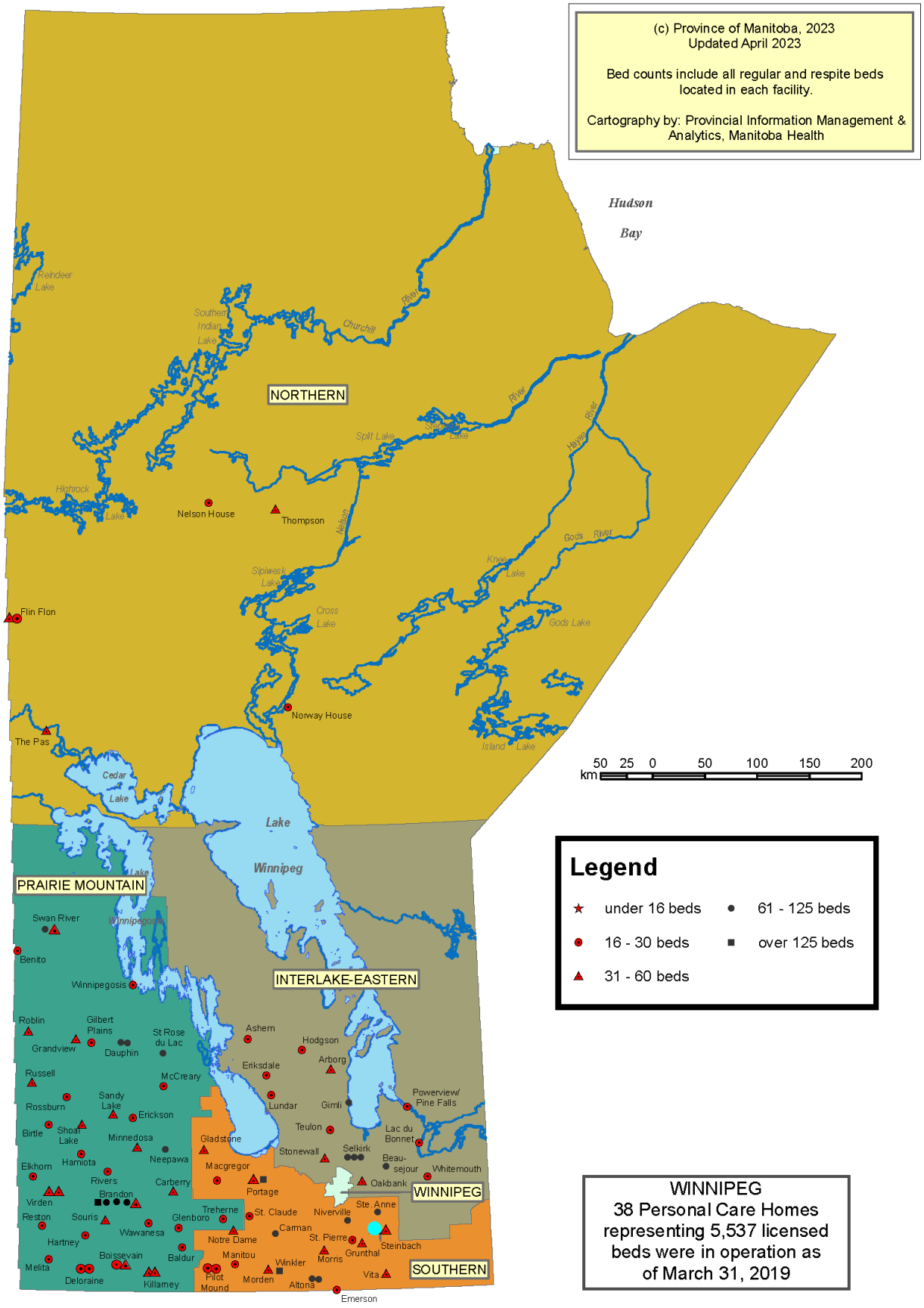
Use of Personal Care Homes

The following section provides an overview of Personal Care Home (PCH use in Manitoba. This includes PCH admissions, median wait time for admission, and median length of stay.

PCHs are residential facilities, which are predominately intended for adults age 75 and older that may have a chronic condition, disability, or can no longer live independently. In 2020/2021, there were 125 PCHs in Manitoba.

In Manitoba, 2.7 percent of the population age 75 and older were admitted to a PCH from 2019/2020 to 2020/2021. The median wait time for placement into a PCH was approximately six weeks, and the median length of time a resident spent in PCH was about two years. Length of stay is associated with level of care on admission, as sicker patients spend less time in a PCH than healthier patients do.

Map of Personal Care Homes by Facility Size



Personal Care Home Admissions

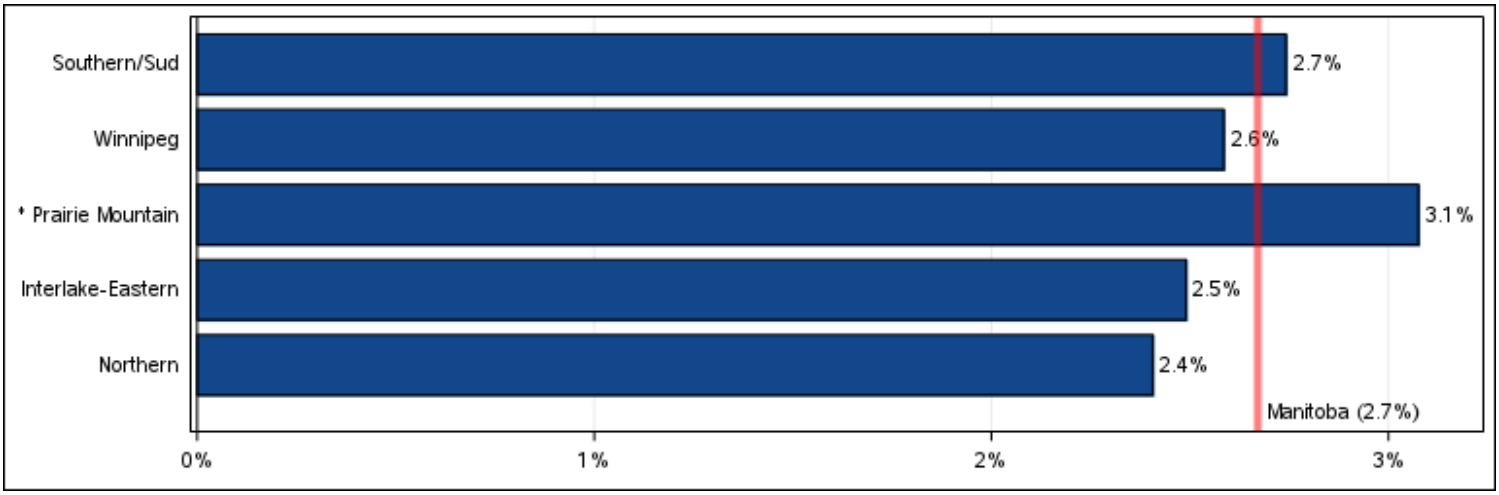


Figure 89: Age-and sex-adjusted percentage of residents age 75 and older admitted for the first time to a Personal Care Home (PCH) by health region, 2019/2020 to 2020/2021

There were an average of 2,535 Manitoba residents age 75 and older admitted to a Personal Care Home (PCH) per year for the period of 2019/2020 to 2020/2021, representing 2.7 percent of all individuals in that age group (Figure 89). Prairie Mountain Health had a significantly higher percentage of PCH admission than in Manitoba overall.

Figure 90 shows the distributions of level of care assigned to PCH residents age 75 and older at the time of their admission. Level 1 represents the lowest level of need and Level 4 represents the highest. There were no Level 1 residents admitted during this time period. Levels 2Y and 3Y represent individuals who require close supervision due to possible behavioural issues, while 2N and 3N are assigned to individuals who do not require supervision. Almost 60 percent of admitted individuals in Manitoba were assessed at level 2N or 3N, not requiring supervision.

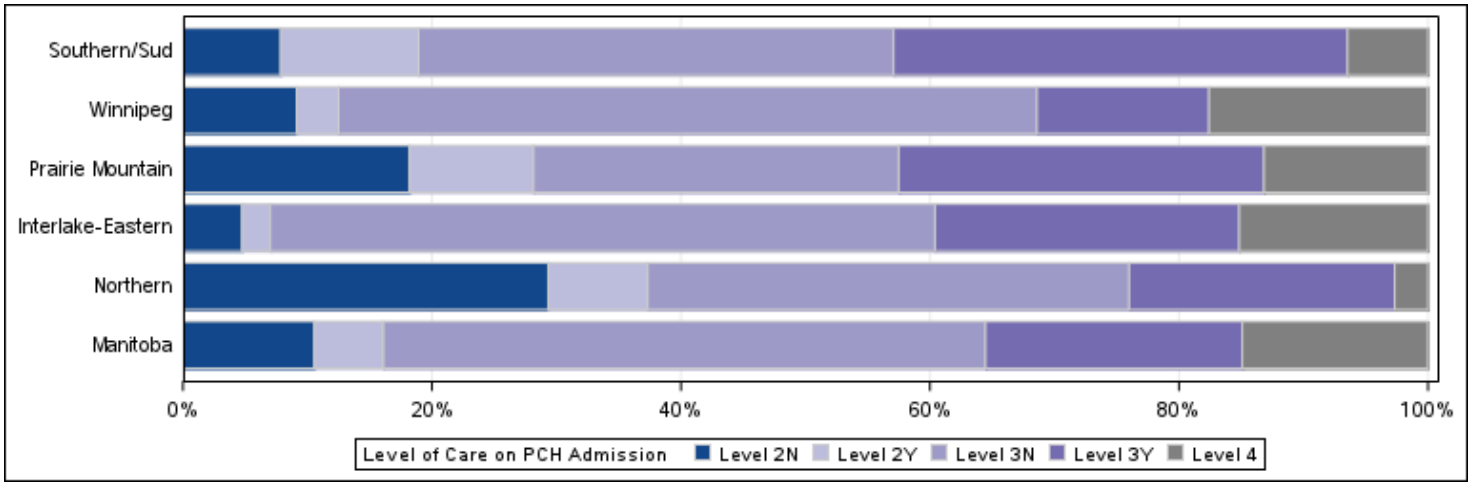


Figure 90: Distribution of care levels assigned to Personal Care Home (PCH) residents age 75 and older at time of admission by health region, 2019/2020 to 2020/2021

Median Wait Times for Personal Care Home Admission

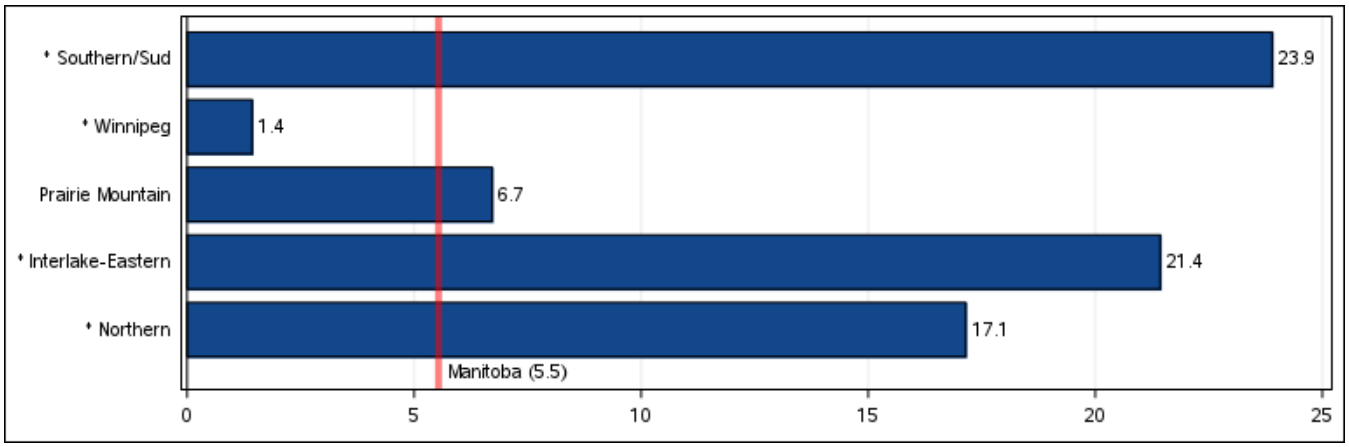


Figure 91: Median wait time (weeks) from assessment to Personal Care Home (PCH) admission among residents age 75 and older by health region, 2019/2020 to 2020/2021

Figure 91 shows the median amount of time it took for Manitoba residents age 75 and older to be admitted after being assessed as requiring placement into a Personal Care Home (PCH).

The median wait time in Manitoba for admission to PCH was 5.5 weeks. Regionally, the wait time varied widely. Southern Health-Santé Sud, the Interlake-Eastern RHA, and the Northern Health Region had significantly higher wait times compared to Manitoba overall, while the Winnipeg region had a significantly lower wait time.

Of all Manitoba residents age 75 and older admitted to a personal care home in 2019/2020 to 2020/2021, 64.2 percent were waiting in a hospital prior to admission, while 35.8 percent were waiting in the community, i.e. a home setting (Figure 92).

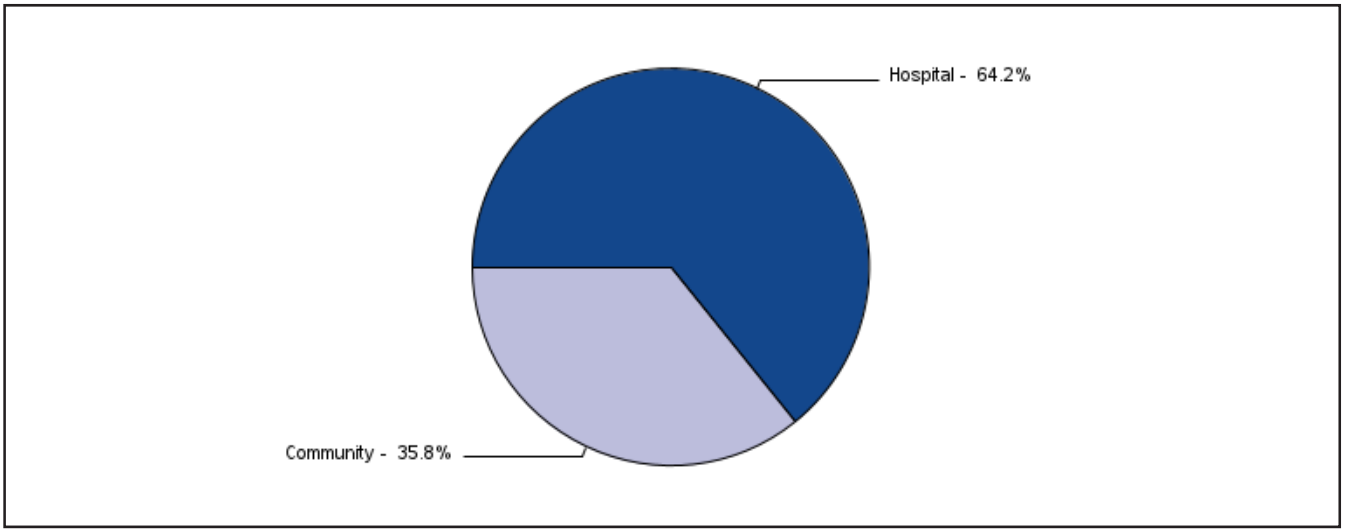


Figure 92: Setting where Personal Care Home (PCH) residents age 75 and older were admitted from as a percentage of total admissions, 2019/2020 to 2020/2021

Median Length of Stay (Years) at Personal Care Homes

Table 5: Median length of time (years) spent in a Personal Care Home (PCH) for residents age 75 and older by level of care at admission and health region, 2019/2020 to 2020/2021

Health Region	Level of Care			
	All	1-2	3	4
Prairie Mountain	2.2	2.5	2.1	2.1
Northern	2.2	2.7	2.0	4.3
Interlake-Eastern	1.9	3.0	2.0	1.0
Southern Health - Santé Sud	2.1	1.7	2.1	2.7
Winnipeg	1.7	3.5	1.6	0.7
Manitoba	**1.9**	**3.1**	**1.8**	**1.1**

On average, there were 3,170 Manitoba residents age 75 and older discharged from a Personal Care Home (PCH) per year for the period of 2019/2020 to 2020/2021.

The Manitoba overall median PCH length of stay was two years. Regionally, length of stay varied from a high of 2.2 years in Prairie Mountain Health and the Northern Health Region, to a low of 1.7 years in Winnipeg (Table 5).

Across levels of care, residents admitted at level 4 (sicker patients) had a median length of stay of 1.1 years compared to those admitted as a level 1 or 2 (healthier patients), with a median length of stay of 3.1 years.

Figure 93 shows the median PCH length of stay over time in Manitoba. The median length of stay has been decreasing from a high of 2.4 years in 2011-2013 to 2.0 years in 2019-2021.

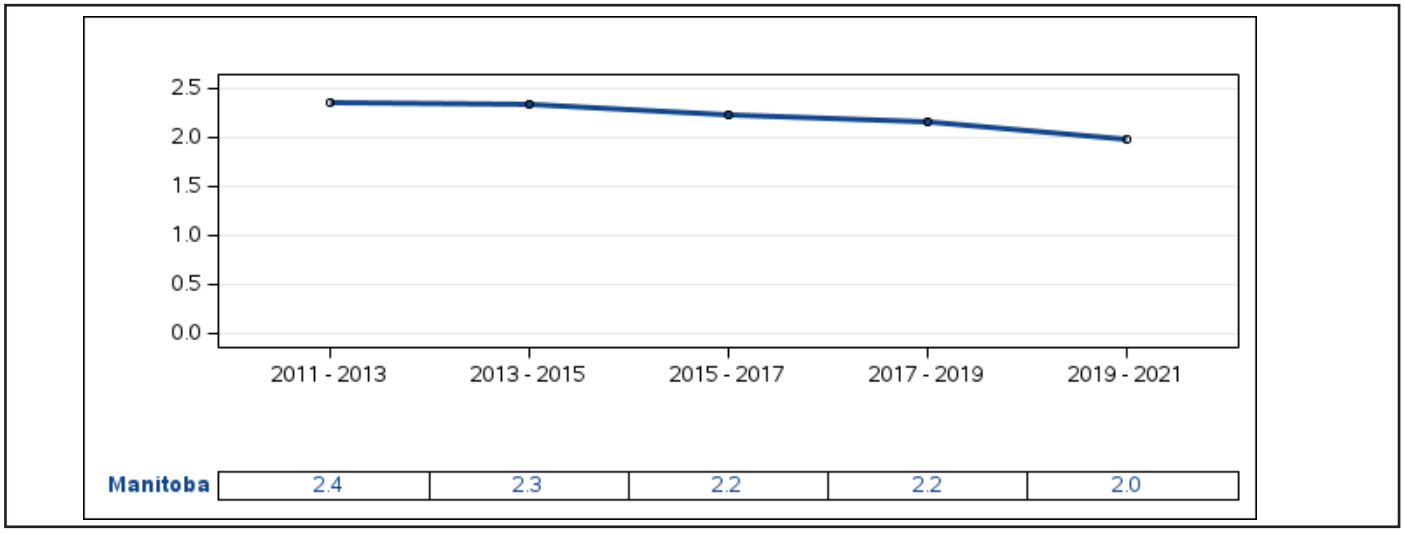


Figure 93: Median length of stay (years) over time for Personal Care Home (PCH) residents age 75 and older, 2009/2010 - 2010/2011 to 2018/2019 - 2019/2020

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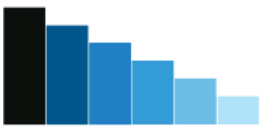

Preventative Services

The following section provides an overview of preventative and screening services for selected programs available in Manitoba. Detailed information on immunizations have not been included in this report, as they are shown in Manitoba Health's annual Immunization report at:

www.manitoba.ca/health/publichealth/surveillance/immunization/index.html

In Manitoba, breast screening mammograms are provided through the Manitoba Breast Screening Program to check women ages 50 to 74 for early signs of breast cancer.

For the period of 2019/2020 to 2020/2021, there were 100,166 Manitoba female residents ages 50 to 74 who had a mammogram, representing 50.8 percent of the female population in the same age group.

Papanicolaou (Pap) tests are provided to Manitoba females age 21 to 69 for the early detection of cervical cancer. For the period of 2018/2019 to 2020/2021, there were 195,482 Manitoba females ages 21 to 69 who had a Pap test, representing 45.3 percent of the female population in the same age group.

Breast Cancer Screening

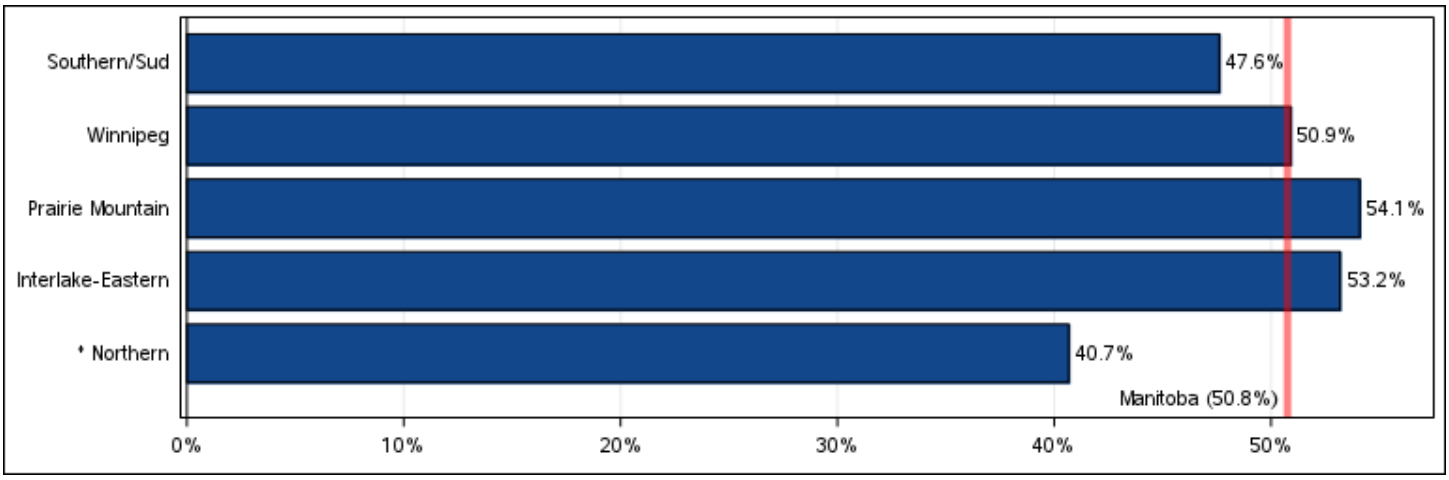

Figure 94: Age-adjusted percentage of female residents ages 50 to 74 who received a mammogram by health region of residence, 2019/2020 to 2020/2021

Figure 94 shows the age-adjusted percent of Manitoba females ages 50 to 74 who received at least one mammogram in 2019/2020 and 2020/2021, by health region of residence.

"BreastCheck" is a provincially-monitored screening program managed by CancerCare Manitoba. The program recommends that all women ages 50 to 74 years of age get screened every two years for breast cancer.

For the period from 2019/2020 to 2020/2021, there were 100,166 Manitoba females ages 50 to 74 who had a mammogram, representing 50.8 percent of the female population in the same age group. The age-adjusted mammogram rate in the Northern Health Region was significantly lower than in Manitoba overall.

•*Note that the information reported here includes mammograms for both screening and diagnostic purposes.*

Cervical Cancer Screening

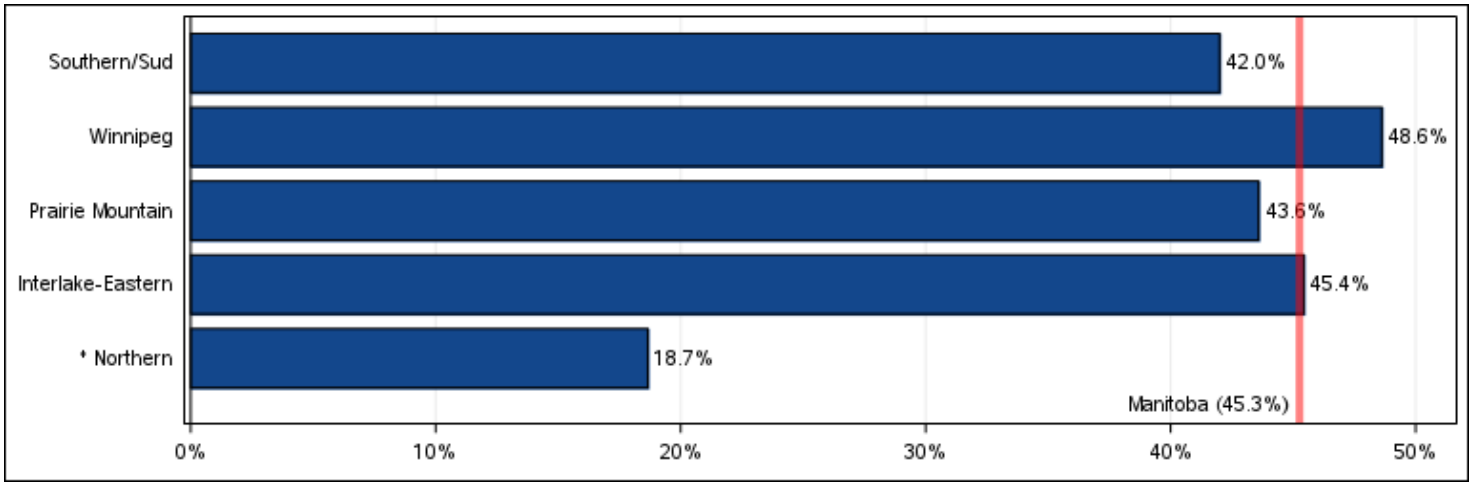

Figure 95: Age-adjusted percentage of female residents ages 21 to 69 who received a Pap test by health region of residence, 2018/2019 to 2020/2021

Figure 95 shows the age-adjusted percent of Manitoba females ages 21 to 69 who received at least one Papanicolaou (Pap) test in 2018/2019, 2019/2020, and 2020/2021, by health region of residence.

"CervixCheck" is a provincially-monitored screening program managed by CancerCare Manitoba. The goal of this program is to reduce the number of women diagnosed with cervical cancer. Current guidelines are that most women ages 21 to 69, who have been sexually active, should have a regular Pap test every three years.

From 2018/2019 to 2020/2021, there were 195,482 Manitoba females ages 21 to 69 who had a Pap test, representing 45.3 percent of the female population in the same age group. The age-adjusted Pap test rate in the Northern Health Region was significantly lower than in Manitoba overall.

Influenza Immunizations

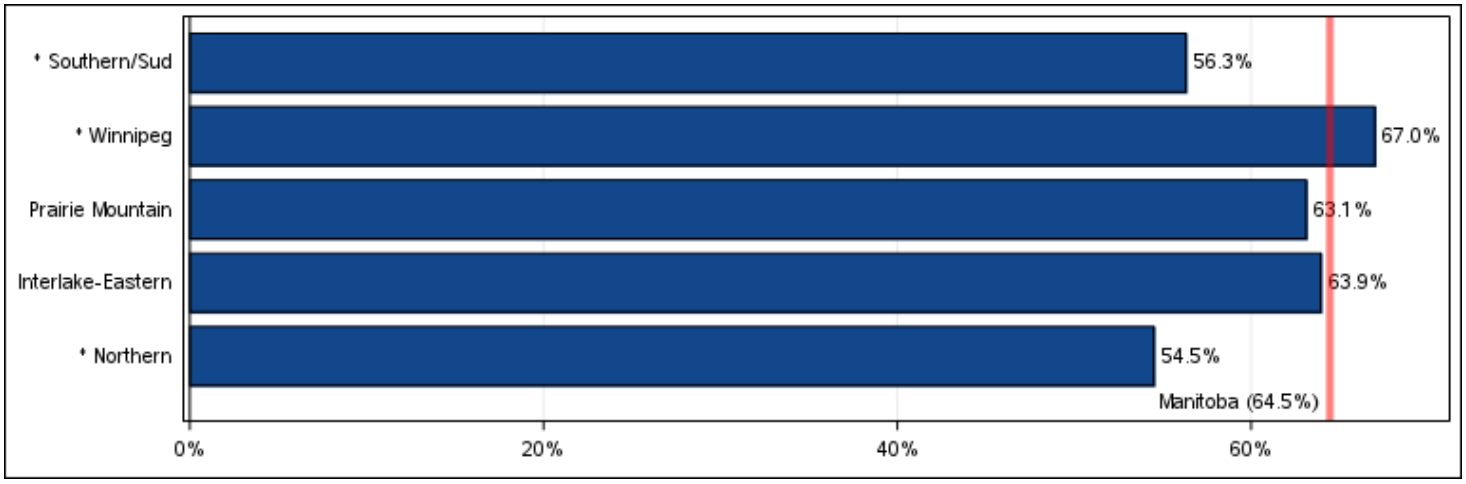

Figure 96: Age–and sex-adjusted percentage of Manitoba residents age 65 and older immunized for influenza by health region of residence, 2020/2021

In the 2020/2021 'flu season' (September 1, 2020 to March 31, 2021), the percentage of Manitobans age 65 and older who received an immunization for influenza was 64.5 percent (Figure 96).

The immunization rates in Southern Health-Santé Sud and the Northern Health Region were significantly lower than in Manitoba overall.

For more information on Influenza in Manitoba, please follow the link below.

www.manitoba.ca/health/publichealth/surveillance/influenza/annual.html

Pneumococcal Immunizations

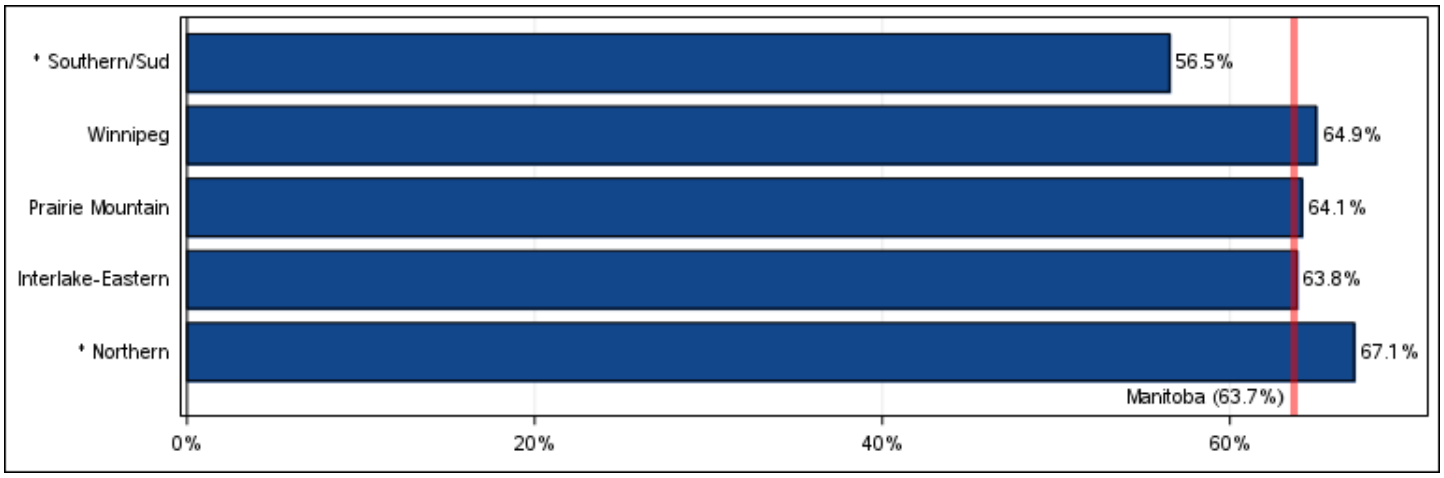

Figure 97: Age–and sex-adjusted percentage of Manitoba residents age 65 and older immunized for pneumonia by health region of residence, 2020/2021

Figure 97 shows the age-and sex-adjusted percentage of Manitobans age 65 and older who had a current pneumococcal vaccine, by health region of residence.

In 2020/21, the percentage of Manitobans age 65 and older who had a current pneumococcal vaccine was 63.7 percent. The immunization rate in Southern Health-Santé Sud was significantly lower than in Manitoba overall, and significantly higher in the Northern Health Region.

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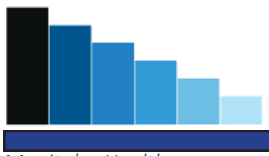


Prescription Drug Use

The following section provides an overview of prescription drug use and paid expenditures by drug benefit plan in Manitoba.

In 2020/2021, 60.4 percent of Manitoba residents had at least one prescription dispensed. On average, these residents were prescribed about four different types of drugs in the fiscal year.

Manitoba paid $311.2 million in drug expenditures for eligible Manitobans through the Pharmacare program, $68.1 million through Family Services, $10.2 million through nursing home care, and $3.5 million through palliative care.

Pharmaceutical Use

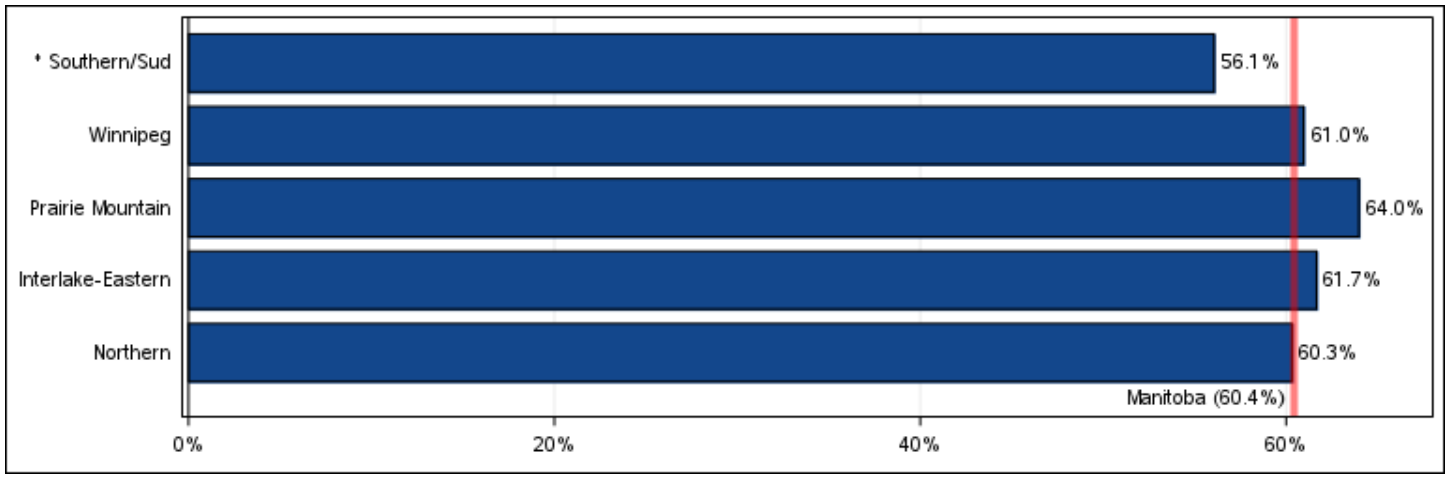


Figure 98: Age-and sex-adjusted percentage of residents who had at least one prescription dispensed by health region of residence, 2020/2021

In 2020/2021, 60.4 percent of Manitoba residents had at least one prescription dispensed (Figure 98). The age-and sex-adjusted percentage in Southern Health-Santé Sud was significantly lower than in Manitoba overall.

Drugs Dispensed per User

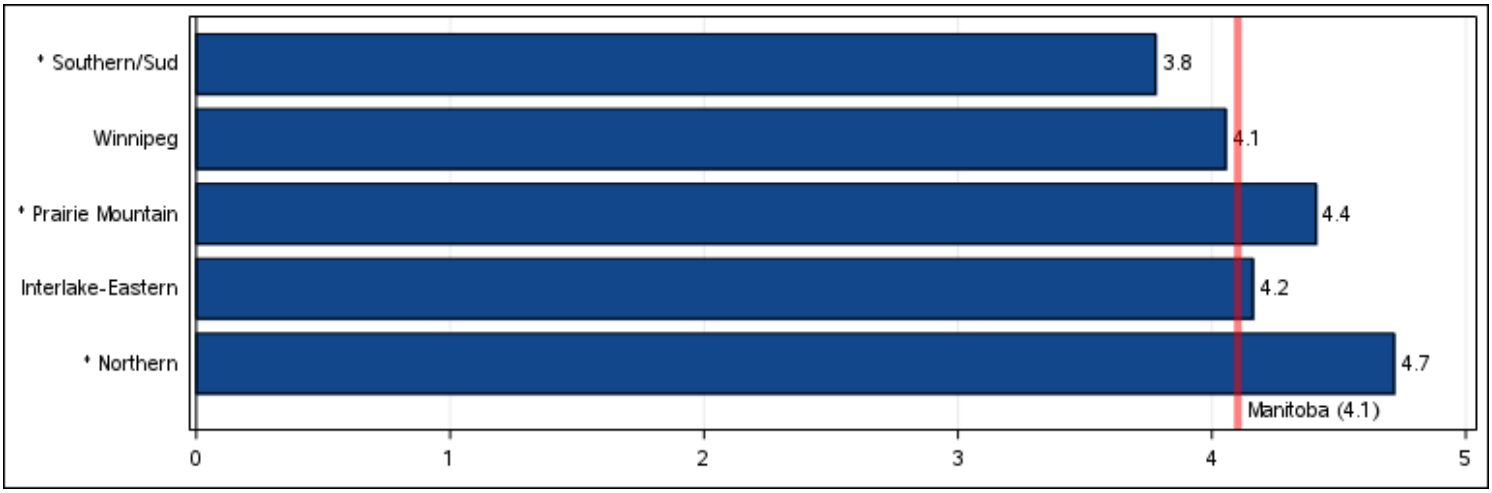


Figure 99: Age-and sex-adjusted average number of drug types dispensed per user by health region of residence, 2020/2021

Figure 99 shows the age-and sex-adjusted average number of drug types dispensed per Manitoba resident, who had at least one drug dispensed, by health region of residence.

In 2020/2021, an average of 4.1 drug types were dispensed per user. The age-and sex-adjusted number varied significantly across the province, ranging from 3.8 drug types per Southern Health-Santé Sud resident to 4.7 drug types per Northern Health Region resident.

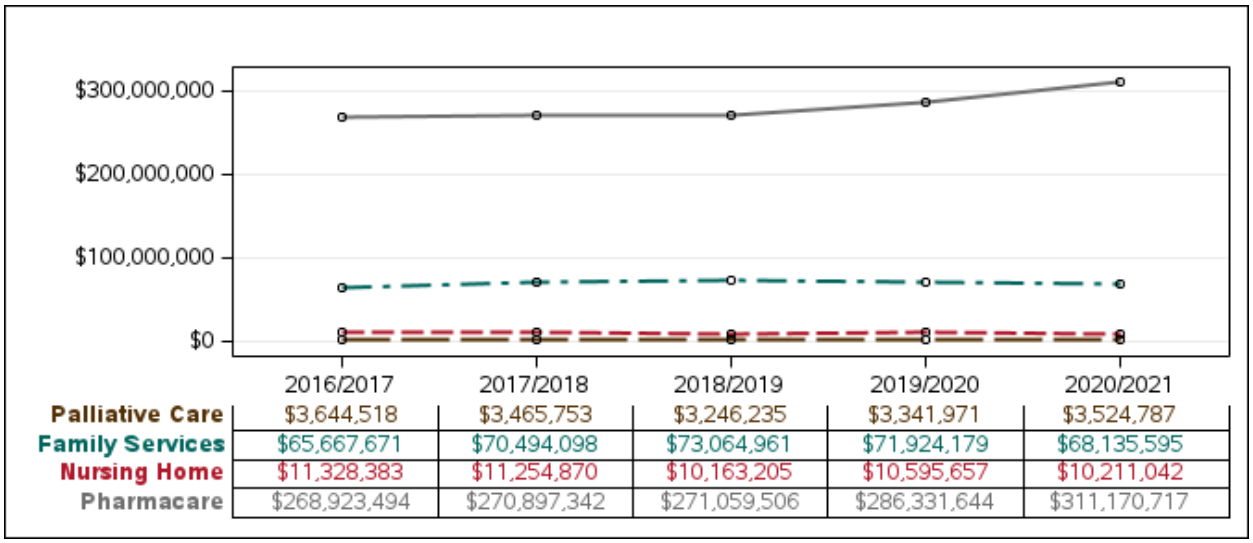
Total Drug Expenditures by Plan and Health Region

Table 6: Total paid drug expenditures by plan and health region of residence, 2020/2021

Health Region	Pharmacare	Nursing Home	Family Services	Palliative Care
Southern/Sud	$40,724,007	$433,944	$5,851,579	$347,384
Winnipeg	$190,680,376	$6,493,618	$50,470,394	$1,920,763
Prairie Mountain	$41,586,107	$2,156,621	$7,018,551	$953,576
Interlake-Eastern	$32,601,980	$958,839	$4,013,651	$235,441
Northern	$5,578,247	$168,020	$781,421	$67,624
Manitoba	$311,170,717	$10,211,042	$68,135,595	$3,524,787

In 2020/2021, Manitoba paid $311.2 million in drug expenditures for eligible Manitoba residents through the Pharmacare program, $68.1 million through Family Services, $10.2 million for those in Nursing Homes, and $3.5 million for those in palliative care (Table 6).

Figure 100 shows the Manitoba total paid expenditures by drug benefit plan over time. Overall total drug expenditures increased by about 12 percent from 2016/2017 to 2020/2021. Pharmacare represented the largest proportion (77.0 percent) of drug expenditures during this period.

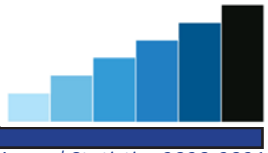


	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Palliative Care	$3,644,518	$3,465,753	$3,246,235	$3,341,971	$3,524,787
Family Services	$65,667,671	$70,494,098	$73,064,961	$71,924,179	$68,135,595
Nursing Home	$11,328,383	$11,254,870	$10,163,205	$10,595,657	$10,211,042
Pharmacare	$268,923,494	$270,897,342	$271,059,506	$286,331,644	$311,170,717

Figure 100: Total paid drug expenditures by benefit plan and fiscal year

Glossary

The glossary provides explanations and definitions for the indicators and key terms used in this report. The method used to calculate each indicator is described in this section.



Acute Myocardial Infarction (Heart Attack Rate)
Calculated as the number of hospitalizations or deaths due to acute myocardial infarction (AMI) in residents age 40 and older per 1,000 residents age 40 and older. The denominator was residents age 40 and older as of June 1. Rates were age-and sex-adjusted to the Manitoba population age 40 and older. AMI is defined by ICD-9-CM code 410 or International Classification of Diseases (ICD-10-CA) code I21 as the most responsible diagnosis for hospitalization or as the cause of death in Vital Statistics death files. Persons discharged alive from hospital after less than three days were excluded as likely 'rule-out' AMI cases.

Adjusted Rate
Adjusted rate is a statistical process that makes groups such as those in particular geographic areas comparable by removing the effects of demographic differences such as age and sex distribution. Essentially, adjusted rates tell us what the rates would be if each geographic area had the same age and sex distribution. Therefore, adjusted rates are fictional rates which use statistical models to remove the effects of age and sex differences thereby allowing for comparisons across populations.

Accordingly, while adjusted rates have been statistically modeled to be comparable to each other, they should be considered fictional in the sense that they do not measure anything directly. Please note that these adjusted rates cannot be compared to other rates that have not received the same adjustment.

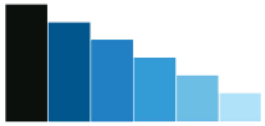
Alternate Level of Care (ALC)
Inpatient hospital days are identified as ALC when a patient no longer requires an acute level of care and the patient is waiting for transfer to an appropriate non-acute care setting, such as a Personal Care Home (PCH) or rehabilitation bed, or waiting for equipment or services, such as home care, that would allow the patient to be safely discharged.

The average lengths of stay for acute care hospitalizations, and for hospitalizations where a portion of the stay included ALC, were calculated.

Ambulatory Care Visit Rate
This is the average number of visits to physicians per resident. The denominator was all residents as of June 1. The number was age-and sex-adjusted to the Manitoba population.

The term 'ambulatory visits' captures virtually all contacts with physicians, except during inpatient hospitalization and emergency room visits. Ambulatory visits include regular office visits, walk-in clinics, home visits, nursing home visits, visits to outpatient departments of hospitals and visits for prenatal care. As of 2016/2017, visits to nurse practioners are included.

Birth Rate
Calculated as the number of live births per 1,000 residents. The denominator was all residents as of June 1. The Vital Statistics birth records were used to count live births.



Breast Cancer Screening Rate
This is the proportion of female residents ages 50 to 74 who had at least one mammogram in a two-year period. The denominator was all female residents ages 50 to 74 as of June 1 of the second year. The proportion was age-adjusted to the Manitoba female population ages 50 to 74. The indicator includes both screening and diagnostic mammograms, identified by the following tariffs in physician claims:

- 7098 (radiology, intraluminal dilatation, mammography, bilateral)
- 7099 (radiology, intraluminal dilatation, mammography, unilateral)
- 7104 (screening mammography bilateral)

Cataract Surgery Rate
This is the number of cataract replacement surgeries performed on residents age 50 and older, per 1,000 residents age 50 and older. The denominator was residents age 50 or older as of June 1. The rate was age- and sex-adjusted to the Manitoba population age 50 or older. Cataract surgery was defined by a physician claim with tariff codes 5611, 5612 and tariff prefix 2 (surgery), or a hospital separation with ICD-9-CM procedure codes 13.11, 13.19, 13.2, 13.3, 13.41, 13.42, 13.43, 13.51, 13.59, or Canadian Classification of Health Intervention (CCI) code 1.CL.89. Additional cataract surgeries for Manitoba residents were added from medical reciprocal claims for out-of-province procedures, including Alberta (tariff codes 27.72 and 27.72A) and Saskatchewan (tariff codes 135S, 136S, 226S and 325S). The most recent medical reciprocal claims data available for cataract surgery rates were used.

Caesarean Section Rate
This is the proportion of Caesarean section procedures among female residents ages 15 to 54. The denominator was total in-hospital deliveries among female residents ages 15 to 54 at hospital admission. The rate was age-adjusted to the Manitoba female population ages 15 to 54 who delivered in the same year. Caesarean section procedures were defined by ICD-9-CM procedure codes 74.0, 74.1, 74.2, 74.9 or CCI code 5.MD.60.

Cervical Cancer Screening Rate
This rate refers to the proportion of female residents ages 21 to 69 who received at least one Papanicolaou (Pap) test in a three-year period. The denominator was all female residents ages 21 to 69 on June 1 of the middle year. The proportion was age-adjusted to the Manitoba female population ages 21 to 69. The indicator was defined by a physician visit with a tariff code for a Pap test, including a visit for a physical or regional exam with a Pap test, or a visit for Pap testing only. The tariffs used were as follows:

- 8470 – regional gynaecological exam, including cytological smear of the cervix, provided by a GP/FP
- 8495 – complete physical and gynaecological exam, including cytological smear of the cervix, provided by an OB/GYN specialist
- 8496 – regional gynaecological exam, including cytological smear of the cervix, provided by an OB/GYN specialist
- 8498 – complete physical and gynaecological exam, including cytological smear of the cervix, provided by a GP/FP
- 9795 – cytological smear of the cervix for cancer screening

Child Mortality Rate
Calculated as the number of deaths among children ages one to 19 years in a five-year period, per 100,000 children ages one to 19 years in the same time period. The rates were age-and sex-adjusted to the overall Manitoba population, ages one to 19 years old. The Vital Statistics death records were used to count deaths. Rates fluctuate in areas with small populations, therefore five years of data was used instead of a single year.

Chronic Conditions Prevalence Rate
The proportion of residents age 40 and older having one or more of the following conditions: diabetes, hypertension, ischemic heart disease, heart failure, stroke, or Chronic Obstructive Pulmonary Disease (COPD). The denominator was residents age 40 and older as of June 1. The proportion was age-and sex-adjusted to the Manitoba population age 40 and older.

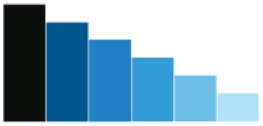
Chronic conditions were included in the numerator when a patient had at least one hospitalization or two physician visits over a two-year period with a diagnosis code for:

- Diabetes; ICD-9-CM code 250 or ICD-10-CA codes E10-E14
- Hypertension; ICD-9-CM codes 401-405 or ICD-10-CA codes I10-I13, I15
- Ischemic heart disease; ICD-9-CM codes 410-414 or ICD-10-CA codes I20-I25
- Heart failure; ICD-9-CM code 428 or ICD-10-CA codes I50
- Stroke; ICD-9-CM codes 430, 431, 434, 435, 436 or ICD-10-CA codes G45, H34.0, H34.1, I60, I61, I63, I64
- COPD; ICD-9-CM codes 491, 492, 496 or ICD-10-CA codes J41-J44

Chronic Obstructive Pulmonary Disease (COPD) Prevalence Rate
This is the proportion of residents age 35 and older with COPD. The denominator was residents age 35 and older as of June 1. The proportion was age-and sex-adjusted to the Manitoba population age 35 and older. COPD was defined by at least one hospitalization or one physician visit during the specified time period with a diagnosis of ICD-9-CM codes 491, 492, 496, or ICD-10-CA codes J41-J44.

Coronary Artery Bypass Graft Surgery Rate
The number of bypass surgeries performed on residents age 40 and older, in a five-year period, per 1,000 residents age 40 and older. The denominator was residents age 40 and older during the same time period. The rate was age- and sex-adjusted to the Manitoba population age 40 and older. Bypass surgery was defined by ICD-9-CM procedure codes 36.10-36.14, 36.19 or CCI code 1.IJ.76.

Cumulative Mental Illness Prevalence Rate
The proportion of residents age 10 and older who received treatment for any of the following in a five-year period: mood and anxiety disorders, substance abuse, personality disorders, or schizophrenia. The denominator was residents age 10 and older as of June 1. The proportion was age-and sex-adjusted to the Manitoba population age 10 and older. See corresponding glossary entries for definitions on specific mental illnesses.



Day Surgery
The total number of day surgery separations per 1,000 residents. The denominator was all residents as of June 1. The rate was age-and sex-adjusted to the Manitoba population.

Day Surgery hospitalizations involve surgical services on an outpatient basis and are typically less than one day. All Manitoba hospitals were included. Personal care homes, nursing stations and long-term care facilities (Deer Lodge Centre, Manitoba Adolescent Treatment Centre, Rehabilitation Centre for Children, and Riverview Health Centre) were excluded.

Death Causes
The distribution of causes of death was based on Vital Statistics records, using the 21 chapters of the International Classification of Diseases (ICD-10-CA) system. Results are provided at the Manitoba level, but not by health region due to the relatively small number of deaths by cause in less populated areas.

Death Rate
Calculated as the number of deaths per 1,000 residents. The denominator was all residents as of June 1. The rates were age-and sex-adjusted to the overall Manitoba population. The Vital Statistics death records were used to count deaths.

Dependency Ratio
The demographic dependency ratio measures the size of the dependent population in relation to the working age population as of June 1.

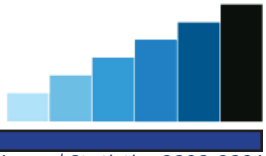
- Youth dependency refers to residents ages 0 to 19 per 100 residents aged 20 to 64
- Senior dependency refers to residents ages 65 and older per 100 residents aged 20 to 64

Diabetes Prevalence Rate
The proportion of residents age one and older with at least one hospitalization or two physician visits and a diagnosis of diabetes within a two-year period. A diabetes diagnosis was defined as ICD-9-CM code 250 or ICD-10-CA codes E10-E14. The denominator was residents age one and older as of June 1 of the second year.

Although the case definition uses a two-year period to define cases, an annual number was derived by using the earliest date of hospitalization or the later of the two physician claims as the case date. The definition for diabetes was derived from the Canadian Chronic Disease Surveillance System (CCDSS). The definition has been validated and is the definition utilized by Manitoba Health.

Because prevalence has a multi-year and multiple-health-system-encounter definition threshold, these values may increase from submission year to submission year over the most recent disease definition period. This means that new versions of the CCDSS may increase counts for previous CCDSS versions as new health information is captured, as illustrated by the following example:

- An individual has only one physician visit for diabetes in 2018/2019 and none in 2017/2018 and thus does not meet the threshold for diabetes prevalence or incidence during the 2017/2018 - 2018/2019 period.



- The same individual has another physician visit for diabetes in 2019/2020, thus meeting the threshold for the 2018/2019 - 2019/2020 period. However, since the incidence is assigned to the year of the first physician visit (2018/2019), this increases the 2017/2018- 2018/2019 prevalence counts by one case.

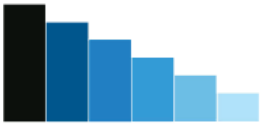
Drug Program Expenditures by Plan and Health Region
Drug program expenditures are calculated as the total dollars paid. Drug program expenditures are grouped into the following categories: Pharmacare, Nursing Home, Family Services, and Palliative Care. Expenditure data is taken from the Drug Program Information Network (DPIN).

Pharmacare is a drug benefit program for eligible Manitoba residents, regardless of disease or age, whose financial situation is potentially impacted by high prescription drug costs. Pharmacare coverage is based on both an individual's total family income and the amount they pay for eligible prescription drugs. Each year the individual is required to pay a portion of the cost of the eligible prescription drugs. This amount is the annual Pharmacare deductible. The deductible is set based on the adjusted family income.

Drugs Dispensed per User
The average number of different types of drugs dispensed to each resident who had at least one prescription dispensed during the fiscal year. The number was age-and sex-adjusted to the Manitoba population. A 'different' drug type was determined using the fourth-level class of the Anatomic, Therapeutic, Chemical (ATC) classification system. This level essentially categorizes drugs used for different health problems. A person could have several prescriptions for drugs in the same 4th level ATC class, but this would only count as one drug type in the year.

Drug Program Information Network (DPIN)
An electronic, on-line, point-of-sale prescription drug database. It links all community pharmacies (but not pharmacies in hospitals or personal care homes) and captures information about all Manitoba residents, including most prescriptions dispensed to registered First Nations. DPIN is maintained by Manitoba Health, and contains information such as; unique patient identification, age, date of birth, sex, medication history, over-the-counter medication history, patient postal code, new drug prescribed, date dispensed, and unique pharmacy idenfication number.

Hip Replacement Rate
The number of total hip replacements performed on residents age 40 and older, per 1,000 residents age 40 and older. The denominator was all residents age 40 and older as of June 1. The rate was age-and sex-adjusted to the Manitoba population age 40 and older. Hip replacements were defined by ICD-9-CM codes 81.50, 81.51, or 81.53, or CCI codes 1.VA.53.LA-PN, 1.VA.53.PN-PN, or 1.VA.53.LL-PN. This definition includes revisions on previously performed hip replacements, and excludes partial hip replacements.



Home Care
The Manitoba Home Care Program, established in its present form in 1974, is the oldest comprehensive, province-wide, universal home care program in Canada. Home Care is provided to Manitoba residents of all ages based on assessed need and taking into account other resources available to the individual, including family, community resources, and other programs. Home Care services are provided free of charge. Reassessments at pre-determined intervals are the basis for decisions by case managers to discharge individuals from the program or to change the type or amount of services delivered by the Manitoba Home Care Program.

The total number of Home Care clients is the total number of clients receiving coordinated Home Care services on the last day of the fiscal year (March 31).

Hospital Discharge Abstract Database
Hospital abstracts are created at the point of discharge for all separations from acute care facilities. Abstracts are completed for all inpatient stays as well as some day surgery stays. Since April 1, 2004, they include up to 25 diagnosis codes based on the International Classification of Diseases, 10th Revision, Canada (ICD-10-CA), and 20 procedure (intervention) codes based on the Canadian Classification of Health Interventions (CCI). Information on Manitoba residents who are admitted to out-of-province acute care facilities is captured through reciprocal Hospital Claims data, housed at Manitoba Health.

Hospital Separation Rate
The total number of inpatient hospital separations of Manitoba residents, per 1,000 residents. The denominator was all residents as of June 1. The rate was age-and sex-adjusted to the Manitoba population.

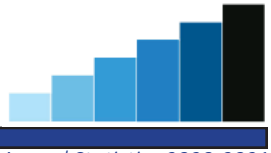
A separation from a health care facility occurs anytime when a patient leaves the facility because of discharge, transfer, or death. In a fiscal year, a resident could be hospitalized more than once, so this indicator shows the total number of separations from acute care facilities. All Manitoba hospitals were included, as well as out-of-province hospitalizations for Manitoba residents. Personal care homes, nursing stations and long-term care facilities (Deer Lodge Centre, Manitoba Adolescent Treatment Centre, Rehabilitation Centre for Children, and Riverview Health Centre) were excluded. In cases of in-hospital birth, newborn hospitalizations were excluded.

Hospital Use Rate
The proportion of Manitoba residents who were admitted to an acute care hospital at least once. The denominator was all residents as of June 1. The proportion was age-and sex-adjusted to the Manitoba population.

All Manitoba hospitals were included, as well as out-of-province hospitalizations for Manitoba residents. Personal care homes, nursing stations and long-term care facilities (Deer Lodge Centre, Manitoba Adolescent Treatment Centre, Rehabilitation Centre for Children, and Riverview Health Centre) were excluded. In cases of in-hospital birth, newborn hospitalizations were excluded. Outpatient and day surgery services were also excluded.

Hospitalization Rate for Ambulatory Care Sensitive Conditions (ACSC)
The rate at which residents under age 75 were hospitalized for Ambulatory Care Sensitive Conditions (ACSC), per 1,000 residents under age 75. The denominator was all residents under age 75 as of June 1. The rate was age-and sex-adjusted to the Manitoba population under age 75.

All Manitoba hospitals were included. Personal care homes, nursing stations and long-term care facilities (Deer Lodge Centre and Riverview Health Centre) were excluded from the numerator, as well as individuals who died in hospital.

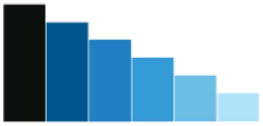


GLOSSARY

ACSC are a set of conditions comprised of 25 diseases/diagnoses, which have been identified as observably responsive to primary care. ACSC hospitalizations, accordingly, can function as an indirect measure of primary care access. Although significantly higher rates are presumed to reflect problems obtaining access to primary care, not all admissions for these conditions are avoidable.

ACSC include hospitalizations for the following conditions:

- Congenital syphilis; ICD-10-CA codes Z38, A50
- Immunization-related & preventable conditions (primary diagnoses):; ICD-10-CA codes A35, A37, A80, I00, I01
- Hemophilus meningitis for ages 1-5 only; ICD-10-CA code G00.0
- Epilepsy; ICD-10-CA codes G40, G41
- Convulsions; ICD-10-CA code R56
- Severe ENT infections; CCI code 1.DF.53.JATS or ICD-10-CA codes H66, J02, J03, J06, J312
- Pulmonary tuberculosis; ICD-10-CA codes A15.0, A15.1, A15.2, A15.3, A15.7, A15.9, A16.0, A16.1, A62, A16.7, A16.9
- Other tuberculosis; ICD-10-CA codes A15.4, A15.5, A15.6, A15.8, A16.3, A16.4, A16.5, A16.8, A17, A18, A19
- COPD; ICD-10-CA codes J41-J44, J47
- Acute bronchitis; secondary diagnosis of J41, J42, J43, J44, J47 where J20 is the primary diagnosis
- Bacterial pneumonia; primary diagnosis of J13, J14, J15.3, J15.4, J15.7, J15.9, J16, J18. Excludes cases with secondary diagnosis of sickle cell anemia; D57.0, D57.1, D57.2, and D57.8. Excludes patients less than 2 months old.
- Asthma; primary diagnosis of J45
- Congestive heart failure;
    i. Primary diagnosis of; I50, J81
    ii. Excludes cases with certain cardiac interventions (all categories); 1.HB.53, 1.HB.54, 1.HB.55, 1.HD.53, HD.54, 1.HD.55, 1.HZ.53, 1.HZ.55, 1.HZ.85, 1.IJ.50, 1.IJ.57.GQ, 1.IJ.76
- Hypertension; primary diagnosis of I10.0, I10.1, I11. Excludes cardiac surgery as stated above.
- Angina; primary diagnosis of I20, I23.82, I24.0, I24.8, I24.9. Excludes cases with any surgical intervention in CCI sections 1, 2 or 5
- Cellulitis; incision of skin and subcutaneous tissue intervention. Excludes cases with any surgical intervention except incision of skin and subcutaneous tissue where it is the only listed intervention. Includes primary diagnosis of L03, L04, L08, L44.4, L88, L92.2, L98.0, L98.3.
- Diabetes; primary diagnosis of E10.1, E10.6, E10.7, E10.9, E11.0, E11.1, E11.6, E11.7, E11.9, E13.0, E13.1, E13.6, E13.7, E13.9, E14.0, E14.1, E14.6, E14.7, E14.9
- Hypoglycemia; primary diagnosis of E16.0, E16.1, E16.2
- Gastroenteritis; K52.2, K52.8, K52.9
- Kidney/urinary infection; N10, N11, N12, N13.6, N15.8, N15.9, N16.0-N16.5, N28.83-N28.85, N36.9, N39.0, N39.9
- Dehydration/volume depletion; primary diagnosis of E86



- Iron deficiency anemia; age 5 and under, and primary diagnosis of D50.1, D50.8, D50.9
- Nutritional deficiencies; primary diagnosis of E40, E41, E42, E43, E55.0, E64.3
- Failure to thrive; age under 1, and primary diagnosis of R62
- Pelvic inflammatory disease;
    i. Primary diagnosis of N70, N73, N99.4 for females only
    ii. Excludes cases with surgical procedure of hysterectomy: 1.RM.87, 1.RM.89, 1.RM.91, 5.CA.89.CK, 5.CA.89.DA, 5.CA.89.GB, 5.CA.89.WJ, 5.CA.89.WK
- Dental conditions; K02-K06, K08, K09.8, K09.9, K12, K13

Hypertension (High Blood Pressure) Prevalence Rate
The proportion of residents age 20 and older with at least one hospitalization or least two physician visits with a diagnosis of hypertension within a two-year period. A hypertension diagnosis was defined as ICD-9-CM codes 401-405 or ICD-10-CA codes I10-I13, I15. The denominator was residents age 20 and older as of June 1 of the second year. The proportion was age-and sex-adjusted to the Manitoba population age 20 and older.

Although the case definition uses a two-year period to define cases, an annual number was derived by using the earliest date of hospitalization or the later of the two physician claims as the case date. The definition for hypertension was derived from the Canadian Chronic Disease Surveillance System (CCDSS), and validated for use by Manitoba Health.

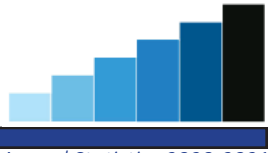
Because prevalence has a multi-year and multiple-health-system-encounter definition threshold, these values may increase from submission year to submission year over the most recent disease definition period. This means that new versions of the CCDSS may increase counts for previous CCDSS versions as new health information is captured. See glossary entry for **Diabetes Prevalence Rate** for an example of how counts may increase depending on the year of data capture.

Hysterectomy Rate
The number of hysterectomy surgeries performed on female residents ages 20 to 84, per 1,000 female residents ages 20 to 84. The denominator was female residents ages 20 to 84 as of June 1. The rate was age-adjusted to the Manitoba female population ages 20 to 84.

Hysterectomy surgery was defined by ICD-9-CM procedure codes 68.4-68.9 or CCI codes 1.RM.87, 1.RM.89, 1.RM.91, 5.CA.89.CK, 5.CA.89.GB, 5.CA.89.WJ, 5.MD.60.RC, 5.MD.60.RD, 5.MD.60.KE, 5.MD.60.CB.

Immunization for Influenza (Flu) Rate
The proportion of residents age 65 and older who received a vaccine for the influenza season (September through March). The denominator was all residents age 65 and older as of the day they received the first vaccine dose during the season. Flu shots were defined by physician tariff codes 8791, 8792, 8793, or 8799 in the Manitoba Immunization Monitoring System (MIMS) and Panorama.

Immunization for Pneumonia Rate
The proportion of residents age 65 and older who have received one or more vaccine(s) for pneumonia. The denominator was all residents age 65 and older as of September 1. For most seniors, a pneumococcal vaccination is considered a 'once in a lifetime' event, so these rates show the cumulative percentage of residents who have received a pneumococcal vaccination, as defined by physician tariff codes 8681-8694 and 8961 in MIMS and Panorama.



Infant Mortality Rate
Calculated as the number of deaths among infants under one year of age in a five-year period, per 1,000 live births in the same time period. The Vital Statistics death records were used to count deaths. Rates fluctuate in areas with small populations, therefore five years of data was used instead of a single year.

Injury Hospitalization Rate
The number of hospital separations for Manitoba residents with an injury diagnosis code included in the abstract per 1,000 residents. The denominator was all residents as of June 1. Rates were age-and sex-adjusted to the Manitoba population.

Injury hospitalizations were defined as any inpatient stay with an external cause of injury diagnosis code; including ICD-9-CM codes E800-E999, or ICD-10-CA codes V01-Y89. Hospitalizations due to injury related to medical error or complications were excluded, as follows;

- Misadventures during surgical or medical care; ICD-9-CM codes E870-E876 or ICD-10-CA codes Y60-Y69, Y88.1
- Reactions or complications due to medical care; ICD-9-CM codes E878-E879 or ICD-10-CA codes Y70-Y84, Y88.2, Y88.3
- Adverse effects due to drugs; ICD-9-CM codes E930-E949 or ICD-10-CA codes Y40-Y59, Y88.0

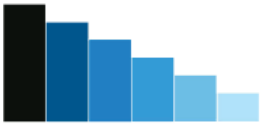
All Manitoba hospitals were included. Personal care homes, nursing stations and long-term care facilities (Deer Lodge Centre, Manitoba Adolescent Treatment Centre, Rehabilitation Centre for Children, and Riverview Health Centre) were excluded. Newborn birth injuries or deaths, stillbirths and brain deaths were excluded.

Injury Mortality Causes
The distribution of causes of injury death was based on Vital Statistics records, using the International Classification of Diseases (ICD-10-CA) system. Excluded are codes for misadventures, reactions, complications, or adverse effects of medical, surgical or pharmaceuctial treatments (see list in Injury Mortality Rate). Results are provided at the Manitoba level, but not by health region, due to the relatively small number of deaths by cause in less populated areas.

Injury Mortality Rate
Calculated as the number of deaths due to injury per 1,000 residents, based on Vital Statistics death codes. The denominator was all residents as of June 1. Rates were age-and sex-adjusted to the Manitoba population. Injury deaths were defined as records with ICD-10-CA cause of death codes V01-Y89.

Excluded from the deaths due to injury are those related to medical error or complications, as follows:

- Misadventures during surgical or medical care; ICD-9-CM codes E870-E876 or ICD-10-CA codes Y60-Y69, Y88.1
- Reactions or complications due to medical care; ICD-9-CM codes E878-E879 or ICD-10-CA codes Y70-Y84, Y88.2, Y88.3
- Adverse effects due to drugs; ICD-9-CM codes E930-E949 or ICD-10-CA codes Y40-Y59, Y88.0



Insured Services per Capita
The total dollars spent on insured services in Manitoba per capita. The denominator was the number of residents as of June 1.

The Health Services Insurance Plan operates outside of the Provincial Consolidated Fund, and provides for payment of insured services for hospitals, personal care homes, and health care providers on behalf of Manitoba residents. Other plans include the prescription drugs program (Pharmacare), Ambulance, Air Ambulance, and Northern Patients Transportation programs.

Knee Replacement Rate
The number of total knee replacements performed on residents age 40 and older, per 1,000 residents age 40 and older. The denominator was all residents age 40 and older as of June 1. The rate was age-and sex-adjusted to the Manitoba population age 40 and older.

Knee replacements were defined by ICD-9-CM codes 81.54, 81.55, or CCI codes 1.VG.53.LA.PN and 1.VG.53.LA.PP. This definition includes revisions on previously performed knee replacements, and excludes partial knee replacements.

Lower Limb Amputations among Residents with Diabetes
The proportion of residents age 19 and older with diabetes who had a lower limb amputation (below or including the knee) in a five-year period. The denominator was residents age 19 and older, with diabetes, in the year prior to the study period (see **Diabetes Prevalence Rate** glossary entry). The proportion was age-and sex-adjusted to the Manitoba population age 19 and older with diabetes.

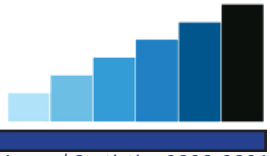
Amputation was defined by ICD-9-CM procedure codes 84.1-84.17, or CCI codes 1.VC.93, 1.VG.93, 1.VQ.93, 1.WA.93, 1.WE.93, 1.WJ.93, 1.WL.93, 1.WM.93. Cases of amputations due to accidental injury were excluded, defined as ICD-9-CM diagnosis codes 895-897 or ICD-10-CA codes S78, S88, S98, T05.3, T05.4, T05.5, T13.6.

Majority of Care
The proportion of residents receiving more than 50 percent of their ambulatory visits over a two-year period from the same physician. The denominator includes all residents with at least three ambulatory visits in the same two-year time period. The proportion was age-and sex-adjusted to the Manitoba population.

- For children ages 14 and under, visits included those to a General Practitioner (GP), Family Practitioner (FP), Pediatrician, or Nurse Practitioner (NP)
- For those ages 15 to 59, only visits to GP, FPs or NPs were used
- For those ages 60 and above, visits could be to a CP/FP, NP or an Internal Medicine specialist

Mood and Anxiety Disorders
The proportion of residents ages 10 and older diagnosed with depression and/or anxiety disorder in a five-year period. The proportion was age-and sex-adjusted to the Manitoba population ages 10 and older.

Depression and/or anxiety disorder cases were defined by the following:



- One or more hospitalizations with a diagnosis for depressive disorder, affective psychoses, neurotic depression, or adjustment reaction; ICD-9-CM codes 296.2-296.8, 300.4, 309 or 311, or ICD-10-CA codes F31, F32, F33, F34.1, F38.0, F38.1, F41.2, F43.1, F43.2, F43.8, F53.0, F93.0, or a diagnosis of manic disorder, anxiety state, phobic disorders, obsessive-compulsive disorders or hypochondriasis; ICD-9-CM codes 296.1, 300.0, 300.2, 300.3, 300.7, or ICD-10-CA codes F40, F41.0, F41.1, F41.3, F41.8, F41.9, F42, F45.2

- One or more hospitalizations with a diagnosis for anxiety disorders; ICD-9-CM code 300, or ICD-10-CA codes F32, F341, F40, F41, F42, F44, F45.0, F45.1, F45.2, F48, F68.0, or F99 AND one or more prescriptions for an anti-depressant, anxiolytic or mood stabilizer; ATC codes N05AN01, N05BA, N06A

- One or more physician visits with a diagnosis for depressive disorder or affective psychoses; ICD-9-CM codes 296, 311

- One or more physician visits with a diagnosis for anxiety disorders; ICD-9-CM code 300 AND one or more prescriptions for an antidepressant, anxiolytic or mood stabilizer; ATC codes N05AN01, N05BA, N06A

- Three or more physician visits with a diagnosis for anxiety disorders or adjustment reaction; ICD-9-CM codes 300, 309

Nursing Regulatory Colleges

In Manitoba, there are three nursing regulatory colleges. In order to work in these regulated health professions, individuals must be registered with their respective regulatory college:

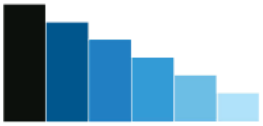
College of Registered Nurses of Manitoba (CRNM):
- Registered Nurse
- Registered Nurse (Nurse Practitioner)
- Registered Nurse (Authorized Prescriber)

College of Registered Psychiatric Nurses of Manitoba (CRPNM):
- Registered Psychiatric Nurse

College of Licensed Practical Nurses of Manitoba (CLPNM):
- Licensed Practical Nurse

Paediatric Dental Extraction Rate

The number of dental extractions among resident children under the age of six, per 1,000 children under the age of six. The denominator was resident children under the age of six as of June 1. The rate was sex-adjusted to the Manitoba population under the age of six. Dental extractions were defined by ICD-9-CM codes 23.01, 23.09, 23.11, 23.19, or CCI codes 1.FE.57, 1.FE.89. Paediatric dental extractions performed outside of hospitals (e.g., in dentists' offices) were not included, so the rates reported may underestimate the extent of severe early childhood tooth decay.



Paediatric Dental Surgery Rate
The number of dental surgeries among resident children under the age of six, per 1,000 children under the age of six. The denominator was resident children under the age of six as of June 1. The rate was sex-adjusted to the Manitoba population under the age of six. Dental surgeries were defined by ICD-9-CM procedure code 23, or CCI code 1.FE. Paediatric dental surgeries performed outside of hospital (e.g., In dentists' office) were not included, so the rates reported may underestimate the extent of early childhood dental issues.

Percutaneous Coronary Intervention Surgery Rate
The number of Percutaneous Coronary Intervention (PCI) surgeries performed on residents age 40 and older, per 1,000 residents age 40 and older in a five-year period. The denominator was residents age 40 and older during the same time period. The rate was age-and sex-adjusted to the Manitoba population age 40 and older. PCI was defined by ICD-9-CM procedure codes 36.01, 36.02, 36.05, and 36.06, or CCI codes 1.IJ.50 and 1.IJ.57.

Personal Care Homes (PCH)
Personal Care Homes (PCHs), or nursing homes, are residential facilities for persons with chronic illness or disability, who can no longer remain safely at home, even with home care services. Residents of PCHs are predominantly older adults. In Manitoba, PCHs can be proprietary (for profit) or non-proprietary. PCH data is populated by assessment, admission, and discharge forms. An assessment form for placement into a PCH is filled out by the resident while in an acute care facility or at home. The assessment application is reviewed to decide if the person is eligible for admission. There may be a waiting period between application approval and actual admission to a PCH.

PCH admissions were calculated as the percentage of residents age 75 and older admitted to a PCH in a year (annual average). The denominator was all residents age 75 and older in the same period. The proportion was age-and sex-adjusted to the Manitoba population age 75 and older.

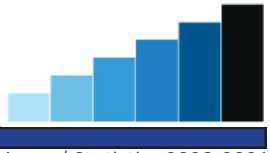
Personality Disorders Prevalence Rate
The proportion of residents age 10 and older diagnosed with personality disorders in a five-year period, defined by any of the following:

- One or more hospitalizations with a diagnosis of personality disorders; ICD-9-CM code 301, or ICD-10-CA codes F34.0, F60, F61, F62, F68.1, F68.8, F69
- One or more physician visits with a diagnosis of personality disorders; ICD-9-CM code 301

The proportion was age-and sex-adjusted to the Manitoba population age 10 and older.

Pharmaceutical Use Rate
The proportion of residents who had at least one prescription dispensed in one year. The denominator was all residents as of June 1. The proportion was age-and sex-adjusted to the Manitoba population. This includes all prescriptions dispensed from community-based pharmacies across Manitoba. Prescription data is captured in Manitoba's Drug Program Information Network (DPIN) (see glossary entry).

Physician Claims
These are claims for payment submitted to the provincial government by physicians for services they provide. Fee-for-service physicians receive payment based on these claims, while those submitted by salaried physicians are only for administrative purposes (referred to as "shadow billing").



Physician Use Rate
The proportion of residents who made at least one visit to a physician in an ambulatory setting. The denominator was all residents as of June 1. The proportion was age-and sex-adjusted to the Manitoba population.

The term 'ambulatory visits' captures virtually all contacts with physicians, except during inpatient hospitalization and emergency room visits. Ambulatory visits include regular office visits, walk-in clinics, home visits, nursing home visits, visits to outpatient departments of hospitals, and prenatal visits. As of 2016/2017, visits to Nurse Practitioners are included.

Population
Population data used in this report came from records of residents registered with Manitoba Health on June 1. Registered individuals include persons who reside in the province of Manitoba, as well as new Manitobans arriving from another province (eligible for coverage after a waiting period of up to three months), new Manitobans from another country (eligible for coverage immediately if they have landed immigrant status), and foreign citizens holding a one-year or more work permit. Manitoba residents not covered include armed forces and federal penitentiary inmates.

Population Pyramid
A graph showing the age and sex distribution of a population. The percentage of residents within each five-year age group is shown for both males and females. Most developing countries have a population pyramid triangular in shape, indicating a very young population with few people in the oldest age groups. Most developed countries have a population pyramid that looks more rectangular with young and middle-aged people representing similar percentages of the population, and more elderly people in the top part of the pyramid.

Premature Mortality Rate
Calculated as the number of deaths among residents under the age of 75 years, in a five-year period, per 1,000 residents under the age of 75 years in the same time period. The rates were age-and sex-adjusted to the overall Manitoba population. The Manitoba Vital Statistics death records were used to count deaths.

Pregnancy Rate
Calculated using data from hospital records by taking the ratio of all live and still births, abortions and ectopic pregnancies for females ages 15 to 49 compared to the female population ages 15 to 49. The denominator was female residents ages 15 to 49 as of June 1. Rates were age-and sex-adjusted to the Manitoba female population ages 15 to 49.

Pregnancy was defined as follows:

- A hospitalization for one of the following diagnoses:
    - Live birth; ICD-9-CM code V27, or ICD-10-CA code Z37
    - Missed Abortion; ICD-9-CM code 632, or ICD-10-CA code O02.1
    - Ectopic Pregnancy; ICD-9-CM code 633, or ICD-10-CA code O00
    - Abortion (spontaneous or medical); ICD-9-CM codes 634-637, ICD-10-CA codes O03-O07
    - Intrauterine death; ICD-9-CM code 656.4, or ICD-10-CA codes O36.4

– OR –

- A Hospitalization with one of the following procedures:
    - Surgical termination of pregnancy; ICD-9-CM codes 69.01, 69.51, 74.91, or CCI codes 5.CA.89, 5.CA.90
    - Surgical removal of extra-uterine (ectopic) pregnancy; ICD-9-CM codes 66.62, 74, or CCI code 5.CA.93
    - Pharmacological termination of pregnancy; ICD-9-CM code 75.0, or CCI code 5.CA.88
    - Interventions during labour and delivery; ICD-9-CM code 74, or CCI codes 5.MD.5, 5.MD.60

Schizophrenia Prevalence Rate
The proportion of residents age 10 and older diagnosed with schizophrenia in a five-year period. The denominator was residents age 10 and older as of June 1. Rates were age-and sex-adjusted to the Manitoba population age 10 and older.

Schizophrenia was defined as the following:

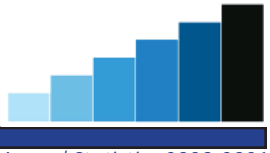
- One or more hospitalizations with a diagnosis for schizophrenia; ICD-9-CM code 295, or ICD-10-CA codes F20, F21, F23.2, F25
- One or more physician visits with a diagnosis for schizophrenia; ICD-9-CM code 295

Self-Inflicted Injury Hospitalization Rate
The number of hospitalizations with a self-inflicted injury diagnosis for residents age 10 and older per 1,000 residents age 10 and older. The denominator was residents age 10 and older as of June 1. Rates were age-and sex-adjusted to the Manitoba population age 10 and older.

Hospitalizations were counted as any inpatient stay with a self-inflicted external cause of injury diagnosis code, including ICD-9-CM codes E950-E959, or ICD-10-CA codes X60-X84.

Size for Gestational Age
Size for gestational age is a measure of fetal growth. Birth weight and gestational age were taken from the Manitoba Vital Statistics birth records. Size for gestational age was classified as follows:

- Small-for-Gestational-Age: Infants that are at or below the 10th percentile in birth weight, from an infant population of the same sex and gestational age.
- Large-for-Gestational-Age: Infants that are at or above the 90th percentile in birth weight, from an infant population of the same sex and gestational age.
- Appropriate-for-Gestational-Age: Infants that are between the 10th and 90th percentile birth weight for the infant's gestational age and sex.



Stroke Rate
Calculated as the number of hospitalizations or deaths due to stroke in residents age 40 and older per 1,000 residents age 40 and older. The denominator was residents age 40 and older as of June 1. Rates were age-and sex-adjusted to the Manitoba population age 40 and older.

Stroke was defined by ICD-9-CM codes 431, 434, 436 or ICD-10-CA codes I61, I63, I64 as the most responsible diagnosis for hospitalization, or as the cause of death in the Manitoba Vital Statistics death records. This definition does not capture minor strokes that did not result in hospitalization or death.

Substance Abuse Prevalence Rate
The proportion of residents age 10 and older diagnosed with substance abuse in a five-year period per 1,000 resident age 10 and older. The denominator was residents age 10 and older as of June 1. Rates were age-and sex-adjusted to the Manitoba population age 10 and older.

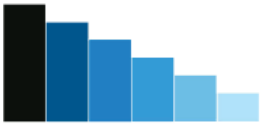
Substance abuse was defined by the following:

- One or more hospitalizations with a diagnosis for alcoholic or drug psychoses, alcohol or drug dependence, or nondependent abuse of drugs; ICD-9-CM codes 291, 292, 303-305, or ICD-10-CA codes F10-F19, F55
- One or more physician visits with a diagnosis for alcoholic or drug psychoses, alcohol or drug dependence, or nondependent abuse of drugs; ICD-9-CM codes 291, 292, 303-305

Suicide Rate
The number of deaths due to suicide among residents age 10 and older, in a five-year period per 1,000 residents age 10 and older per year. The denominator was residents age 10 and older as of June 1. Rates were age-and sex-adjusted to the Manitoba population age 10 and older.

Suicides were defined as any death record in Manitoba Vital Statistics data with any of the following causes of death:

- accidental poisoning; ICD-9-CM codes E850-E854, E858, E862, E868, or ICD-10-CA codes X40-X42, X46, X47
- poisoning with undetermined intent; ICD-10-CA codes Y10-Y12, Y16, Y17
- self-inflicted poisoning; ICD-9-CM codes E950-E952, or ICD-10-CA codes X60-X69
- self-inflicted injury by hanging, strangulation and suffocation; ICD-9-CM code E953, or ICD-10-CA code X70 ·
- self-inflicted injury by drowning; ICD-9-CM code E954, or ICD-10-CA code X71
- self-inflicted injury by firearms and explosives; ICD-9-CM code E955, or ICD-10-CA codes X72-X75
- self-inflicted injury by smoke, fire, flames, steam, hot vapours and hot objects; ICD-9-CM codes E958.1, E958.2, or ICD-10-CA codes X76, X77
- self-inflicted injury by cutting or piercing instruments, ICD-9-CM code E956; ICD-10-CA codes X78, X79



- self-inflicted injury by jumping from high places; ICD-9-CM code E957, or ICD-10-CA code X80
- self-inflicted injury by jumping or lying before a moving object; ICD-9-CM code E958.0, or ICD-10-CA code X81
- self-inflicted injury by crashing a motor vehicle; ICD-9-CM code E958.5, or ICD-10-CA code X82
- self-inflicted injury by other and unspecified means; ICD-9-CM codes E958.3, E958.4, E958.6-E958.9, or ICD-10-CA codes X83, X84
- late effects of self-inflicted injury; ICD-9-CM code E959

Vaginal Birth After Caesarean Section Rate

The proportion of female residents ages 15 to 54 giving birth vaginally, in a five-year period, who previously had at least one delivery by Caesarean section (C-section). The denominator was female residents ages 15 to 54 delivering in the same time period who had at least one previous C-section delivery.

A woman is determined to have given birth vaginally after C-section if each of the following criteria was met in the hospital abstract records:

- Presence of a uterine scar from previous surgery; ICD-9-CM code 654.2, or ICD-10 codes O34.201, O34.203, O34.209, O34.291, O34.293, O34,299, O75.701, O75.703, O75.709

– AND –

- Any ICD-9-CM or ICD-10 code for vaginal birth; ICD-9-CM codes 650, V27.0, V27.2, V27.3, V27.5, V27.6 in any position, or ICD-10-CA codes O1, O2, O4, O6, O7, O8, O9, O30-O35, O37, O36.0, O36.1, O36.2, O36.3, O36.5O36.6, O36.7, O36.8, O36.9 and a sixth digit or '1' or '2', Z37.0, Z37.2, Z37.3, Z37.5, Z37.6

To obtain the numerator, all women who had C-section deliveries in the current fiscal year were removed from the denominator pool. C-section deliveries were identified by ICD-9-CM procedure codes 74.0, 74.1, 74.2, 74.4, or 74.99, or CCI procedure code 5.MD.60. The proportion was age-adjusted to the Manitoba female population ages 15 to 54.

Vital Statistics

Birth Database:

The central Vital Statistics Registry in each province and territory provides data from birth registrations to Statistics Canada. The following data items are reported for each birth by all provinces and territories for inclusion in the Canadian Vital Statistics system:

- Date and place of birth
- Child's sex, birth weight and gestational age
- Parents' age, marital status and birthplace
- Mother's place of residence
- Type of birth (single or multiple)

Death Database:

The central Vital Statistics Registry in each province and territory provides data from death certificates to Statistics Canada. The following data items are reported for each death by all provinces and territories for inclusion in the Canadian Vital Statistics system:

- Age, sex, marital status, place of residence, and birth place of the deceased
- Date of death
- Underlying cause of death, classified according to the World Health Organization International Classification of Disease and Related Health Problems (ICD)
- Province or territory of occurrence of death
- Place of accident
- Autopsy information